Annual Report on Environmental Statistics 2016

Edited by

Ministry of the Environment

Government of Japan

Environmental Policy Bureau

Annual Report on Environmental Statistics 2016

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1.01 Population, area, gross prefectural product and electricity consumed by prefecture (1)

Prefecture	Population				Total land area 2015 (㎢)	Forest area (As of Feb.1, 2015) (Thousand ha)
	2000	2005	2010	2015		
Nationwide	126,925,843	127,767,994	128,057,352	127,110,047	377,970.75	24,433
Hokkaido	5,683,062	5,627,737	5,506,419	5,383,579	83,424.31	5,322
Aomori	1,475,728	1,436,657	1,373,339	1,308,649	9,645.59	616
Iwate	1,416,180	1,385,041	1,330,147	1,279,814	15,275.01	1,144
Miyagi	2,365,320	2,360,218	2,348,165	2,334,215	* 7,282.22	407
Akita	1,189,279	1,145,501	1,085,997	1,022,839	11,637.54	820
Yamagata	1,244,147	1,216,181	1,168,924	1,122,957	* 9,323.15	641
Fukushima	2,126,935	2,091,319	2,029,064	1,913,606	13,783.74	936
Ibaraki	2,985,676	2,975,167	2,969,770	2,917,857	6,097.06	189
Tochigi	2,004,817	2,016,631	2,007,683	1,974,671	6,408.09	341
Gunma	2,024,852	2,024,135	2,008,068	1,973,476	6,362.28	406
Saitama	6,938,006	7,054,243	7,194,556	7,261,271	* 3,797.75	121
Chiba	5,926,285	6,056,462	6,216,289	6,224,027	* 5,157.65	157
Tokyo	12,064,101	12,576,601	13,159,388	13,513,734	* 2,190.93	76
Kanagawa	8,489,974	8,791,597	9,048,331	9,127,323	2,415.83	94
Niigata	2,475,733	2,431,459	2,374,450	2,305,098	* 12,584.10	799
Toyama	1,120,851	1,111,729	1,093,247	1,066,883	* 4,247.61	240
Ishikawa	1,180,977	1,174,026	1,169,788	1,154,343	4,186.09	276
Fukui	828,944	821,592	806,314	787,099	4,190.49	310
Yamanashi	888,172	884,515	863,075	835,165	* 4,465.27	347
Nagano	2,215,168	2,196,114	2,152,449	2,099,759	* 13,561.56	1,023
Gifu	2,107,700	2,107,226	2,080,773	2,032,533	* 10,621.29	839
Shizuoka	3,767,393	3,792,377	3,765,007	3,701,181	* 7,777.42	491
Aichi	7,043,300	7,254,704	7,410,719	7,484,094	* 5,172.48	218
Mie	1,857,339	1,866,963	1,854,724	1,815,827	* 5,774.40	371
Shiga	1,342,832	1,380,361	1,410,777	1,413,184	* 4,017.38	203
Kyoto	2,644,391	2,647,660	2,636,092	2,610,140	4,612.19	342
Osaka	8,805,081	8,817,166	8,865,245	8,838,908	1,905.14	57
Hyogo	5,550,574	5,590,601	5,588,133	5,536,989	8,400.96	561
Nara	1,442,795	1,421,310	1,400,728	1,365,008	3,690.94	283
Wakayama	1,069,912	1,035,969	1,002,198	963,850	4,724.69	361
Tottori	613,289	607,012	588,667	573,648	3,507.05	257
Shimane	761,503	742,223	717,397	694,188	6,708.24	520
Okayama	1,950,828	1,957,264	1,945,276	1,922,181	* 7,114.50	484
Hiroshima	2,878,915	2,876,642	2,860,750	2,844,963	8,479.45	609
Yamaguchi	1,527,964	1,492,606	1,451,338	1,405,007	6,112.30	437
Tokushima	824,108	809,950	785,491	756,063	4,146.65	312
Kagawa	1,022,890	1,012,400	995,842	976,756	* 1,876.72	87
Ehime	1,493,092	1,467,815	1,431,493	1,385,840	5,676.11	399
Kochi	813,949	796,292	764,456	728,461	7,103.93	592
Fukuoka	5,015,699	5,049,908	5,071,968	5,102,871	* 4,986.40	222
Saga	876,654	866,369	849,788	833,245	2,440.68	110
Nagasaki	1,516,523	1,478,632	1,426,779	1,377,780	4,132.09	241
Kumamoto	1,859,344	1,842,233	1,817,426	1,786,969	* 7,409.35	448
Oita	1,221,140	1,209,571	1,196,529	1,166,729	* 6,340.71	448
Miyazaki	1,170,007	1,153,042	1,135,233	1,104,377	* 7,735.31	587
Kagoshima	1,786,194	1,753,179	1,706,242	1,648,752	* 9,186.94	582
Okinawa	1,318,220	1,361,594	1,392,818	1,434,138	2,281.12	105

Note: When a prefecture shares an area of which boundaries are not yet fixed with other prefecture(s), that prefecture is indicated with *, and the figure for it is for reference purpose.

Source: Population: Compiled using data in "Population Census" and "Population Estimates" by Population Census Division, Statistical Survey Department, Statistics Bureau, Ministry of of Internal Affairs and Communications, Government of Japan
As for 2010, compiled using data in "Population Census Report 2010 Population Basic Statistics, Also, for 2015, compiled using data from "2015 Population Census of Japan -- Results of Preliminary Counts of the Population and Households."

Total land area: Compiled from "Municipalities Area Statistics of Japan, 2015" Ministry of Land, Infrastructure, Transport and Tourism, Geospatial Information Authority of Japan, WEBSITE/GIS Information of the territory (http://www.gsi.go.jp/KOKUJYOHO/MENCHO/201510/opening.htm)

Forrest area: Compiled from "World Census of Agriculture Forestry 2015" (As of Feb. 1, 2015) (http://www.maff.go.jp/j/tokei/census/afc/2015/kekka_gaisuuti.html)

1.01 Population, area, gross prefectural product and electricity consumed by prefecture (2)

Prefecture	Land use					Natural park area (April 15, 2016) (ha)	City park area (The end of March, 2015) (ha)
	Area of private land FY2014 (km2)	# Building lot	# Paddy fields	# Field	# Forest and mountains		
Nationwide	161,812	16,834	26,083	24,101	79,336	5,519,570	97,206
Hokkaido	27,353	1,041	2,368	8,569	10,923	867,540	11,386
Aomori	3,954	295	869	720	1,541	114,085	2,019
Iwate	7,729	311	971	663	5,159	72,061	1,407
Miyagi	3,623	384	1,095	302	1,657	171,199	2,304
Akita	4,340	252	1,311	232	1,938	123,801	1,551
Yamagata	3,534	252	1,002	338	1,645	155,509	1,838
Fukushima	5,586	409	993	715	2,994	179,096	2,230
Ibaraki	4,172	683	927	1,001	1,211	90,896	2,646
Tochigi	3,186	437	969	358	1,120	133,443	2,691
Gunma	2,456	419	263	592	911	88,864	2,457
Saitama	2,266	679	401	495	480	124,582	4,306
Chiba	3,516	735	840	615	926	28,537	3,151
Tokyo	1,037	573	3	94	298	79,889	3,070
Kanagawa	1,248	593	47	191	283	55,138	2,122
Niigata	4,944	461	1,585	349	2,185	316,891	2,158
Toyama	1,362	238	597	59	375	125,554	1,599
Ishikawa	1,603	190	403	145	764	52,564	1,504
Fukui	1,527	161	387	52	860	61,910	1,163
Yamanashi	1,319	170	107	267	651	121,153	779
Nagano	4,714	473	646	688	2,279	278,548	2,508
Gifu	4,495	359	453	186	3,231	195,093	1,931
Shizuoka	4,086	557	282	603	2,272	84,041	2,004
Aichi	2,644	843	477	394	698	88,881	4,054
Mie	2,740	344	500	211	1,497	201,896	1,636
Shiga	1,574	226	502	57	687	149,957	1,244
Kyoto	1,541	221	265	93	870	94,589	1,252
Osaka	886	513	111	40	148	20,039	2,965
Hyogo	3,935	571	710	123	2,270	166,015	4,131
Nara	1,377	151	189	80	878	63,328	1,727
Wakayama	2,293	151	146	246	1,695	49,552	666
Tottori	1,350	107	253	153	673	49,061	647
Shimane	3,330	136	371	158	2,516	40,496	1,048
Okayama	4,045	352	617	254	2,600	80,664	1,317
Hiroshima	4,186	359	508	256	2,851	37,853	2,030
Yamaguchi	3,411	272	467	166	2,320	42,667	1,865
Tokushima	1,745	132	215	173	1,188	38,706	528
Kagawa	1,177	179	275	131	536	20,534	1,542
Ehime	3,234	227	282	462	2,180	41,121	1,493
Kochi	3,196	102	251	144	2,625	47,504	682
Fukuoka	2,775	629	701	281	896	88,101	2,085
Saga	1,581	160	448	223	632	26,884	818
Nagasaki	2,035	200	273	445	919	74,091	1,407
Kumamoto	3,688	327	703	582	1,748	155,636	731
Oita	2,741	213	447	271	1,466	174,391	1,193
Miyazaki	2,459	242	382	391	1,241	91,919	1,989
Kagoshima	4,777	365	459	1,074	2,419	89,129	1,880
Okinawa	1,044	140	13	459	80	66,162	1,453

Note: "#" indicates major items whose values were included in total.

Source: Area of private land: Ministry of Internal Affairs and Communications WEBSITE/ Statistic on local taxes (http://www.soumu.go.jp/main_sosiki/jichi_zeisei/czaisei/czaisei_seido/ichiran08.html) Compiled using data from "Outline (land) of the record prices of fixed assets FY2014 (tentative translation)"

Natural parks' area: National Park Division WEBSITE/Nature conservation data Nature Conservation Bureau, Ministry of the Environment Compiled using data from "Review of Natural Parks' Area by prefecture," (http://www.env.go.jp/park/doc/data)

Urban parks' area: "A table of improvement status of urban parks," Urban park database, (http://www.mlit.go.jp/crd/park/joho/database/t_kokuen/index.html) a web of Parks and Green Spaces Division, City and Regional Development Bureau, Ministry of Land, Infrastructure, Transport and Tourism, the Government of Japan

1.01 Population, area, gross prefectural product and electricity consumed by prefecture (3)

Prefecture	Cultivated land area (2015) 1)							Cultivated rate	(%) 4) Paddy field rate
	Total of Paddy fields and Upland filed (ha)	# 2) Field proper	Paddy field	Field	Ordinary field	Land under permanent crops	Short-time Meadow		
Nationwide	4,496,000	4,315,000	2,446,000	2,050,000	1,152,000	291,400	606,500	12.1	54.4
Hokkaido	1,147,000	1,130,000	223,000	924,500	414,900	2,910	506,700	14.6	19.4
Aomori	153,300	149,100	81,200	72,100	34,500	22,700	14,900	15.9	53.0
Iwate	151,100	143,100	94,600	56,500	25,200	3,660	27,700	9.9	62.6
Miyagi	129,400	124,800	106,100	23,300	16,100	1,370	5,830	17.8	82.0
Akita	149,500	143,900	130,400	19,000	12,100	2,430	4,500	12.8	87.2
Yamagata	121,100	116,000	95,500	25,600	12,400	10,700	2,500	13.0	78.9
Fukushima	144,000	138,100	100,800	43,200	30,700	6,980	5,550	10.4	70.0
Ibaraki	170,900	168,400	99,000	71,900	64,600	6,940	376	28.0	57.9
Tochigi	124,500	121,200	97,100	27,400	22,500	2,330	2,570	19.4	78.0
Gunma	71,900	69,300	27,100	44,900	39,900	3,380	1,560	11.3	37.7
Saitama	76,300	75,000	42,300	34,000	30,800	3,120	68	20.1	55.4
Chiba	126,800	123,100	74,400	52,300	48,300	3,510	516	24.6	58.7
Tokyo	7,130	7,030	277	6,860	5,180	1,620	64	3.3	3.9
Kanagawa	19,600	19,000	3,850	15,700	11,900	3,730	72	8.1	19.6
Niigata	172,000	162,500	152,400	19,500	16,300	2,370	856	13.7	88.6
Toyama	58,800	56,700	56,300	2,500	1,490	743	269	13.8	95.7
Ishikawa	42,100	40,900	35,100	7,000	5,190	1,310	504	10.1	83.4
Fukui	40,600	39,600	36,800	3,770	2,720	782	263	9.7	90.6
Yamanashi	24,200	23,400	8,040	16,200	4,940	10,400	857	5.4	33.2
Nagano	108,900	99,100	54,000	54,900	36,100	15,500	3,300	8.0	49.6
Gifu	56,900	53,500	43,700	13,200	8,700	3,390	1,160	5.4	76.8
Shizuoka	67,900	65,400	22,700	45,200	15,800	28,200	1,170	8.7	33.4
Aichi	76,900	73,200	43,600	33,300	27,100	5,780	392	14.9	56.7
Mie	60,200	57,300	45,400	14,800	8,640	6,160	26	10.4	75.4
Shiga	52,600	50,300	48,500	4,100	2,990	1,040	66	13.1	92.2
Kyoto	31,000	29,100	24,200	6,760	3,670	3,020	68	6.7	78.1
Osaka	13,200	12,600	9,420	3,800	1,750	2,050	-	6.9	71.4
Hyogo	75,000	68,700	68,500	6,490	4,490	1,660	340	8.9	91.3
Nara	21,800	20,100	15,500	6,270	2,530	3,700	40	5.9	71.1
Wakayama	33,700	32,100	9,870	23,900	2,440	21,400	32	7.1	29.3
Tottori	34,700	32,000	23,600	11,100	8,580	1,700	869	9.9	68.0
Shimane	37,500	34,200	30,200	7,270	5,270	1,480	526	5.6	80.5
Okayama	66,400	60,200	51,900	14,500	10,000	3,720	694	9.3	78.2
Hiroshima	56,000	50,800	41,600	14,400	7,720	5,840	849	6.6	74.3
Yamaguchi	48,400	43,700	39,600	8,890	5,430	3,080	384	7.9	81.8
Tokushima	30,100	29,200	20,300	9,810	5,640	4,060	105	7.3	67.4
Kagawa	31,000	28,800	25,800	5,280	2,220	3,040	20	16.5	83.2
Ehime	50,400	47,200	23,200	27,200	6,190	20,800	196	8.9	46.0
Kochi	28,100	26,600	21,200	6,950	2,990	3,750	214	4.0	75.4
Fukuoka	84,500	80,500	66,800	17,600	8,140	9,280	227	16.9	79.1
Saga	53,000	50,400	43,100	9,910	4,240	5,630	51	21.7	81.3
Nagasaki	49,100	45,300	22,700	26,400	19,800	6,250	300	11.9	46.2
Kumamoto	114,100	106,000	70,000	44,100	22,100	15,100	6,830	15.4	61.3
Oita	56,600	52,500	40,300	16,300	8,920	4,610	2,780	8.9	71.2
Miyazaki	67,900	64,500	36,900	31,000	25,200	4,660	1,150	8.8	54.3
Kagoshima	120,800	113,500	38,700	82,100	65,100	13,700	3,230	13.1	32.0
Okinawa	38,600	37,300	850	37,700	29,900	1,940	5,840	16.9	2.2

Notes:

1) Cultivated land : Land area intended for cultivation and including attached dyke.
2) Land proper is used to grow crops and attached dyke is excluded.
3) Cultivated rate: Percentage (%) of cultivated land area (paddy field area + upland field) to total land area.
Total land area is by Geospatial Information Authority of Japan
4) Paddy field rate: Percentage of paddy field in cultivated land area (paddy field area + upland field).

Source: Compiled using data from “Arable land and cropping area statistics” (published on February 18, 2016)
by Minister's Secretariat Statistics Department, Ministry of Agriculture, Forestry and Fisheries.
(http://www.e-stat.go.jp/SG1/estat/List.do?lid=000001118102)

1.01 Population, area, gross prefectural product and electricity consumed by prefecture (4)

Prefecture	Gross Prefectural Product (Nominal) (Unit: million yen)							Quantity of electricity used (Unit: million kWh) 1) 2)		
	FY 2010	FY2011	FY 2013	Primary industries	Secondary industries	Tertiary industries	Taxes and duties on import goods	FY 2012	FY 2013	FY 2014
Nationwide	495,637,724	497,411,060	508,645,648	5,356,097	122,523,203	377,336,447	5,987,295	286,220	284,341	273,103
Hokkaido	18,428,392	18,263,055	18,268,793	719,640	3,022,132	14,469,940	150,316	11,818	11,595	11,237
Aomori	4,474,760	4,404,529	4,411,514	172,354	945,032	3,308,128	10,451	2,911	2,867	2,768
Iwate	4,096,965	4,179,680	4,516,178	152,261	1,216,745	3,109,204	59,938	2,889	2,876	2,819
Miyagi	8,045,272	7,632,961	8,816,646	108,100	2,020,732	6,671,988	61,761	5,006	5,000	4,921
Akita	3,526,125	3,463,505	3,477,343	115,506	674,088	2,686,703	17,973	2,346	2,305	2,227
Yamagata	3,739,070	3,650,352	3,830,374	139,174	1,016,638	2,646,557	50,893	2,573	2,518	2,470
Fukushima	7,126,334	6,432,386	7,174,617	123,741	2,374,307	4,622,515	95,320	4,187	4,145	4,106
Ibaraki	11,188,477	11,462,562	11,511,260	237,169	3,990,750	7,199,873	152,956	6,285	6,221	6,021
Tochigi	7,807,794	7,813,595	8,232,227	147,029	3,236,411	4,791,029	108,574	4,385	4,337	4,202
Gunma	7,427,842	7,644,016	7,824,950	107,349	3,067,533	4,584,542	103,857	4,499	4,438	4,278
Saitama	20,108,381	20,370,029	20,678,194	122,517	5,196,500	15,171,521	274,257	14,675	14,576	13,971
Chiba	19,005,963	18,799,527	19,811,204	221,843	4,438,387	14,984,710	262,940	12,571	12,457	11,917
Tokyo	91,139,263	92,387,777	93,128,268	48,461	10,461,782	82,555,888	435,041	29,984	29,784	28,509
Kanagawa	29,757,052	30,422,165	30,218,541	59,430	6,659,884	23,252,501	401,160	18,175	18,055	17,263
Niigata	8,606,775	8,712,110	8,833,568	177,387	2,366,559	6,214,357	117,224	5,242	5,103	4,955
Toyama	4,370,400	4,463,522	4,356,581	46,526	1,432,341	2,844,488	57,866	3,076	3,051	2,997
Ishikawa	4,264,966	4,217,520	4,544,888	42,907	1,189,520	3,275,253	60,333	3,322	3,298	3,237
Fukui	3,302,825	3,235,861	3,127,077	31,418	911,158	2,157,583	41,978	2,354	2,334	2,291
Yamanashi	3,123,259	3,143,441	3,129,857	57,760	972,444	2,074,902	41,561	1,982	1,986	1,915
Nagano	8,024,077	7,950,268	7,752,205	147,597	2,346,572	5,197,129	102,945	5,085	5,009	4,884
Gifu	7,093,400	7,123,625	7,119,761	71,913	2,113,004	4,875,197	94,497	4,681	4,633	4,454
Shizuoka	15,765,640	15,564,207	15,876,309	158,658	6,265,874	9,316,697	210,690	8,189	8,134	7,853
Aichi	31,642,329	31,881,502	35,447,523	163,776	13,642,453	21,378,662	469,633	16,117	16,062	15,322
Mie	7,368,128	7,091,928	7,688,880	89,221	3,103,615	4,442,868	101,405	4,270	4,265	4,074
Shiga	6,013,854	5,750,090	5,968,096	42,136	2,448,850	3,424,160	79,172	3,439	3,401	3,274
Kyoto	9,372,569	9,845,602	9,825,395	41,774	2,484,729	7,216,302	130,404	6,345	6,255	5,947
Osaka	36,384,314	36,600,004	37,314,976	39,456	6,531,717	30,183,142	804,190	20,039	19,771	18,656
Hyogo	18,346,170	18,313,629	19,232,538	100,623	5,178,298	13,809,778	255,493	12,957	12,746	12,095
Nara	3,551,806	3,500,992	3,520,619	22,901	718,110	2,750,649	41,014	3,231	3,197	3,037
Wakayama	3,503,380	3,541,483	3,583,311	68,801	1,224,590	2,258,367	47,539	2,663	2,649	2,528
Tottori	1,836,172	1,765,961	1,767,569	39,836	315,985	1,395,788	23,445	1,457	1,450	1,398
Shimane	2,325,350	2,395,905	2,350,799	44,652	546,847	1,739,374	31,198	1,818	1,817	1,756
Okayama	7,064,698	7,222,681	7,273,433	71,708	2,280,480	4,860,734	96,542	4,907	4,888	4,707
Hiroshima	10,808,039	11,061,197	10,842,876	83,537	2,916,796	7,815,231	81,157	7,071	7,050	6,789
Yamaguchi	5,752,238	5,643,005	5,778,917	42,525	2,109,528	3,577,434	76,687	3,514	3,531	3,387
Tokushima	2,819,974	2,863,274	2,937,090	61,161	933,654	1,916,057	38,964	1,996	1,990	1,912
Kagawa	3,571,168	3,731,428	3,647,003	45,569	901,860	2,694,081	22,688	2,540	2,542	2,440
Ehime	4,887,896	5,100,033	4,776,672	99,907	1,168,294	3,480,144	53,599	3,458	3,457	3,318
Kochi	2,158,415	2,164,634	2,262,669	83,131	327,891	1,833,173	30,036	1,804	1,798	1,733
Fukuoka	18,041,898	17,945,938	18,189,907	138,282	3,436,528	14,464,465	239,958	11,401	11,539	10,943
Saga	2,867,595	2,673,583	2,681,129	68,881	763,708	1,820,272	38,531	1,938	1,948	1,870
Nagasaki	4,377,020	4,409,382	4,393,001	114,369	806,377	3,433,548	58,344	3,161	3,166	3,035
Kumamoto	5,559,799	5,611,936	5,566,376	188,991	1,244,647	4,085,956	73,302	4,026	4,062	3,906
Oita	4,293,466	4,255,542	4,182,168	89,558	1,208,451	2,768,761	138,162	2,791	2,813	2,705
Miyazaki	3,496,699	3,498,167	3,605,957	158,039	818,531	2,598,284	47,848	2,491	2,514	2,440
Kagoshima	5,446,148	5,438,005	5,286,586	189,020	954,554	4,101,007	70,670	3,702	3,750	3,620
Okinawa	3,725,567	3,795,466	3,881,803	59,503	538,317	3,277,505	24,783	2,852	2,955	2,917

Notes:

1) Quantity of electricity used is a sum of data from 10 electric companies.

2) Due to rounding up/down, each number and totals may not be consistent.

Source: Prefectural gross product:

"Annual Report of Prefectural Accounts FY2014"

Economic and Social Research Institute, Cabinet Office, Government of Japan

Energy use:

"Handbook of Electric Utilities FY2015" by Statistics Committee Federation of Electric Utility Companies.

1.02 Population by city (2015)

(Unit : Thousand person)

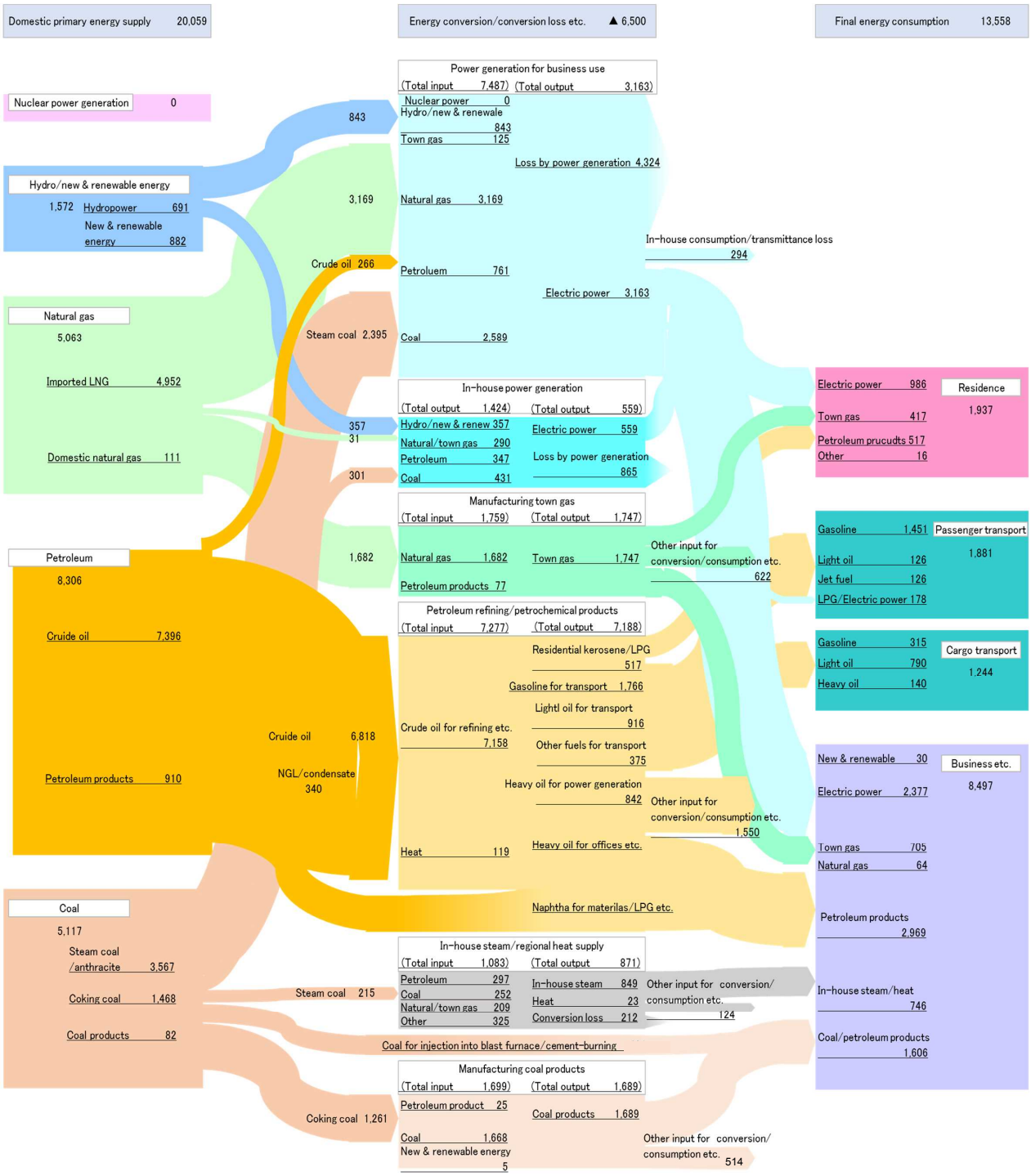
City (ku)	Population	City (ku)	Population	City (ku)	Population	City (ku)	Population	City (ku)	Population	City (ku)	Population
Hokkaido		Kawagoe	349	Nishi-ku	98	Kita-ku	95	Abeno-ku	107	Saeki-ku	138
Sapporo	1,936	Kumagaya	202	Naka-ku	150	Hamakita-ku	97	Sumiyoshi-ku	154	Kure	236
Chuo-ku	227	Kawaguchi	589	Minami-ku	199	Tenryu-ku	32	Higashi Sumiyosi-Ku	131	Onomichi	144
Kita-ku	282	Tokorozawa	343	Hodogaya-ku	204	Numazu	203	Nishinari-ku	110	Fukuyama	472
Higashi-ku	258	Kazo	115	Isogo-ku	166	Mishima	112	Tsurumi-ku	113	Higashi Hiroshima	185
Shiraishi-ku	210	Kasukabe	238	Kanazawa-ku	203	Fujinomiya	135	Suminoe-ku	125	Hatsukaichi	117
Toyohira-ku	218	Sayama	154	Kohoku-ku	337	Shimada	101	Hirano-ku	201		
Minami-ku	142	Kounosu	119	Totsuka-ku	276	Fuji	258	Kita-ku	115	**Yamaguchi**	
Nishi-ku	212	Fukaya	146	Konan-ku	218	Iwata	171	Chuo-ku	92	Shimonoseki	275
Atsubetu-ku	129	Ageo	228	Asahi-ku	250	Yaizu	143	Sakai	848	Ube	171
Teine-ku	141	Souka	245	Midori-ku	179	Kakegawa	118	Sakai-ku	146	Yamaguchi	195
Kiyota-ku	115	Koshigaya	334	Seya-ku	127	Fujieda	147	Naka-ku	125	Hofu	118
Hakodate	271	Toda	133	Sakae-ku	124			Higashi-Ku	87	Iwakuni	142
Otaru	125	Iruma	150	Izumi-ku	156	**Aichi**		Nishi-ku	138	Shunan	148
Asahikawa	347	Asaka	134	Aoba-ku	307	Nagoya	2,260	Minami-ku	152		
Kushiro	178	Niza	163	Tsuzuki-ku	211	Chigusa-ku	158	Kita-ku	159	**Tokushima**	
Obihiro	169	Kuki	155	Kawasaki	1,445	Higashi-ku	75	Mihara-ku	40	Tokushima	257
Kitami	122	Fujimi	109	Kawasaki-ku	223	Kita-ku	164	Kishiwada	200		
Tomakomai	174	Misato	137	Saiwai-ku	159	Nishi-ku	145	Toyonaka	401	**Kagawa**	
Ebetsu	120	Sakato	101	Nakahara-ku	240	Nakamura-ku	132	Ikeda	103	Takamatsu	429
		Fujimino	112	Takatsu-ku	222	Naka-ku	80	Suita	363	Marugame	113
Aomori				Tama-ku	204	Showa-ku	101	Takatsuki	356		
Aomori	296	**Chiba**		Miyamae-ku	225	Mizuho-ku	105	Moriguchi	145	**Ehime**	
Hirosaki	179	Chiba	962	Aso-ku	173	Atsuta-ku	65	Hirakata	408	Matsuyama	517
Hachinohe	238	Chuo-ku	201	Sagamihara	715	Nakagawa-ku	220	Ibaragi	279	Imagari	166
		Hanamigawa-ku	178	Midori-ku	174	Minato-ku	149	Yao	270	Niihama	123
Iwate		Inage-ku	156	Chuo-ku	268	Minami-ku	138	Izumisano	101	Saijo	113
Morioka	295	Wakaba-ku	151	Minami-ku	273	Moriyama-ku	172	Tondabayashi	116		
Ichinoseki	124	Midori-ku	127	Yokosuka	418	Midori-ku	242	Neyagawa	241	**Kochi**	
Oshu	122	Mihama-ku	149	Hiratsuka	258	Meito-ku	161	Kawachi Nagano	111	Kochi	337
		Ichikawa	473	Kamakura	177	Tenpaku-ku	156	Matsubara	123		
Miyagi		Funabashi	623	Fujisawa	423	Toyohashi	389	Daito	124	**Fukuoka**	
Sendai	1,054	Kisarazu	133	Odawara	195	Okazaki	381	Izumi	187	Kita kyushu	977
Aoba-ku	291	Matsudo	487	Chigasaki	240	Ichinomiya	387	Minoh	135	Moji-ku	104
Miyagino-ku	188	Noda	156	Hatano	164	Seto	131	Habikino	115	Wakamatsu-ku	86
Wakabayashi-	131	Narita	131	Atsugi	225	Handa	119	Kadoma	127	Tobata-ku	59
Taihaku-ku	226	Sakura	178	Yamato	234	Kasugai	310	Higashi Osaka	499	Kokura Kita-ku	182
Izumi-ku	217	Narashino	167	Ebina	130	Toyokawa	185			Kokura Minami-ku	216
Isninomaki	150	Kashiwa	406	Zama	130	Kariya	149	**Hyogo**		Yawata Higashi-ku	71
Ohsaki	135	Ichihara	280			Toyota	422	Kobe	1,551	Yawata Nishi-ku	260
		Nagareyama	173	**Nigata**		Anjo	185	Higashi Nada-ku	213	Fukuoka	1,486
Akita		Yachiyo	194	Nigata	804	Nishio	170	Nada-ku	133	Higashi-ku	298
Akita	319	Abiko	133	Kita-ku	77	Kounan	101	Hyougo-ku	109	Hakata-ku	215
		Kamagaya	110	Higashi-ku	139	Komaki	154	Nagata-ku	102	Chuo-ku	179
Yamagata		Urayasu	163	Chuo-ku	177	Inazawa	139	Suma-ku	166	Minami-ku	254
Yamagata	251			Konan-ku	69	Tokai	113	Tarumi-ku	225	Nishi-ku	201
Tsuruoka	133	**Tokyo**		Akiba-ku	78			Kita-ku	226	Jonan-ku	123
Sakata	108	Districts of Tokyo	9,103	Minami-ku	47	**Mie**		Chuo-ku	129	Sawara-ku	216
		Chida-ku	57	Nishi-ku	158	Tsu	285	Nishi-ku	249	Omuta	121
Fukushima		Chuo-ku	138	Nishikan-ku	60	Yokkaichi	313	Himeji	543	Kurume	306
Fukushima	285	Minato-ku	241	Nagaoka	279	Ise	131	Amagasaki	465	Izuka	131
Aizu Wakamatsu	124	Shinjuku-ku	328	Sanjo	102	Matuzaka	169	Akashi	298	Tsukushino	102
Koriyama	327	Bunkyo-ku	207	Shibata	101	Kuwana	143	Nishinomiya	483	Kasuga	112
Iwaki	334	Taito-ku	190	Joetsu	200	Suzuka	201	Itami	202	Itoshima	100
		Sumida-ku	258					Kakogawa	271		
Ibaraki		Koto-ku	494	**Toyama**		**Shiga**		Takarazuka	234	**Saga**	
Mito	273	Shinagawa-ku	372	Toyama	420	Otsu	343	Kawanishi	161	Saga	236
Hitachi	189	Meguro-ku	270	Takaoka	176	Hikone	113	Sanda	115	Karatsu	128
Tsuchiura	145	Ota-ku	707			Nagahama	122				
Koga	145	Setagaya-ku	874	**Ishikawa**		Kusatsu	129	**Nara**		**Nagawaki**	
Toride	109	Shibuya-ku	217	Kanazawa	453	Higashi Omi	116	Nara	364	Nagasaki	437
Tsukuba	221	Nakano-ku	317	Komatsu	109			Kashihara	125	Sasebo	260
Hitachinaka	159	Suginami-ku	547	Hakusan	113	**Kyoto**		Ikoma	121	Isahaya	141
Chikusei	109	Toshima-ku	276			Kyoto	1,419				
		Kita-ku	338	**Fukui**		Kita-ku	112	**Wakayama**		**Kumamoto**	
Tochigi		Arakawa-ku	209	Fukui	267	Kamigyo-ku	77	Wakayama	377	Kumamoto	735
Utsunomiya	520	Itabashi-ku	544			Sakyo-ku	156			Chuo-ku	176
Ashikaga	153	Nerima-ku	715	**Yamanashi**		Nakagyo-ku	104	**Tottori**		Higashi-ku	191
Tochigi	164	Adachi-ku	674	Kofu	194	Higashiyama-ku	37	Tottorhi	193	Nishi-ku	93
Sano	122	Katsushika-ku	450			Shimogyo-ku	77	Yonago	150	Minami-ku	128
Kanuma	101	Edogawa-ku	680	**Nagano**		Minami-ku	98			Kita-ku	146
Oyama	166	Hachioji	563	Nagano	384	Ukyo-ku	196	**Shimane**		Yatsushiro	131
Nasu Shibara	119	Tachikawa	179	Matsumoto	242	Fushimi-ku	278	Matsue	206		
		Musashino	142	Ueda	160	Yamashina-ku	132	Izumo	175	**Oita**	
Gumma		Mitaka	182	Ida	105	Nishikyo-ku	152			Oita	479
Maebashi	340	Ome	137			Uji	191	**Okayama**		Beppu	121
Takasaki	375	Fuchu	255	**Gifu**				Okayama	706		
Kiryu	119	Akishima	113	Gifu	416	**Osaka**		Kita-ku	293	**Miyazaki**	
Isesaki	211	Chofu	224	Ogaki	163	Osaka	2,671	Naka-ku	145	Mlyazaki	406
Ohta	222	Machida	427	Tajimi	114	Miyakojima-ku	103	Higashi-Ku	97	Miyakonojo	169
		Koganei	117	Kagamihara	148	Fukushima-ku	70	Minami-ku	171	Nobeoka	129
Saitama		Kodaira	187	Kani	101	Konohana-ku	68	Kurashiki	484		
Saitama	1,261	Hino	181			Nishi-ku	88	Tsuyama	105	**Kagoshima**	
Nishi-ku	86	Higashimurayama	151	**Shizuoka**		Minato-ku	83			Kagoshima	608
Kita-ku	145	Kokubunji	119	Shizuoka	716	Taisho-ku	68	**Hiroshima**		Kanoya	105
Ohmiya-ku	114	Higashikurume	116	Aoi-ku	258	Tennoji-ku	72	Hiroshima	1,188	Kirishima	128
Minuma-ku	161	Tama	147	Suruga-ku	212	Naniwa-ku	62	Naka-ku	129		
Chuo-ku	98	Nishitokyo	198	Shimizu-ku	245	Nishiyodogawa-ku	97	Higahi-ku	121	**Okinawa**	
Sakura-ku	96			Hamamatsu	810	Higashiyodogawa-ku	171	Minami-ku	141	Naha	323
Urawa-ku	153	**Kanagawa**		Naka-ku	240	Higashinari-ku	81	Nishi-ku	189	Urasoe	114
Minami-ku	179	Yokohama	3,722	Higashi-ku	130	Ikuno-ku	129	Asa Minami-ku	240	Okinawa	139
Midori-ku	118	Tsurumi-ku	286	Nishi-ku	113	Asahi-ku	91	Asa Kita-ku	150	Uruma	122
Iwatsuki-ku	111	Kanagawa-ku	232	Minami-ku	104	Joto-ku	167	Aki-ku	81		

Notes:
Only cities with population of 100 thousand or more are shown.

Source: "Statistical Yearbook 2016," Statistical Bureau, Ministry of Internal Affairs and Communications

1.03 Chart of Japan's energy balance flow (FY2014)

(Unit: 10^{15} j)



Notes:

- This chart presents the outline of Japan's energy flow, and does not show the detail of the flows.
- "Petroleum" includes petroleum products, in addition to crude oil, NGL, and condensate.
- "Coal" includes coal products in addition to steam coal and anthracite.

Source: "Energy White Paper 2016," Agency for Natural Resources and Energy, METI

1.04 Trends in total amount of domestic primary energy supply

(Unit : 1015J)

	Total	Comparison with the previous year (%)	Breakdown												
			Crude oil	Coal	Coal products	Oil products	Natural gas	Nuclear power	Hydroelectric power for business	Unutilized energy	Solar energy	Geothermal energy	Biomass energy	Natural temperature fluctuate power	Wind energy
FY 1990	20,202.0	-	9,163.7	3,352.0	15.4	2,341.2	2,059.2	1,884.5	809.5	304.2	57.8	16.2	198.5	0.0	0.0
			45.4%	16.6%	0.1%	11.6%	10.2%	9.3%	4.0%	1.5%	0.3%	0.1%	1.0%	0.0%	0.0%
1991	20,412.8	1.0%	9,161.7	3,476.0	19.3	2,134.5	2,165.6	1,986.9	886.4	310.3	56.0	16.5	199.8	0.0	0.0
			44.9%	17.0%	0.1%	10.5%	10.6%	9.7%	4.3%	1.5%	0.3%	0.1%	1.0%	0.0%	0.0%
1992	20,900.0	2.4%	9,816.9	3,366.7	13.1	2,083.0	2,220.9	2,075.4	749.6	309.4	53.3	16.6	195.0	0.0	0.0
			47.0%	16.1%	0.1%	10.0%	10.6%	9.9%	3.6%	1.5%	0.3%	0.1%	0.9%	0.0%	0.0%
1993	21,206.2	1.5%	9,847.6	3,383.3	12.6	1,917.1	2,284.2	2,322.3	869.5	314.2	52.8	16.6	186.0	0.0	0.0
			46.4%	16.0%	0.1%	9.0%	10.8%	11.0%	4.1%	1.5%	0.2%	0.1%	0.9%	0.0%	0.0%
1994	22,292.5	5.1%	10,517.2	3,610.4	12.6	2,050.5	2,411.0	2,497.6	609.5	323.6	52.4	19.2	188.5	0.0	0.0
			47.2%	16.2%	0.1%	9.2%	10.8%	11.2%	2.7%	1.5%	0.2%	0.1%	0.8%	0.0%	0.0%
1995	22,712.2	1.9%	10,204.0	3,736.1	18.0	2,226.3	2,479.5	2,694.5	741.5	335.6	51.5	29.4	195.8	0.0	0.0
			44.9%	16.4%	0.1%	9.8%	10.9%	11.9%	3.3%	1.5%	0.2%	0.1%	0.9%	0.0%	0.0%
1996	23,014.9	1.3%	10,134.5	3,793.1	24.1	2,315.7	2,628.7	2,774.8	722.1	342.4	49.2	33.7	196.6	0.0	0.0
			44.0%	16.5%	0.1%	10.1%	11.4%	12.1%	3.1%	1.5%	0.2%	0.1%	0.9%	0.0%	0.0%
1997	23,336.8	1.4%	10,269.2	3,887.4	49.8	2,065.2	2,735.8	2,899.0	796.1	350.1	47.6	34.1	202.5	0.0	0.0
			44.0%	16.7%	0.2%	8.8%	11.7%	12.4%	3.4%	1.5%	0.2%	0.1%	0.9%	0.0%	0.0%
1998	22,702.0	-2.7%	9,756.0	3,688.5	24.9	2,025.9	2,796.7	2,997.7	814.0	341.0	39.4	31.8	186.1	0.0	0.1
			43.0%	16.2%	0.1%	8.9%	12.3%	13.2%	3.6%	1.5%	0.2%	0.1%	0.8%	0.0%	0.0%
1999	22,857.0	0.7%	9,532.9	3,867.0	59.2	2,268.6	2,941.6	2,822.8	752.3	352.3	35.7	30.8	193.5	0.0	0.3
			41.7%	16.9%	0.3%	9.9%	12.9%	12.3%	3.3%	1.5%	0.2%	0.1%	0.8%	0.0%	0.0%
2000	23,600.2	3.3%	9,761.3	4,210.7	76.2	2,252.2	3,060.7	2,859.1	756.7	354.7	37.9	29.7	199.9	0.0	1.0
			41.4%	17.8%	0.3%	9.5%	13.0%	12.1%	3.2%	1.5%	0.2%	0.1%	0.8%	0.0%	0.0%
2001	22,855.4	-3.2%	9,177.8	4,329.3	50.7	2,063.8	3,075.0	2,823.7	726.2	359.0	35.0	30.3	182.4	0.0	2.2
			40.2%	18.9%	0.2%	9.0%	13.5%	12.4%	3.2%	1.6%	0.2%	0.1%	0.8%	0.0%	0.0%
2002	22,959.7	0.5%	9,258.7	4,439.9	70.1	2,168.8	3,119.0	2,577.3	703.5	364.4	34.8	29.5	190.0	0.0	3.6
			40.3%	19.3%	0.3%	9.4%	13.6%	11.2%	3.1%	1.6%	0.2%	0.1%	0.8%	0.0%	0.0%
2003	22,951.4	0.0%	9,297.1	4,574.2	73.3	2,149.7	3,315.1	2,093.9	807.2	379.5	29.9	30.4	194.1	0.0	7.2
			40.5%	19.9%	0.3%	9.4%	14.4%	9.1%	3.5%	1.7%	0.1%	0.1%	0.8%	0.0%	0.0%
2004	23,640.2	3.0%	9,227.6	4,965.1	93.3	2,151.2	3,291.9	2,470.7	803.9	375.3	27.3	29.5	193.0	0.0	11.4
			39.0%	21.0%	0.4%	9.1%	13.9%	10.5%	3.4%	1.6%	0.1%	0.1%	0.8%	0.0%	0.0%
2005	23,755.1	0.5%	9,506.1	4,747.7	81.3	2,127.6	3,288.5	2,661.7	667.9	373.5	26.7	28.2	230.8	0.0	15.3
			40.0%	20.0%	0.3%	9.0%	13.8%	11.2%	2.8%	1.6%	0.1%	0.1%	1.0%	0.0%	0.1%
2006	23,773.1	0.1%	9,111.0	4,806.4	58.7	2,065.0	3,600.6	2,645.6	763.1	417.7	25.9	26.9	233.3	0.0	18.9
			38.3%	20.2%	0.2%	8.7%	15.1%	11.1%	3.2%	1.8%	0.1%	0.1%	1.0%	0.0%	0.1%
2007	23,794.9	0.1%	9,255.8	5,010.1	64.2	1,940.2	3,892.4	2,306.1	646.9	361.6	24.6	26.6	243.6	0.0	22.9
			38.9%	21.1%	0.3%	8.2%	16.4%	9.7%	2.7%	1.5%	0.1%	0.1%	1.0%	0.0%	0.1%
2008	23,150.4	-2.7%	8,929.1	4,932.4	44.5	1,836.4	3,882.6	2,237.1	662.5	323.3	23.7	23.8	229.4	0.0	25.5
			38.6%	21.3%	0.2%	7.9%	16.8%	9.7%	2.9%	1.4%	0.1%	0.1%	1.0%	0.0%	0.1%
2009	21,686.4	-6.3%	8,065.9	4,391.3	12.6	1,764.9	3,781.3	2,398.1	659.2	326.2	21.4	24.7	209.8	0.0	31.0
			37.2%	20.2%	0.1%	8.1%	17.4%	11.1%	3.0%	1.5%	0.1%	0.1%	1.0%	0.0%	0.1%
2010	23,199.5	7.0%	8,162.0	4,967.5	29.9	1,926.1	4,001.7	2,464.8	703.0	520.9	20.2	22.6	346.9	0.0	33.9
			35.2%	21.4%	0.1%	8.3%	17.2%	10.6%	3.0%	2.2%	0.1%	0.1%	1.5%	0.0%	0.1%
2011	22,047.1	-5.0%	8,011.2	4,661.3	26.2	2,102.3	4,695.7	875.0	715.4	535.9	19.2	23.0	342.8	0.0	39.2
			36.3%	21.1%	0.1%	9.5%	21.3%	4.0%	3.2%	2.4%	0.1%	0.1%	1.6%	0.0%	0.2%
2012	21,720.5	-1.5%	8,049.3	4,873.8	29.2	2,199.8	4,890.7	137.1	649.1	467.3	18.4	22.4	342.7	0.0	40.6
			37.1%	22.4%	0.1%	10.1%	22.5%	0.6%	3.0%	2.2%	0.1%	0.1%	1.6%	0.0%	0.2%
2013	21,979.6	1.2%	8,028.9	5,249.5	64.2	2,016.4	4,953.5	80.0	671.3	452.4	26.8	22.3	370.5	0.0	43.7
			36.5%	23.9%	0.3%	9.2%	22.5%	0.4%	3.1%	2.1%	0.1%	0.1%	1.7%	0.0%	0.2%
2014	21,056.0	-4.2%	7,413.5	5,034.3	98.4	1,974.5	4,963.1	0.0	690.6	393.9	47.2	21.8	376.1	0.0	42.5
			35.2%	23.9%	0.5%	9.4%	23.6%	0.0%	3.3%	1.9%	0.2%	0.1%	1.8%	0.0%	0.2%

Source: "Comprehensive Energy Statistics," Agency for Natural Resources and Energy

1.05 Trends in final domestic energy consumption

(Unit : 1015J)

	Total	Comparison with the previous year (%)	Breakdown			
			Industry	Home	Business and others	Transportation
FY 1990	13,540.1	-	7,020.1	1,683.0	1,788.8	3,048.1
			51.8%	12.4%	13.2%	22.5%
1991	13,736.4	1.4%	6,962.8	1,721.9	1,820.6	3,231.0
			50.7%	12.5%	13.3%	23.5%
1992	13,856.6	0.9%	6,882.3	1,797.6	1,855.6	3,321.1
			49.7%	13.0%	13.4%	24.0%
1993	14,006.7	1.1%	6,771.7	1,890.5	1,972.5	3,371.9
			48.3%	13.5%	14.1%	24.1%
1994	14,505.0	3.4%	6,999.4	1,896.9	2,100.4	3,508.3
			48.3%	13.1%	14.5%	24.2%
1995	14,964.1	3.1%	7,105.1	2,004.8	2,216.8	3,637.5
			47.5%	13.4%	14.8%	24.3%
1996	15,203.3	1.6%	7,210.7	2,013.6	2,245.0	3,734.0
			47.4%	13.2%	14.8%	24.6%
1997	15,316.6	0.7%	7,199.9	2,007.4	2,352.8	3,756.5
			47.0%	13.1%	15.4%	24.5%
1998	15,113.5	-1.3%	6,777.1	2,024.7	2,582.9	3,728.8
			44.8%	13.4%	17.1%	24.7%
1999	15,488.0	2.4%	6,963.9	2,079.4	2,659.8	3,784.9
			45.0%	13.4%	17.2%	24.4%
2000	15,655.2	1.1%	7,037.6	2,142.4	2,706.4	3,768.8
			45.0%	13.7%	17.3%	24.1%
2001	15,455.1	-1.3%	6,822.8	2,084.7	2,718.6	3,829.1
			44.1%	13.5%	17.6%	24.8%
2002	15,680.5	1.4%	6,994.0	2,156.8	2,761.3	3,768.4
			44.6%	13.8%	17.6%	24.0%
2003	15,531.7	-1.0%	7,004.8	2,094.3	2,726.0	3,706.6
			45.1%	13.5%	17.6%	23.9%
2004	15,738.1	1.3%	7,077.5	2,119.6	2,919.5	3,621.5
			45.0%	13.5%	18.6%	23.0%
2005	15,670.5	-0.4%	6,962.3	2,204.9	2,967.3	3,536.0
			44.4%	14.1%	18.9%	22.6%
2006	15,713.8	0.3%	7,217.4	2,127.9	2,878.1	3,490.4
			45.9%	13.5%	18.3%	22.2%
2007	15,446.2	-1.7%	7,138.7	2,157.4	2,701.8	3,448.3
			46.2%	14.0%	17.5%	22.3%
2008	14,359.2	-7.6%	6,338.4	2,079.1	2,618.0	3,323.7
			44.1%	14.5%	18.2%	23.1%
2009	14,089.4	-1.9%	6,187.7	2,057.5	2,569.3	3,275.0
			43.9%	14.6%	18.2%	23.2%
2010	14,698.0	4.1%	6,682.4	2,173.9	2,556.4	3,285.3
			45.5%	14.8%	17.4%	22.4%
2011	14,300.1	-2.8%	6,526.7	2,082.4	2,451.0	3,240.0
			45.6%	14.6%	17.1%	22.7%
2012	14,115.4	-1.3%	6,376.5	2,065.1	2,362.2	3,311.6
			45.2%	14.6%	16.7%	23.5%
2013	14,009.1	-0.8%	6,230.9	2,012.2	2,531.0	3,235.0
			44.5%	14.4%	18.1%	23.1%
2014	13,558.4	-3.3%	6,078.4	1,936.6	2,418.1	3,125.3
			44.8%	14.3%	17.8%	23.1%

Source: "Comprehensive Energy Statistics," Agency for Natural Resources and Energy

1.06 Fuel consumption for residential and commercial industry use

（Unit：1015J）

	Total	Residential				Commercial industry			
			Oil products	Town gas	Electricity		Oil products	Town gas	Electricity
FY 1990	3,472	1,683	613	343	663	1,789	1,000	79	525
1995	4,222	2,005	722	499	827	2,217	1,087	103	797
2000	4,848	2,142	755	419	928	2,706	1,186	177	1,047
2005	5,172	2,205	722	436	1,019	2,967	1,253	230	1,152
2010	4,730	2,174	626	427	1,099	2,556	832	278	1,278
2011	4,533	2,082	91	427	1,045	2,451	859	257	1,169
2012	4,432	2,065	586	426	1,034	2,367	679	294	1,203
2013	4,539	2,012	558	410	1,027	2,527	744	327	1,263

Source: "JAPAN STATISTICAL YEARBOOK 2016," Statistics Bureau, Ministry of Internal Affairs and Communication

1.07 Supply and demand of food

	Domestic production (Thousand t)	Foreign trade		Changes in stock 1)	Supplies for domestic consumption (Thousand t)			Net food supply per capita					Self-sufficiency ratio (%)
		Imports (Thousand t)	Exports (Thousand t)			For process (Thousand t)	Net food (Thousand t)	Quantity Per year (kg)	Per day				
									Quantity (g)	Calories (kcal)	Protein (g)	Lipid (g)	
【Rice】													
FY2000	9,490	879	462	-76	9,790	489	8,198	64.6	177.0	630.0	10.8	1.6	95
2005	8,998	978	179	252	9,222	328	7,845	61.4	168.2	598.9	10.3	1.5	95
2010	8,554	831	201	-240	9,018	322	7,620	59.5	163.0	580.4	9.9	1.5	97
2011	8,566	997	171	-217	9,018	373	7,390	57.8	158.0	562.5	9.6	1.4	96
2012	8,692	848	132	358	8,667	374	7,173	56.3	154.1	548.7	9.4	1.4	96
2013	8,718	833	100	266	8,697	383	7,243	56.9	155.9	555.0	9.5	1.4	96
【Wheat】													
FY2000	688	5,688	0	65	6,311	383	4,133	32.6	89.2	328.3	9.8	1.9	11
2005	875	5,292	0	-46	6,213	357	4,054	31.7	86.9	319.9	9.6	1.8	14
2010	571	5,473	0	-340	6,384	324	4,185	32.7	89.5	329.5	9.8	1.9	9
2011	746	6,480	0	525	6,701	322	4,189	32.8	89.6	329.6	9.9	1.9	11
2012	858	6,578	0	269	7,167	322	4,201	32.9	90.3	332.2	9.9	1.9	12
2013	812	5,737	0	-443	6,992	312	4,164	32.7	89.6	329.8	9.9	1.9	12
【Barley】													
FY2000	192	2,438	0	24	2,606	1,143	38	0.3	0.8	2.8	0.1	0.0	7
2005	171	2,030	0	-64	2,265	976	26	0.2	0.6	1.9	0.0	0.0	8
2010	149	1,902	0	-36	2,087	930	22	0.2	0.5	1.6	0.0	0.0	7
2011	158	1,970	0	-14	2,142	910	33	0.3	0.7	2.4	0.0	0.0	7
2012	160	1,895	0	0	2,055	924	26	0.2	0.6	1.9	0.0	0.0	8
2013	168	1,880	0	-15	2,063	925	27	0.2	0.6	2.0	0.0	0.0	8
【Miscellaneous cereals】													
FY2000	30	18,634	0	328	18,336	3,936	130	1.0	2.8	10.3	0.3	0.1	0
2005	34	18,642	0	749	17,927	3,805	157	1.2	3.3	12.3	0.3	0.2	0
2010	31	17,831	0	598	17,264	3,558	132	1.0	2.8	10.4	0.3	0.1	0
2011	33	16,972	0	97	16,908	3,621	147	1.2	3.1	11.5	0.3	0.1	0
2012	46	16,597	0	331	16,312	3,453	147	1.2	3.2	11.6	0.3	0.1	0
2013	34	16,429	0	245	16,218	3,405	156	1.2	3.4	12.3	0.3	0.1	0
【Sweet potatoes】													
FY2000	1,073	11	0	0	1,084	283	620	4.9	13.4	17.7	0.2	0.0	99
2005	1,053	85	1	0	1,137	392	626	4.9	13.4	17.7	0.2	0.0	93
2010	864	65	2	0	927	348	487	3.8	10.4	13.8	0.1	0.0	93
2011	886	71	1	0	956	342	530	4.1	11.3	15.0	0.1	0.0	93
2012	876	72	2	0	946	344	523	4.1	11.2	14.8	0.1	0.0	93
2013	942	78	3	0	1,017	395	538	4.2	11.6	15.3	0.1	0.0	93
【Irish potatoes】													
FY2000	2,898	820	3	0	3,715	1,023	2,059	16.2	44.4	33.8	0.7	0.0	78
2005	2,752	807	1	0	3,558	1,058	1,895	14.8	40.6	30.9	0.7	0.0	77
2010	2,290	959	2	0	3,247	745	1,889	14.8	40.4	30.7	0.6	0.0	71
2011	2,387	1,009	2	0	3,394	787	2,029	15.9	43.4	33.0	0.7	0.0	70
2012	2,500	1,028	2	0	3,526	867	2,084	16.3	44.8	34.0	0.7	0.0	71
2013	2,415	970	3	0	3,382	813	1,992	15.6	42.9	32.6	0.7	0.0	71
【Pulses】2)													
FY2000	366	5,165	0	106	5,425	3,967	1,148	9.0	24.8	105.0	7.5	4.9	7
2005	352	4,482	0	44	4,790	3,313	1,186	9.3	25.4	107.6	7.8	5.0	7
2010	317	3,748	0	30	4,035	2,696	1,082	8.4	23.1	98.4	7.1	4.7	8
2011	310	3,134	0	-137	3,581	2,290	1,058	8.3	22.6	96.2	7.0	4.6	9
2012	340	3,015	0	-64	3,419	2,154	1,036	8.1	22.3	94.3	6.8	4.4	10
2013	300	3,038	0	-46	3,384	2,120	1,040	8.2	22.4	94.7	6.9	4.4	9
【Vegetables】3)													
FY2000	13,704	3,124	2	0	16,826	0	12,998	102.4	280.6	82.9	3.4	0.6	81
2005	12,492	3,367	10	0	15,849	0	12,302	96.3	263.8	77.6	3.3	0.5	79
2010	11,730	2,783	5	0	14,508	0	11,286	88.1	241.5	70.4	3.0	0.5	81
2011	11,821	3,094	5	0	14,910	0	11,613	90.9	248.3	72.3	3.0	0.5	79
2012	12,012	3,302	4	0	15,310	0	11,921	93.5	256.1	74.4	3.1	0.5	78
2013	11,946	3,137	8	0	15,075	0	11,751	92.3	252.9	73.2	3.1	0.5	79
【Fruits】4)													
FY2000	3,847	4,843	68	-69	8,691	25	5,271	41.5	113.8	66.0	0.9	0.7	44
2005	3,703	5,437	64	40	9,036	17	5,503	43.1	118.0	70.2	0.9	1.0	41
2010	2,960	4,756	42	-45	7,719	14	4,682	36.6	100.2	62.6	0.8	1.0	38
2011	2,954	4,960	34	43	7,837	13	4,743	37.1	101.4	62.9	0.8	1.0	38
2012	3,062	5,007	26	27	8,016	17	4,878	38.3	104.8	66.0	0.9	1.1	38
2013	3,010	4,711	38	22	7,661	18	4,674	36.7	100.6	63.6	0.9	1.1	39
【Meat】													
FY2000	2,982	2,755	3	51	5,683	0	3,651	28.8	78.8	171.1	14.4	11.7	52
2005	3,045	2,703	2	97	5,649	0	3,636	28.5	78.0	166.7	14.3	11.3	54
2010	3,215	2,588	13	21	5,796	0	3,722	29.1	79.6	169.8	14.6	11.5	56
2011	3,168	2,735	6	41	5,856	0	3,779	29.6	80.8	172.5	14.8	11.7	54
2012	3,273	2,636	9	-24	5,924	0	9,828	30.0	82.2	174.5	15.1	11.8	55
2013	3,283	2,635	12	-16	5,922	0	3,826	30.1	82.3	174.9	15.1	11.8	55
＜Beef＞													
FY2000	521	1,055	0	22	1,554	0	959	7.6	20.7	57.3	3.5	4.5	34
2005	497	654	0	0	1,151	0	711	5.6	15.2	42.8	2.6	3.4	43
2010	512	731	1	24	1,218	0	752	5.9	16.1	45.4	2.7	3.6	42
2011	505	737	1	-9	1,250	0	772	6.0	16.5	46.5	2.8	3.7	40
2012	514	722	1	8	1,227	0	757	5.9	16.3	45.8	2.7	3.6	42
2013	506	765	1	31	1,239	0	765	6.0	16.5	46.4	2.8	3.7	41
＜Pork＞													
FY2000	1,256	952	0	20	2,188	0	1,351	10.6	29.2	66.6	5.3	4.7	57
2005	1,242	1,298	0	46	2,494	0	1,540	12.1	33.0	75.4	6.0	5.3	50
2010	1,277	1,143	1	3	2,416	0	1,492	11.7	31.9	72.9	5.8	5.1	53
2011	1,277	1,198	1	13	2,461	0	1,520	11.9	32.5	74.2	5.9	5.2	52
2012	1,295	1,141	1	-12	2,447	0	1,511	11.8	32.5	74.1	5.9	5.2	53
2013	1,310	1,113	2	-18	2,439	0	1,506	11.8	32.4	74.0	5.9	5.2	54

1.07 Supply and demand of food

	Domestic production (Thousand t)	Foreign trade		Changes in stock 1)	Supplies for domestic consumption (Thousand t)			Net food supply per capita					Self-sufficiency ratio (%)
		Imports (Thousand t)	Exports (Thousand t)			For process (Thousand t)	Net food (Thousand t)	Quantity Per year (kg)	Per day				
									Quantity (g)	Calories (kcal)	Protein (g)	Lipid (g)	
＜Chicken＞													
FY2000	1,195	686	3	13	1,865	0	1,298	10.2	28.0	45.6	5.4	2.4	64
2005	1,293	679	2	51	1,919	0	1,336	10.5	28.6	46.6	5.5	2.5	67
2010	1,417	674	11	-7	2,087	0	1,452	11.3	31.1	50.5	6.0	2.7	68
2011	1,378	763	4	38	2,099	0	1,460	11.4	31.2	50.8	6.0	2.7	66
2012	1,457	736	7	-18	2,204	0	1,534	12.0	33.0	53.6	6.4	2.9	66
2013	1,459	717	9	-28	2,195	0	1,527	12.0	32.9	53.5	6.3	2.9	66
【Hen eggs】													
FY2000	2,535	121	0	0	2,656	0	2,154	17.0	46.5	70.2	5.7	4.8	95
2005	2,469	151	1	0	2,619	0	2,120	16.6	45.5	68.6	5.6	4.7	94
2010	2,506	114	1	0	2,619	0	2,119	16.5	45.3	68.5	5.6	4.7	96
2011	2,495	138	0	0	2,633	0	2,131	16.7	45.6	68.8	5.6	4.7	95
2012	2,502	123	1	0	2,624	0	2,124	16.7	45.6	68.9	5.6	4.7	95
2013	2,522	124	1	0	2,645	0	2,141	16.8	46.1	69.6	5.7	4.7	95
【Cow milk and milk products】													
FY2000	8,414	3,952	13	44	12,309	0	11,960	94.2	258.2	165.2	8.3	9.0	68
2005	8,293	3,836	8	-23	12,144	0	11,728	91.8	251.5	160.9	8.0	8.8	68
2010	7,631	3,528	24	-231	11,366	0	11,064	86.4	236.7	151.5	7.6	8.3	67
2011	7,534	4,025	8	-84	11,635	0	11,324	88.6	242.1	154.9	7.7	8.5	65
2012	7,608	4,194	9	72	11,721	0	11,412	89.5	245.2	156.9	7.8	8.6	65
2013	7,448	4,058	15	-144	11,635	0	11,328	89.0	243.8	156.0	7.8	8.5	64
【Fishes and shellfishes】4)													
FY2000	5,736	5,883	264	543	10,812	0	4,717	37.2	101.8	135.8	19.4	5.5	53
2005	5,152	5,782	647	86	10,201	0	4,426	34.6	94.9	137.0	18.3	6.2	51
2010	2,782	4,841	706	216	8,701	0	3,768	29.4	80.6	110.3	15.9	4.5	55
2011	4,328	4,482	530	32	8,248	0	3,644	28.5	77.9	107.3	15.4	4.4	52
2012	4,325	4,586	540	74	8,297	0	3,680	28.9	79.1	105.6	15.7	4.1	52
2013	4,286	4,081	680	-162	7,849	0	3,443	27.0	74.1	97.3	14.6	3.7	55
【Seaweeds】4) 5)													
FY2000	130	78	2	0	206	30	176	1.4	3.8	6.1	1.1	0.1	63
2005	123	70	3	0	190	32	158	1.2	3.4	5.4	1.0	0.1	65
2010	106	47	2	0	151	25	126	1.0	2.7	4.1	0.7	0.1	70
2011	88	55	2	0	141	23	118	0.9	2.5	3.7	0.6	0.1	62
2012	108	51	1	0	158	24	134	1.1	2.9	4.3	0.7	0.1	68
2013	101	48	2	0	147	24	123	1.0	2.6	3.9	0.7	0.1	69
【Sugar】6)													
FY2000	2,413	500	3	3	2,907	142	2,565	20.2	55.4	212.3	0.0	0.0	29
2005	2,315	567	2	28	2,852	116	2,548	19.9	54.6	209.5	0.0	0.0	34
2010	2,152	538	7	-26	2,709	144	2,425	18.9	51.9	199.0	0.0	0.0	26
2011	2,147	581	2	43	2,683	131	2,412	18.8	51.6	197.8	0.0	0.0	26
2012	2,093	571	1	2	2,661	124	2,398	18.8	51.5	197.6	0.0	0.0	28
2013	2,120	573	1	-3	2,695	100	2,418	19.0	52.0	199.6	0.0	0.0	29
【Fats and oils】4)													
FY2000	2,200	725	18	11	2,896	269	1,922	15.1	41.5	382.9	0.0	41.5	14
2005	2,037	964	19	-13	2,995	351	1,862	14.6	39.9	368.3	0.0	39.9	13
2010	1,980	929	14	-25	2,920	417	1,726	13.5	36.9	340.5	0.0	36.9	13
2011	1,946	967	12	-4	2,905	393	1,731	13.5	37.0	341.3	0.0	37.0	13
2012	1,950	985	13	6	2,916	394	1,732	13.6	37.2	343.2	0.0	37.2	13
2013	1,946	966	14	-55	2,953	365	1,734	13.6	37.3	344.2	0.0	37.3	13
＜Vegetable oils and fats＞													
FY2000	1,862	579	17	10	2,414	165	1,738	13.7	37.5	345.5	0.0	37.5	3
2005	1,715	838	17	-13	2,549	224	1,720	13.5	36.9	339.7	0.0	36.9	2
2010	1,657	846	12	-22	2,513	280	1,623	12.7	34.7	319.8	0.0	34.7	2
2011	1,635	881	9	8	2,499	264	1,625	12.7	34.7	320.0	0.0	34.7	3
2012	1,640	886	11	7	2,508	263	1,626	12.8	34.9	321.8	0.0	34.9	3
2013	1,622	903	11	-35	2,549	242	1,625	12.8	35.0	322.1	0.0	35.0	3
＜Animal oils and fats＞													
FY2000	338	146	1	1	482	104	184	1.4	4.0	37.4	0.0	4.0	70
2005	322	126	2	0	446	127	142	1.1	3.0	28.6	0.0	3.0	72
2010	323	83	2	-3	407	137	103	0.8	2.2	20.7	0.0	2.2	79
2011	311	86	3	-12	406	129	106	0.8	2.3	21.3	0.0	2.3	77
2012	310	99	2	-1	408	131	106	0.8	2.3	21.4	0.0	2.3	76
2013	324	63	3	-20	404	123	109	0.9	2.3	22.1	0.0	2.3	80
【Soy sauce】													
FY2000	1,061	0	11	1	1,049	0	1,046	8.2	22.6	16.0	1.7	0.0	-
2005	939	1	18	-1	923	0	920	7.2	19.7	14.0	1.5	0.0	-
2010	845	1	18	-1	829	0	827	6.5	17.7	12.6	1.4	0.0	-
2011	821	1	19	-1	804	0	802	6.3	17.1	12.2	1.3	0.0	-
2012	802	2	17	-1	788	0	786	6.2	16.9	12.0	1.3	0.0	-
2013	808	2	20	0	790	0	788	6.2	17.0	12.0	1.3	0.0	-

Notes:

1. Differences in stocks between the beginning and the end of the fiscal year
2. For soy beans, calendar year is applied.
3. For imports and exports, calendar year is applied.
4. Calendar year
5. Seaweeds are indicated in dry weight
6. Total of refined sugar, brown sugar and un-centrifugal sugar.

Source: "JAPAN STATISTICAL YEARBOOK 2016," Statistic Bureau, Ministry of Internal Affairs and Communications.

1.08 Supply and demand of iron and steel products

(Unit : 1,000 t)

	Pig iron						
	Production			Consumption		Sales	Stock
		For steel-making	Foundry	1) 2)	LD converter		
2010	82,283	81,954	329	78,582	78,486	3,617	711
2011	81,028	80,715	313	76,867	76,757	3,348	1,068
2012	81,405	81,152	254	77,901	77,805	3,391	820
2013	83,849	83,567	282	80,113	80,026	3,552	571
2014	83,872	83,555	318	80,127	79,992	3,117	760

	Ferroalloy					Crude steel				
	Production	Receipt 1) 3)	Consumption 1) 3)	Sales	Stock 3)	Production			Consumption 4)	Stock
							Ordinary steel	Special steel		
2010	893	204	296	912	142	109,599	84,929	24,670	109,972	84
2011	834	186	302	827	157	107,601	83,217	24,385	107,982	90
2012	908	214	300	933	164	107,232	83,241	23,992	107,597	78
2013	938	186	314	933	165	110,595	86,102	24,493	110,866	99
2014	923	172	242	951	156	110,666	85,403	25,263	110,870	95

	Semi-finished steel			
	Production	Consumption	Sales	Stock
2010	106,960	102,943	8,865	3,241
2011	104,594	99,975	8,258	3,916
2012	104,571	100,317	7,750	3,614
2013	107,991	102,525	8,536	3,828
2014	107,856	102,719	8,679	3,739

Notes:
1) By consumers only
2) In 2013 or before, only for steel-making
3) In 2013 or before, figures include the quantity that was received as material and consumed without manufacturing the item.
4) In 2013 or before, figures include the entities that received the item as material and consumed it without manufacturing.

Source: "JAPAN STATISTICAL YEARBOOK 2016," Statistic Bureau, Ministry of Internal Affairs and Communications.

1.09 Gross domestic expenditure (2005 Standard National Accounts: Chain-linked method)

	Real (Chained (2005) one billion yen)										Nominal GDP (one billion yen)	GDP deflator (2005 = 100)
	Gross Domestic Product (GDP)	Growth rates (%)	Private consumption	Government consumption	Residential investment	Non-residential investment	Public investment	Change in inventory	Exports of goods & services	Imports of goods & services		
FY 1965	107,516		66,318	21,594	7,182	8,842	8,589	3,550	3,796	5,860	34,180	31.8
1970	177,077	6.6	102,868	26,750	14,226	24,662	15,221	4,521	8,373	13,050	76,362	43.1
1975	224,912	5.1	133,202	34,849	18,727	24,963	20,403	3,559	12,872	17,170	156,018	69.4
1980	272,021	1.1	161,026	42,607	18,199	32,216	25,147	1,377	20,251	21,069	251,046	92.3
1985	336,949	6.2	192,972	51,854	17,072	43,481	24,649	2,148	28,706	21,929	333,876	99.1
1990	430,139	6.0	242,301	61,911	25,565	73,101	30,251	1,659	34,992	38,174	455,965	106.0
1991	440,923	2.5	248,008	64,106	23,205	73,023	31,666	2,563	36,857	37,690	479,803	108.8
1992	443,832	0.7	251,363	65,891	22,512	68,397	36,898	11	38,305	36,907	490,110	110.4
1993	443,005	-0.2	255,394	68,144	23,331	59,566	39,878	67	38,175	37,433	491,019	110.8
1994	447,167	0.9	259,854	70,602	25,023	58,500	39,088	-912	40,053	40,700	495,612	110.8
1995	459,058	2.7	265,891	73,617	23,609	60,326	41,704	1,291	41,807	46,316	504,594	109.9
1996	471,311	2.7	272,379	75,224	26,746	63,376	40,741	1,668	44,905	51,683	515,944	109.5
1997	472,006	0.1	269,627	75,678	21,693	66,873	37,851	3,283	48,831	50,888	521,295	110.4
1998	464,970	-1.5	270,990	77,206	19,401	61,679	38,589	-285	46,900	47,488	510,919	109.9
1999	467,481	0.5	274,219	80,120	20,090	61,997	37,344	-3,350	49,645	50,675	506,599	108.4
2000	476,723	2.0	275,056	83,960	20,080	64,986	35,071	341	54,246	56,333	510,835	107.2
2001	474,685	-0.4	279,345	87,239	18,633	62,906	32,972	-1,154	50,032	54,361	501,711	105.7
2002	479,871	1.1	282,579	89,069	18,241	61,551	31,291	-1,456	56,008	56,692	498,009	103.8
2003	490,756	2.3	284,902	90,979	18,194	64,678	29,020	364	61,643	58,497	501,889	102.3
2004	497,913	1.5	287,100	92,030	18,470	67,609	25,857	1,503	68,497	63,145	502,761	101.0
2005	507,158	1.9	292,579	92,363	18,345	70,599	24,113	807	74,323	65,974	505,349	99.6
2006	516,038	1.8	295,036	92,696	18,357	74,781	22,358	531	80,789	68,460	509,106	98.7
2007	525,470	1.8	297,443	93,826	15,695	77,015	21,262	1,784	88,387	70,075	513,023	97.6
2008	505,795	-3.7	291,446	93,438	15,520	71,076	19,847	1,848	79,005	66,752	489,520	96.8
2009	495,559	-2.0	295,033	95,951	12,268	62,516	22,124	-5,070	71,413	59,629	473,996	95.6
2010	512,720	3.5	299,721	97,886	12,534	64,876	20,715	-136	83,930	66,764	480,528	93.7
2011	514,695	0.4	303,974	99,068	12,936	68,005	20,054	-1,285	82,603	70,340	474,171	92.1
2012	519,540	0.9	309,166	100,579	13,678	68,647	20,263	-1,071	81,430	72,861	474,404	91.3
2013	529,810	2.0	316,182	102,194	14,886	70,679	22,354	-2,646	85,024	77,746	482,430	91.1
2014	524,664	-1.0	307,053	102,312	13,141	70,717	21,766	308	91,689	80,345	489,623	93.3

Notes:
- Total of the breakdown and grand total are not consistent due to the difference.
- Figures in 1979 or before were estimated by EDMC.

Source: "2016 EDMC HANDBOOK of ENERGY & ECONOMIC STATISTICS in JAPAN," Energy Data and Modelling Center (EDMC), Institute of Energy Economics, Japan (IEEJ).

1.10 Population, Labor and Prices

	Population as of October 1st (thousand)	Number of households at fiscal year – end (thousand households)	Labor force (thousand)	Totally unemployed	Rate of unemployment (%)	Average wage per worker (thousand yen)	Corporate Goods Price Indices (2010 = 100)				Consumer Price Index (2010 = 100)	
								Growth rates (%)	Export	Import		Growth rates (%)
FY 1965	98,275	25,520	48,163	623	1.29	518	50.7	1.3	125.0	47.9	N.A.	N.A.
1970	103,720	30,027	51,709	612	1.18	1,004	56.3	2.1	134.2	50.9	33.2	N.A.
1975	111,940	33,911	53,442	1,044	1.97	2,317	86.9	2.3	180.1	108.0	57.2	10.4
1980	117,060	36,347	56,708	1,183	2.08	3,320	114.4	12.5	190.7	161.6	78.4	7.5
1985	121,049	38,988	59,748	1,582	2.64	4,034	112.5	-1.7	181.9	146.1	88.8	2.0
1990	123,611	41,797	64,144	1,342	2.10	4,783	108.2	1.2	156.7	102.5	95.4	3.1
1991	124,101	42,458	65,322	1,371	2.09	4,964	108.7	0.4	149.1	91.5	98.0	2.7
1992	124,567	43,077	65,833	1,461	2.22	4,978	107.5	-1.1	143.5	87.7	99.6	1.6
1993	124,938	43,666	66,291	1,747	2.63	5,012	105.7	-1.7	132.0	76.8	100.9	1.3
1994	125,265	44,236	66,494	1,943	2.93	5,072	104.2	-1.4	128.4	75.6	101.2	0.3
1995	125,570	44,831	66,720	2,156	3.23	5,134	103.1	-1.1	129.0	75.6	101.0	-0.2
1996	125,859	45,498	67,368	2,253	3.34	5,151	101.6	-1.5	133.7	84.8	101.4	0.4
1997	126,157	46,157	67,938	2,365	3.49	5,175	102.6	1.0	135.6	86.9	103.5	2.1
1998	126,472	46,812	67,891	2,944	4.34	5,085	100.4	-2.1	134.4	81.2	103.7	0.2
1999	126,667	47,420	67,750	3,200	4.73	5,027	99.6	-0.8	121.9	77.4	103.2	-0.5
2000	126,926	48,015	67,723	3,193	4.71	5,025	99.1	-0.6	118.7	80.5	102.6	-0.6
2001	127,316	48,638	67,370	3,479	5.18	4,949	96.6	-2.5	121.9	81.3	101.5	-1.1
2002	127,486	49,261	66,773	3,598	5.39	4,841	95.0	-1.7	118.0	80.6	100.9	-0.6
2003	127,694	49,838	66,618	3,418	5.13	4,738	94.5	-0.6	114.0	79.2	100.7	-0.2
2004	127,787	50,382	66,393	3,077	4.64	4,709	96.0	1.7	114.0	84.9	100.6	-0.1
2005	127,768	51,102	66,553	2,895	4.35	4,711	97.7	1.8	116.7	98.3	100.4	-0.2
2006	127,901	51,713	66,693	2,715	4.08	4,674	99.7	2.0	120.4	108.8	100.6	0.2
2007	128,033	52,325	66,859	2,548	3.83	4,629	102.0	2.3	120.2	117.5	101.0	0.4
2008	128,084	52,878	66,740	2,751	4.14	4,585	105.2	3.2	111.2	117.9	102.1	1.1
2009	128,032	53,363	66,430	3,428	5.18	4,427	99.8	-5.1	102.7	95.7	100.4	-1.7
2010	128,057	53,783	66,300	3,284	4.98	4,435	100.2	0.4	99.4	101.2	99.9	-0.5
2011	127,799	54,171	65,776	2,978	4.53	4,460	101.6	1.3	97.1	108.3	99.8	-0.1
2012	127,515	55,578	65,554	2,800	4.28	4,468	100.5	-1.0	98.0	110.1	99.5	-0.3
2013	127,298	55,952	65,778	2,556	3.89	4,463	102.4	1.8	108.1	125.0	100.4	0.9
2014	127,083	56,412	65,929	2,333	3.54	4,513	105.3	2.8	111.2	125.3	103.4	3.0

Notes:

・ The number of households in FY2012 and onward includes foreigners who the Basic Resident Registration Act is applied to. Since FY2013, data are ones as of the beginning of each year due to the alteration of the reference date.

・ For the figures of labor force and the totally unemployed, those in Okinawa Prefecture were excluded in FY1972 and before.

・ For average wage per worker in FY 1989 or before, data were taken from EDMC estimations.

・ The figures for Labor force and the totally unemployed in FY2010 and FY2011 include complement estimates for Iwate, Miyagi and Fukushima prefectures that were affected by The Great East Japan Earthquake.

Source: 2016 EDMC HANDBOOK of ENERGY & ECONOMIC STATISTICS in JAPAN, the Energy Data and Modelling Center (EDMC), the Institute of Energy Economics, Japan (IEEJ)

1.11 Energy consumption by manufacturing industry (by industry type)

(Unit : 1010 kcal)

	Manufacturing industry											
		Raw materials					Non-raw materials					
			Iron & Steel	Chemicals	Ceramics and cement	Paper and pulp		Foods and tobacco	Textile	Non-ferrous metals	Machinery	Others
FY 1965	62,737	48,636	19,210	16,484	7,737	5,205	14,103	2,974	2,767	1,860	2,383	4,119
1970	125,837	100,058	43,082	36,854	12,073	8,049	25,779	3,960	5,454	3,819	4,593	7,953
1975	138,083	105,899	49,698	35,346	12,192	8,663	32,185	4,640	6,494	3,889	3,818	13,344
1980	132,978	99,240	44,766	32,645	13,357	8,472	33,738	4,561	4,891	4,411	4,653	15,222
1985	125,058	90,704	39,431	32,335	10,947	7,991	34,355	4,212	4,105	3,137	7,244	15,657
1990	142,762	102,992	42,118	39,048	11,946	9,880	39,770	4,878	3,448	3,965	9,571	17,909
1991	144,298	104,122	40,937	41,380	12,304	9,501	40,176	4,910	3,287	4,148	9,522	18,309
1992	141,131	101,817	39,216	40,801	12,278	9,522	39,312	5,036	3,313	3,917	9,388	17,658
1993	141,315	101,573	38,948	40,789	12,300	9,536	39,742	4,985	3,328	3,967	9,274	18,188
1994	147,549	107,402	40,116	44,839	12,586	9,861	40,146	5,100	3,332	3,984	9,516	18,214
1995	150,864	109,687	40,441	46,172	12,645	10,429	41,179	5,341	3,383	3,772	9,666	19,017
1996	153,422	110,874	41,305	46,778	12,578	10,213	42,548	5,411	3,176	3,595	9,892	20,474
1997	155,591	113,578	42,723	48,041	12,395	10,419	42,013	5,424	3,061	3,551	10,247	19,730
1998	152,318	109,816	40,753	47,510	11,942	9,611	42,501	5,519	3,015	3,393	9,988	20,586
1999	160,005	114,902	41,698	51,473	11,641	10,090	45,101	5,536	3,150	3,519	10,164	22,732
2000	162,552	117,218	43,220	52,283	11,143	10,572	45,334	5,562	2,973	3,462	10,426	22,911
2001	151,599	107,670	39,469	48,805	10,618	8,778	43,929	5,382	2,736	3,190	8,961	23,660
2002	154,100	109,096	40,327	50,072	9,857	8,840	45,004	5,470	2,614	3,177	9,203	24,540
2003	155,756	110,287	40,477	51,415	9,629	8,766	45,469	5,494	2,561	3,095	9,330	24,989
2004	155,949	110,722	40,255	52,185	9,748	8,534	45,227	5,519	2,416	3,110	9,729	24,453
2005	155,819	110,206	40,324	51,719	9,607	8,556	45,613	5,581	2,474	3,222	10,282	24,054
2006	157,648	111,355	40,841	52,548	9,717	8,249	46,293	5,699	2,399	3,281	11,233	23,681
2007	157,375	111,863	41,869	52,467	9,622	7,905	45,512	5,731	1,998	3,439	11,319	23,025
2008	142,695	99,825	37,028	46,233	9,191	7,373	42,870	5,576	1,945	3,256	10,090	22,003
2009	137,643	97,268	35,131	47,468	8,505	6,164	40,375	5,491	1,984	2,952	9,324	20,624
2010	146,261	103,777	39,716	48,719	8,738	6,604	42,484	5,793	2,214	3,033	10,132	21,312
2011	140,619	98,284	39,353	44,729	8,333	5,869	42,355	5,756	2,255	3,043	9,740	21,541
2012	137,288	96,121	38,727	43,823	8,129	5,442	41,167	5,732	2,241	2,912	9,450	20,832
2013	139,865	99,474	40,454	45,081	8,447	5,492	40,391	5,529	1,796	2,883	9,249	20,934
2014	136,680	96,834	39,543	43,710	8,046	5,535	39,846	5,430	1,772	2,917	8,995	20,732

Source: "2016 EDMC HANDBOOK of ENERGY & ECONOMIC STATISTICS in JAPAN," the Energy Data and Modelling Center (EDMC), the Institute of Energy Economics, Japan (IEEJ)

1.12 Indices of production in Manufacturing (Value-added weights)

(Year 2010 = 100)

	Manufacturing (9978.9)														Petroleum & coal products (175.8)
		Raw-materials (2221.7)					Non-raw materials (7581.4)								
			Iron and steel (391.1)	Chemicals (1311.2)	Ceramics and cement (315.8)	Paper and pulp (203.6)		Foods and tobacco (613.9)	Textile (149.6)	Non-ferrous metals (232.5)	Machinery (5553.3)	Fabricated metals (418.1)	Machinery industry (5135.2)	Others (1032.1)	
FY 1965	23.1	25.5	33.6	15.1	62.3	28.9	21.6	59.0	382.3	25.2	10.6	43.0	8.8	57.0	36.6
1970	48.2	53.3	76.8	33.3	111.6	50.6	45.5	79.3	499.6	51.4	28.3	102.8	23.6	99.8	84.1
1975	52.7	57.2	82.4	37.5	111.5	52.9	49.2	87.2	481.6	57.9	31.2	107.7	26.9	100.3	102.4
1980	71.3	73.9	99.7	50.4	142.7	66.2	69.2	98.2	492.0	75.0	50.7	138.7	45.2	117.6	101.8
1985	85.0	81.5	102.5	62.3	139.0	76.8	85.4	101.3	479.4	77.6	69.8	137.5	65.0	119.7	86.5
1990	107.4	102.6	115.0	84.1	165.1	102.1	108.5	107.9	435.6	101.7	95.2	170.1	89.5	143.9	93.7
1991	106.6	101.6	111.0	84.6	160.8	103.3	107.8	108.3	428.8	102.6	94.8	169.4	89.1	140.6	97.3
1992	100.2	98.2	102.8	84.2	151.4	100.5	99.9	109.1	398.7	100.2	86.2	159.4	81.0	134.9	99.7
1993	96.6	96.4	98.2	84.2	146.5	99.0	96.0	109.4	358.5	99.3	82.7	155.8	76.8	130.2	103.1
1994	99.6	101.1	102.2	89.6	150.2	102.7	98.5	110.2	345.2	102.7	86.4	160.1	80.4	128.3	106.6
1995	101.7	103.0	101.9	92.9	148.5	106.1	100.8	109.3	319.0	104.0	90.4	159.9	84.6	126.6	107.3
1996	105.1	104.5	102.3	94.7	151.0	107.3	104.9	110.4	311.8	109.0	95.3	162.0	89.5	130.0	107.6
1997	106.3	105.1	103.8	95.8	147.2	109.8	106.3	108.6	298.5	109.4	97.9	155.2	92.7	128.3	110.1
1998	99.0	97.9	90.9	91.8	131.0	105.9	99.4	106.9	264.6	100.0	91.1	144.2	86.2	120.7	109.2
1999	101.6	100.7	94.2	95.7	129.1	109.1	101.9	107.9	251.2	103.8	94.7	144.7	90.0	119.6	109.4
2000	106.0	103.2	102.2	97.2	128.6	110.8	107.0	107.7	229.5	111.0	102.1	143.5	98.1	117.6	110.2
2001	96.3	98.8	96.2	94.6	118.9	106.8	95.3	106.3	206.9	106.6	88.7	130.7	84.7	108.3	110.0
2002	99.0	100.8	102.8	97.0	114.5	108.2	98.2	105.0	186.2	108.4	93.2	124.6	90.0	107.5	110.8
2003	102.0	102.8	106.4	99.5	113.6	107.9	101.5	105.9	170.7	111.3	97.8	121.1	95.4	107.2	109.5
2004	105.9	104.6	109.5	101.2	113.2	109.2	106.1	106.7	157.9	111.4	104.2	121.0	102.5	107.8	108.1
2005	107.6	103.6	108.2	99.6	113.9	110.3	108.6	104.3	145.6	113.5	108.0	119.5	106.8	108.4	110.9
2006	112.5	107.0	112.9	103.7	115.0	110.4	114.1	102.6	139.4	116.6	115.1	118.5	114.7	112.2	107.2
2007	115.6	107.8	115.4	103.7	114.4	111.3	117.9	104.7	131.1	118.0	120.0	116.9	120.3	112.7	108.5
2008	101.0	97.4	97.4	95.9	99.3	104.1	102.0	102.7	113.8	98.8	101.7	110.7	101.0	101.8	104.1
2009	91.3	94.3	85.6	97.3	90.1	97.9	90.3	100.8	95.4	92.8	87.9	98.6	87.0	95.6	99.5
2010	99.4	100.0	100.4	99.8	100.4	99.9	99.2	98.2	101.7	98.9	99.3	99.9	99.2	99.5	99.4
2011	98.8	97.8	97.5	98.3	95.8	97.8	99.1	97.3	102.8	97.5	99.4	98.8	99.5	98.4	93.9
2012	95.8	96.5	96.4	96.5	97.0	95.3	95.7	96.7	99.5	96.6	95.1	98.2	94.9	97.3	93.4
2013	99.0	98.9	99.0	98.3	101.5	98.9	99.0	98.9	99.0	97.3	99.1	100.1	99.0	99.3	95.2
2014	98.5	96.8	97.9	95.2	101.9	97.4	99.2	96.2	97.0	97.9	100.1	96.3	100.4	96.5	90.5

Notes:

- In parentheses is weight of industrial group when it assumes the industrial-production index to be 10000.
- Manufacturing includes "petroleum and coal products", and others include "Plastic product industry", respectively.
- "Chemical fiber" is included in "chemicals", not "textile. "
- "Watches" are not included in "others" but "machinery."

Source: "2016 EDMC HANDBOOK of ENERGY & ECONOMIC STATISTICS in JAPAN," the Energy Data and Modelling Center (EDMC), the Institute of Energy Economics, Japan (IEEJ)

1.13 Energy intensity of manufacturing (IIP basis)

(FY 1973 = 100)

	Manufacturing											
		Raw-materials					Non-raw materials					
			Iron & steel	Chemicals	Ceramics & cement	Paper and pulp		Foods and tobacco	Fiber	Non-ferrous metals	Machinery	Others
FY 1965	107.8	105.5	103.2	108.1	117.9	113.1	112.6	93.0	60.5	112.7	168.2	69.7
1970	103.8	103.8	101.4	109.7	102.7	100.1	97.4	92.1	91.2	113.2	121.0	76.8
1973	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1975	104.3	102.4	109.0	93.5	103.8	102.9	112.5	98.1	112.7	102.5	91.1	128.2
1980	74.2	74.2	81.1	64.2	88.9	80.4	83.9	85.7	83.0	89.6	68.5	124.8
1985	58.5	61.5	69.5	51.4	74.8	65.4	69.2	76.7	71.5	61.7	77.3	126.1
1990	52.9	55.5	66.2	46.0	68.7	60.8	63.0	83.4	66.1	59.4	74.9	119.9
1991	53.9	56.6	66.7	48.4	72.7	57.8	64.1	83.6	64.0	61.6	74.9	125.5
1992	56.0	57.3	69.0	48.0	77.0	59.5	67.7	85.1	69.4	59.6	81.2	126.2
1993	58.2	58.2	71.7	48.0	79.8	60.5	71.2	84.0	77.6	60.9	83.6	134.7
1994	58.9	58.7	70.9	49.5	79.6	60.4	70.1	85.4	80.6	59.2	82.1	136.8
1995	59.0	58.9	71.7	49.2	80.9	61.8	70.3	90.1	88.6	55.3	79.7	144.8
1996	58.1	58.6	73.0	48.9	79.1	59.9	69.8	90.4	85.1	50.3	77.4	151.8
1997	58.2	59.7	74.4	49.7	80.0	59.7	68.0	92.1	85.7	49.5	78.1	148.2
1998	61.2	62.0	81.1	51.3	86.6	57.1	73.5	95.2	95.2	51.8	81.7	164.4
1999	62.6	63.1	80.0	53.3	85.6	58.1	76.1	94.6	104.8	51.7	80.0	183.3
2000	61.0	62.8	76.4	53.3	82.3	60.0	72.9	95.2	108.2	47.6	76.1	187.8
2001	62.7	60.2	74.1	51.1	84.8	51.7	79.3	93.4	110.5	45.6	75.3	210.5
2002	61.9	59.8	70.9	51.1	81.8	51.4	78.8	96.1	117.3	44.7	73.6	220.1
2003	60.8	59.3	68.8	51.1	80.5	51.1	77.1	95.7	125.4	42.4	71.1	224.6
2004	58.6	58.5	66.4	51.0	81.8	49.1	73.3	95.4	127.8	42.6	69.6	218.7
2005	57.6	58.8	67.3	51.4	80.1	48.7	72.2	98.6	141.9	43.3	70.9	213.9
2006	55.8	57.5	65.4	50.2	80.3	47.0	69.8	102.4	143.8	42.9	72.7	203.5
2007	54.2	57.3	65.6	50.1	79.9	44.6	66.4	101.0	127.3	44.5	70.3	196.9
2008	56.2	56.7	68.7	47.8	87.9	44.5	72.3	100.1	142.7	50.2	73.9	208.3
2009	59.8	57.0	74.2	48.2	89.7	39.6	76.3	99.7	162.1	48.5	79.1	206.6
2010	58.3	57.3	71.5	48.3	82.7	41.6	72.8	107.0	162.4	46.8	76.1	204.9
2011	56.4	55.5	72.9	45.0	82.6	37.7	72.4	106.8	158.3	47.6	73.0	209.4
2012	56.9	55.0	72.6	44.9	79.6	35.9	73.7	106.7	158.9	46.0	74.0	209.7
2013	56.3	55.5	72.5	45.7	78.6	37.4	70.6	103.2	150.8	44.8	68.3	207.8
2014	55.2	55.3	73.0	45.5	75.0	35.7	69.1	104.1	152.6	45.4	67.0	207.1

Source: "2016 EDMC HANDBOOK of ENERGY & ECONOMIC STATISTICS in JAPAN," the Energy Data and Modelling Center (EDMC), the Institute of Energy Economics, Japan (IEEJ)

1.14 Residential energy consumption by use

	Energy consumption by use (1010 kcal)						Growth rates (%)					
	Space cooling	Space heating	Water heating	Cooking	Power, etc.	Total	Space cooling	Space heating	Water heating	Cooking	Power, etc.	Total
FY 1965	55	3,279	3,619	1,709	2,034	10,696	-	-	-	-	-	8.8
1970	163	7,004	4,868	2,466	3,828	18,329	24.8	15.9	5.4	0.3	15.3	10.6
1975	285	7,529	7,987	3,523	6,252	25,575	18.0	2.8	2.4	3.5	11.3	4.9
1980	223	8,234	10,280	3,550	7,833	30,120	-42.1	-8.0	-3.4	-7.1	0.8	-4.6
1985	643	10,547	12,402	3,713	9,578	36,883	25.4	12.7	-0.9	3.6	3.5	4.7
1990	950	10,439	14,677	3,806	12,508	42,380	50.8	-0.8	-0.2	-1.6	5.8	2.0
1991	748	10,546	14,948	3,752	13,333	43,327	-21.3	1.0	1.9	-1.4	6.6	2.2
1992	836	11,150	15,978	3,776	13,633	45,373	11.8	5.7	6.9	0.6	2.3	4.7
1993	523	12,012	17,033	3,794	13,947	47,310	-37.4	7.7	6.6	0.5	2.3	4.3
1994	1,475	12,157	15,276	3,967	14,491	47,366	181.9	1.2	-10.3	4.6	3.9	0.1
1995	1,199	13,509	16,466	4,047	15,352	50,573	-18.7	11.1	7.8	2.0	5.9	6.8
1996	969	12,661	16,929	3,878	16,092	50,529	-19.2	-6.3	2.8	-4.2	4.8	-0.1
1997	1,058	11,778	17,338	3,972	16,290	50,437	9.3	-7.0	2.4	2.4	1.2	-0.2
1998	1,231	12,572	14,825	4,107	16,740	49,474	16.3	6.7	-14.5	3.4	2.8	-1.9
1999	1,329	13,581	14,714	4,203	17,054	50,881	8.0	8.0	-0.7	2.4	1.9	2.8
2000	1,391	13,928	15,688	4,283	17,398	52,688	4.7	2.6	6.6	1.9	2.0	3.6
2001	1,237	12,721	15,979	4,081	17,594	51,611	-11.1	-8.7	1.9	-4.7	1.1	-2.0
2002	1,289	14,350	15,976	4,142	18,047	53,804	4.2	12.8	0.0	1.5	2.6	4.2
2003	957	12,670	16,266	4,231	17,911	52,035	-25.8	-11.7	1.8	2.1	-0.8	-3.3
2004	1,461	13,639	15,924	4,285	18,100	53,409	52.6	7.6	-2.1	1.3	1.1	2.6
2005	1,349	15,038	16,509	4,227	18,512	55,635	-7.6	10.3	3.7	-1.4	2.3	4.2
2006	1,206	12,805	16,677	4,280	18,703	53,672	-10.6	-14.8	1.0	1.3	1.0	-3.5
2007	1,405	13,586	16,275	4,249	18,891	54,407	16.5	6.1	-2.4	-0.7	1.0	1.4
2008	1,134	12,756	15,150	4,280	18,788	52,108	-19.3	-6.1	-6.9	0.7	-0.5	-4.2
2009	920	12,842	14,781	4,251	18,876	51,671	-18.9	0.7	-2.4	-0.7	0.5	-0.8
2010	1,582	14,563	15,150	4,275	19,094	54,664	71.8	13.4	2.5	0.6	1.2	5.8
2011	1,184	14,014	14,881	4,321	18,343	52,743	-25.1	-3.8	-1.8	1.1	-3.9	-3.5
2012	1,136	13,533	14,381	4,306	18,279	51,635	-4.1	-3.4	-3.4	-0.4	-0.3	-2.1
2013	1,233	12,779	13,711	4,342	18,203	50,268	8.5	-5.6	-4.7	0.8	-0.4	-2.6
2014	943	12,270	13,428	4,338	17,782	48,761	-23.5	-4.0	-2.1	-0.1	-2.3	-3.0

Source: "2016 EDMC HANDBOOK of ENERGY & ECONOMIC STATISTICS in JAPAN," the Energy Data and Modelling Center (EDMC), the Institute of Energy Economics, Japan (IEEJ)

1.15 Residential energy consumption by energy

	Energy consumption by energy (1010kcal)							Growth rates						
	Coal, etc.	Kerosene	LPG	City gas	Electricity	Solar heat	Total	Coal, etc.	Kerosene	LPG	City gas	Electricity	Solar heat	Total
FY 1965	3,776	1,614	1,288	1,580	2,438	-	10,696	-1.1	19.8	13.8	16.4	12.0	-	8.8
1970	2,404	5,717	2,686	2,943	4,579	-	18,329	-13.2	22.8	4.5	12.7	15.5	-	10.6
1975	861	7,568	4,658	4,544	7,808	136	25,575	-38.6	3.5	9.3	4.7	10.6	-	4.9
1980	529	8,565	5,065	5,649	9,947	365	30,120	-10.5	-12.3	-10.0	3.7	0.2	71.4	-4.6
1985	357	10,959	5,719	6,743	12,263	842	36,883	-12.7	8.7	2.0	3.0	3.9	8.4	4.7
1990	222	10,925	6,526	7,764	15,819	1,124	42,380	-10.1	-2.7	-1.1	-0.4	7.8	13.3	2.0
1991	208	10,837	6,558	8,163	16,481	1,080	43,327	-6.3	-0.8	0.5	5.1	4.2	-3.9	2.2
1992	199	11,844	6,757	8,492	17,045	1,036	45,373	-4.3	9.3	3.0	4.0	3.4	-4.1	4.7
1993	192	12,797	6,808	8,987	17,515	1,011	47,310	-3.5	8.0	0.8	5.8	2.8	-2.4	4.3
1994	175	12,033	6,838	8,398	18,930	992	47,366	-8.9	-6.0	0.4	-6.6	8.1	-1.9	0.1
1995	157	13,311	7,386	9,035	19,714	970	50,573	-10.3	10.6	8.0	7.6	4.1	-2.2	6.8
1996	144	12,803	7,504	9,170	19,976	932	50,529	-8.3	-3.8	1.6	1.5	1.3	-3.9	-0.1
1997	128	12,771	7,271	9,058	20,277	932	50,437	-11.1	-0.2	-3.1	-1.2	1.5	0.0	-0.2
1998	120	12,528	6,005	9,031	20,965	825	49,474	-6.3	-1.9	-17.4	-0.3	3.4	-11.5	-1.9
1999	123	13,333	5,826	9,278	21,570	750	50,881	2.2	6.4	-3.0	2.7	2.9	-9.1	2.8
2000	107	13,897	6,307	9,491	22,100	786	52,688	-12.7	4.2	8.2	2.3	2.5	4.7	3.6
2001	101	12,926	6,454	9,355	22,049	726	51,611	-5.6	-7.0	2.3	-1.4	-0.2	-7.6	-2.0
2002	95	13,758	6,819	9,673	22,793	666	53,804	-5.9	6.4	5.7	3.4	3.4	-8.3	4.2
2003	90	12,501	6,685	9,706	22,435	618	52,035	-5.3	-9.1	-2.0	0.3	-1.6	-7.2	-3.3
2004	80	13,110	6,689	9,463	23,488	579	53,409	-11.1	4.9	0.1	-2.5	4.7	-6.3	2.6
2005	76	13,867	6,915	9,928	24,301	548	55,635	-5.0	5.8	3.4	4.9	3.5	-5.4	4.2
2006	74	12,339	6,948	9,765	24,026	520	53,672	-2.6	-11.0	0.5	-1.6	-1.1	-5.1	-3.5
2007	73	12,033	6,944	9,873	24,992	492	54,407	-1.4	-2.5	-0.1	1.1	4.0	-5.4	1.4
2008	72	11,029	6,303	9,646	24,590	468	52,108	-1.4	-8.3	-9.2	-2.3	-1.6	-4.9	-4.2
2009	66	10,904	6,070	9,629	24,574	428	51,671	-8.3	-1.1	-3.7	-0.2	-0.1	-8.5	-0.8
2010	68	11,895	6,273	9,789	26,244	395	54,664	3.0	9.1	3.3	1.7	6.8	-7.7	5.8
2011	66	11,486	6,069	9,791	24,970	361	52,743	-2.9	-3.4	-3.3	0.0	-4.9	-8.6	-3.5
2012	59	10,920	5,764	9,799	24,765	328	51,635	-10.6	-4.9	-5.0	0.1	-0.8	-9.1	-2.1
2013	60	10,206	5,511	9,554	24,640	297	50,268	1.7	-6.5	-4.4	-2.5	-0.5	-9.5	-2.6
2014	60	9,679	5,424	9,582	23,746	270	48,761	0.0	-5.2	-1.6	0.3	-3.6	-9.1	-3.0

Note:
"Coal, etc." is a total of coal, briquettes, firewood, charcoal and others.

Source: "2016 EDMC HANDBOOK of ENERGY & ECONOMIC STATISTICS in JAPAN," the Energy Data and Modelling Center (EDMC), the Institute of Energy Economics, Japan (IEEJ)

1.16 Residential energy consumption per household by use

	Consumption per household (thousand kcal / household)						Growth rates					
	Space cooling	Space heating	Water heating	Cooking	Power, etc.	Total	Space cooling	Space heating	Water heating	Cooking	Power, etc.	Total
FY 1965	22	1,330	1,468	693	825	4,338	-	-	-	-	-	-
1970	56	2,403	1,670	846	1,313	6,289	20.7	12.1	2.0	-2.9	11.6	7.0
1975	85	2,260	2,398	1,058	1,877	7,678	15.6	0.7	0.3	1.4	9.0	2.8
1980	62	2,298	2,869	991	2,186	8,406	-42.9	-9.2	-4.7	-8.3	-0.5	-5.9
1985	167	2,743	3,225	966	2,491	9,591	23.7	11.2	-2.3	2.2	2.1	3.3
1990	231	2,537	3,566	925	3,039	10,297	48.6	-2.2	-1.6	-3.0	4.3	0.6
1991	179	2,523	3,576	898	3,190	10,366	-22.5	-0.5	0.3	-2.9	5.0	0.7
1992	197	2,626	3,763	889	3,211	10,686	10.1	4.1	5.2	-0.9	0.7	3.1
1993	121	2,789	3,954	881	3,238	10,983	-38.3	6.2	5.1	-1.0	0.8	2.8
1994	338	2,784	3,498	909	3,319	10,847	178.1	-0.2	-11.5	3.2	2.5	-1.2
1995	271	3,054	3,722	915	3,470	11,433	-19.8	9.7	6.4	0.7	4.6	5.4
1996	216	2,824	3,776	865	3,590	11,271	-20.3	-7.5	1.4	-5.4	3.4	-1.4
1997	233	2,589	3,811	873	3,580	11,085	7.7	-8.3	0.9	0.9	-0.3	-1.6
1998	267	2,724	3,212	890	3,627	10,719	14.6	5.2	-15.7	1.9	1.3	-3.3
1999	284	2,901	3,143	898	3,643	10,869	6.5	6.5	-2.1	0.9	0.4	1.4
2000	293	2,937	3,308	903	3,669	11,111	3.4	1.2	5.3	0.6	0.7	2.2
2001	258	2,649	3,328	850	3,664	10,749	-12.2	-9.8	0.6	-5.9	-0.1	-3.3
2002	265	2,950	3,285	852	3,710	11,062	2.9	11.4	-1.3	0.2	1.3	2.9
2003	194	2,572	3,302	859	3,636	10,563	-26.7	-12.8	0.5	0.9	-2.0	-4.5
2004	293	2,737	3,195	860	3,632	10,717	50.9	6.4	-3.2	0.1	-0.1	1.5
2005	268	2,985	3,277	839	3,674	11,043	-8.6	9.1	2.6	-2.4	1.2	3.0
2006	236	2,506	3,264	838	3,660	10,503	-11.8	-16.0	-0.4	-0.2	-0.4	-4.9
2007	272	2,627	3,147	822	3,653	10,521	15.1	4.8	-3.6	-1.9	-0.2	0.2
2008	217	2,438	2,895	818	3,591	9,959	-20.2	-7.2	-8.0	-0.5	-1.7	-5.3
2009	174	2,429	2,795	804	3,570	9,772	-19.7	-0.4	-3.5	-1.7	-0.6	-1.9
2010	296	2,729	2,839	801	3,578	10,244	70.3	12.4	1.6	-0.3	0.2	4.8
2011	220	2,606	2,767	803	3,411	9,807	-25.7	-4.5	-2.5	0.3	-4.7	-4.3
2012	210	2,498	2,655	795	3,374	9,532	-4.8	-4.1	-4.1	-1.1	-1.1	-2.8
2013	222	2,299	2,467	781	3,275	9,045	5.8	-8.0	-7.1	-1.7	-2.9	-5.1
2014	168	2,193	2,400	775	3,178	8,715	-24.0	-4.6	-2.7	-0.8	-3.0	-3.6

Source: "2016 EDMC HANDBOOK of ENERGY & ECONOMIC STATISTICS in JAPAN," the Energy Data and Modelling Center (EDMC), the Institute of Energy Economics, Japan (IEEJ)

1.17 Residential energy consumption per household (by use and by energy)

(FY1970) (Thousand kcal / household、%)

	Space heating	Space cooling	Water heating	Cooking	Power, etc.	Total	Shares
Electric power	83	56	46	72	1,313	1,571	(25.0)
City gas	186	-	649	174	-	1,010	(16.1)
LPG	31	-	380	511	-	922	(14.7)
Kerosene	1,672	-	278	11	-	1,962	(31.2)
Coal, etc.	430	-	318	77	-	825	(13.1)
Solar heat	-	-	-	-	-	-	-
Total	2,403	56	1,670	846	1,313	6,289	(100.0)
Shares	(38.2)	(0.9)	(26.6)	(13.5)	(20.9)	(100.0)	

(FY1980)

	Space heating	Space cooling	Water heating	Cooking	Power, etc.	Total	Shares
Electric power	83	62	352	93	2,186	2,776	(33.0)
City gas	282	-	1,026	269	-	1,577	(18.8)
LPG	66	-	760	587	-	1,414	(16.8)
Kerosene	1,812	-	556	23	-	2,390	(28.4)
Coal, etc.	55	-	73	19	-	148	(1.8)
Solar heat	-	-	102	-	-	102	(1.2)
Total	2,298	62	2,869	991	2,186	8,406	(100.0)
Shares	(27.3)	(0.7)	(34.1)	(11.8)	(26.0)	(100.0)	

(FY1990)

	Space heating	Space cooling	Water heating	Cooking	Power, etc.	Total	Shares
Electric power	182	231	264	128	3,039	3,844	(37.3)
City gas	365	-	1,187	335	-	1,886	(18.3)
LPG	92	-	1,062	431	-	1,586	(15.4)
Kerosene	1,886	-	746	23	-	2,655	(25.8)
Coal, etc.	11	-	34	9	-	54	(0.5)
Solar heat	-	-	273	-	-	273	(2.7)
Total	2,537	231	3,566	925	3,039	10,297	(100.0)
Shares	(24.6)	(2.2)	(34.6)	(9.0)	(29.5)	(100.0)	

(FY2000)

	Space heating	Space cooling	Water heating	Cooking	Power, etc.	Total	Shares
Electric power	297	293	243	158	3,669	4,661	(41.9)
City gas	445	-	1,217	340	-	2,002	(18.0)
LPG	84	-	852	394	-	1,330	(12.0)
Kerosene	2,109	-	814	8	-	2,931	(26.4)
Coal, etc.	2	-	17	3	-	23	(0.2)
Solar heat	-	-	166	-	-	166	(1.5)
Total	2,937	293	3,308	903	3,669	11,111	(100.0)
Shares	(26.4)	(2.6)	(29.8)	(8.1)	(33.0)	(100.0)	

(FY2010)

	Space heating	Space cooling	Water heating	Cooking	Power, etc.	Total	Shares
Electric power	443	296	386	214	3,578	4,918	(48.0)
City gas	434	-	1,112	289	-	1,834	(17.9)
LPG	109	-	770	296	-	1,176	(11.5)
Kerosene	1,744	-	486	-	-	2,229	(21.8)
Coal, etc.	-	-	11	2	-	13	(0.1)
Solar heat	-	-	74	-	-	74	(0.7)
Total	2,729	296	2,839	801	3,578	10,244	(100.0)
Shares	(26.6)	(2.9)	(27.7)	(7.8)	(34.9)	(100.0)	

(FY2014)

	Space heating	Space cooling	Water heating	Cooking	Power, etc.	Total	Shares
Electric power	357	168	330	210	3,178	4,244	(48.7)
City gas	408	-	1,022	283	-	1,713	(19.7)
LPG	78	-	612	280	-	969	(11.1)
Kerosene	1,351	-	379	-	-	1,730	(19.8)
Coal, etc.	-	-	9	1	-	11	(0.1)
Solar heat	-	-	48	-	-	48	(0.6)
Total	2,193	168	2,400	775	3,178	8,715	(100.0)
Shares	(25.2)	(1.9)	(27.5)	(8.9)	(36.5)	(100.0)	

Note:
"Coal etc." is a total of coal, briquettes, firewood, charcoal and others.

Source: "2016 EDMC HANDBOOK of ENERGY & ECONOMIC STATISTICS in JAPAN," the Energy Data and Modelling Center (EDMC), the Institute of Energy Economics, Japan (IEEJ)

1.18 Penetration and ownership of home appliances

Penetration Rates (%), Ownership Rates (=units /100 households)

Use		Appliances	FY1965	1970	1975	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Penetration Rates	Air conditioner	Oil stove	45.8	82.0	89.5	91.3	84.0	75.3	72.3	72.1	68.9	67.7	66.1	65.7	61.2	60.4	60.4
		Heater	-	-	-	18.4	42.3	61.2	63.6	63.4	65.2	66.3	67.0	67.9	67.8	68.3	69.4
		Electric carpet	-	-	-	-	-	50.2	54.4	58.2	61.5	63.1	65.3	66.1	66.3	68.7	67.9
		Air conditioner	2.0	7.7	19.5	41.2	54.6	68.1	69.8	72.3	74.2	77.2	77.2	79.3	81.9	84.4	86.2
		Cooling	-	-	-	-	43.8	46.3	44.7	44.6	44.4	43.7	41.3	40.1	39.7	38.1	35.3
		Cooling and heating	-	-	-	-	20.0	38.0	40.0	47.2	48.5	53.4	56.7	60.2	64.9	67.0	71.7
	Water heating	Gas water boiler	-	46.0	69.1	77.3	69.3	62.1	62.9	58.4	60.1	58.3	55.0	54.9	52.3	52.0	51.2
		Water heater	-	-	-	-	24.8	37.0	30.0	31.1	30.4	30.4	30.3	30.8	31.7	32.5	33.4
	Cooking	Microwave oven	-	3.0	20.8	37.4	45.3	75.6	79.2	81.3	84.3	87.2	88.4	90.8	91.7	93.3	94.0
		Refrigerator	61.6	91.2	96.1	99.2	98.4	98.9	98.1	98.0	97.9	97.8	98.4	98.7	98.1	98.4	98.0
		(Over 300L)	-	-	-	-	-	-	54.7	58.4	60.8	61.5	62.6	65.5	67.3	68.6	70.2
		(Others)	-	-	-	-	-	-	52.7	50.7	48.5	48.1	46.7	44.9	42.6	41.8	40.3
	Others	Washing machine	75.5	93.6	98.1	99.2	99.6	99.4	99.2	99.2	99.3	99.0	99.2	99.6	99.3	99.0	99.3
		(Automatic)	-	-	-	-	33.9	42.7	45.8	49.3	53.4	58.0	61.9	67.3	72.4	75.3	78.6
		(Others)	-	-	-	-	68.0	61.1	57.8	54.6	50.5	46.5	42.6	38.4	31.7	29.1	26.3
		Clothes dryer	-	-	-	-	9.7	15.8	16.6	18.1	20.1	19.4	19.8	20.8	20.9	20.8	21.7
		(Washing machine integrated)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		(Others)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Blanket dryer	-	-	-	17.8	19.5	30.6	34.4	35.8	36.2	38.1	37.4	38.7	37.1	37.8	36.5
		Color TV set	0.3	42.3	93.7	98.5	98.9	99.3	99.0	99.1	99.0	98.9	99.1	99.2	99.2	98.9	99.0
		(Over 29 inches)	-	-	-	-	-	-	30.5	33.6	38.0	37.9	39.2	43.1	45.7	48.0	49.0
		(Others)	-	-	-	-	-	-	89.1	88.7	87.3	86.9	87.0	86.4	85.4	83.9	84.3
		VTR	-	-	-	5.1	33.5	71.5	63.8	75.1	72.5	73.7	73.8	75.7	76.8	77.8	78.4
		Stereo set	16.7	33.9	53.8	58.5	60.5	57.9	61.0	61.3	60.1	57.7	58.2	56.3	55.2	54.6	55.5
		CD player	-	-	-	-	-	41.0	47.5	54.3	53.8	55.9	56.8	57.9	59.9	60.1	61.8
		Vacuum cleaner	41.2	74.3	92.7	95.4	98.2	98.7	98.1	98.4	98.3	98.3	98.2	98.1	98.3	98.6	98.2
		Personal Computer	-	-	-	-	-	11.5	12.2	11.9	13.9	15.6	17.3	22.1	25.2	29.5	38.6
Ownership rates		Oil stove	-	109.2	157.1	174.9	161.0	145.6	134.9	133.1	123.5	121.4	118.2	117.7	107.4	105.8	105.0
		Fan heater	-	-	-	-	40.5	74.7	81.2	86.2	91.1	94.1	99.0	103.1	103.6	105.3	107.9
		Air conditioner	-	8.8	24.8	57.9	88.0	126.5	131.2	147.5	151.6	160.3	166.1	179.3	191.7	200.7	207.6
		Refrigerator	-	94.4	108.9	115.2	114.3	119.4	117.2	119.0	119.6	121.0	119.4	120.5	120.7	120.7	121.6
		Color TV set	-	43.5	117.2	150.9	174.7	201.3	203.6	208.8	213.5	212.7	215.1	219.8	224.6	224.0	226.2
		(Cathode Ray Tube)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		(Thin type)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Optical disk player & recorder	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Personal Computer	-	-	-	-	-	12.7	13.2	13.6	15.8	17.8	20.2	25.7	30.0	36.7	48.6
		Wash toilet	-	-	-	-	-	-	16.0	19.9	24.2	27.6	30.8	35.7	41.0	44.2	49.2

Use		Appliances	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Penetration Rates	Air conditioner	Oil stove	58.9	57.7	56.7	54.1	-	-	-	-	-	-	-	-	-	-	-
		Heater	69.5	71.8	72.5	72.8	-	-	-	-	-	-	-	-	-	-	-
		Electric carpet	68.3	68.6	67.1	65.2	-	-	-	-	-	-	-	-	-	-	-
		Air conditioner	86.2	87.2	88.8	87.1	87.0	88.2	88.6	89.0	87.9	89.0	89.2	90.0	90.5	90.6	91.2
		Cooling	33.6	32.7	30.1	25.9	-	-	-	-	-	-	-	-	-	-	-
		Cooling and heating	72.9	74.5	78.1	78.8	-	-	-	-	-	-	-	-	-	-	-
	Water heating	Gas water boiler	49.0	49.3	48.5	46.0	-	-	-	-	-	-	-	-	-	-	-
		Water heater	33.0	36.0	35.3	35.3	50.7	50.9	49.0	52.3	52.7	54.9	55.8	58.0	57.1	56.5	58.9
	Cooking	Microwave oven	95.3	95.7	95.8	96.5	-	-	-	-	-	-	-	-	-	-	-
		Refrigerator	98.4	98.4	98.9	98.4	-	-	-	-	-	-	-	-	-	-	-
		(Over 300L)	72.5	74.4	75.4	76.9	-	-	-	-	-	-	-	-	-	-	-
		(Others)	38.8	37.8	37.4	35.8	-	-	-	-	-	-	-	-	-	-	-
	Others	Washing machine	99.3	99.3	99.6	99.0	-	-	-	-	-	-	-	-	-	-	-
		(Automatic)	82.0	83.8	85.6	86.6	-	-	-	-	-	-	-	-	-	-	-
		(Others)	22.6	21.1	19.1	16.8	-	-	-	-	-	-	-	-	-	-	-
		Clothes dryer	21.7	22.8	22.7	22.4	25.9	27.3	28.6	31.1	29.2	30.1	29.8	32.2	31.7	55.2	58.3
		(Washing machine integrated)	-	-	-	-	-	-	-	-	-	-	-	-	-	41.9	44.0
		(Others)	-	-	-	-	-	-	-	-	-	-	-	-	-	23.8	26.1
		Blanket dryer	37.0	36.5	36.5	38.1	-	-	-	-	-	-	-	-	-	-	-
		Color TV set	99.2	99.3	99.4	99.0	99.3	99.4	99.5	99.7	99.4	99.5	99.6	99.4	99.3	96.5	97.5
		(Over 29 inches)	50.9	51.3	53.1	54.0	-	-	-	-	-	-	-	-	-	-	-
		(Others)	83.5	83.4	82.6	82.2	-	-	-	-	-	-	-	-	-	-	-
		VTR	79.3	79.6	81.4	82.6	-	-	-	-	-	-	-	-	-	-	-
		Stereo set	52.9	54.9	55.2	55.5	-	-	-	-	-	-	-	-	-	-	-
		CD player	62.1	60.5	60.3	60.9	-	-	-	-	-	-	-	-	-	-	-
		Vacuum cleaner	98.3	98.2	98.1	98.1	-	-	-	-	-	-	-	-	-	-	-
		Personal Computer	50.1	57.2	63.3	65.7	64.6	68.3	71.0	73.1	73.2	74.6	76.0	77.3	78.0	78.7	78.0
Ownership rates		Oil stove	101.0	100.6	96.3	91.0	-	-	-	-	-	-	-	-	-	-	-
		Fan heater	111.2	115.1	119.8	120.5	134.7	131.9	130.0	122.1	121.3	125.9	116.4	126.1	114.9	108.3	106.9
		Air conditioner	217.4	229.9	245.4	245.3	248.6	255.3	255.5	257.1	256.0	263.1	259.9	268.0	264.3	275.8	274.7
		Refrigerator	121.4	124.8	126.3	125.6	-	-	-	-	-	-	-	-	-	-	-
		Color TV set	230.6	235.0	237.8	238.4	252.0	250.3	248.0	241.5	243.1	243.0	239.6	232.4	225.9	208.1	211.3
		(Cathode Ray Tube)	-	-	-	-	237.8	226.4	210.5	182.9	164.6	134.5	75.9	34.6	25.7	-	-
		(Thin type)	-	-	-	-	14.2	23.9	37.4	58.6	78.5	108.5	163.7	197.8	200.2	208.1	211.3
		Optical disk player & recorder	-	21.9	28.4	39.6	70.1	90.8	97.5	108.5	113.3	119.9	133.1	140.4	144.1	121.5	128.5
		Personal Computer	65.8	78.4	87.9	92.6	95.8	104.1	107.0	110.1	111.8	118.2	122.9	129.9	128.1	131.2	126.8
		Wash toilet	53.0	59.1	66.9	69.7	78.2	82.1	86.7	91.7	93.5	96.7	95.9	100.1	102.9	105.9	108.4

Notes:

- In FY1980 and onward, figures are as of the end of fiscal year, and before FY1975, they are as of the previous month to the end of fiscal year (Feb.).
- Water heaters include solar water heater since FY1990.
- Survey on TV sets with CRT was discontinued in FY 2012.

Source: "2016 EDMC HANDBOOK of ENERGY & ECONOMIC STATISTICS in JAPAN," the Energy Data and Modelling Center (EDMC), the Institute of Energy Economics, Japan (IEEJ)

1.19 Commercial energy consumption by use

	Energy consumption by use (1010kcal)						Growth rates (%)					
	Space cooling	Space heating	Water heating	Cooking	Power, etc.	Total	Space cooling	Space heating	Water heating	Cooking	Power, etc.	Total
FY 1965	213	3,155	2,862	685	1,089	8,004	-	-	-	-	-	-
1970	568	6,948	5,722	847	2,249	16,335	19.1	14.0	11.4	3.6	16.6	13.0
1975	1,202	10,040	7,908	1,018	3,822	23,989	10.9	-6.6	1.8	7.4	13.7	0.4
1980	1,181	9,960	7,531	1,467	6,223	26,362	-16.8	-0.8	-6.7	3.1	4.9	-1.9
1985	1,760	9,321	7,356	1,850	8,625	28,913	-4.3	1.7	-1.6	3.4	8.8	2.5
1990	2,946	9,548	9,221	2,314	12,438	36,467	27.2	7.7	4.3	4.9	7.1	7.8
1991	2,950	10,171	10,466	2,461	13,328	39,376	0.1	6.5	13.5	6.3	7.2	8.0
1992	2,920	11,017	10,098	2,492	14,000	40,528	-1.0	8.3	-3.5	1.3	5.0	2.9
1993	2,617	10,668	9,013	2,693	14,564	39,556	-10.4	-3.2	-10.7	8.1	4.0	-2.4
1994	3,898	10,488	9,635	2,785	15,498	42,304	48.9	-1.7	6.9	3.4	6.4	6.9
1995	3,724	11,507	9,439	2,952	15,986	43,608	-4.4	9.7	-2.0	6.0	3.1	3.1
1996	3,604	10,581	9,417	3,141	16,939	43,682	-3.2	-8.0	-0.2	6.4	6.0	0.2
1997	4,043	10,238	9,695	3,181	17,457	44,613	12.2	-3.2	3.0	1.3	3.1	2.1
1998	4,296	10,670	9,713	3,135	18,231	46,045	6.3	4.2	0.2	-1.5	4.4	3.2
1999	4,893	10,463	9,144	3,268	18,641	46,410	13.9	-1.9	-5.9	4.3	2.2	0.8
2000	5,167	10,605	8,988	3,515	18,698	46,973	5.6	1.4	-1.7	7.5	0.3	1.2
2001	5,351	9,238	8,808	3,546	19,347	46,290	3.6	-12.9	-2.0	0.9	3.5	-1.5
2002	5,710	10,500	8,210	3,494	19,483	47,397	6.7	13.7	-6.8	-1.4	0.7	2.4
2003	4,363	9,923	9,050	3,933	20,170	47,438	-23.6	-5.5	10.2	12.5	3.5	0.1
2004	5,757	9,802	8,537	3,804	20,547	48,447	31.9	-1.2	-5.7	-3.3	1.9	2.1
2005	5,228	10,095	8,100	3,924	19,762	47,110	-9.2	3.0	-5.1	3.1	-3.8	-2.8
2006	5,066	8,212	8,044	3,914	20,016	45,253	-3.1	-18.7	-0.7	-0.2	1.3	-3.9
2007	5,083	7,648	6,898	3,827	20,535	43,990	0.3	-6.9	-14.3	-2.2	2.6	-2.8
2008	5,044	6,679	6,372	3,742	20,324	42,161	-0.8	-12.7	-7.6	-2.2	-1.0	-4.2
2009	4,596	7,026	6,235	3,842	19,945	41,644	-8.9	5.2	-2.2	2.7	-1.9	-1.2
2010	5,519	7,151	6,020	3,905	21,620	44,215	20.1	1.8	-3.4	1.6	8.4	6.2
2011	4,807	7,159	5,787	3,784	20,345	41,882	-12.9	0.1	-3.9	-3.1	-5.9	-5.3
2012	4,794	7,215	5,729	3,813	20,537	42,087	-0.3	0.8	-1.0	0.8	0.9	0.5
2013	4,855	6,454	5,329	3,829	20,509	40,977	1.3	-10.5	-7.0	0.4	-0.1	-2.6
2014	4,282	6,090	4,987	3,786	20,342	39,487	-11.8	-5.7	-6.4	-1.1	-0.8	-3.6

Source: "2016 EDMC HANDBOOK of ENERGY & ECONOMIC STATISTICS in JAPAN," the Energy Data and Modelling Center (EDMC), the Institute of Energy Economics, Japan (IEEJ)

1.20 Commercial energy consumption by energy

	Energy consumption by energy (1010kcal)						Growth rates (%)					
	Coal	Oil	Gas	Electricity	Heat	Total	Coal	Oil	Gas	Electricity	Heat	Total
FY 1965	1,163	4,320	1,209	1,312	-	8,004	-	-	-	-	-	-
1970	525	11,119	1,904	2,782	5	16,335	-18.7	14.9	8.7	17.1	25.0	13.0
1975	154	16,180	2,611	4,990	54	23,989	-32.8	-3.3	3.1	13.5	170.0	0.4
1980	736	14,884	3,224	7,411	107	26,362	-3.4	-4.1	2.9	0.5	12.6	-1.9
1985	1,014	13,458	3,904	10,357	180	28,913	-2.0	-0.1	3.3	6.3	5.9	2.5
1990	745	15,363	5,342	14,757	260	36,467	5.7	6.0	6.0	10.2	22.1	7.8
1991	658	17,118	5,754	15,534	312	39,376	-11.7	11.4	7.7	5.3	20.0	8.0
1992	644	17,523	5,981	16,053	327	40,528	-2.1	2.4	3.9	3.3	4.8	2.9
1993	736	15,543	6,368	16,559	350	39,556	14.3	-11.3	6.5	3.1	7.0	-2.4
1994	926	15,903	6,723	18,326	426	42,304	25.8	2.3	5.6	10.7	21.7	6.9
1995	1,089	16,053	7,131	18,835	500	43,608	17.6	0.9	6.1	2.8	17.4	3.1
1996	1,069	15,136	7,416	19,524	537	43,682	-1.8	-5.7	4.0	3.7	7.4	0.2
1997	976	15,056	7,695	20,306	580	44,613	-8.7	-0.5	3.8	4.0	8.0	2.1
1998	1,055	15,523	7,556	21,311	600	46,045	8.1	3.1	-1.8	4.9	3.4	3.2
1999	894	14,589	8,403	21,895	629	46,410	-15.3	-6.0	11.2	2.7	4.8	0.8
2000	943	14,000	8,848	22,524	658	46,973	5.5	-4.0	5.3	2.9	4.6	1.2
2001	978	12,571	8,975	23,105	661	46,290	3.7	-10.2	1.4	2.6	0.5	-1.5
2002	1,060	12,807	9,194	23,663	673	47,397	8.4	1.9	2.4	2.4	1.8	2.4
2003	1,030	12,836	9,442	23,462	668	47,438	-2.8	0.2	2.7	-0.8	-0.7	0.1
2004	1,006	12,186	9,769	24,774	712	48,447	-2.3	-5.1	3.5	5.6	6.6	2.1
2005	955	11,924	10,138	23,381	712	47,110	-5.1	-2.2	3.8	-5.6	0.0	-2.8
2006	1,041	10,261	9,990	23,276	685	45,253	9.0	-13.9	-1.5	-0.4	-3.8	-3.9
2007	806	8,694	10,009	23,776	705	43,990	-22.6	-15.3	0.2	2.1	2.9	-2.8
2008	665	7,374	9,803	23,651	668	42,161	-17.5	-15.2	-2.1	-0.5	-5.2	-4.2
2009	582	7,425	9,815	23,178	644	41,644	-12.5	0.7	0.1	-2.0	-3.6	-1.2
2010	615	7,229	10,193	25,508	670	44,215	5.7	-2.6	3.9	10.1	4.0	6.2
2011	580	7,255	9,785	23,648	614	41,882	-5.7	0.4	-4.0	-7.3	-8.4	-5.3
2012	616	7,158	9,854	23,831	628	42,087	6.2	-1.3	0.7	0.8	2.3	0.5
2013	606	5,946	9,948	23,839	638	40,977	-1.6	-16.9	1.0	0.0	1.6	-2.6
2014	613	5,280	9,574	23,411	609	39,487	1.2	-11.2	-3.8	-1.8	-4.5	-3.6

Notes:
- “Gas” includes city gas and LP gas.
- “Thermal” includes geothermal and solar thermal.

Source: "2016 EDMC HANDBOOK of ENERGY & ECONOMIC STATISTICS in JAPAN," the Energy Data and Modelling Center (EDMC), the Institute of Energy Economics, Japan (IEEJ)

1.21 Commercial energy consumption by business type

	Energy consumption by business type (1010kcal)									
	Office & Buildings	Department stores & Supermarkets	Wholesales & retails	Restaurants	Schools	Hotels & Inns	Hospitals	Theater & Amusement places	Others	Total
FY 1965	1,122	51	1,067	873	1,165	1,226	910	134	1,457	8,004
1970	2,700	120	2,317	1,759	2,376	3,048	2,203	328	1,486	16,335
1975	4,257	272	3,529	2,597	3,061	4,334	3,020	782	2,137	23,989
1980	4,514	341	4,276	2,798	3,206	3,773	2,998	722	3,734	26,362
1985	5,129	372	5,074	2,643	3,180	3,628	3,191	843	4,853	28,913
1990	6,911	493	6,455	3,239	3,564	4,778	4,222	1,022	5,785	36,467
1991	7,420	536	6,858	3,436	3,787	5,316	4,769	1,103	6,152	39,376
1992	7,718	552	7,261	3,465	3,831	5,391	4,788	1,189	6,332	40,528
1993	7,661	557	7,283	3,500	3,588	5,105	4,437	1,169	6,256	39,556
1994	8,301	639	7,727	3,642	3,700	5,467	4,738	1,267	6,823	42,304
1995	8,490	658	8,131	3,705	3,726	5,481	4,800	1,332	7,286	43,608
1996	8,494	672	8,174	3,799	3,626	5,474	4,803	1,328	7,312	43,682
1997	8,639	733	8,282	3,851	3,620	5,634	5,008	1,375	7,470	44,613
1998	8,791	758	8,723	3,872	3,650	5,715	5,261	1,428	7,847	46,045
1999	8,903	746	8,901	3,950	3,653	5,661	5,305	1,491	7,800	46,410
2000	8,931	764	9,120	4,060	3,633	5,626	5,393	1,496	7,951	46,973
2001	8,845	778	8,835	4,027	3,520	5,535	5,336	1,453	7,962	46,290
2002	8,923	786	9,297	4,016	3,585	5,451	5,480	1,557	8,302	47,397
2003	8,667	765	9,223	4,190	3,549	5,570	5,648	1,485	8,343	47,438
2004	9,097	818	9,423	4,156	3,585	5,538	5,745	1,577	8,509	48,447
2005	8,669	766	9,385	4,047	3,451	5,272	5,675	1,551	8,293	47,110
2006	8,559	763	8,673	3,916	3,318	5,136	5,456	1,437	7,995	45,253
2007	8,733	781	8,542	3,810	3,272	4,862	5,099	1,426	7,465	43,990
2008	8,656	721	8,154	3,665	3,155	4,653	4,811	1,362	6,984	42,161
2009	8,510	709	8,214	3,644	3,139	4,580	4,749	1,337	6,762	41,644
2010	9,302	786	8,781	3,779	3,397	4,727	4,941	1,474	7,028	44,215
2011	8,716	726	8,375	3,551	3,219	4,436	4,730	1,377	6,751	41,882
2012	8,821	733	8,419	3,522	3,294	4,371	4,740	1,383	6,803	42,087
2013	8,840	735	7,981	3,414	3,345	4,214	4,528	1,354	6,567	40,977
2014	8,617	715	7,677	3,281	3,296	3,984	4,290	1,296	6,330	39,487

	Growth rates (%)									
	Office & Buildings	Department stores & Supermarkets	Wholesales & retails	Restaurants	Schools	Hotels & Inns	Hospitals	Theater & Amusement places	Others	Total
FY 1965	-	-	-	-	-	-	-	-	-	-
1970	16.2	19.3	14.9	12.5	12.1	13.3	14.0	16.9	4.0	13.0
1975	2.5	7.8	2.3	0.6	-6.2	0.6	-0.3	-0.4	2.7	0.4
1980	-2.7	-3.7	1.2	-0.9	0.6	-6.8	-3.4	-2.5	-0.7	-1.9
1985	3.8	2.1	4.7	-1.2	2.2	0.2	0.9	5.4	3.6	2.5
1990	8.9	8.3	9.5	6.3	5.8	7.2	7.7	8.9	6.8	7.8
1991	7.4	8.8	6.2	6.1	6.3	11.3	13.0	7.9	6.4	8.0
1992	4.0	3.0	5.9	0.9	1.2	1.4	0.4	7.8	2.9	2.9
1993	-0.7	0.9	0.3	1.0	-6.3	-5.3	-7.3	-1.7	-1.2	-2.4
1994	8.4	14.6	6.1	4.1	3.1	7.1	6.8	8.4	9.1	6.9
1995	2.3	2.9	5.2	1.7	0.7	0.3	1.3	5.1	6.8	3.1
1996	0.0	2.2	0.5	2.5	-2.7	-0.1	0.1	-0.3	0.4	0.2
1997	1.7	9.0	1.3	1.4	-0.2	2.9	4.3	3.5	2.2	2.1
1998	1.8	3.5	5.3	0.6	0.8	1.4	5.0	3.8	5.0	3.2
1999	1.3	-1.7	2.0	2.0	0.1	-0.9	0.8	4.5	-0.6	0.8
2000	0.3	2.5	2.5	2.8	-0.6	-0.6	1.7	0.3	1.9	1.2
2001	-1.0	1.8	-3.1	-0.8	-3.1	-1.6	-1.1	-2.9	0.1	-1.5
2002	0.9	1.0	5.0	-0.2	1.8	-1.3	2.8	7.0	4.3	2.4
2003	-2.9	-2.7	-0.6	4.3	-1.0	2.0	2.9	-4.5	0.5	0.1
2004	5.0	7.0	2.2	-0.8	1.0	-0.6	1.7	6.2	2.0	2.1
2005	-4.7	-6.3	-0.4	-2.6	-3.7	-4.8	-1.2	-1.6	-2.5	-2.8
2006	-1.3	-0.5	-7.6	-3.2	-3.9	-2.6	-3.9	-7.4	-3.6	-3.9
2007	2.0	2.4	-1.5	-2.7	-1.4	-5.3	-6.5	-0.7	-6.6	-2.8
2008	-0.9	-7.7	-4.6	-3.8	-3.6	-4.3	-5.7	-4.5	-6.4	-4.2
2009	-1.9	-2.0	-1.3	-1.7	-1.1	-3.1	-3.8	-3.3	-5.1	-2.6
2010	9.2	10.8	6.3	3.3	8.0	2.8	3.5	9.9	3.4	5.8
2011	-6.4	-7.8	-5.6	-6.5	-5.4	-6.8	-5.3	-7.2	-4.8	-5.9
2012	1.0	0.8	0.9	-1.0	2.0	-1.4	0.6	0.6	1.1	0.6
2013	0.3	0.5	-2.9	-1.9	2.0	-2.2	-1.9	-0.6	-1.4	-1.2
2014	-2.5	-2.7	-3.8	-3.9	-1.5	-5.4	-5.3	-4.3	-3.6	-3.6

Notes:
- "Others" includes welfare facilities, libraries, museums, gyms, assembly facilities and the like.
- "Amusement spot" includes play houses, motion picture theaters, halls, civic auditoriums, and so forth.

Source: "2016 EDMC HANDBOOK of ENERGY & ECONOMIC STATISTICS in JAPAN," the Energy Data and Modelling Center (EDMC), the Institute of Energy Economics, Japan (IEEJ)

1.22 Commercial energy consumption per floor space by use

	Energy consumption by purpose (1000 kcal/㎡)						Growth rates (%)					
	Space cooling	Space heating	Water heating	Cooking	Power, etc.	Total	Space cooling	Space heating	Water heating	Cooking	Power, etc.	Total
FY 1965	5.1	75.7	68.6	16.4	26.1	191.9	-	-	-	-	-	-
1970	10.1	124.1	102.2	15.1	40.2	291.7	11.4	6.7	4.3	-3.1	9.1	5.7
1975	15.9	133.2	104.9	13.5	50.7	318.2	4.9	-11.6	-3.7	1.6	7.6	-5.1
1980	12.6	106.4	80.4	15.7	66.5	281.6	-20.3	-5.0	-10.7	-1.2	0.4	-6.1
1985	16.0	84.5	66.7	16.8	78.2	262.1	-7.0	-1.3	-4.4	0.4	5.7	-0.4
1990	22.9	74.3	71.8	18.0	96.8	283.8	23.8	4.8	1.5	2.1	4.2	4.9
1991	22.2	76.6	78.8	18.5	100.4	296.5	-3.1	3.1	9.9	2.9	3.7	4.5
1992	21.4	80.7	73.9	18.2	102.5	296.8	-3.8	5.3	-6.2	-1.5	2.1	0.1
1993	18.6	75.8	64.0	19.1	103.5	281.0	-13.0	-6.0	-13.4	4.9	0.9	-5.3
1994	26.8	72.1	66.3	19.2	106.6	290.9	44.1	-4.8	3.5	0.1	3.0	3.5
1995	24.9	76.8	63.0	19.7	106.7	291.0	-7.3	6.5	-4.9	2.9	0.1	0.0
1996	23.6	69.2	61.6	20.5	110.7	285.5	-5.2	-9.9	-2.3	4.2	3.8	-1.9
1997	25.8	65.4	62.0	20.3	111.6	285.2	9.7	-5.4	0.7	-0.9	0.8	-0.1
1998	26.8	66.7	60.7	19.6	113.9	287.7	3.8	1.9	-2.1	-3.7	2.1	0.9
1999	30.0	64.1	56.1	20.0	114.3	284.5	11.8	-3.8	-7.6	2.3	0.3	-1.1
2000	31.2	64.1	54.3	21.2	112.9	283.7	4.0	-0.2	-3.2	5.9	-1.2	-0.3
2001	31.7	54.8	52.2	21.0	114.8	274.6	1.7	-14.4	-3.7	-0.9	1.6	-3.2
2002	33.5	61.7	48.2	20.5	114.5	278.5	5.7	12.6	-7.7	-2.4	-0.3	1.4
2003	25.3	57.6	52.6	22.8	117.1	275.5	-24.5	-6.6	9.0	11.3	2.3	-1.1
2004	33.1	56.4	49.1	21.9	118.1	278.5	30.6	-2.2	-6.6	-4.2	0.8	1.1
2005	29.7	57.4	46.0	22.3	112.3	267.8	-10.2	1.8	-6.2	2.0	-4.9	-3.9
2006	28.5	46.2	45.3	22.0	112.7	254.8	-4.0	-19.4	-1.6	-1.2	0.4	-4.8
2007	28.4	42.7	38.5	21.4	114.7	245.6	-0.5	-7.7	-15.0	-3.1	1.7	-3.6
2008	27.8	36.9	35.2	20.7	112.2	232.7	-1.9	-13.7	-8.7	-3.3	-2.2	-5.3
2009	25.2	38.6	34.2	21.1	109.5	228.6	-9.4	4.6	-2.7	2.1	-2.4	-1.7
2010	30.2	39.1	32.9	21.3	118.2	241.6	19.5	1.3	-3.9	1.2	7.9	5.7
2011	26.3	39.2	31.7	20.7	111.3	229.2	-12.8	0.3	-3.7	-3.0	-5.8	-5.1
2012	26.1	39.3	31.2	20.8	112.0	229.4	-0.7	0.4	-1.4	0.4	0.5	0.1
2013	26.3	35.0	28.9	20.7	111.1	222.0	0.7	-11.1	-7.5	-0.2	-0.7	-3.2
2014	23.1	32.8	26.9	20.4	109.6	212.8	-12.3	-6.2	-7.0	-1.7	-1.4	-4.2

Source: "2016 EDMC HANDBOOK of ENERGY & ECONOMIC STATISTICS in JAPAN," the Energy Data and Modelling Center (EDMC), the Institute of Energy Economics, Japan (IEEJ)

1.23 Commercial energy consumption per floor space by use and energy

FY 1970 (Unit : 1,000 kcal/㎡, %)

	Space heating	Space cooling	Water heating	Cooking	Power, etc.	Total	Shares
Electricity	2.6	7.0	-	-	40.2	49.7	(17.0)
Gas	6.7	-	14.3	13.0	-	34.0	(11.7)
Oil	113.3	3.2	82.1	-	-	198.5	(68.1)
Coal	1.5	-	5.8	2.1	-	9.4	(3.2)
Heat	-	-	0.1	-	-	0.1	(0.0)
Total	124.1	10.1	102.2	15.1	40.2	291.7	(100.0)
Shares	(42.5)	(3.5)	(35.0)	(5.2)	(13.8)	(100.0)	

FY 1980

	Space heating	Space cooling	Water heating	Cooking	Power, etc.	Total	Shares
Electricity	3.1	9.6	-	-	66.5	79.2	(28.1)
Gas	5.8	0.3	14.4	13.9	-	34.4	(12.2)
Oil	96.2	2.7	60.0	-	-	159.0	(56.5)
Coal	1.3	-	4.8	1.8	-	7.9	(2.8)
Heat	-	-	1.1	-	-	1.1	(0.4)
Total	106.4	12.6	80.4	15.7	66.5	281.6	(100.0)
Shares	(37.8)	(4.5)	(28.6)	(5.6)	(23.6)	(100.0)	

FY 1990

	Space heating	Space cooling	Water heating	Cooking	Power, etc.	Total	Shares
Electricity	2.1	15.2	0.3	0.4	96.8	114.8	(40.5)
Gas	5.5	4.4	15.4	16.3	-	41.6	(14.6)
Oil	65.6	3.0	51.0	-	-	119.5	(42.1)
Coal	0.9	-	3.6	1.3	-	5.8	(2.0)
Heat	0.1	0.4	1.5	-	-	2.0	(0.7)
Total	74.3	22.9	71.8	18.0	96.8	283.8	(100.0)
Shares	(26.2)	(8.1)	(25.3)	(6.3)	(34.1)	(100.0)	

FY 2000

	Space heating	Space cooling	Water heating	Cooking	Power, etc.	Total	Shares
Electricity	4.1	16.4	1.0	1.6	112.9	136.0	(48.0)
Gas	7.9	11.1	16.0	18.4	-	53.4	(18.8)
Oil	50.6	2.2	31.8	-	-	84.6	(29.8)
Coal	0.9	-	3.5	1.3	-	5.7	(2.0)
Heat	0.5	1.5	2.0	-	-	4.0	(1.4)
Total	64.1	31.2	54.3	21.2	112.9	283.7	(100.0)
Shares	(22.6)	(11.0)	(19.1)	(7.5)	(39.8)	(100.0)	

FY 2010

	Space heating	Space cooling	Water heating	Cooking	Power, etc.	Total	Shares
Electricity	3.7	13.4	1.7	2.5	118.2	139.4	(57.7)
Gas	9.1	13.9	14.6	18.1	-	55.7	(23.1)
Oil	25.2	1.2	13.1	-	-	39.5	(16.3)
Coal	0.5	-	2.1	0.8	-	3.4	(1.4)
Heat	0.6	1.6	1.4	-	-	3.7	(1.5)
Total	39.1	30.2	32.9	21.3	118.2	241.6	(100.0)
Shares	(16.2)	(12.5)	(13.6)	(8.8)	(48.9)	(100.0)	

FY 2014

	Space heating	Space cooling	Water heating	Cooking	Power, etc.	Total	Shares
Electricity	3.4	8.9	1.7	2.5	109.6	126.1	(59.3)
Gas	9.2	11.7	13.6	17.1	-	51.6	(24.2)
Oil	19.2	0.9	8.3	-	-	28.4	(13.4)
Coal	0.5	-	2.1	0.7	-	3.3	(1.6)
Heat	0.6	1.5	1.2	-	-	3.3	(1.5)
Total	32.8	23.1	26.9	20.4	109.6	212.8	(100.0)
Shares	(15.4)	(10.8)	(12.6)	(9.6)	(51.5)	(100.0)	

Notes:
- "Gas" includes town gas and liquefied petroleum gas (LP gas).
- "Thermal" includes geothermal and solar thermal.

Source: "2016 EDMC HANDBOOK of ENERGY & ECONOMIC STATISTICS in JAPAN," the Energy Data and Modelling Center (EDMC), the Institute of Energy Economics, Japan (IEEJ)

1.24 Floor space in the commercial sector by business type

	Total floor area (million ㎡)
FY 1965	417
1970	560
1975	754
1980	936
1985	1,103
1990	1,285
1991	1,328
1992	1,366
1993	1,407
1994	1,454
1995	1,498
1996	1,530
1997	1,564
1998	1,601
1999	1,631
2000	1,656
2001	1,686
2002	1,702
2003	1,722
2004	1,739
2005	1,759
2006	1,776
2007	1,791
2008	1,812
2009	1,821
2010	1,830
2011	1,827
2012	1,834
2013	1,846
2014	1,856

Source: "2016 EDMC HANDBOOK of ENERGY & ECONOMIC STATISTICS in JAPAN," the Energy Data and Modelling Center (EDMC), the Institute of Energy Economics, Japan (IEEJ)

1.25 Transportation energy consumption (by mode)

(Unit : 10^{10}kcal)

	Passenger								Freight						Total transport	
	Total	Growth rates (%)	Private vehicle	Business Vehicle	Bus	Rail	Internal navigation	Domestic aviation	Total	Growth rates (%)	Vehicle	Rail	Internal navigation	Domestic aviation		Growth rates (%)
FY 1965	7,914	-	3,546	1,491	905	1,462	65	445	11,121	-	7,014	2,124	1,964	20	19,055	7.9
1970	15,988	14.7	10,409	1,951	1,189	1,374	109	956	18,285	10.3	12,763	1,216	4,240	66	34,273	12.3
1975	23,805	7.4	17,040	2,089	1,414	1,456	140	1,665	22,491	3.1	15,690	407	6,268	126	46,295	5.3
1980	29,728	0.9	22,515	1,870	1,339	1,513	130	2,360	25,274	-3.7	18,901	320	5,833	221	55,003	-1.2
1985	34,016	3.6	26,651	2,113	1,297	1,520	99	2,336	24,864	0.9	19,574	198	4,769	323	58,880	2.4
1990	44,922	8.0	36,153	2,384	1,530	1,847	167	2,840	29,464	-0.5	25,278	160	3,613	414	74,386	4.5
1991	47,186	5.0	38,038	2,657	1,476	1,877	203	2,935	30,591	3.8	26,211	160	3,794	426	77,776	4.6
1992	48,836	3.5	39,741	2,494	1,478	1,893	188	3,041	30,646	0.2	26,398	164	3,644	440	79,482	2.3
1993	49,764	1.9	41,171	1,914	1,472	1,898	180	3,129	30,445	-0.7	26,146	156	3,675	468	80,209	0.9
1994	52,400	5.3	43,556	1,806	1,518	1,941	163	3,417	31,603	3.8	27,398	152	3,556	496	84,005	4.7
1995	54,192	3.4	45,168	1,735	1,505	1,947	140	3,697	32,448	2.7	27,977	154	3,794	523	86,640	3.1
1996	56,028	3.4	46,713	2,089	1,473	1,936	205	3,612	32,887	1.4	28,153	149	4,076	509	88,916	2.6
1997	57,498	2.6	47,930	2,300	1,468	1,952	209	3,639	32,733	-0.5	27,864	149	4,207	514	90,233	1.5
1998	58,497	1.7	48,975	2,252	1,447	1,966	181	3,676	32,764	0.1	27,232	142	4,849	541	91,261	1.1
1999	59,657	2.0	50,179	2,341	1,468	1,929	244	3,496	33,133	1.1	27,345	144	5,104	540	92,788	1.7
2000	58,100	-2.6	49,572	1,532	1,378	1,941	208	3,469	32,639	-1.5	26,657	134	5,279	570	90,740	-2.2
2001	58,896	1.4	49,929	1,582	1,392	1,928	212	3,853	32,097	-1.7	26,205	137	5,229	526	90,993	0.3
2002	58,849	-0.1	50,286	1,606	1,365	1,901	175	3,516	31,771	-1.0	25,790	135	5,325	521	90,620	-0.4
2003	58,796	-0.1	50,320	1,583	1,407	1,940	145	3,401	31,468	-1.0	25,636	137	5,148	547	90,264	-0.4
2004	59,530	1.2	50,681	1,499	1,499	1,921	179	3,751	31,761	0.9	26,207	136	4,869	550	91,291	1.1
2005	59,041	-0.8	49,925	1,494	1,503	2,007	173	3,940	31,459	-1.0	25,970	140	4,792	557	90,500	-0.9
2006	57,845	-2.0	48,537	1,483	1,533	1,983	156	4,154	31,489	0.1	26,376	138	4,404	572	89,334	-1.3
2007	56,762	-1.9	47,033	1,439	1,531	1,995	167	4,599	30,303	-3.8	25,835	134	3,746	588	87,065	-2.5
2008	54,788	-3.5	45,379	1,375	1,456	1,983	165	4,430	29,006	-4.3	24,928	132	3,400	546	83,794	-3.8
2009	54,266	-1.0	45,264	1,344	1,452	1,967	145	4,094	27,857	-4.0	24,100	126	3,093	538	82,123	-2.0
2010	54,872	1.1	45,826	1,284	1,623	1,987	144	4,007	28,058	0.7	24,371	124	3,051	511	82,929	1.0
2011	53,096	-3.2	45,129	1,206	1,548	1,884	147	3,183	27,915	-0.5	24,319	120	2,977	498	81,011	-2.3
2012	52,189	-1.7	44,384	1,189	1,599	1,885	145	2,986	27,973	0.2	24,351	122	3,002	498	80,163	-1.0
2013	51,108	-2.1	42,261	1,154	1,702	1,977	154	3,860	28,489	1.8	25,023	128	2,811	526	79,598	-0.7
2014	49,245	-3.6	40,401	1,072	1,569	1,938	155	4,110	28,200	-1.0	24,664	126	2,883	526	77,446	-2.7

Source: "2016 EDMC HANDBOOK of ENERGY & ECONOMIC STATISTICS in JAPAN," the Energy Data and Modelling Center (EDMC), the Institute of Energy Economics, Japan (IEEJ)

1.26 Energy intensity by mode

	Passenger (kcal / passenger- km)								Freight (kcal / ton- km)					
	Total	Growth rates (%)	Private vehicle	Business vehicle	Bus	Rail	Internal navigation	Domestic aviation	Total	Growth rates (%)	Vehicle	Rail	Internal navigation	Domestic aviation
FY 1965	191	-	563	1,655	113	57	167	1,507	648	-	2,051	375	243	9,519
1970	228	2.0	375	1,258	116	48	164	1,026	591	-0.6	1,341	194	280	8,951
1975	297	5.6	518	1,671	128	45	204	870	700	7.7	1,733	87	341	8,313
1980	335	0.4	544	1,434	121	48	212	795	657	-2.5	1,514	86	263	7,631
1985	341	-0.3	522	1,669	124	46	172	705	669	1.4	1,365	91	232	6,688
1990	347	5.4	497	1,898	139	48	267	550	639	-6.9	1,340	59	148	5,178
1991	355	2.5	511	2,061	136	47	328	530	649	1.5	1,342	59	153	5,250
1992	362	1.8	519	1,985	139	47	309	537	653	0.7	1,362	62	147	5,469
1993	368	1.7	533	1,572	143	47	297	548	677	3.7	1,378	61	157	5,728
1994	384	4.4	552	1,561	152	49	273	558	689	1.7	1,404	62	149	5,694
1995	391	1.9	560	1,566	155	49	249	569	695	0.9	1,382	61	159	5,662
1996	399	1.9	567	1,959	155	48	363	523	689	-0.9	1,341	60	169	5,286
1997	406	1.9	571	2,234	158	49	391	497	692	0.5	1,325	60	177	5,236
1998	411	1.3	575	2,272	160	51	393	484	717	3.5	1,320	62	214	5,492
1999	419	2.0	587	2,406	166	50	545	441	715	-0.3	1,299	64	222	5,200
2000	410	-2.3	582	1,582	158	50	484	435	681	-4.7	1,245	60	218	5,301
2001	414	1.0	583	1,669	161	50	530	473	666	-2.2	1,225	62	214	5,296
2002	414	-0.1	587	1,680	158	50	450	419	673	1.0	1,210	61	226	5,259
2003	413	-0.2	588	1,648	163	50	360	408	682	1.2	1,167	60	236	5,323
2004	420	1.8	596	1,611	174	50	463	458	682	0.0	1,172	60	222	5,198
2005	419	-0.3	599	1,620	171	51	430	473	678	-0.5	1,137	61	226	5,179
2006	413	-1.5	594	1,612	173	50	412	484	672	-0.9	1,116	59	212	5,223
2007	402	-2.5	574	1,614	172	49	435	545	646	-3.9	1,069	57	185	5,125
2008	393	-2.2	563	1,620	162	49	469	547	648	0.4	1,055	59	181	5,059
2009	396	0.8	565	1,648	166	50	472	544	668	3.0	1,056	61	185	5,149
2010	402	1.3	571	1,647	189	51	480	543	625	-6.4	984	61	170	4,942
2011	390	-3.0	561	1,654	190	48	483	447	647	3.6	1,033	60	170	5,014
2012	367	-5.9	524	1,648	193	47	470	383	681	5.2	1,152	60	169	4,898
2013	351	-4.3	488	1,639	210	48	471	459	674	-1.0	1,160	61	152	4,782
2014	329	-6.3	446	1,547	197	47	471	473	676	0.3	1,165	60	157	4,681

Source: "2016 EDMC HANDBOOK of ENERGY & ECONOMIC STATISTICS in JAPAN," the Energy Data and Modelling Center (EDMC), the Institute of Energy Economics, Japan (IEEJ)

1.27 Trends in proportion of power generation by energy source

(Unit : %)

	Thermal power	Hydroelectric generation and others	Nuclear power
FY 1990	60.5	12.1	27.3
1991	59.3	12.9	27.8
1992	60.2	10.9	28.9
1993	55.3	12.7	32.0
1994	59.1	8.6	32.3
1995	55.5	10.5	34.0
1996	55.2	10.2	34.6
1997	53.2	11.2	35.6
1998	51.8	11.3	36.8
1999	55.2	10.3	34.5
2000	55.5	10.2	34.3
2001	55.2	10.2	34.6
2002	59.0	9.8	31.2
2003	63.1	11.3	25.7
2004	60.1	10.9	29.1
2005	60.1	9.1	30.8
2006	59.5	10.0	30.5
2007	65.9	8.6	25.6
2008	65.2	8.8	26.0
2009	61.4	9.4	29.2
2010	61.8	9.7	28.6
2011	78.9	10.4	10.7
2012	88.4	10.0	1.7
2013	88.4	10.7	1.0
2014	87.8	12.2	0.0

Source: "Environmental Action Plan by the Japanese Electric Utility Industry" (September , 2015), The Federation of Electric Power Companies of Japan

1.28 Trends in rate of utilization for nuclear power plants

	Rate of Utilization (%)
FY 1990	72.7
1991	73.8
1992	74.2
1993	75.4
1994	76.6
1995	80.2
1996	80.8
1997	81.3
1998	84.2
1999	80.1
2000	81.7
2001	80.5
2002	73.4
2003	59.7
2004	68.9
2005	71.9
2006	69.9
2007	60.7
2008	60.0
2009	65.7
2010	67.3
2011	23.7
2012	3.9
2013	2.3
2014	0.0

Source: "Outline of Demand and Supply for Electric Power" by Electricity and Gas Industry Department, Agency for Natural Resources and Energy, METI; "Prompt Report on Power Received and Generated" by The Federation of Electric Power Companies of Japan"

1.29 Trend in CO_2 emissions per unit of user-end electricity

	CO_2 emissions intensity ($kgCO_2$ / kWh)
FY 1990	0.417
1991	0.408
1992	0.416
1993	0.386
1994	0.412
1995	0.389
1996	0.382
1997	0.366
1998	0.354
1999	0.373
2000	0.376
2001	0.376
2002	0.404
2003	0.433
2004	0.418
2005	0.423
2006	0.410
2007	0.453
2008	0.444(0.373)
2009	0.412(0.351)
2010	0.413(0.350)
2011	0.510(0.476)
2012	0.571(0.487)
2013	0.570
2014	0.556

Note:
・ Parenthesized figures are the values reflecting Kyoto Mechanisms Credit.

Source: the Council on Industrial Structure and the Federation of Electric Power Companies of Japan

1.30 New energy supply

	New energy supply (10^{10}kcal)			Growth rates (%)		
	Solar heat	Geothermal	Waste	Solar heat	Geothermal	Waste
FY 1965	-	-	5	-	-	0.0
1970	-	66	10	-	20.0	11.1
1975	136	96	34	-	29.7	17.2
1980	370	290	107	73.7	3.9	40.8
1985	878	398	227	8.5	6.4	8.1
1990	1,167	465	407	13.3	26.4	19.0
1991	1,129	506	437	-3.3	8.8	7.4
1992	1,077	510	465	-4.6	0.8	6.4
1993	1,051	504	491	-2.4	-1.2	5.6
1994	1,031	589	516	-1.9	16.9	5.1
1995	1,006	922	631	-2.4	56.5	22.3
1996	958	1,071	756	-4.8	16.2	19.8
1997	958	1,097	896	0.0	2.4	18.5
1998	845	1,031	1,007	-11.8	-6.0	12.4
1999	768	1,008	1,047	-9.1	-2.2	4.0
2000	808	964	1,012	5.2	-4.4	-3.3
2001	747	999	1,148	-7.5	3.6	13.4
2002	684	990	1,303	-8.4	-0.9	13.5
2003	635	1,017	1,482	-7.2	2.7	13.7
2004	600	984	1,470	-5.5	-3.2	-0.8
2005	569	943	1,431	-5.2	-4.2	-2.7
2006	540	899	1,451	-5.1	-4.7	1.4
2007	513	889	1,440	-5.0	-1.1	-0.8
2008	489	802	1,400	-4.7	-9.8	-2.8
2009	444	843	1,388	-9.2	5.1	-0.9
2010	411	769	1,455	-7.4	-8.8	4.8
2011	376	783	1,511	-8.5	1.8	3.8
2012	348	764	1,569	-7.4	-2.4	3.8
2013	317	759	1,591	-8.9	-0.7	1.4
2014	291	753	1,589	-8.2	-0.8	-0.1

Source: "2016 EDMC HANDBOOK of ENERGY & ECONOMIC STATISTICS in JAPAN," the Energy Data and Modelling Center (EDMC), the Institute of Energy Economics, Japan (IEEJ)

1.31 Installed capacity of cogeneration system

(Unit: kW)

	Residential and commercial									
	Gas turbine		Gas engine		Diesel engine		Steam turbine + fuel cell		Total	
	Unit	Capacity	Unit	Capacity	Unit	Capacity	Unit	Capacity	Unit	Capacity
FY 1970	–	–	–	–	–	–	–	–	–	–
1975	–	–	–	–	2	300	–	–	2	300
1980	–	–	–	–	9	12,796	–	–	9	12,796
1985	8	4,580	53	9,679	46	21,912	–	–	107	36,171
1990	24	25,900	380	85,491	624	181,258	–	–	1,028	292,649
1991	33	37,980	463	101,812	772	232,874	–	–	1,268	372,666
1992	38	49,900	528	120,884	883	263,146	–	–	1,449	433,930
1993	48	102,750	613	143,500	958	286,236	–	–	1,619	532,486
1994	55	115,420	690	166,093	1,059	312,492	–	–	1,804	594,005
1995	61	121,440	752	180,970	1,162	345,785	–	–	1,975	648,195
1996	72	158,110	870	204,970	1,292	390,370	–	–	2,234	753,450
1997	78	175,710	1,016	247,364	1,398	426,149	–	–	2,492	849,223
1998	95	218,232	1,169	284,053	1,485	456,377	–	–	2,749	958,662
1999	109	257,914	1,382	325,035	1,571	492,972	–	–	3,062	1,075,921
2000	167	289,852	1,600	387,968	1,709	543,067	–	–	3,476	1,220,887
2001	234	354,745	1,901	431,358	1,798	571,813	–	–	3,933	1,357,916
2002	335	382,399	2,361	483,993	1,878	609,379	–	–	4,574	1,475,771
2003	426	404,934	2,894	519,989	1,930	639,011	–	–	5,250	1,563,934
2004	495	425,715	3,565	579,739	1,969	653,531	–	–	6,029	1,658,985
2005	506	448,975	4,303	629,467	1,984	664,794	–	–	6,793	1,743,236
2006	521	461,819	5,049	700,828	1,988	667,509	–	–	7,558	1,830,156
2007	528	473,185	5,590	746,630	1,989	667,009	–	–	8,107	1,886,824
2008	523	497,958	6,062	783,651	1,985	664,969	–	–	8,570	1,946,578
2009	344	492,063	4,843	802,672	1,130	671,788	2	620	6,319	1,967,143
2010	538	487,676	6,552	829,229	1,997	671,684	70	11,162	9,157	1,999,751
2011	521	496,947	6,811	835,888	1,997	671,684	54	8,333	9,383	2,012,852
2012	513	492,628	7,545	896,589	1,982	662,084	58	8,738	10,098	2,060,039
2013	500	489,319	8,216	925,327	1,932	646,179	60	8,988	10,708	2,069,813
2014	498	489,308	8,794	957,121	1,925	642,099	69	10,289	11,286	2,098,817

	Industry									
	Gas turbine		Gas engine		Diesel engine		Steam turbine + fuel cell		Total	
	Unit	Capacity	Unit	Capacity	Unit	Capacity	Unit	Capacity	Unit	Capacity
FY 1970	1	7,260	–	–	11	60,500	–	–	12	67,760
1975	2	32,260	–	–	13	71,500	–	–	15	103,760
1980	3	36,110	–	–	15	81,500	–	–	18	117,610
1985	12	96,720	22	2,170	24	94,854	–	–	58	193,744
1990	122	817,617	187	50,439	537	865,066	–	–	846	1,733,122
1991	158	991,157	218	60,563	639	939,948	–	–	1,015	1,991,668
1992	180	1,082,937	238	71,772	713	1,001,016	–	–	1,131	2,155,725
1993	207	1,237,265	257	93,335	755	1,044,577	–	–	1,219	2,375,177
1994	229	1,361,290	278	113,127	816	1,105,505	–	–	1,323	2,579,922
1995	259	1,522,805	310	121,049	904	1,191,886	–	–	1,473	2,835,740
1996	305	1,819,770	326	131,833	999	1,286,726	–	–	1,630	3,238,329
1997	347	2,023,510	353	155,035	1,075	1,358,253	–	–	1,775	3,536,798
1998	388	2,212,830	370	161,436	1,158	1,427,402	–	–	1,916	3,801,668
1999	427	2,395,249	389	171,457	1,253	1,510,130	–	–	2,069	4,076,836
2000	567	2,524,165	437	189,009	1,398	1,664,228	–	–	2,402	4,377,402
2001	622	2,745,762	478	209,135	1,513	1,760,729	–	–	2,613	4,715,626
2002	669	2,881,378	538	279,215	1,709	1,901,279	–	–	2,916	5,061,872
2003	720	3,001,215	648	402,359	1,932	2,054,362	–	–	3,300	5,457,936
2004	750	3,175,024	780	649,411	2,238	2,303,733	–	–	3,768	6,128,168
2005	771	3,315,259	934	966,126	2,292	2,384,425	–	–	3,997	6,665,810
2006	778	3,376,246	1,083	1,284,089	2,289	2,380,825	–	–	4,150	7,041,160
2007	784	3,555,202	1,136	1,472,211	2,282	2,377,950	–	–	4,202	7,405,363
2008	782	3,563,701	1,165	1,499,200	2,279	2,382,650	–	–	4,226	7,445,551
2009	487	3,557,736	640	1,494,063	993	2,382,650	5	38,220	2,125	7,472,669
2010	760	3,555,067	1,123	1,520,149	2,230	2,283,110	28	43,750	4,141	7,402,076
2011	762	3,666,226	1,159	1,536,608	2,220	2,286,835	29	42,835	4,170	7,532,504
2012	785	3,761,359	1,366	1,719,455	2,134	2,170,389	40	140,880	4,325	7,792,083
2013	777	3,726,734	1,494	1,813,587	2,066	2,122,815	48	309,241	4,385	7,972,377
2014	775	3,796,894	1,590	1,882,899	2,033	2,101,399	58	322,919	4,456	8,104,111

Note:

A cogeneration system includes a system comprised of a steam turbine and steam boiler, and that of fuel cell.
However, a set of standalone fuel cell for a residence (Ene-firm) and a gas-engine system (Eco-will) are not included.

Source: "2016 EDMC HANDBOOK of ENERGY & ECONOMIC STATISTICS in JAPAN," the Energy Data and Modelling Center (EDMC), the Institute of Energy Economics, Japan (IEEJ)

1.32 Sales amount of solar system

(Unit)

	Detached house	Apartment house	Residential and commercial	(Public)	Industry	Total
1975-1991	378,376	666	6,293	2,223	304	385,639
1992	16,300	5	42	21	3	16,350
1993	19,540	4	48	25	3	19,595
1994	23,141	5	88	57	2	23,236
1995	24,142	3	62	40	66	24,273
1996	24,341	5	87	47	62	24,495
1997	22,171	6	108	70	3	22,288
1998	15,971	8	124	72	0	16,103
1999	17,168	0	125	82	1	17,294
2000	14,957	10	131	76	2	15,100
2001	12,739	12	104	72	5	12,860
2002	14,538	0	92	53	0	14,630
2003	10,940	2	110	54	1	11,053
2004	9,554	2	110	61	0	9,666
2005	10,158	0	88	40	1	10,247
2006	6,618	0	56	24	0	6,674
2007	4,193	0	69	26	2	4,264
2008	4,605	0	52	20	9	4,666
2009	3,481	0	65	26	7	3,553
2010	5,670	10	68	39	1	5,749
2011	4,652	1	87	34	5	4,745
2012	4,632	390	98	27	18	5,138
2013	4,517	80	85	23	9	4,691
2014	3,781	197	70	24	5	4,053
Cumulative	656,185	1,406	8,262	3,236	509	666,362

Notes:
- Years are indicated by calendar year.
- Data for "Public" are included in "Residential and commercial".

Source: "2016 EDMC HANDBOOK of ENERGY & ECONOMIC STATISTICS in JAPAN," the Energy Data and Modelling Center (EDMC), the Institute of Energy Economics, Japan (IEEJ)

1.33 Sales amount of solar system by use

(Unit)

1975 - 2014	Water heating	Space heating	Space cooling	Others	Cumulative Total
Detached house	637,421	18,595	88	81	656,185
Apartment house	1,380	12	11	3	1,406
Residential and commercial	6,965	702	421	174	8,262
(Public)	(2,572)	(352)	(212)	(100)	(3,236)
Industry	373	30	17	89	509
Total	646,139	19,339	537	347	666,362
Shares	96.97	2.90	0.08	0.05	100.00

Note:
Space heating includes water heating. Space cooling includes water cooling, water heating & cooling and heating & cooling system.

Source: "2016 EDMC HANDBOOK of ENERGY & ECONOMIC STATISTICS in JAPAN," the Energy Data and Modelling Center (EDMC), the Institute of Energy Economics, Japan (IEEJ)

1.34 Deployment of solar power, wind power and waste power generation

(ten thousand kW)

	Photovoltaic power generation	Wind power generation	Power generation from waste materials + Biomass generation
FY1994	-	1	54
1995	-	1	65
1996	-	1	76
1997	-	2	82
1998	-	4	93
1999	21	8	98
2000	33	14	110
2001	45	31	118
2002	64	46	162
2003	86	68	174
2004	113	93	201
2005	142	109	215
2006	171	149	210
2007	192	168	216
2008	214	185	237
2009	263	219	237
2010	362	244	240
2011	491	256	243
2012	689	264	244
2013	1,393	267	253
2014	2,332	289	263

Note:
Data in after FY2012 and onward are estimated by EDMC.

Source: "2016 EDMC HANDBOOK of ENERGY & ECONOMIC STATISTICS in JAPAN," the Energy Data and Modelling Center (EDMC), the Institute of Energy Economics, Japan (IEEJ)

1.35 Installed capacity and utilization of new energy

	Power						Heat					Total	Share in TPES
	Photovoltaics		Wind		Waste+ biomass		Biomass	Solar	Waste	Unutilized energy*	Black liquor and waste wood		
	10,000 KL	10,000 KW	10,000 KL	10,000 KW	10,000 KL	10,000 KW	10,000 KL	10,000 KL	10,000 KL	10,000 KL	10,000 KL	10,000 KL	
FY 1990	0.3	-	0.04	0.1	44	-	N.A.	132	2.7	0.8	477	657	1.2%
1991	0.4	-	0.1	0.3	47	-	N.A.	135	3.2	1.1	490	677	1.3%
1992	0.5	-	0.1	0.3	50	-	N.A.	136	3.6	1.3	478	670	1.2%
1993	0.6	-	0.2	0.5	53	-	N.A.	137	3.6	1.4	462	658	1.2%
1994	0.8	-	0.3	0.5	66	54	N.A.	138	3.5	2.4	449	660	1.1%
1995	1.1	-	0.4	1.0	81	65	N.A.	135	3.8	3.0	472	696	1.2%
1996	1.5	-	0.6	1.4	91	76	N.A.	130	4.4	3.3	477	708	1.2%
1997	2.3	-	0.9	2.2	101	82	N.A.	122	4.6	3.7	493	728	1.2%
1998	3.4	-	1.6	3.8	114	93	N.A.	110	4.4	4.1	457	695	1.2%
1999	5.3	20.9	3.5	8.3	120	98	N.A.	98	4.4	4.1	457	693	1.2%
2000	8.1	33.0	5.9	14.4	120	110	N.A.	89	4.5	4.5	490	722	1.2%
2001	11.0	45.2	12.7	31.2	130	118	N.A.	82	4.5	4.4	446	690	1.2%
2002	15.6	63.7	18.9	46.4	175	162	68.0	74	164.0	4.6	471	991	1.7%
2003	21.0	86.0	27.6	67.8	214	174	79.0	69	161.0	4.2	478	1,054	1.8%
2004	27.7	113.2	37.8	92.7	227	201	122.0	65	165.0	4.6	470	1,119	N.A.
2005	34.7	142.2	44.2	108.5	252	215	142.0	61	149.0	4.9	470	1,159	N.A.
2006	41.8	170.9	60.7	149.1	291	210	156.3	58	150.1	4.7	499	1,262	N.A.
2007	46.9	191.9	68.2	167.5	269	216	197.8	55	151.8	5.0	499	1,293	N.A.
2008	52.4	214.4	75.3	185.0	314	237	175.3	51	148.1	4.6	486	1,307	N.A.
2009	64.2	262.7	89.0	218.6	312	237	170.9	48	146.9	4.5	447	1,282	N.A.
2010	88.4	361.8	99.4	244.2	327	240	173.7	44	137.8	4.7	492	1,368	N.A.
2011	120.0	491.0	104.1	255.5	333	243	178.5	41	136.4	4.2	464	1,381	N.A.
2012	168.4	689.0	107.6	264.0	335	244	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2013	340.4	1,393.0	108.8	267.0	347	253	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2014	569.9	2,332.0	117.8	289.1	361	263	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

Notes:
- * includes Snow/ice heat energy thermal utilization.
- Data in FY2012 and onward are estimated by EDMC.

Source: "2016 EDMC HANDBOOK of ENERGY & ECONOMIC STATISTICS in JAPAN," the Energy Data and Modelling Center (EDMC), the Institute of Energy Economics, Japan (IEEJ)

1.36 Population, Area and GDP by country and region

Country (region)	World Population and Area								
	Notes	Census population (1,000 people)				Mid-year population estimates (1,000 people)		Area (㎢)	Population density
		Year	Total	Man	Woman	2010	2014	2014	2014
World			-	-	-	**6,929,725**	**7,265,786**	**136,162,000**	**53**
Asia			-	-	-				
Japan	ab	10	128,057	62,328	65,730	128,057	127,083	377,972	341
India	e	11	1,210,855	623,270	587,585	1,182,105	…	3,287,263	…
Indonesia	a	10	237,641	119,631	118,010	238,519	252,165	1,910,931	132
Kazakhstan		09	16,010	7,712	8,297	16,322	f 17,161	2,724,902	6
South Korea	a	10	h 48,580	h 24,167	h 24,413	49,410	50,424	100,266	503
Saudi Arabia		10	* 27,137	* 15,307	* 11,830	* 27,563	…	2,206,714	…
Singapore	a	10	3,772	1,861	1,911	j 5,077	j 5,470	718	7,618
Thailand	a	10	65,982	32,355	33,627	67,312	68,610	513,120	134
China		10	a 1,339,725	a 686,853	a 652,872	1,337,700	1,364,270	9,596,961	142
Turkey		11	*a 74,526	*a 37,431	*a 37,095	73,142	k 76,903	783,562	98
Pakistan	m	98	130,580	67,840	62,739	173,510	…	796,095	…
Bangladesh		11	144,044	72,110	71,934	148,620	156,880	147,570	1,063
Philippines	a	10	92,335	46,634	45,701	93,135	99,880	300,000	333
Malaysia	a	10	28,334	14,563	13,771	28,589	30,262	330,396	92
[Others]									
Taiwan	apq	10	22,673	11,305	11,368	23,162	23,434	36,010	647
Hong Kong	a	11	7,072	3,303	3,769	7,024	7,242	1,106	6,550
North America			-	-	-				
USA	a	10	308,746	151,781	156,964	309,326	…	9,833,517	…
Canada	a	11	33,477	16,414	17,062	34,005	* 35,540	9,984,670	4
Mexico		10	112,337	54,855	57,481	a 114,256	a 119,713	1,964,375	61
South America			-	-	-				
Argentina		10	40,117	19,524	20,593	40,788	42,674	2,780,400	15
Brazil		10	a 190,756	a 93,407	a 97,349	cnr 193,253	cnr 202,769	8,514,877	24
Europe			-	-	-				
Iceland	g	00	281	141	140	318	f 326	103,000	3
Ireland		11	4,588	2,273	2,316	4,560	af 4,606	69,797	66
UK	d	11	63,380	31,126	32,254	a 62,759	af 64,308	242,495	265
Italy	a	11	59,434	28,746	30,688	59,277	f 60,783	302,073	201
Ukraine		01	48,241	22,316	25,925	45,871	*d 42,988	603,500	71
Austria	a	11	8,402	4,094	4,308	8,361	f 8,507	83,871	101
Netherlands	a	02	16,105	7,972	8,133	16,615	fg 16,829	37,354	451
Greece		11	10,816	5,303	5,513	s 11,153	af 10,904	131,957	83
Switzerland		11	8,035	3,973	4,062	a 7,825	af 8,140	41,285	197
Sweden	g	11	9,483	4,727	4,756	9,378	f 9,645	450,295	21
Spain	a	11	46,816	23,104	23,712	46,562	fg 46,512	505,970	92
Slovakia	a	11	5,397	2,628	2,769	5,391	f 5,416	t 49,035	110
Czech Republic	a	11	10,437	5,110	5,327	10,474	f 10,512	78,867	133
Denmark	dg	11	5,561	2,757	2,804	5,545	5,640	42,921	131
Germany	a	11	80,220	39,146	41,074	81,757	f 80,767	357,340	226
Norway	an	11	g 4,980	g 2,496	g 2,484	4,889	fg 5,108	323,787	16
Hungary		11	9,938	4,718	5,219	a 10,000	af 9,877	93,024	106
Finland	a	10	5,375	2,638	2,737	dg 5,335	fg 5,451	d 336,855	16
France	asu	06	61,400	29,715	31,685	62,918	* 64,062	551,500	116
Belgium	a	11	11,001	5,402	5,599	10,896	f 11,204	30,528	367
Poland	anp	11	38,045	18,420	19,624	38,517	f 38,018	311,888	122
Portuguese		11	10,282	4,869	5,414	a 10,573	af 10,427	92,225	113
Luxembourg	a	11	512	255	257	507	f 550	2,586	213
Russia		10	143,436	66,457	76,979	a 142,849	…	17,098,246	…
Africa			-	-	-				
Egypt		06	72,798	37,219	35,579	78,685	86,814	1,002,000	87
Nigeria		06	140,432	71,345	69,086	…	…	923,768	…
South Africa		11	51,771	25,189	26,582	50,896	54,002	1,221,037	44
Oceania			-	-	-				
Australia		11	21,727	10,737	10,990	a 22,032	*a 23,491	7,692,024	3
New Zealand		06	4,143	2,021	2,122	a 4,351	a 4,510	268,107	17

Notes:
* indicates provisional or estimated values.
a: De jure population
b: "Census population "and "Mid-year population estimates"are compiled from "Population Census"and "Population Estimates. "
"Area"is compiled from "Municipalities Area Statistics of Japan"by Geospatial Information Authority of Japan, Ministry of Land, Infrastructure, Transportation and Tourism.
The value of area used to calculate a population density does not include Habomai Islands, Shikotan Islands, Kunashiri islands, Etorofu islands, and Takeshima Island.
c: Excluding Nomad
d: Partially excluded
e: Includes Jammu and Kashm
f: As of January 1st.
g: Registered population.
h: Excludes residents not present inside the country at the time of the survey.
j: As of June 30th.
k: Population based on address.
m: Includes Jammu and Kashn
n: Includes citizens residing outside country.
p: Excludes foreigners.
q: According to Taiwan Executive Yuan. Mid-year population is population of the end of year.
r: Excludes the indigenous.
s: Includes foreign servicepersons.
t: Excludes inland waters.
u: Includes foreign diplomats living outside of embassies and consulates.

Source: "World Statistics 2016," Statistics Bureau, Ministry of Internal Affairs and Communications.

1.36 Population, Area and GDP by country and region

Country (Region)	Notes	Gross domestic product (Nominal GDP, in US dollars)							
		Nominal GDP (unit: million US $)				Per capita (unit: US $)			
		2005	2010	2013	2014	2005	2010	2013	2014
Asia									
Japan	a	4,578,144	5,514,059	4,909,995	4,605,511	35,835	43,064	38,560	36,230
India		820,980	1,668,768	1,936,088	2,054,941	717	1,356	1,513	1,586
Indonesia		304,372	755,094	910,479	888,538	1,345	3,125	3,624	3,492
Saudi Arabia		328,461	526,811	744,336	752,460	13,274	18,754	24,646	24,362
Singapore		127,418	236,420	302,246	307,872	28,343	46,549	55,920	55,910
Thailand		189,318	340,923	420,167	404,824	2,874	5,112	6,229	5,977
China		2,291,432	6,005,388	9,518,402	10,430,590	1,755	4,478	6,986	7,617
Turkey		482,986	731,144	823,256	798,414	7,117	10,111	10,801	10,299
Pakistan		117,708	174,508	221,286	251,255	768	1,026	1,221	1,358
Bangladesh		57,628	114,508	153,505	173,062	403	755	977	1,088
Philippines		103,072	199,591	272,067	284,582	1,197	2,145	2,788	2,871
Hong Kong		181,569	228,639	275,743	290,896	26,536	32,693	38,490	40,252
Malaysia		143,534	247,534	313,158	326,933	5,564	88,103	10,628	10,933
North America									
USA		13,093,720	14,964,380	16,663,160	17,348,072	44,215	48,291	52,543	54,306
Canada		1,164,179	1,614,072	1,838,964	1,785,387	36,092	47,297	52,198	50,169
Mexico		864,810	1,049,925	1,258,775	1,294,695	7,880	8,851	10,173	10,326
South America									
Argentina		222,911	464,757	623,932	543,490	5,694	11,274	14,668	12,645
Brazil		892,107	2,209,400	2,392,094	2,346,523	4,733	11,124	11,711	11,387
Europe									
Iceland		16,749	13,237	15,377	17,036	56,443	41,620	47,256	52,048
Ireland		211,383	220,063	238,260	250,814	50,285	47,660	51,005	53,648
UK		2,418,949	2,403,581	2,712,296	2,988,893	40,175	38,324	42,409	46,461
Italy		1,853,466	2,126,621	2,133,539	2,141,161	31,598	35,689	35,695	35,812
Austria		314,641	390,212	428,699	436,888	38,208	46,498	50,513	51,296
Netherlands		678,517	836,390	864,169	879,319	41,546	50,289	51,411	52,129
Greece		247,777	299,362	239,510	235,574	22,383	26,782	21,665	21,414
Switzerland		407,543	581,209	684,919	701,037	55,009	74,223	84,363	85,374
Sweden		389,043	488,378	578,742	571,090	43,083	52,053	60,134	58,856
Spain		1,157,248	1,431,588	1,369,262	1,381,342	26,388	30,720	29,475	29,861
Czech Republic		135,990	207,016	208,328	205,270	13,292	19,703	19,756	19,470
Denmark		264,559	319,812	338,927	346,119	48,832	57,614	60,261	61,294
Germany		2,861,339	3,417,095	3,745,317	3,868,291	35,218	42,483	46,488	47,966
Norway		308,722	428,527	522,746	500,519	66,760	87,611	102,833	97,226
Hungary		112,531	130,091	134,402	138,347	11,146	12,990	13,542	13,989
Finland		204,431	247,800	269,190	272,217	38,966	46,165	49,365	49,678
France		2,203,624	2,646,837	2,810,249	2,829,192	34,931	40,798	42,704	42,802
Belgium		387,356	483,549	521,402	531,547	36,676	44,241	46,749	47,348
Poland		304,412	479,243	524,056	544,959	7,914	12,424	13,570	14,111
Portuguese		197,300	238,303	226,073	230,117	18,826	22,514	21,614	22,122
Luxembourg		36,976	52,349	61,795	64,874	80,762	103,071	113,408	116,560
Russia		764,016	1,524,917	2,079,022	1,860,598	5,320	10,652	14,501	12,972
Africa									
Egypt		94,456	214,630	255,199	282,242	1,260	2,616	2,913	3,151
Tunisia		32,272	44,051	46,154	47,423	3,194	4,140	4,194	4,261
South Africa		257,772	375,348	366,060	349,819	5,331	7,271	6,853	6,482
Oceania									
Australia		762,114	1,291,430	1,528,761	1,471,439	37,590	58,270	65,695	62,290
New Zealand		114,722	146,583	189,494	198,652	27,746	33,551	42,437	44,189

Note:

a From “Annual Report on National Accounts of 2009” and “Annual Report on National Accounts of 2014” on the website of Economic and Social Research Institute, Cabinet office, Government of Japan.

Source: "World Statistics 2016," Statistics Bureau, Ministry of Internal Affairs and Communications.

1.37 Changes in world population

	World (million people)	Breakdown by region						Developed countries (%)	Developing countries (%)	Japan a) (1,000 person)	Average annual growth rate (%)	
		Asia	North America	South America	Europe	Africa	Oceania				World	Japan
1950	2,525	1,394	227	114	549	229	13	32.2	67.8	84,115	...	...
1955	2,758	1,534	249	130	577	254	14	31.3	68.7	90,077	1.8	1.4
1960	3,018	1,687	276	149	606	285	16	30.3	69.7	94,302	1.8	0.9
1965	3,322	1,875	302	171	635	322	18	29.1	70.9	99,209	1.9	1.0
1970	3,682	2,120	326	193	657	366	20	27.4	72.6	104,665	2.1	1.1
1975	4,061	2,378	351	217	677	416	21	25.8	74.2	111,940	2.0	1.4
1980	4,440	2,626	376	243	694	478	23	24.4	75.6	117,060	1.8	0.9
1985	4,853	2,897	402	271	708	550	25	22.9	77.1	121,049	1.8	0.7
1990	5,310	3,202	430	298	721	632	27	21.6	78.4	123,611	1.8	0.4
1995	5,735	3,475	459	324	728	720	29	20.4	79.6	125,570	1.5	0.3
1996	5,815	3,525	465	329	728	739	29	20.2	79.8	125,859	b 1.4	b 0.2
1997	5,894	3,573	472	334	728	757	30	20.0	80.0	126,157	b 1.4	b 0.2
1998	5,972	3,621	478	339	727	776	30	19.8	80.2	126,472	b 1.3	b 0.2
1999	6,049	3,668	485	345	727	795	31	19.6	80.4	126,667	b 1.3	b 0.2
2000	6,127	3,714	491	350	726	814	31	19.4	80.6	126,926	b 1.3	b 0.2
2001	6,204	3,761	496	355	726	834	31	19.2	80.8	127,316	b 1.3	b 0.3
2002	6,282	3,807	502	360	727	855	32	19.0	81.0	127,486	b 1.3	b 0.1
2003	6,361	3,853	507	365	727	876	32	18.9	81.1	127,694	b 1.2	b 0.2
2004	6,440	3,899	512	370	728	898	33	18.7	81.3	127,787	b 1.2	b 0.1
2005	6,520	3,945	518	375	729	920	33	18.5	81.5	127,768	b 1.2	b -0.0
2006	6,600	3,990	523	379	730	944	34	18.4	81.6	127,901	b 1.2	b 0.1
2007	6,682	4,035	529	384	731	968	35	18.2	81.8	128,033	b 1.2	b 0.1
2008	6,764	4,080	535	388	733	992	35	18.1	81.9	128,084	b 1.2	b 0.0
2009	6,846	4,125	541	393	734	1,018	36	17.9	82.1	128,032	b 1.2	b -0.0
2010	6,930	4,170	547	397	735	1,044	36	17.8	82.2	128,057	b 1.2	b 0.0
2011	7,013	4,215	552	401	736	1,071	37	17.6	82.4	127,799	b 1.2	b -0.2
2012	7,098	4,260	558	406	737	1,099	38	17.5	82.5	127,515	b 1.2	b -0.2
2013	7,182	4,305	563	410	738	1,128	38	17.3	82.7	127,298	b 1.2	b -0.2
2014	7,266	4,350	569	414	738	1,157	39	17.2	82.8	127,083	b 1.2	b -0.2
2015	7,349	4,393	574	418	738	1,186	39	17.0	83.0	126,890	1.2	-0.2
2020	7,758	4,598	600	438	740	1,340	42	16.3	83.7	124,100	1.1	-0.4
2025	8,142	4,775	624	456	738	1,504	45	15.7	84.3	120,659	1.0	-0.6
2030	8,501	4,923	646	471	734	1,679	47	15.1	84.9	116,618	0.9	-0.7
2035	8,839	5,045	666	484	728	1,866	50	14.6	85.4	112,124	0.8	-0.8
2040	9,157	5,144	683	494	721	2,063	52	14.1	85.9	107,276	0.7	-0.9
2045	9,454	5,218	697	502	714	2,268	54	13.6	86.4	102,210	0.6	-1.0
2050	9,725	5,267	710	507	707	2,478	57	13.2	86.8	97,076	0.6	-1.0

Notes:

a: “Population Census”, “Population Estimates” by Ministry of Internal Affairs and Communications, Statistics Bureau and “Population Projection for Japan” by National Institute of Population and Social Security Research.

b: indicates a change to the previous year.

Source: "World Statistics 2016," Statistics Bureau, Ministry of Internal Affairs and Communications.

1.38 Major urban population

(Unit: Thousand people)

Country (region) / survey year / city	Population
Asia	
Japan (10) ab	
◎Tokyo （23 special ward)	8,946
Yokohama	3,689
Osaka	2,665
Nagoya	2,264
Sapporo	1,914
Kobe	1,544
Kyoto	1,474
Fukuoka	1,464
Kawasaki	1,426
Saitama	1,222
Hiroshima	1,174
Sendai	1,046
Azerbaijan(13) c	
◎Baku	2,166
Iran(11) a	
◎Tehran	8,154
India(01)	
◎New Delhi	302
Mumbai	11,978
Delhi	9,879
Kolkata	4,573
Chennai	4,344
Bangalore	4,301
Hyderabad	3,637
Ahmadabad	3,520
Kanpur	2,551
Pune	2,538
Surat	2,434
Jaipur	2,323
Lucknow	2,186
Nagpur	2,052
Republic of Indonesia（10） a	
◎Jakarta	9,608
Surabaya	2,765
Bandung	2,395
Republic of Uzbekistan(01) c	
◎Tashkent	2,137
Republic of Korea (14) ac	
◎Seoul	10,008
Busan	3,417
Daegu	2,467
Democratic People's Republic of Korea (08) a	
◎Pyongyang	2,581
Kingdom of Saudi Arabia (04)	
◎Riyadh	4,087
Jeddah	2,801
Syrian Arab Republic(08) c	
◎Damascus	1,680
Republic of Singapore (14) c	
Singapore	5,470
Kingdom of Thailand (10) ad	
◎Bangkok	8,305
People's Republic of China (00) a	
◎Beijing (10) c	19,610
Shanghai	14,349
Chongqing	9,692
Guangzhou	8,525
Wuhan	8,313
Tientsin	7,499
Hong Kong (14) ac	7,242
Shenzhen	7,009
Dongguan	6,446
Shenyang	5,303
Xian	4,482
Chengdu	4,334
Nanjing	3,624
Harbin	3,482
Dalian	3,245
Changchun	3,226
Kunming	3,035
Jinan	3,000
Guiyang	2,985
Zibo	2,817
[Taiwan] （10） ae	
Taipei	2,656
Republic of Turkey (13) acd	
◎Ankara	5,045
Istanbul	14,160
Izmir	4,061
Islamic Republic of Pakistan (98)	
◎Islamabad	529
Karachi	9,339
Lahore	5,143
Faisalabad	2,009
People's Republic of Bangladesh (01) d	
◎Dhaka	5,334
Republic of the Philippines (10) a	
◎Manila	1,652
Quezon City	2,762
Socialist Republic of Viet Nam (92) c	
◎Hanoi	1,074
Ho Chi Minh City	3,016
Malaysia (14) ac	
◎Kuala Lumpur	1,698
North America	
United States of America (12) ac	
◎Washington, D.C.	632
New York	8,337
Los Angeles	3,858
Chicago	2,715
Canada (14) *ac	
◎Ottawa	947
Toronto	2,809
Republic of Cuba (14) ac	
◎Havana	2,122
Dominican Republic (11) c	
◎Santo Domingo	1,126
United Mexican States (14) ac	
◎Mexico City	8,875
Guadalajara d	4,737
Monterrey d	4,415
South America	
Argentine Republic (13) cd	
◎Buenos Aires	13,339
Republic of Ecuador (10)	
◎Quito	1,619
Guayaquil	2,291
Republic of Colombia (14) acd	
◎Bogota	7,777
Medellin	2,441
Cali	2,345
Republic of Chile (14) *c	
◎Santiago f	5,128
Federative Republic of Brazil (10) a	
◎Brasilia	2,481
Sao Paulo d	11,153
Rio de Janeiro	6,320
Salvador	2,675
Fortaleza d	2,452
Belo Horizonte	1,433
Republic of Peru (14) *c	
◎Lima	9,736
Europe	
United Kingdom of Great Britain (01) d	
◎London g	8,278
Republic of Italy (13) ac	
◎Rome	2,751
Ukraine (13) ac	
◎Kiev	2,804
Spain (13) ac	
◎Madrid	3,186
Federal Republic of Germany (14) ac	
◎Berlin	3,422
French Republic (10) a	
◎Paris	2,244
Russian Federation (12) ac	
◎Moscow	11,918
Saint Petersburg	4,991
Africa	
Arab Republic of Egypt (10) *c	
◎Cairo	7,249
Federal Democratic Republic of Ethiopia (02) c	
◎Addis Ababa	2,646
Republic of Ghana (10)	
◎Accra	1,594
Republic of Cameroon （05） a	
◎Yaoundé	1,818
Republic of Kenya (09)	
◎Nairobi	3,134
Federal Republic of Nigeria (91)	
◎Abuja	107
Lagos	5,195
Kano	2,167
Kingdom of Morocco (14) c	
◎Rabat	579
Casablanca	3,352
Oceania	
Commonwealth of Australia (13) *acd	
◎Canberra	419
Sydney	4,373
Melbourne	4,181

Notes:
* indicates provisional or estimated values.
a: De jure population
b: From "Population Census" by Ministry of Internal Affairs and Communications, Statistics Bureau
c: Estimated population
d: Includes suburban area
e: From National Development Council's webpage:
f: Partially excluded
g: Greater London
h: Administrative capital
k: Juridical capital

Source : “World Statistics 2016,” Statistics Bureau, Ministry of Internal Affairs and Communications

1.39 Major nations' environmental data [1)]

	Canada	Mexico	USA	Japan	South Korea	Australia	New Zealand	Austria
Land								
Total area (Thousand ㎢)	9,985	1,964	9,832	378	100	7,741	268	84
Major conservation area (% of total area) 2)	5	6	4	9	7	9	29	28
Input amount of nitrogen fertilizer (t/ land area ㎢)	2	1	3	9	21	0	2	3
Input amount of pesticide (t/ land area ㎢)	0	–	0	1	1	–	–	0
Livestock density (head count rate of sheep/ land area ㎢)	139	252	171	793	1,452	60	808	500
Woodland								
Woodland area (% of total area)	34	33	33	69	64	20	31	47
Utilization amount of forest resources (yield/ growth)	…	…	…	0	1	…	1	1
Import amount of wood (US $/ population per person)3)	2	1	2	6	4	9	6	1
Species of danger of extinction								
Mammal species (% of total number of identified species)	20	32	17	23	7	24	19	27
Birds (% of total number of identified species)	10	16	12	13	5	13	20	27
Fishes (% of total number of identified species)	30	28	32	36	9	1	26	46
Water								
Amount of water intake (% of total annual amount of water available)	1	18	20	20	40	4	2	4
Public sewage treatment (% of penetration of population)	86	40	68	74	89	…	80	93
Amount of fish caught (% of total amount of caught fish)	1	2	5	5	2	0	1	–
Air								
Emission amount of sulfur oxides (kg / person)	44	…	28	6	8	119	17	3
(kg / GDP thousand US $)4)	1	…	1	0	0	3	1	0
Growth rate (%) (2000 ~ 2009)	-36	…	-42	-17	-18	11	5	-35
Emission amount of nitrogen oxides (kg / person)	60	…	43	14	25	77	35	22
(kg / GDP thousand US $) 4)	2	…	1	1	1	2	1	1
Growth rate (%) (2000 ~ 2009)	-19	…	-35	-16	6	10	14	-9
Emission amount of carbon dioxide (t/person) 5)	15	4	17	9	11	18	7	8
(t/GDP thousand US $) 4)	0	0	0	0	0	1	0	0
Growth rate (%) (2000 ~ 2009)	-2	14	-9	-8	18	17	2	3
Waste								
Industrial waste (kg / GDP thousand US $) 4) 6)	…	…	…	40	30	10	10	…
Municipal solid waste (kg/person) 7)	390	360	720	380	390	600	580	580
Nuclear waste (t / ratio of total primary energy supply (heavy oil conversion million t) 8)	6	0	1	1	3	–	–	–

	Czech Republic	Denmark	Finland	France	Germany	Hellenic Republic	Hungary	Iceland
Land								
Total area (thousand ㎢)	79	43	338	549	357	132	93	103
Major conservation area (% of total area) 2)	16	15	9	22	62	23	6	22
Input amount of nitrogen fertilizer (t/ land area ㎢)	8	7	8	7	9	2	5	1
Input amount of pesticide (t/ land area ㎢)	0	0	0	0	0	0	0	–
Livestock density (head count rate of sheep/ land area ㎢)	245	835	321	469	650	219	159	58
Woodland								
Woodland are (% of total area)	34	13	73	29	32	30	22	0
Utilization amount of forest resources (yield/ growth)	…	…	1	…	1	…	…	…
Import amount of wood (US $/ population per person)3)	1	6	2	6	3	3	–	1
Species of danger of extinction								
Mammal species (% of total number of identified species)	20	22	11	19	34	25	38	–
Birds (% of total number of identified species)	50	16	13	19	36	14	15	44
Fishes (% of total number of identified species)	42	16	12	36	30	32	43	–
Water								
Amount of water intake (% of total annual amount of water available)	12	4	2	17	17	13	5	0
Public sewage treatment (% of penetration of population)	76	90	80	80	94	67	57	57
Amount of fish caught (% of total amount of caught fish)	–	1	0	1	0	0	–	1
Air								
Emission amount of sulfur oxides (kg / person)	17	3	11	5	6	38	8	240
(kg / GDP thousand US $) 4)	1	0	0	0	0	2	1	7
Growth rate (%) (2000 ~ 2009)	-34	-50	-27	-52	-32	-14	-84	119
Emission amount of nitrogen oxides (kg / person)	24	24	29	18	17	33	17	75
(kg / GDP thousand US $) 4)	1	1	1	1	1	1	1	2
Growth rate (%) (2000 ~ 2009)	-22	-34	-27	-29	-28	3	-10	-12
Emission amount of carbon dioxide (t/person) 5)	11	9	10	6	9	8	5	6
(t / GDP thousand US $) 4)	1	0	0	0	0	0	0	0
Growth rate (%) (2000 ~ 2009)	-10	-8	2	-6	-9	3	-11	-7
Waste								
Industrial waste (kg/GDP thousand US $)4) 6)	30	10	100	50	20	…	30	–
Municipal solid waste (kg/person) 7)	310	830	480	530	590	480	430	550
Nuclear waste (t / ratio of total primary energy supply (heavy oil conversion million t)8)	2	–	2	4	1	–	2	–

Notes: Data are as of March 2012.
…: unclear or not available, -: 0 or trace
1: The data is the latest published values. It includes provisional value and secretariat estimates.
The partial aggregate values are underlined. Comparability between countries is limited because of difference of definition on treatment.
2: Classification may be different depending on protected areas, which is without allocation category by management division I ~ IV of IUCN and IUCN, and nations.
3: Import of cork and wood from non-OECD tropical countries
4: GDP is price in 2005 and purchasing power conversion.
UK: pesticide Endangered species: Great Britain, Water intake and Public sewage treatment: England and Wales
5: Carbon dioxide is only emission amount form energy; Sectorial Approach: excluding fuel of international ships and aircrafts.
6: Waste is manufacturing industry only.
7: For Canada and New Zealand, household waste was only shown.
8: Waste (heavy metal conversion) from spent fuel of nuclear power plant per ratio of total primary energy supply (heavy oil conversion million t)

Source: OECD Environmental Data Compendium

1.39 Major nations' environmental data [1)]

	Ireland	Italy	Luxembourg	Netherlands	Norway	Poland	Portugal	Slovakia
Land								
Total area (Thousand ㎢)	70	301	3	42	324	313	92	49
Major conservation area (% of total area) 2)	1.1	9.3	20.7	19.8	14.0	24.6	8.3	24.7
Input amount of nitrogen fertilizer (t/ land area ㎢)	8.7	4.4	12.8	11.8	9.6	8.9	2.6	6.5
Input amount of pesticide (t/ land area ㎢)	0.07	0.59	–	0.56	0.07	0.09	0.44	0.20
Livestock density (head count rate of sheep/ land area ㎢)	1,123	407	991	1,995	852	312	399	212
Woodland								
Woodland area (% of total area)	10.6	30.8	33.5	10.8	32.7	30.6	37.7	40.2
Utilization amount of forest resources (yield/ growth)	0.9	…	…	…	0.4	0.5	…	…
Import amount of wood (US $/ population per person)3)	3.7	3.7	3.6	21.1	2.5	1.0	8.8	0.4
Species of danger of extinction								
Mammal species (% of total number of identified species)	1.8	40.7	51.6	25.0	18.2	12.4	26.2	21.7
Birds (% of total number of identified species)	24.1	18.4	34.8	20.7	14.5	7.6	33.3	14.0
Fishes (% of total number of identified species)	33.3	35.1	27.9	60.0	–	28.6	62.9	24.1
Water								
Amount of water intake (% of total annual amount of water available)	2.3	24.0	2.9	11.8	0.8	18.3	12.4	0.8
Public sewage treatment (% of penetration of population)	62.8	93.8	94.8	99.4	78.6	64.2	70.0	57.9
Amount of fish caught (% of total amount of caught fish)	0.3	0.3	–	0.5	2.7	0.2	0.3	–
Air								
Emission amount of sulfur oxides (kg / person)	7.3	3.9	6.3	2.3	3.3	22.6	7.7	11.8
(kg / GDP thousand US $)4)	0.2	0.1	0.1	0.1	0.1	1.4	0.4	0.6
Growth rate (%) (2000 ~ 2009)	-77.0	-69.0	…	-48.0	-42.0	-43.0	-73.0	-50.0
Emission amount of nitrogen oxides (kg / person)	19.6	16.5	38.5	15.6	37.4	21.5	23.8	15.5
(kg / GDP thousand US $) 4)	0.5	0.6	0.5	0.4	0.8	1.3	1.1	0.8
Growth rate (%) (2000 ~ 2009)	-35	-31	16	-31	-15	-2	-19	-21
Emission amount of carbon dioxide (t/person) 5)	8.8	6.5	20.2	10.7	7.7	7.5	5.0	6.1
(t/GDP thousand US $) 4)	0.20	0.20	0.30	0.30	0.20	0.50	0.20	0.30
Growth rate (%) (2000 ~ 2009)	-3.4	-8.6	24.4	2.3	11.2	-1.4	-10.6	-11.2
Waste								
Industrial waste (kg / GDP thousand US $) 4) 6)	30.0	20.0	20.0	30.0	20.0	90.0	40.0	80.0
Municipal solid waste (kg/person) 7)	660	540	710	610	470	320	520	300
Nuclear waste (t / ratio of total primary energy supply (heavy oil conversion million t) 8)	–	–	–	0.1	–	–	–	3.4

	Spain	Sweden	Switzerland	Turkey	UK	OECD
Land						
Total area (Thousand ㎢)	505	450	41	784	244	36,138
Major conservation area (% of total area) 2)	8	11	33	2	28	8
Input amount of nitrogen fertilizer (t/ land area ㎢)	3	5	3	4	6	2
Input amount of pesticide (t/ land area ㎢)	0	0	0	–	0	0
Livestock density (head count rate of sheep/ land area ㎢)	309	396	783	246	558	193
Woodland						
Woodland area (% of total area)	36	69	31	15	12	30
Utilization amount of forest resources (yield/ growth)	…	…	…	…	1	…
Import amount of wood (US $/ population per person)3)	2	1	1	1	2	3
Species of danger of extinction						
Mammal species (% of total number of identified species)	13	18	33	14	8	…
Birds (% of total number of identified species)	27	18	36	4	2	…
Fishes (% of total number of identified species)	51	11	44	11	11	…
Water						
Amount of water intake (% of total annual amount of water available)	29	1	5	17	12	11
Public sewage treatment (% of penetration of population)	92	86	97	46	97	75
Amount of fish caught (% of total amount of caught fish)	1	0	–	1	1	30
Air						
Emission amount of sulfur oxides (kg / person)	9	3	2	11	7	16
(kg / GDP thousand US $)4)	0	0	–	1	0	1
Growth rate (%) (2000 ~ 2009)	-71	-28	-27	-44	-68	-40
Emission amount of nitrogen oxides (kg / person)	23	16	11	20	18	26
(kg / GDP thousand US $) 4)	1	1	0	2	1	1
Growth rate (%) (2000 ~ 2009)	-23	-29	-23	38	-39	-25
Emission amount of carbon dioxide (t/person) 5)	6	5	6	4	8	10
(t/GDP thousand US $) 4)	0	0	0	0	0	0
Growth rate (%) (2000 ~ 2009)	-0	-21	-0	28	-11	-5
Waste						
Industrial waste (kg / GDP thousand US $) 4) 6)	20	100	–	20	20	40
Municipal solid waste (kg/person) 7)	560	480	710	390	540	540
Nuclear waste (t / ratio of total primary energy supply (heavy oil conversion million t) 8)	1	5	2	–	2	1

Source: OECD Environmental Data Compendium

1.40 Total amount of exports and imports by country and region

(Unit: million US $)

Country (region)	Trading System	Exports 2014	Imports 2014
World*		**18,709,667**	**18,607,081**
Asia			
Japan	General	690,202	811,882
India b	General	319,757	461,441
Indonesia	Special	176,341	178,182
Kazakhstan	General	78,238	41,213
South Korea	General	572,665	525,514
Saudi Arabia	Special	342,299	173,835
Singapore	General	409,769	366,247
Thailand	Special	225,240	228,200
China	Special	2,343,190	1,963,110
Turkey	Special	157,630	242,182
Pakistan	General	24,706	45,772
Bangladesh c	General	27,033	33,576
Philippines	General	61,927	67,546
Hong Kong	General	473,659	544,112
Malaysia	General	234,139	208,874
North America			
USA d	General	1,623,410	2,412,550
Canada e	General	469,980	465,908
Mexico eg	General	397,658	399,977
South America			
Argentina	Special	71,936	65,323
Brazil	General	225,102	237,531
Europe			
Iceland	General	4,980	5,240
Ireland	General	118,634	70,771
UK	General	477,934	663,718
Italy	Special	528,034	470,381
Austria	Special	169,186	171,338
Netherlands	Special	574,233	508,570
Hellenic Republic	Special	35,814	63,280
Switzerland	Special	227,605	195,148
Sweden	General	162,588	159,534
Spain	Special	318,860	351,452
Slovakia	Special	85,923	83,500
Czech Republic	Special	173,852	152,169
Denmark	Special	110,492	99,127
Germany	Special	1,505,467	1,217,949
Norway	General	142,301	88,053
Hungary	Special	112,438	103,942
Finland	General	74,112	76,464
France	Special	567,443	662,100
Belgium	Special	474,061	455,329
Poland	Special	216,666	219,859
Portugal	Special	64,060	77,742
Luxembourg	Special	15,069	23,545
Russia	General	497,909	286,669
Africa			
Egypt h	General	24,736	61,010
Nigeria c	General	…	44,598
South Africa e	General	91,203	99,904
Oceania			
Australia e	General	241,238	227,646
New Zealand	General	40,658	42,542

Notes:

* indicates provisional or estimated values.

a: Excluding the West Bank and Gaza strip area; Deducting re-exports and re-imports.

b: Excluding munitions, vessels and aircrafts etc.

c: 2013

d: Including trade with Puerto Rico and U.S. Virgin Islands, but excluding trade with other U.S. Territories (Guam, American Samoa etc.)

e: "Import" is indicated in terms of FOB price.

f: Excluding trade in Processing Zones

g: Excluding goods from bonded warehouses

h: "Import" excludes petroleum imports, except petroleum imports at the official prices. "Export" includes domestic exports.

Source: "World statistics 2016," Statistic Bureau, Ministry of Internal Affairs and Communications, the Government of Japan

1.41 Energy balance by country and region (production amount, consumption amount) (FY2012)

(Unit: PJ)

Country (region)	Production of primary energy						Final energy consumption					
								Energy-use				
	Total	Solid	Liquid	Gas	Electric power	Thermal	Total	Non-energy use	Industry	Transport -ation	Other	Consumption per capita (PJ)
World	**551,493**	**209,266**	**177,108**	**120,060**	**15,397**	**29,661**	**351,874**	**32,809**	**106,900**	**87,430**	**124,735**	50
Asia												
Japan	1,186	430	25	128	314	288	**12,982**	1,612	3,452	3,110	4,809	102
UAE	8,128	…	6,286	1,841	…	…	**2,132**	75	1,366	396	294	232
Iran	13,471	110	7,804	5,492	46	20	**7,075**	939	* 1,725	1,762	2,650	93
India	26,206	22,211	1,801	1,429	410	355	*** 22,437**	1,356	8,764	1,016	* 11,301	* 18
Indonesia	18,358	13,132	2,025	2,817	46	* 339	*** 7,572**	331	* 2,636	1,807	* 2,798	* 31
Kazakhstan	7,029	2,211	3,375	1,415	28	…	**1,757**	27	961	223	547	108
South Korea	1,908	196	34	26	22	1,631	**7,012**	1,859	1,982	1,269	1,902	143
Kuwait	7,136	0	6,591	545	…	…	**673**	160	186	175	152	207
Saudi Arabia	26,010	…	23,236	2,773	0	…	**5,527**	2,228	844	1,672	783	195
Thailand	* 3,176	* 1,171	* 752	* 1,223	30	0	*** 3,451**	* 294	* 1,157	* 1,132	* 867	*** 52**
China	93,752	76,685	8,776	3,648	3,590	1,052	**60,308**	5,477	30,951	8,313	15,567	44
Turkey	1,282	799	100	27	229	126	**3,550**	299	1,018	731	1,502	48
Pakistan	* 2,220	617	* 167	* 1,279	* 107	* 49	*** 2,327**	* 121	* 714	* 520	* 972	*** 13**
Philippines	897	318	36	137	37	369	**1,002**	12	243	366	381	10
Malaysia	3,367	113	1,291	1,931	33	…	**1,998**	421	563	649	365	68
North America												
USA	75,771	23,501	17,669	23,667	1,546	9,387	**60,846**	4,297	10,735	25,532	20,282	**192**
Canada	17,227	1,862	7,477	5,451	1,412	1,025	**8,629**	1,078	2,475	2,480	2,596	248
Mexico	8,861	666	6,065	1,691	128	311	**4,881**	309	1,267	2,184	1,121	40
South America												
Argentina	3,160	101	1,453	1,430	107	69	**2,495**	202	680	756	856	**61**
Brazil	10,331	2,886	5,122	635	1,513	173	**9,634**	668	3,651	3,360	1,956	48
Venezuela	7,996	64	6,581	1,056	295	…	**2,182**	* 139	1,031	712	300	73
Europe												
UK	4,863	558	1,902	1,543	94	767	**5,372**	288	1,005	1,653	2,426	86
Italy a	1,337	257	254	344	267	214	**5,168**	332	1,184	1,545	2,107	85
Ukraine	3,554	1,743	145	645	40	980	**3,089**	257	1,053	483	1,296	68
Austria	555	256	49	74	168	9	**1,185**	75	335	335	441	140
Netherlands	2,711	109	120	2,419	19	44	**2,570**	618	526	485	941	154
Greece	437	379	9	4	36	9	**720**	30	126	239	325	65
Switzerland b	530	96	0	4	140	290	**847**	22	159	254	411	105
Sweden	1,493	460	26	5	310	692	**1,280**	76	369	326	509	135
Spain	1,459	416	32	14	282	715	**3,650**	253	860	1,266	1,270	78
Czech Republic	1,357	965	21	25	17	330	**1,075**	111	308	247	409	101
Germany	5,161	2,764	272	669	354	1,102	**9,327**	922	2,329	2,277	3,799	113
Norway	8,411	99	3,726	4,069	516	0	**855**	95	243	196	322	171
Hungary	442	131	55	76	4	176	**686**	81	96	162	346	69
Finland	717	389	12	2	62	252	**955**	43	332	180	400	177
France c	5,583	520	140	36	281	4,605	**6,580**	505	1,158	1,896	3,021	103
Belgium	660	176	18	7	19	441	**1,768**	323	496	362	587	160
Poland	2,990	2,741	56	167	24	1	**2,780**	196	597	702	1,285	**73**
Portugal	192	112	11	2	59	8	**705**	56	194	234	222	66
Romania	1,142	426	174	365	53	125	**1,006**	75	266	221	444	46
Russia	55,898	8,726	21,984	22,642	597	1,950	**19,398**	2,814	6,045	3,944	6,595	135
Africa												
Algeria	5,928	1	2,888	3,037	2	…	**1,271**	102	222	515	432	33
Egypt	3,670	221	1,485	1,912	53	…	**2,421**	289	640	458	1,033	**30**
Nigeria	11,347	4,531	5,386	1,409	20	…	*** 4,869**	47	* 426	362	* 4,034	* 29
South Africa	7,009	6,807	9	40	8	144	**2,951**	101	1,071	704	1,075	56
Libya	3,590	7	3,166	417	…	…	**491**	80	42	234	135	80
Oceania												
Australia	13,374	10,347	941	1,998	78	11	**3,418**	200	1,088	1,288	843	148
New Zealand	740	167	86	162	90	234	**541**	39	168	190	143	121

Notes:

* indicates provisional or estimated values.

a: Including San Marino and Vatican City

b: Including Liechtenstein

c: Including Monaco

Source: "World Statistics 2016," Statistics Bureau, Ministry of Internal Affairs and Communications, the Government of Japan

1.42 Consumption of coal, oil, natural gas and electric power (2012)

Country (region)	Coal (excluding lignite)		Crude oil		Natural gas		Electric power	
	Consumption (1,000t)	Consumption per person (kg)	Consumption (1,000t)	Consumption per person (kg)	consumption (Trillion J)	Consumption per person (Million J)	Consumption (Million kWh)	Consumption per person (kWh)
World	**6,396,941**	**904**	**3,788,564**	**535**	**132,152,822**	**18,667**	**22,653,471**	**3,200**
Asia								
Japan	183,785	1,444	171,108	1,345	4,970,941	39,064	1,034,305	8,128
UAE	2,692	292	9,346	1,015	2,488,130	270,283	100,909	10,962
Iran	802	10	102,633	1,343	5,920,422	77,468	247,121	3,234
India	704,330	570	222,035	180	1,587,335	1,284	1,040,416	841
Indonesia	82,143	333	41,978	170	1,627,519	6,593	* 200,318	* 811
Kazakhstan	79,815	4,905	14,849	913	1,328,638	81,656	92,526	5,686
South Korea	123,620	2,523	127,373	2,599	2,118,443	43,231	534,618	10,910
Kuwait	…	…	47,537	14,625	706,024	217,205	62,655	19,276
Saudi Arabia	…	…	122,566	4,333	3,081,609	108,938	271,680	9604
Singapore	23	4	46,920	8,847	368,321	69,452	46,915	8,846
Thailand	18,404	276	48,520	727	* 1,716,137	* 25,696	175,125	2,622
China	a 3,800,332	a 2,760	466,847	339	5,514,335	4,004	4,976,774	3,614
Pakistan	* 6,539	* 36	* 11,079	* 62	* 1,421,566	* 7,935	* 96,501	* 539
Philippines	…	…	8,999	93	152,307	1,575	72,956	754
Hong Kong	11,720	1,640	…	…	* 96,571	* 13,509	48,722	6,816
Malaysia	25,057	857	27,141	928	1,347,529	46,085	134,458	4,598
North America								
USA	356,230	1,122	736,689	2,320	27,766,221	87,451	4,337,809	13,662
Canada	8,686	249	64,774	1,859	3,884,747	111,509	587,471	16,863
Mexico	1,930	16	65,735	544	2,747,314	22,734	289,622	2,397
South America								
Argentina	1,617	39	25,794	628	1,938,914	47,191	142,817	3,476
Brazil	23,618	119	86,628	436	1,216,175	6,122	592,753	2,984
Venezuela	289	10	54,560	1,821	1,255,066	41,899	126,996	4,240
Europe								
Ireland	2,422	529	3,068	670	186,751	40,812	28,006	6,120
UK	64,328	1,025	66,722	1,063	3,086,649	49,164	375,881	5,987
Italy b	24,746	406	73,639	1,209	2,854,263	46,856	342,380	5,621
Ukraine	73,586	1,616	3,890	85	2,001,755	43,966	187,411	4,116
Austria	3,489	412	8,349	986	344,926	40,752	75,426	8,911
Netherlands	12,790	765	50,729	3,035	1,535,289	91,856	119,615	7,157
Greece	351	32	20,547	1,847	170,361	15,314	62,744	5,640
Switzerland c	138	17	3,395	423	136,490	16,989	67,666	8,422
Sweden	2,776	292	20,791	2,186	46,827	4,923	146,989	15,454
Spain	26,583	569	59,245	1,267	1,311,377	28,048	286,360	6,125
Czech Republic	7,220	677	7,247	680	318,946	29,920	70,453	6,609
Denmark	4,249	759	7,503	1,340	162,096	28,957	35,941	6,421
Germany	60,400	729	95,068	1,148	3,247,995	39,227	609,270	7,358
Norway	795	159	14,464	2,896	193,643	38,776	130,029	26,038
Hungary	1,504	151	6,120	613	386,392	38,731	42,557	4,266
Finland	4,588	848	10,145	1,876	139,819	25,852	87,843	16,242
France d	16,823	263	56,787	888	1,778,012	27,793	519,754	8,124
Bulgaria	2,240	308	5,894	810	114,028	15,668	39,021	5,362
Belarus	358	38	21,674	2,304	787,967	83,781	38,400	4,083
Belgium	4,812	435	31,649	2,862	668,306	60,425	93,007	8,409
Poland	76,070	1,991	25,153	658	632,719	16,559	159,299	4,169
Portugal	4,873	460	11,054	1,042	182,946	17,253	54,509	5,141
Romania	275	13	8,824	406	503,017	23,122	59,298	2,726
Russia	176,091	1,230	261,203	1,824	18,008,763	125,786	1,054,252	7,364
Africa								
Algeria	0	0	19,875	516	1,303,345	33,869	57,348	1,490
Egypt	* 926	* 11	26,325	326	1,888,897	23,400	164,231	2,035
Nigeria	48	0	4,726	28	586,938	3,476	28,706	170
South Africa	185,157	3,534	21,371	408	187,756	3,584	252,890	4,827
Libya	…	…	8,206	1,333	217,740	35,378	34,027	5,529
Oceania								
Australia	19,057	827	30,261	1,313	1,385,474	60,106	248,941	10,800
New Zealand	213	48	5,514	1,236	178,680	40,064	44,295	9,932

Notes:

* indicates provisional or estimated values.

a. Including lignite

b. Including San Marino and Vatican city

c. Including Liechtenstein

d. Including Monaco

Source: "World Statistics 2016," Statistics Bureau, Ministry of Internal Affairs and Communications, the Government of Japan

1.43 Production of mining industry (energy resource)

Coal (2012)	
Country(region)	(1,000 t)
China a	3,645,000
India	557,707
USA	441,262
Indonesia	385,899
Australia	317,328
Russia	278,309
South Africa	258,575
Kazakhstan	112,779
Colombia	89,024
Poland	79,234
Ukraine	65,523
Vietnam	40,512
Canada	35,375
North Korea	25,800
Mongolia	23,737

Crude oil (2012)	
Country(region)	(1,000 t)
Russia	497,425
Saudi Arabia	487,969
USA	320,925
China	207,478
Iran	165,436
Kuwait	148,833
Venezuela	147,824
Iraq	144,902
Mexico	132,183
UAE	127,806
Canada	118,619
Nigeria	113,704
Brazil	95,652
Angola	85,433
(Japan)	240

Natural gas (2012)	
Country(region)	(1,000 trillion joules)
USA	26,002
Russia	25,158
Qatar	6,572
Iran	6,102
Canada	6,045
Norway	4,520
China	4,054
Algeria	3,374
Indonesia	3,130
Saudi Arabia	3,082
Netherlands	2,674
Turkmenistan	2,616
Uzbekistan	2,377
Australia	2,200
(Japan)	142

Uranium ore (2012)	
Country(region)	(t)
Kazakhstan	21,240
Canada	8,998
Australia	7,009
Namibia	5,026
Niger	4,821
Russia	2,862
Uzbekistan	2,400
USA	1,667
China	1,450
Malawi	1,103
Ukraine	1,012
South Africa	467
India b	400
Brazil	383
Czech Republic	228

Notes:

a: Includes lignite

b: 2011

Source: "World Statistics 2016," Statistics Bureau, Ministry of Internal Affairs and Communications, the Government of Japan

1.44 Electric power generation

Country (region)	Amount of power generated in 2012 (1 million kWh)				Generating capacity (1,000 kW)
	Total	Thermal power	Hydroelectric power	Nuclear power	2012
World	**22,637,312**	**15,742,955**	**3,741,295**	**2,461,422**	**5,419,907**
Asia					
Japan	1,034,305	920,311	83,645	15,939	295,231
Iran	254,243	239,752	12,447	1,847	68,894
India	1,035,264	a 888,538	113,855	32,871	259,854
Indonesia	* 197,328	* 175,109	12,799	…	51,351
Uzbekistan	52,500	41,290	11,210	…	* 12,722
Kazakhstan	91,207	83,567	7,637	…	* 18,736
Qatar	34,787	34,787	…	…	7,830
South Korea	534,618	374,116	7,652	150,327	94,189
Saudi Arabia	271,680	271,679	…	…	62,132
Singapore	46,915	46,915	…	…	* 10,478
Thailand	166,471	158,013	8,431	…	* 47,456
China	4,987,553	3,892,814	872,107	97,394	* 1,012,871
Turkey	239,496	174,872	57,865	…	57,059
Pakistan	* 96,126	* 61,716	* 29,857	* 4,553	23,914
Bangladesh	49,039	48,262	777	…	8,100
Philippines	72,956	52,360	10,269	…	17,052
Hong Kong	38,752	38,750	…	…	12,625
Malaysia	134,373	125,319	9,054	…	29,143
North America					
USA	4,290,547	3,019,949	298,287	801,129	1,067,878
Canada	634,449	147,296	380,622	94,862	134,203
Mexico	293,862	243,707	31,855	8,770	62,136
South America					
Argentina	135,207	98,719	29,716	6,395	35,023
Colombia	60,805	12,639	48,111	…	14,478
Brazil	552,498	116,068	415,342	16,038	120,973
Venezuela	126,516	44,508	82,008	…	27,502
Europe					
Ireland	27,592	22,568	1,014	…	8,770
UK	363,837	264,405	8,251	70,405	94,499
Italy b	299,277	216,811	43,854	…	124,234
Ukraine	198,878	97,126	10,994	90,137	55,001
Austria	72,616	22,123	47,681	…	c 22,917
Netherlands	102,505	93,103	104	3,915	29,920
Greece	60,959	50,824	4,591	…	22,307
Switzerland	69,866	3,712	40,305	25,441	20,310
Sweden	166,562	16,283	79,058	64,037	37,843
Spain	297,559	150,312	24,162	61,470	112,468
Czech Republic	87,573	51,824	2,860	30,324	20,447
Denmark	30,727	20,336	17	…	14,072
Germany	629,812	423,424	27,849	99,460	177,291
Norway	147,845	3,323	142,964	…	32,283
Hungary	34,590	17,806	213	15,793	9,400
Finland	70,399	29,725	16,859	22,987	16,908
France d	564,275	55,273	63,595	425,406	129,243
Bulgaria	47,329	25,518	3,976	15,785	11,637
Belgium	83,071	35,992	1,659	40,295	20,769
Poland	162,139	154,926	2,465	…	35,283
Portugal	46,614	29,151	6,660	…	19,752
Romania	59,045	32,594	12,337	11,466	21,767
Russia	1,070,734	725,399	167,319	177,534	232,685
Africa					
Egypt	164,628	150,010	13,121	…	31,486
South Africa	257,919	239,831	4,860	13,075	* 44,820
Oceania					
Australia	248,941	227,253	14,083	…	63,222
New Zealand	44,295	13,092	22,894	…	9,494

Notes:

* indicates provisional or estimated values.

a: Includes wind power generation

b: Includes San Marino and Vatican city

c: Total maximum output

d: Includes Monaco

Source: "World Statistics 2016," Statistics Bureau, Ministry of Internal Affairs and Communications, the Government of Japan

1.45 Reserves of coal, crude oil, natural gas and uranium

Country (region)	Anthracite/ Bituminous coal (million t)	Subbituminous coal /Lignite (million t)	Crude oil a (million t)	Natural gas (billion ㎥)	Uranium (t)
Asia					
Japan	340	10	8	51	6,600
UAE	…	…	13,340	6,432	…
Iraq	…	…	15,686	3,170	…
Iran	1,203	…	20,624	29,610	700
India	56,100	4,500	777	1,074	77,000
Indonesia	1,520	4,009	532	3,186	8,400
Uzbekistan	47	1,853	81	1,745	64,300
Kazakhstan	21,500	12,100	4,092	3,000	402,400
Qatar	…	…	3,465	25,172	…
Kuwait	…	…	13,845	1,780	…
Saudi Arabia	…	…	36,201	7,569	…
China	62,200	52,300	2,789	3,090	109,500
Turkey	529	1,814	43	6	7,300
Mongolia	1,170	1,350	2	…	30,600
North America					
USA	108,501	128,794	4,215	7,022	472,100
Canada	3,474	3,108	678	1,754	421,900
Mexico	860	351	1,367	360	2,800
South America					
Argentina	…	500	355	399	8,600
Colombia	6,366	380	260	124	…
Brazil	…	4,559	2,053	245	155,700
Venezuela	479	…	28,780	4,983	…
Peru	44	100	79	335	1,300
Europe					
UK	228	500	382	292	…
Ukraine	15,351	18,522	54	787	143,300
Spain	200	330	20	3	14,000
Serbia	9	13,761	11	48	…
Czech Republic	192	908	2	4	300
Denmark	…	…	111	66	…
Germany	99	40,600	21	126	3,000
Norway	1	5	726	2,215	…
Hungary	13	1,647	5	67	…
France b	95	21	14	7	11,500
Poland	4,338	1,371	16	75	…
Russia	49,088	107,922	8,184	44,900	218,300
Africa					
Algeria	59	…	3,170	4,504	19,500
Egypt	16	22	600	2,170	…
Gabon	…	…	505	29	4,800
Zimbabwe	502	…	…	…	1,400
Nigeria	21	169	5,074	5,292	…
Namibia	…	…	…	20	362,600
Niger	70	…	…	…	340,600
South Africa	30,156	…	2	10	192,900
Libya	…	…	6,424	1,540	…
Oceania					
Australia	37,100	39,300	450	819	1,180,100
New Zealand	33	538	20	46	…

Notes:

* indicates provisional or estimated values.

a: Includes natural gas liquids (NGL)

b: Includes Monaco

Source: "World Statistics 2016," Statistics Bureau, Ministry of Internal Affairs and Communications, the Government of Japan

1.46 World new energy supply

	Wind power generation (cumulative installed wind turbine capacity at the year-end, million kW)				Solar photovoltaic (cumulative photovoltaic power capacity at the year-end, million kW)			
	2000	2005	2010	2014	2000	2005	2010	2014
North America	275.2	986.7	4,505.4	7,834.0	4.0	22.6	235.2	2,016.6
USA	261.0	918.1	4,027.4	6,614.6	1.9	19.0	204.0	1,828.0
Canada	13.9	68.3	401.1	968.4	0.7	1.7	28.1	171.0
Mexico	0.3	0.3	76.9	251.0	1.4	1.9	3.1	17.6
Latin America	9.6	19.3	160.6	966.3	-	-	-	36.8
Brazil	2.2	2.9	93.1	622.8	N.A.	N.A.	N.A.	N.A.
Europe	1,313.3	4,089.7	8,609.6	13,534.6	15.1	233.0	3,097.1	8,836.0
UK	42.5	133.6	539.7	1,280.9	0.2	1.1	9.5	522.8
Germany	609.7	1,839.0	2,719.1	4,050.0	7.6	205.6	1,790.0	3,820.0
France	6.3	77.5	594.0	914.3	1.1	2.6	120.4	566.0
Italy	42.4	171.3	579.3	855.6	1.9	3.8	350.2	1,846.0
Spain	235.8	1,001.3	1,971.5	2,298.7	0.2	4.9	435.0	535.8
Russia	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Turkey	1.9	2.0	132.0	376.2	0.0	0.2	0.6	5.8
Africa	13.7	27.8	111.3	287.8	-	-	4.0	96.6
Middle East	1.8	3.0	10.1	15.7	-	0.1	7.0	73.1
Asia/Oceania	179.8	792.2	6,376.6	14,657.7	38.4	161.2	591.6	6,331.6
China	35.2	126.4	4,478.1	11,460.9	1.9	6.8	80.0	2,819.9
Japan	14.2	115.9	242.9	284.0	33.0	142.2	361.8	2,330.0
South Korea	0.6	8.9	34.2	55.3	0.4	1.9	65.6	238.4
Indonesia	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Malaysia	N.A.	N.A.	N.A.	N.A.	-	-	1.3	16.0
Philippines	-	-	-	21.6	N.A.	N.A.	N.A.	N.A.
Thailand	-	-	0.1	22.3	-	2.4	4.9	129.9
India	122.0	443.0	1,306.5	2,246.5	0.1	1.8	17.7	306.2
Australia	3.0	71.7	208.4	405.6	2.9	6.1	57.1	413.6
New Zealand	3.5	16.7	49.5	60.3	N.A.	N.A.	N.A.	N.A.
World	1,793.4	5,918.6	19,773.6	37,296.1	127.5	508.3	4,134.5	18,039.6

	Geothermal power generation (cumulative geothermal power capacity at the year-end、million kW)				Biomass power generation (annual production, million t oil equivalent)			
	2000	2005	2010	2014	2000	2005	2010	2014
North America	367.1	385.2	427.2	435.9	310.5	761.2	2,632.2	3,125.2
USA	282.8	289.3	330.8	352.5	300.0	747.8	2,556.8	3,005.6
Canada	N.A.	N.A.	N.A.	N.A.	10.5	13.3	74.1	114.3
Mexico	84.3	96.0	96.5	83.4	-	-	1.3	5.3
Latin America	40.2	42.4	51.0	62.0	526.3	809.3	1,811.8	2,029.4
Brazil	N.A.	N.A.	N.A.	N.A.	522.6	783.5	1,557.5	1,665.6
Europe	102.1	112.3	168.7	210.5	72.3	316.0	1,132.2	1,168.3
UK	N.A.	N.A.	N.A.	N.A.	-	3.9	30.4	48.2
Germany	-	0.0	0.8	2.7	18.9	152.5	288.8	268.4
France	0.4	1.5	1.6	1.7	31.6	43.9	226.9	226.9
Italy	78.5	79.1	88.3	91.6	7.0	34.0	67.0	43.2
Spain	-	-	-	-	7.0	28.2	126.7	93.8
Russia	2.3	7.9	8.2	8.2	N.A.	N.A.	N.A.	N.A.
Turkey	2.0	2.0	9.4	36.8	N.A.	N.A.	N.A.	N.A.
Africa	5.2	17.4	21.6	59.7	0.6	0.6	3.2	2.1
Middle East	N.A.	N.A.	N.A.	N.A.	-	-	0.4	0.4
Asia/Oceania	344.9	382.2	446.6	491.4	8.2	83.4	395.3	753.8
China	2.8	2.8	2.4	2.7	-	62.2	147.9	208.3
Japan	53.5	53.4	50.2	53.9	N.A.	N.A.	N.A.	N.A.
South Korea	N.A.	N.A.	N.A.	N.A.	-	0.9	49.1	30.2
Indonesia	59.0	85.0	119.3	140.1	-	0.9	71.8	244.4
Malaysia	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Philippines	193.1	197.8	196.6	191.7	N.A.	N.A.	N.A.	N.A.
Thailand	0.0	0.0	0.0	0.0	-	5.2	66.1	140.2
India	N.A.	N.A.	N.A.	N.A.	8.2	11.4	11.3	32.0
Australia	-	0.1	0.1	0.1	-	2.0	19.8	15.2
New Zealand	36.5	42.5	72.3	97.1	N.A.	N.A.	N.A.	N.A.
World	859.4	939.6	1,115.2	1,259.4	917.9	1,970.4	5,975.2	7,079.2

Notes:

- Geographical grouping is based on BP statistics.
- Biomass power generation includes ethanol fuel and biodiesel fuel.

Source: "2016 EDMC HANDBOOK of ENERGY & ECONOMIC STATISTICS in JAPAN," the Energy Data and Modelling Center (EDMC), the Institute of Energy Economics, Japan (IEEJ)

1.47 Transport volume by railways

Country (region)	Passengers (million people/km)				Freight (million ton Km)			
	2000	2010	2011	2012	2000	2010	2011	2012
Asia								
Japan a	384,906	395,067	404,396	413,970	22,131	19,998	20,471	21,029
Azerbaijan	493	917	660	591	5,770	8,250	7,846	8,212
Israel	781	1,986	1,927	1,927	1,173	1,062	1,099	1,099
Iran	7,119	16,814	17,877	17,172	14,179	20,247	21,008	22,604
India	457,022	903,465	978,508	978,508	312,371	600,548	625,723	625,723
Indonesia	19,228	…	20,283	20,283	5,009	...	7,166	7,166
Uzbekistan	2	2,905	3,025	3,025	15	22,282	22,482	22,482
Kazakhstan	10,215	15,448	16,595	18,498	124,983	213,174	223,584	235,846
South Korea	28,527	33,027	21,603	21,603	19,803	9,452	9,996	9,996
Georgia b	453	655	641	641	3,912	6,228	6,055	6,055
Saudi Arabia	270	337	297	297	849	1,748	1,852	1,852
Syria	197	1,120	1,857	1,857	1,568	2,370	2,206	2,206
Sri Lanka c	3,208	4,767	...	4,767	88	135	...	135
Thailand	9,935	8,037	7,504	7,504	3,384	3,161	2,455	2,455
China	453,260	791,158	815,699	795,639	1,377,049	2,451,185	2,562,635	2,518,310
Turkey	5,833	5,491	5,882	4,598	9,895	11,030	10,735	10,691
Pakistan	19,292	24,731	20,619	20,619	3,799	6,187	1,757	1,757
Bangladesh	…	7,305	7,305	7,305	…	710	710	710
Vietnam	3,200	4,378	4,571	4,558	1,955	3,901	4,101	3,959
Malaysia	1,241	1,527	965	3,293	918	1,384	1,535	3,071
Mongolia	1,067	1,220	1,399	1,399	4,283	10,287	11,418	11,418
Jordan	2	…	504	504	671	353	344	344
North America								
USA	8,852	9,518	9,518	9,518	c 2,145,632	2,468,738	2,524,585	2,524,585
Canada	1,533	2,875	2,886	2,781	321,894	322,741	254,069	352,535
Cuba c	1,737	1,285	…	1,285	808	1,351	…	1,351
Mexico	82	178	449	449	48,333	…	69,185	69,185
South America								
Argentina	8,939	…	8,588	8,588	8,696	12,025	12,111	12,111
Uruguay c	9	15	…	15	239	284	…	284
Chile	737	840	840	840	3,135	4,032	4,032	4,032
Brazil	5,852	…	…	…	154,870	267,700	267,700	267,700
Peru	107	76	76	76	874	900	900	900
Europe								
Ireland	1,389	1,678	1,638	1,578	491	92	105	91
UK	38,200	55,019	62,729	64,324	18,100	…	19,230	b 19,230
Italy	47,133	44,535	40,554	38,676	25,839	12,037	11,545	11,249
Ukraine	51,767	50,240	50,569	49,203	172,840	218,091	243,866	237,722
Estonia	263	248	243	237	8,102	6,261	6,034	4,807
Austria	8,206	10,306	10,421	10,353	17,110	23,104	16,899	21,683
Netherlands	14,666	15,400	16,808	17,098	4,522	…	…	…
Greece	1,629	…	1,413	1,413	427	538	538	538
Croatia	…	1,742	1,486	1,104	…	2,618	2,438	2,332
Switzerland	12,620	17,609	18,021	17,738	9,937	8,725	8,747	8,110
Sweden	…	6,774	6,431	6,415	…	b 11500	…	c 11,500
Spain	19,958	22,304	22,681	22,387	12,071	7,844	8,019	7,507
Slovakia	2,870	2,291	2,413	4,863	11,234	7,669	7,290	7,262
Slovenia	705	813	773	742	2,857	3,283	3,584	3,227
Czech Republic	7,300	6,553	6,635	6,907	17,496	13,592	13,872	11,423
Denmark	5,327	7,405	10,102	7,644	2,025	…	…	…
Germany	75,111	78,582	79,228	80,210	77,500	105,794	111,980	105,894
Norway	2,707	2,674	2,663	2,764	2,955	…	…	d 2,092
Hungary	9,693	5,398	5,760	5,887	8,095	1,000	733	1,179
Finland	3,405	3,959	3,882	4,035	10,107	9,760	9,395	9,275
France	69,870	86,853	88,064	85,634	55,450	22,840	23,242	31,616
Bulgaria	3,472	2,100	2,068	1,876	5,538	3,061	3,291	2,850
Belarus	17,722	7,578	7,941	8,977	31,425	46,224	49,406	48,351
Belgium	7,755	10,493	10,848	10,848	7,674	5,439	5,439	5,439
Poland	24,093	15,715	15,724	14,720	54,448	34,266	37,189	32,904
Portugal	3,834	3,718	3,750	3,443	2,569	1,932	2,064	2,064
Latvia	715	79	79	89	f 13,310	17,164	17,164	16,930
Lithuania	611	373	389	403	8,918	13,431	15,088	14,172
Romania	11,632	5,248	4,814	4,148	16,354	9,134	13,539	11,200
Luxembourg	332	345	349	373	678	189	189	189
Russia	167,100	139,028	139,842	144,612	1,373,000	2,011,308	2,127,212	2,222,388
Africa								
Algeria	1,142	1,045	1,040	1,040	1,980	1,281	1,248	1,248
Egypt	57,859	40,837	40,837	40,837	4,184	3,840	1,592	1,592
Ghana c	83	c 85	…	c 85	165	c 181	…	181
Cameroon	711	377	495	495	1,063	978	1,057	1,057
Kenya e	302	e 226	…	e 226	1,557	e 1,399	…	e 1,399
Republic of Congo	…	37	25	22	…	193	158	170
Tunisia	1,258	1,493		1,534	2,274	2,073	2,024	2,024
South Africa f	3,930	18,865	…	f 18,865	106,786	f 113,342	113,342	f 113,342
Morocco	1,956	4,398	4,819	4,819	4,650	5,572	5,976	5,976
Oceania								
Australia	e 99	1,500	…	f 1,500	134,200	64,172	59,649	59,649

Notes:
a. From "Railway transport volume statistics 2014," Ministry of Land, Infrastructure, Transport and Tourism.
b. Year 2011. c. Year 2008. d. Year 2005. e. Year 2006 f. Year 2010

Source: "World Statistics 2016," Statistics Bureau, Ministry of Internal Affairs and Communications, the Government of Japan

1.48 Present status of roads

(Unit: km)

Country (region)	Year	Road extension	Major highway	Secondary Road	others	Paving rate (%)	Road extension per 1㎢	Road-related expenditures (million US dollar)
Asia								
Japan a	12	341,509	59,287	91,440	190,782	…	0.90	…
Israel	12	18,716	6,592	…	12,124	100.00	0.85	…
Iraq	12	59,623	…	…	…	…	0.14	bc 244
Iran	12	276,597	36,369	44,454	195,775	63.73	0.16	…
India	12	4,865,394	d 76,818	1,186,647	3,601,929	55.46	1.48	7,698
Indonesia	12	501,969	d 38,570	53,642	409,757	e 57.01	0.26	…
South Korea	12	105,703	17,810	18,162	69,731	83.43	1.06	f 10,609
Saudi Arabia	05	221,372	13,596	33,924	173,852	21.47	0.10	550
Singapore	12	3,426	813	561	2,051	100.00	4.83	ch 1,265
China	12	4,237,508	170,471	331,455	3,735,582	66.04	0.44	ej 219,902
Turkey	12	394,748	33,502	31,880	329,366	91.52	0.50	f 7,768
Pakistan	11	262,567	9,488	102,003	151,076	72.57	0.33	…
Hong Kong	12	2,090	k 2,090	…	…	100.00	1.91	h 657
Malaysia	12	180,882	…	…	…	78.06	0.55	cm 347
Myanmar	12	39,082	19,503	19,579	…	45.66	0.06	j 889
North America								
USA	12	6,586,623	101,866	1,932,222	4,552,535	n 67.37	0.67	h 189,677
Canada	09	1,409,000	103,000	115,000	1,191,000	p 39.87	0.14	hj 28,908
Mexico	12	377,660	49,652	83,982	244,026	38.72	0.19	f 5,560
South America								
Argentina	12	228,512	d 39,620	188,892	…	34.61	0.08	b 305
Colombia	12	214,946	d 17,423	43,327	154,196	…	0.19	g 582
Chile	12	77,571	…	…	…	24.03	0.10	bj 1,473
Brazil	12	1,584,104	d 100,183	222,176	1,261,745	13.88	0.19	bc 4,227
Peru	12	149,660	d 26,495	29,030	94,136	12.50	0.12	jp 320
Europe								
Ireland	12	96,002	5,413	11,631	78,958	100.00	1.37	jp 864
UK	12	420,346	52,809	122,743	244,795	100.00	1.73	j 12,431
Italy	05	487,700	28,200	147,400	312,100	m 100.00	1.62	…
Austria	12	124,588	12,196	23,642	88,750	100.00	1.49	m 3,615
Netherlands	12	139,295	5,120	7,802	126,373	…	3.35	gj 1,469
Greece	12	116,960	10,496	30,864	75,600	…	0.89	…
Switzerland	12	71,513	19,822	51,691	…	100.00	1.73	8,346
Spain	12	666,648	26,525	139,070	501,053	…	1.32	7,074
Slovakia	12	54,869	3,965	3,637	47,267	100.00	1.12	652
Czech Republic	12	130,636	7,001	48,715	74,919	…	1.66	cg 2,078
Denmark	12	74,108	3,832	0	70,276	100.00	1.72	j 3,486
Germany	12	643,517	52,483	178,034	413,000	…	1.80	…
Hungary	12	201,941	8,351	23,341	170,249	37.88	2.17	c 282
Finland	12	78,894	14,108	13,550	51,236	66.21	0.23	c 1,119
France	12	1,062,693	20,385	377,965	664,343	h 100.00	1.94	31,410
Belgium	11	154,012	14,663	1,349	138,000	78.25	5.04	br 351
Portugal	11	22,161	8,991	4,420	8,750	…	0.24	…
Romania	12	112,524	16,887	67,298	28,339	…	0.47	4,107
Russia	12	1,283,400	…	…	…	72.30	0.08	s 15,651
Africa								
Egypt	10	137,430	23,979	113,451	…	92.21	0.14	529
Kenya	12	160,886	d 14,092	10,725	136,069	7.45	0.28	1,266
Tunisia	12	19,431	5102.00	6496.00	7833.00	76.84	0.12	j 394
Morocco	11	58,698	12,762	10,091	35,844	70.56	0.13	gj 210
Oceania								
Australia	12	900,083	233,161	…	666,922	b 43.16	0.12	20,248
New Zealand	12	94,160	d 10,916	t 83,244	…	66.65	0.35	j 2159

Notes:

a. includes only roads 5.5m wide or wider .
b. 2009.
c. excludes expenditure of local governments and private sector.
d. excludes highways.
e. 2011.
f. excludes expenditure of local governments.
g. 2000.
h. 2010.
j. excludes expenditure of the private sector.
k. only highways.
m. 2003.
n. 2008.
p.2004.
r. excludes expenditure of the state and private sector.
s. 2006.
t. includes "others."

Source: "World Statistics 2016," Statistics Bureau, Ministry of Internal Affairs and Communications, the Government of Japan

1.49 Car ownership in each country

(Unit : 1,000 cars)

Country (region)	Year	Vehicles (with four wheels or more)				Two-wheelers	Number of cars per 1,000 people (cars)
			Passenger cars	Buses	Trucks		
Asia							
Japan a	15	75,237	60,517	228	14,492	3,590	593
Azerbaijan	12	1,118	953	30	135	2	120
Israel	12	2,642	2,269	26	346	119	334
Iran	08	8,160	8,160	…	…	6,290	112
India	12	30,784	21,533	1,595	7,656	115,478	25
Indonesia	12	17,992	10,432	2,274	5,286	76,381	73
Kazakhstan	11	4,066	3,554	98	414	50	246
South Korea	12	18,871	14,577	987	3,307	…	377
Cambodia	05	285	247	4	34	680	49
Cyprus	12	593	475	4	114	41	525
Kuwait	12	1,604	1,342	27	235	…	493
Saudi Arabia	05	4,447	3,206	113	1,128	16	…
Syria	10	1,503	741	63	698	381	70
Singapore	12	798	620	17	160	144	150
Sri Lanka	10	1,000	410	84	506	2,630	48
Thailand	12	13,213	5,972	557	6,684	19,169	198
Taiwan	12	7,146	6,091	31	1,023	15,140	308
China	12	108,378	86,831	2,599	18,947	102,112	80
Turkey	12	11,784	8,649	632	2,503	2,658	159
Bahrain	12	490	413	11	66	10	372
Pakistan	11	3,571	2,822	126	623	5,470	20
Bangladesh	12	570	290	104	176	1,161	4
Philippines	12	3,347	852	34	2,461	4,117	35
Brunei	11	144	133	2	10	3	355
Hong Kong	12	587	455	20	113	40	82
Malaysia	12	11,573	10,467	74	1,032	10,590	396
Mongolia	12	345	229	22	95	…	124
North America							
USA	12	245,184	111,290	765	133,130	8,455	781
Canada	09	20,490	14,172	…	6,318	…	609
Mexico	12	33,416	23,645	342	9,430	1,590	277
South America							
Argentina	07	12,400	…	…	…	…	315
Uruguay	11	732	656	9	68	844	216
Ecuador	12	1,191	740	12	440	296	77
Colombia	12	4,568	3,294	212	1,062	4,543	96
Chile	12	3,727	2,580	105	1,042	134	213
Peru	12	2,138	1,221	378	540	…	71
Europe							
Iceland	12	242	210	2	30	10	756
Ireland	12	2,227	1,907	10	310	35	485
UK	12	32,630	28,722	166	3,741	1,225	512
Italy	12	41,728	37,033	98	4,596	8,957	701
Ukraine	11	8,488	6,901	250	1,338	1,206	186
Austria	12	5,010	4,584	10	417	729	594
Netherlands	12	8,896	7,916	10	970	653	531
Greece	12	6,513	5,168	27	1,319	1,556	587
Croatia	12	1,591	1,445	5	142	157	373
Switzerland	12	4,636	4,255	19	362	680	580
Sweden	12	5,018	4,447	14	557	379	527
Spain	12	28,351	22,248	61	6,042	2,852	606
Slovakia	12	2,143	1,824	9	310	99	396
Slovenia	12	1,166	1,066	2	98	93	567
Czech Republic	12	5,330	4,706	20	604	977	507
Denmark	12	2,710	2,237	13	460	199	485
Germany	12	47,868	43,431	76	4,361	3,983	595
Norway	12	3,004	2,443	18	543	405	599
Hungary	12	3,458	2,986	17	454	151	349
Finland	12	2,989	2,581	12	396	460	552
France	12	38,138	31,600	87	6,451	…	581
Bulgaria	12	3,197	2,807	23	367	140	438
Belarus	12	3,197	2,749	45	403	396	338
Belgium	12	6,249	5,454	16	779	439	562
Poland	12	22,022	18,744	100	3,178	2,208	571
Portugal	12	5,537	4,259	12	1,266	…	527
Latvia	12	700	618	5	76	41	344
Lithuania	12	1,905	1,753	13	139	64	638
Romania	12	5,249	4,487	42	720	95	261
Luxembourg	12	387	346	2	39	43	728
Russia	09	38,472	33,084	65	5,323	…	271
Africa							
Algeria	11	4,275	2,856	75	1,343	14	113
Uganda	09	254	97	64	93	292	8
Egypt	12	4,641	3,591	107	943	1,675	57
Ethiopia	07	237	71	17	149	7	3
Ghana	09	709	440	145	125	204	30
Kenya	12	1,089	645	93	350	610	25
Zimbabwe	07	1,416	1,214	16	187	109	111
Sudan	07	1,080	768	12	300	36	33
Tunisia	12	1,416	980	18	419	8	131
Botswana	11	341	197	14	130	2	172
South Africa	10	8,255	5,596	333	2,326	327	162
Mauritius	12	246	198	4	44	174	191
Morocco	11	2,915	2,085	54	776	34	91
Oceania							
Australia	12	16,032	12,714	91	3,228	709	706
New Zealand	12	3,139	2,644	21	475	86	708

Notes:

a. Based on "Population Estimates" by the Statistics Bureau, Ministry of Internal Affairs and Communications, as well as "Monthly report

Trucks include trailers and three-wheelers. Two-wheelers are ones of which engine displacement is 125 cc or more.

Source: "World Statistics 2016," Statistics Bureau, Ministry of Internal Affairs and Communications, the Government of Japan

1.50 Supply of calorific value (2012)

(Kcal per person per day)

Country (region)	Year	Total	Grains	Potatoes	Sugar	Beans	Vegetables	Meat	Eggs	Dairy products	Fish	Others
Asia												
Japan	11	2,719	1,051	60	266	16	73	194	75	112	138	734
Iran	11	3,058	1,497	125	273	97	150	142	21	83	16	654
India	13	2,459	1,361	60	228	137	61	16	10	129	9	448
Indonesia	13	2,777	1,751	167	164	10	36	77	20	19	57	476
South Korea	11	3,329	1,431	35	324	13	179	283	44	35	108	877
Saudi Arabia	11	3,122	1,419	23	315	55	70	258	19	144	14	805
Thailand	13	2,784	1,310	63	389	32	39	189	52	45	55	610
China	13	3,108	1,427	154	66	12	234	492	76	58	50	539
Turkey	11	3,680	1,571	101	302	129	148	130	27	265	14	993
Pakistan	13	2,440	1,170	35	270	63	21	77	11	321	4	468
Philippines	13	2,570	1,469	83	224	14	49	240	16	18	58	399
Malaysia	11	2,855	1,253	27	402	30	55	265	55	73	104	591
North America												
USA	11	3,639	798	99	569	30	69	433	53	373	36	1,179
Canada	11	3,419	770	131	443	108	84	359	46	239	36	1,203
Mexico	13	3,072	1,314	30	458	119	40	321	66	163	20	541
South America												
Argentina	11	3,155	1,043	92	464	4	53	586	44	255	11	603
Colombia	13	2,804	776	174	565	60	33	239	38	179	13	727
Brazil	13	3,263	969	121	417	152	36	456	33	252	17	810
Europe												
Ireland	11	3,591	1,062	150	419	26	86	385	35	328	35	1,065
UK	11	3,414	900	177	389	22	70	451	41	343	37	984
Italy	11	3,539	1,124	67	277	45	92	389	45	287	48	1,165
Austria	11	3,784	882	111	457	7	79	451	53	252	28	1,464
Netherlands	11	3,147	698	171	441	13	76	351	61	456	48	832
Greece	11	3,433	961	120	259	44	139	322	35	413	33	1,107
Switzerland	11	3,487	744	77	559	17	70	477	40	374	30	1,099
Sweden	11	3,160	757	101	395	17	68	362	49	397	62	952
Spain	11	3,183	679	109	238	80	85	377	54	258	85	1,218
Denmark	11	3,363	853	106	468	10	89	360	63	335	73	1,006
Germany	11	3,539	871	131	464	9	68	368	49	335	40	1,204
Norway	11	3,484	973	102	327	36	58	386	43	332	114	1,113
Finland	11	3,285	914	121	295	11	59	533	35	477	73	767
France	11	3,524	949	97	357	18	78	488	48	353	73	1,063
Poland	11	3,485	1,184	211	436	19	86	395	37	236	38	843
Portugal	11	3,456	984	103	255	32	106	409	35	239	91	1,202
Russia	11	3,358	1,163	204	467	17	79	298	58	286	55	731
Africa												
Algeria	13	3,296	1,678	126	265	79	124	99	27	227	8	663
Egypt	11	3,557	2,217	80	304	59	133	120	11	104	39	490
Nigeria	13	2,700	1,172	616	105	106	45	44	12	12	26	562
South Africa	11	3,007	1,545	67	317	25	40	322	28	89	12	562
Oceania												
Australia	11	3,265	708	82	390	37	73	515	28	328	38	1,066
New Zealand	11	3,170	759	94	528	48	89	517	38	198	47	852

Source: "World Statistics 2016," Statistics Bureau, Ministry of Internal Affairs and Communications, the Government of Japan

1.51 Production quantity of marine products (by species)

(Unit: t)

Country (region)	Year	Marine products							
		Marine products Total	aquaculture	Catching and gathering					
				Marine fishes / Crustaceans / Molluscs total	Marine fishes/crustaceans,/molluscs				
					Marine fishes				
					Salmons, trouts, smelts	Flounders, halibuts, soles	Cods, hakes, haddocks	Herrings, sardines, anchovies	Tunas, bonitos, billfishes
World	**13**	**191,014,701**	**97,168,160**	**92,572,586**	**1,193,152**	**1,039,887**	**8,156,132**	**17,467,884**	**7,387,159**
Asia									
Japan	13	4,768,519	1,027,165	3,656,854	186,523	53,400	289,914	636,600	477,431
Iran	13	884,956	325,325	559,631	2	4,191	…	53,004	210,418
India	13	9,199,291	4,554,109	4,645,182	…	55,806	6,897	633,805	181,855
Indonesia	13	19,237,067	13,118,206	6,101,725	…	28,736	…	503,955	1,298,091
South Korea	13	3,139,886	1,533,446	1,597,874	177	25,216	48,773	258,740	309,000
Cambodia	13	729,468	90,000	639,468	…	…	…	…	…
North Korea	13	723,350	508,350	215,000	…	3,950	62,800	…	…
Sri Lanka	13	526,454	30,881	495,573	…	…	…	125,680	140,329
Thailand	13	2,900,691	1,056,944	1,843,747	…	6,686	…	214,907	49,786
Taiwan	13	1,273,237	347,687	925,268	…	423	…	2,631	399,244
China	13	73,669,119	57,111,183	16,274,926	…	…	-	1,026,808	663,884
Turkey	13	607,992	233,864	374,128	438	984	10,087	213,298	16,126
Pakistan	13	623,022	148,120	474,902	…	1,075	…	51,479	51,816
Bangladesh	13	3,410,254	1,859,808	1,550,446	…	…	…	…	3,578
Philippines	13	4,705,507	2,373,386	2,331,721	…	824	…	400,323	556,843
Vietnam	13	6,098,280	3,294,480	2,803,800	…	…	…	…	82,042
Malaysia	13	2,019,410	530,705	1,488,705	…	6,014	…	69,740	86,234
Myanmar	13	4,717,620	930,780	3,786,840	…	…	…	…	11,176
North/South America									
USA	13	5,683,360	441,098	5,230,874	490,596	338,796	1,919,320	870,673	285,891
Argentina	13	873,908	3,825	870,083	…	5,158	345,436	18,394	82
Ecuador	13	851,341	332,180	519,161	…	…	609	22,580	314,993
Canada	13	1,039,021	172,097	852,082	27,055	45,449	92,281	140,134	5,256
Chile	13	3,334,592	1,045,718	1,770,945	…	17	119,623	1,075,313	4,887
Brazil	13	1,239,446	474,159	765,287	…	2,323	6,496	126,239	56,371
Peru	13	6,002,015	125,693	5,854,233	439	139	54,522	4,874,034	52,906
Mexico	13	1,805,783	168,792	1,626,869	3,317	4,242	8,467	837,226	168,912
Europe									
Iceland	13	1,390,895	7,052	1,366,675	189	25,291	464,983	157,537	4
UK	13	826,975	194,630	632,345	1,847	35,366	127,713	102,357	805
Italy	13	340,527	162,620	176,707	650	2,342	12,425	52,747	8,153
Netherlands	13	387,847	60,410	327,437	914	51,877	55,144	102,155	1,169
Spain	13	1,259,098	223,709	1,034,173	1,855	14,481	149,241	85,405	384,680
Denmark	13	740,090	71,610	668,480	386	30,630	73,775	237,454	…
Norway	13	3,476,378	1,247,865	2,074,363	725	16,230	998,399	510,055	…
France	13	764,592	202,210	493,256	922	20,883	103,181	62,688	114,179
Russia	13	4,506,749	155,540	4,345,868	459,223	107,742	2,354,959	564,916	1,473
Africa									
Egypt	13	1,454,401	1,097,544	356,857	…	2,066	…	21,052	1,707
Ghana	13	330,425	32,513	297,912	…	1,595	…	41,679	68,169
Senegal	13	472,179	707	469,636	…	4,580	54	265,221	14,481
Nigeria	13	1,000,061	278,706	721,355	…	19,442	2,483	116,824	1,004
South Africa	13	431,103	6,010	412,510	…	133	127,531	202,004	6,383
Morocco	13	1,260,721	1,768	1,253,299	…	7,109	6,864	822,718	8,642
Oceania									
New Zealand	13	540,756	97,123	442,448	…	2,881	185,544	370	29,548

1.51 Production quantity of marine products (by species)

(Unit: t)

Country (region)	Year	Marine products				
		Catching and gathering				
		Marine fishes/crustaceans/molluscs				Aquatic plants
		Crustaceans		Molluscs	Others	
		Crabs, sea-spiders etc.	Shrimps and prawns etc.	Squids, cuttlefishes, octopuses		
World	**13**	**1,594,615**	**3,708,652**	**4,027,433**	**47,997,672**	**1,273,955**
Asia						
Japan	13	30,823	17,200	255,111	1,709,852	84,500
Iran		1,080	8,812	5,102	277,022	…
India	13	54,774	390,119	80,225	3,241,701	…
Indonesia	13	85,596	256,772	169,328	3,759,247	17,136
South Korea	13	76,421	29,185	281,487	568,875	8,566
Cambodia	13	4,050	8,400	6,768	620,250	…
North Korea	13	…	…	10,000	138,250	…
Sri Lanka	13	…	…	1,720	227,844	…
Thailand	13	35,680	48,480	124,711	1,363,497	…
Taiwan	13	9,386	18,522	131,744	363,318	282
China	13	734,213	1,257,112	1,091,285	11,501,624	283,010
Turkey	13	8	4,052	2,019	127,116	…
Pakistan	13	8,963	24,330	8,119	329,120	…
Bangladesh	13	…	…	…	1,546,868	…
Philippines	13	28,576	39,434	63,458	1,242,263	400
Vietnam	13	85,100	267,092	281,308	2,088,258	…
Malaysia	13	14,220	108,867	78,558	1,125,072	…
Myanmar	13	…	49,409	…	3,726,255	…
North/South America						
USA	13	143,819	198,929	120,314	862,536	11,388
Argentina	13	16	100,715	191,838	208,444	…
Ecuador	11	201	6,958	2	173,818	…
Canada	13	106,768	223,502	45	211,592	14,842
Chile	13	5,483	4,769	108,082	452,771	517,929
Brazil	13	10,916	44,320	3,320	515,302	…
Peru	13	2,419	6,797	468,990	393,987	22,089
Mexico	13	27,548	70,882	61,229	445,046	10,122
Europe						
Iceland	13	…	12,793	14	705,864	17,168
UK	13	31,666	32,373	9,039	291,179	…
Italy	13	182	14,586	16,688	68,934	1,200
Netherlands	13	554	21,227	536	93,861	…
Spain	13	3,004	6,800	59,769	328,938	1,216
Denmark	13	244	11,583	44	314,364	…
Norway	13	5,421	14,023	5	529,505	154,150
France	13	10,735	4,504	18,016	158,148	69,126
Russia	13	29,316	10,878	85,525	731,836	5,341
Africa						
Egypt	13	2,372	6,792	2,470	320,398	…
Ghana	13	145	2,672	2,580	181,072	…
Senegal	13	523	6,365	6,151	172,261	1,836
Nigeria	13	4,211	29,005	402	547,984	…
South Africa	13	12	2,619	2,987	70,841	12,583
Morocco	13	767	8,492	95,663	303,044	5,654
Oceania						
New Zealand	13	325	3,537	24,820	195,423	1,185

Source: "World Statistics 2016," Statistics Bureau, Ministry of Internal Affairs and Communications, the Government of Japan

1.52 Social and environmental indicators in developing countries

Country (region)	(1) Human Development Index. HDI	(2) Percentage of population below the poverty line. (%)	(3) Multidimensional Poverty Index: MPI	(4) Mean length of education (calendar year)	(5) Percentage of underweight children under 5 years old. (Boy) (%)	(5) (Girl) Percentage of underweight children under 5 years old. (%)	(6) Mortality rate, less than 1 year old	(7) Mortality rate less than 5 years old (per 1,000 people)	(8) Percentage of population undernourished. (per 1,000 people)	(9) Percentage of population with safe drinking water. (%)	(10) Percentage of population that has a bathroom. (%)	(11) Mortality during pregnancy and childbirth. (per 100,000 childbirths)	(12) Percentage of doctor assisted childbirths. (%)	(13) Mother's age at childbirth 〈15 – 19 years old〉 (per 1,000 people)	(14) Contraceptive prevalence. (%)	(15) Measles vaccination rate of infants. (%)	(16) TB prevalence (per 100,000 people)
	2014	2002-12	2005-14	2014	2007-13		2015	2015	2013	2015	2015	2015	2007-13	2014	2007-13	2014	2013
Asia																	
Azerbaijan	0.751	0.31	0.021	a 11.2	…	…	28	32	5	87	89	25	99	59	…	98	85
Afghanistan	0.465	…	0.353	3.2	…	…	66	91	25	55	32	396	39	77	21	66	189
Armenia	0.733	1.75	0.001	10.9	4.7	5.9	13	14	6	100	90	25	100	24	55	97	49
Yemen	0.498	9.78	…	2.6	37.1	33.7	34	42	26	…	…	385	…	62	…	75	48
Iraq	0.654	3.91	0.045	6.4	9.4	7.4	27	32	24	87	86	50	91	83	53	57	45
India	0.609	23.63	0.283	5.4	…	…	38	48	15	94	40	174	52	26	55	83	171
Indonesia	0.684	16.20	0.066	7.6	20.5	19.4	23	27	9	87	61	126	83	50	62	77	183
Uzbekistan	0.675	…	0.008	10.9	…	…	34	39	6	…	100	36	…	18	…	99	80
Kazakhstan	0.788	0.06	0.001	11.4	3.7	3.6	13	14	5	93	98	12	100	29	51	99	139
Cambodia	0.555	10.05	0.212	4.4	28.8	29.1	25	29	16	76	42	161	74	51	51	94	400
Kyrgyzstan	0.655	5.11	0.007	10.6	3.7	3.7	19	21	6	90	93	76	99	40	36	96	141
Georgia	0.754	14.14	0.003	12.1	1.3	1.0	11	12	10	100	86	36	100	41	53	92	116
Syria	0.594	1.70	0.016	6.3	11.5	8.7	11	13	…	90	96	68	96	40	54	54	17
Thailand	0.726	0.31	0.006	7.3	9.9	8.4	11	12	7	98	93	20	100	45	79	99	119
Tajikistan	0.624	6.47	0.054	10.4	13.6	13.1	39	45	32	74	95	32	87	38	28	98	100
China	0.727	6.26	0.023	b 7.5	3.5	3.3	9	11	11	96	77	27	100	7	88	99	70
Nepal	0.548	23.74	0.217	3.3	29.8	28.4	29	36	13	92	46	258	36	73	50	88	156
Pakistan	0.538	12.74	0.230	4.7	34.1	29.1	66	81	22	91	64	178	52	39	35	63	275
Bangladesh	0.570	43.25	0.253	5.1	34.8	38.8	31	38	17	87	61	176	34	83	62	89	224
East Timor	0.595	34.87	0.360	4.4	46.8	43.7	45	53	29	72	41	215	29	48	22	74	498
Philippines	0.668	18.96	0.052	8.9	20.1	20.3	22	28	12	92	74	114	73	61	55	88	292
Bhutan	0.605	2.38	0.119	3.0	13.4	12.3	27	33	…	100	50	148	65	23	66	97	169
Vietnam	0.666	2.44	0.017	7.5	11.8	12.1	17	22	13	98	78	54	93	38	78	97	144
Maldives	0.706	1.48	0.018	5.8	18.4	17.2	7	9	6	99	98	68	99	7	35	99	40
Mongolia	0.727	…	0.037	9.3	5.3	4.0	19	22	22	64	60	44	99	16	55	98	181
Jordan	0.748	0.08	0.006	9.9	3.4	2.6	15	18	5	97	99	58	100	24	61	98	6
Laos	0.575	30.26	0.174	5.0	26.8	26.2	51	67	22	76	71	197	42	65	50	87	197
Central America																	
Dominican Republic	0.715	2.25	0.020	7.6	3.9	4.1	26	31	15	85	84	92	99	98	72	88	60
Trinidad and Tobago	0.772	…	0.020	10.9	…	…	18	20	9	95	92	63	100	32	…	96	21
Nicaragua	0.631	8.54	0.072	6.0	…	…	19	22	17	87	68	150	88	90	80	99	55
Haiti	0.483	…	0.248	4.9	12.5	10.7	52	69	52	58	28	359	37	40	35	53	206
Belize	0.715	…	0.018	10.5	5.7	6.6	14	17	7	100	91	28	96	67	55	95	37
Honduras	0.606	16.48	0.072	5.5	7.7	6.5	17	20	12	91	83	129	83	66	73	88	54
Mexico	0.756	1.03	0.011	8.5	2.8	2.8	11	13	5	96	85	38	96	63	73	97	21
South America																	
Argentina	0.836	1.41	c 0.011	9.8	…	…	11	13	5	99	96	52	98	64	…	95	24
Guyana	0.636	…	0.030	8.5	12.8	9.4	32	39	10	98	84	229	92	88	43	99	109
Colombia	0.720	5.63	0.022	7.3	3.5	3.3	14	16	11	91	81	64	99	52	79	91	32
Suriname	0.714	…	0.024	7.7	6.2	5.4	19	21	8	95	79	155	91	47	48	85	39
Peru	0.734	2.89	0.043	9.0	3.7	3.2	13	17	9	87	76	68	87	50	74	89	124
Bolivia	0.662	7.98	0.089	8.2	4.9	4.0	31	38	20	90	50	206	84	71	61	95	123
Europe																	
Albania	0.733	0.46	0.005	9.3	6.6	6.0	13	14	14	95	93	29	99	21	69	98	18
Ukraine	0.747	0.00	0.004	11.3	…	…	8	9	9	96	96	24	99	25	65	79	96
Serbia	0.771	0.05	0.001	10.5	1.5	1.7	6	7	7	99	96	17	100	19	61	86	18
Belarus	0.798	0.00	0.000	12.0	…	…	3	5	…	100	94	4	100	19	63	99	70
Bosnia-Herzegovina	0.733	0.04	0.002	a 8.3	1.8	1.3	5	5	…	100	95	11	100	9	46	89	46
Moldova	0.693	0.23	0.003	11.2	2.1	2.2	14	16	…	88	76	23	99	23	60	90	159
Montenegro	0.802	0.21	0.001	11.2	1.1	0.9	4	5	…	100	96	7	100	12	…	88	21

1.52 Social and environmental indicators in developing countries

Country (region)	(1) Human Development Index. HDI	(2) Percentage of population below the poverty line. (%)	(3) Multidimensional Poverty Index: MPI	(4) Mean length of education (calendar year)	(5) Percentage of underweight children under 5 years old. (Boy) (%)	(5) (Girl) Percentage of underweight children under 5 years old. (%)	(6) Mortality rate, less than 1 year old	(7) Mortality rate less than 5 years old (per 1,000 people)	(8) Percentage of population undernourished. (per 1,000 people)	(9) Percentage of population with safe drinking water. (%)	(10) Percentage of population that has a bathroom. (%)	(11) Mortality during pregnancy and childbirth. (per 100,000 childbirths)	(12) Percentage of doctor assisted childbirths. (%)	(13) Mother's age at childbirth 〈15 – 19 years old〉 (per 1,000 people)	(14) Contraceptive prevalence. (%)	(15) Measles vaccination rate of infants. (%)	(16) TB prevalence (per 100,000 people)
	2014	2002-12	2005-14	2014	2007-13		2015	2015	2013	2015	2015	2015	2007-13	2014	2007-13	2014	2013
Africa																	
Uganda	0.483	37.78	0.367	5.4	15.4	12.8	38	55	26	79	19	343	57	115	30	82	166
Egypt	0.690	1.68	0.014	6.6	8.1	5.4	20	24	5	99	95	33	79	52	60	93	16
Ethiopia	0.442	36.79	0.564	2.4	30.9	27.3	41	59	35	57	28	353	23	60	29	70	224
Ghana	0.579	28.59	0.139	7.0	15.4	11.3	43	62	5	89	15	319	68	68	34	92	66
Gabon	0.684	6.09	0.070	7.8	7.9	5.0	36	51	5	93	42	291	89	102	31	61	423
Cameroon	0.512	27.61	0.248	6.0	15.8	14.5	57	88	11	76	46	596	64	107	23	80	235
Gambia	0.441	33.63	0.323	2.8	17.8	16.9	48	69	6	90	59	706	57	114	13	96	173
Guinea	0.411	40.87	0.459	2.4	17.3	15.2	61	94	18	77	20	679	45	142	6	52	177
Guinea-Bissau	0.420	48.90	0.462	2.8	19.1	17.1	60	93	18	79	21	549	43	91	14	69	387
Kenya	0.548	43.37	0.229	b 6.3	17.3	15.5	36	49	24	63	30	510	44	92	46	79	268
Ivory Coast	0.462	35.04	0.310	b 4.3	18.8	12.8	67	93	15	82	23	645	59	135	18	63	170
Republic of the Congo	0.591	32.82	0.181	b 6.1	13.3	10.3	33	45	32	77	15	442	93	119	45	80	382
D R of the Congo	0.433	87.72	0.401	6.0	25.7	21.1	75	98	…	52	29	693	80	123	17	77	326
Democratic Republic of Sao Tome and Principe	0.555	43.53	0.154	4.7	16.6	12.3	35	47	7	97	35	156	82	85	38	92	91
Zambia	0.586	74.32	0.281	6.6	16.9	13.0	43	64	48	65	44	224	47	93	41	85	410
Sierra Leone	0.413	56.63	0.464	3.1	19.2	17.1	87	120	26	63	13	1,360	60	120	17	78	313
Djibouti.	0.470	18.83	0.139	3.8	31.2	28.5	54	65	19	90	47	229	87	22	19	71	619
Zimbabwe	0.509	…	0.127	7.3	11.5	8.7	47	71	32	77	37	443	66	110	59	92	552
Swaziland	0.531	39.30	0.086	b 7.1	6.7	5.0	45	61	26	74	58	389	82	74	65	86	1,382
Senegal	0.466	34.06	0.309	2.5	18.1	15.4	42	47	17	79	48	315	65	80	18	80	136
Tanzania	0.521	43.48	0.332	5.1	14.2	12.9	35	49	35	56	16	398	49	119	34	99	164
Central African Republic	0.350	62.83	0.430	4.2	26.1	20.9	92	130	38	69	22	882	54	93	15	49	359
Tunisia	0.721	0.74	0.004	6.8	3.2	1.4	12	14	5	98	92	62	99	7	63	98	32
Togo	0.484	52.46	0.252	4.5	18.4	14.4	52	78	15	63	12	368	59	92	15	82	73
Nigeria	0.514	62.03	0.303	5.9	32.9	29.0	69	109	6	69	29	814	38	112	15	51	338
Namibia	0.628	23.54	0.193	6.2	15.1	11.3	33	45	37	91	34	265	81	77	55	83	651
Niger	0.348	40.81	0.605	1.5	38.7	37.1	57	96	11	58	11	553	29	204	14	72	102
Burkina Faso	0.402	44.46	0.535	1.4	27.7	24.7	61	89	21	82	20	371	66	110	16	88	54
Burundi	0.400	81.32	0.454	2.7	32.0	26.1	54	82	…	76	48	712	60	29	22	94	128
Benin	0.480	51.61	0.307	3.3	…	…	64	100	10	78	20	405	81	85	13	63	70
Madagascar	0.510	87.67	0.357	6.0	…	…	36	50	31	52	12	353	44	117	40	64	233
Malawi	0.445	72.16	0.334	4.3	15.2	12.6	43	64	22	90	41	634	71	137	46	85	156
Mari	0.419	50.61	0.457	2.0	…	…	75	115	5	77	25	587	59	175	10	80	60
South Africa	0.666	9.42	0.044	9.9	…	…	34	41	5	93	66	138	…	47	…	70	860
Mauritania	0.506	23.43	0.285	3.8	21.8	17.2	65	85	7	58	40	602	65	79	11	84	115
Mozambique	0.416	60.71	0.389	3.2	17.5	13.6	57	79	28	51	21	489	54	143	12	85	552
Liberia	0.430	83.76	0.374	4.1	16.8	13.5	53	70	30	76	17	725	61	111	20	58	308
Rwanda	0.483	63.02	0.350	3.7	12.9	10.4	31	42	34	76	62	290	69	27	52	98	69
Lesotho	0.497	56.22	0.156	c 5.9	16.0	11.1	69	90	12	82	30	487	62	92	47	92	916
Oceania																	
Vanuatu	0.594	…	0.129	6.8	14.1	9.0	23	28	7	95	58	78	89	43	49	53	62
[Reference] Developed countries																	
Japan	0.891	…	…	11.5	…	…	2	3	…	100	100	5	…	4	…	98	18
USA	0.915	…	…	12.9	0.5	0.4	6	7	…	99	100	14	…	24	76	91	3
Germany	0.916	…	…	13.1	…	…	3	4	…	100	99	6	…	7	…	97	6

Notes: a. 2015 b. 2013 c. Urban area only.

Source: "World Statistics 2016," Statistics Bureau, Ministry of Internal Affairs and Communications, the Government of Japan

2.01 Trends in emission amounts of greenhouse gasses in Japan

(Unit: million t-CO2)

	Carbon dioxide (CO2)	Methane (CH4)	Nitrous oxide (N2O)	Hydrofluorocarbons (HFCs)	Perfluorocarbons (PFCs)	Sulfur hexafluoride (SF6)	Nitrogen trifluoride (NF3)	Total
GWP	1	25	298	HFC-134a : 1,430 and the like	PFC-14 : 7,390 and the like	22,800	17,200	
1990	1,156	49	31	16	7	13	0.03	1,271
1991	1,164	47	31	17	8	14	0.03	1,281
1992	1,175	48	31	18	8	16	0.03	1,294
1993	1,168	43	31	18	11	16	0.04	1,286
1994	1,229	48	32	21	13	15	0.08	1,358
1995	1,242	46	32	25	18	16	0.20	1,380
1996	1,255	45	33	25	18	17	0.19	1,393
1997	1,253	44	34	24	20	15	0.17	1,390
1998	1,218	41	33	24	17	13	0.17	1,346
1999	1,253	41	26	24	13	9	0.28	1,368
2000	1,274	41	29	23	12	7	0.19	1,387
2001	1,257	40	25	19	10	6	0.20	1,359
2002	1,294	39	25	16	9	6	0.27	1,390
2003	1,299	38	25	16	9	5	0.30	1,393
2004	1,298	39	25	12	9	5	0.37	1,390
2005	1,306	39	25	13	9	5	1.25	1,397
2006	1,285	38	25	15	9	5	1.09	1,378
2007	1,320	38	24	17	8	5	1.21	1,413
2008	1,235	38	23	19	6	4	1.17	1,327
2009	1,163	37	23	21	4	2	1.17	1,251
2010	1,213	38	22	23	4	2	1.37	1,305
2011	1,262	37	22	26	4	2	1.56	1,355
2012	1,296	36	21	29	3	2	1.26	1,390
2013	1,312	36	21	32	3	2	1.36	1,408
2014	1,265	35	21	36	3	2	0.83	1,364

Note:
GWP; Global Warming Potential: a coefficient to indicate the extent that a GHG in question brings a greenhouse gas effect. It is expressed by a ratio of the effect caused by the GHG to that caused by CO2. The values are from the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (2007).

Source: "National Greenhouse Gas Inventory Report of JAPAN," MOE, the Government of Japan.

2.02 Trends in Carbon Dioxide Emissions by Sectors in Japan

CO2 emissions from energy sources (Unit: million t-CO2, % increase/decrease compared with 1990)

	Total ①		Industry		Transport		Commercial and other		Households		Energy conversion	
1990	1,066.8		501.9		206.2		137.0		130.6		91.1	
1991	1,074.0	0.7%	491.0	-2.2%	218.7	6.0%	140.4	2.5%	132.5	1.5%	91.5	0.4%
1992	1,082.5	1.5%	480.7	-4.2%	225.1	9.2%	145.0	5.9%	139.8	7.0%	91.8	0.8%
1993	1,077.8	1.0%	466.8	-7.0%	228.4	10.7%	151.3	10.4%	141.0	7.9%	90.4	-0.8%
1994	1,134.2	6.3%	483.7	-3.6%	238.0	15.4%	166.6	21.6%	148.4	13.6%	97.6	7.1%
1995	1,146.7	7.5%	477.8	-4.8%	246.5	19.5%	170.2	24.3%	151.8	16.3%	100.3	10.0%
1996	1,158.4	8.6%	482.1	-3.9%	252.8	22.6%	175.2	27.8%	151.4	15.9%	97.0	6.4%
1997	1,157.2	8.5%	473.4	-5.7%	253.9	23.1%	180.5	31.8%	147.8	13.1%	101.6	11.5%
1998	1,128.1	5.7%	443.2	-11.7%	251.9	22.1%	193.4	41.2%	147.8	13.2%	91.7	0.7%
1999	1,162.8	9.0%	454.7	-9.4%	256.0	24.1%	203.4	48.5%	156.3	19.6%	92.4	1.4%
2000	1,182.1	10.8%	465.9	-7.2%	254.8	23.6%	210.3	53.5%	161.3	23.5%	89.8	-1.4%
2001	1,167.0	9.4%	453.3	-9.7%	258.9	25.5%	210.0	53.3%	157.6	20.6%	87.2	-4.2%
2002	1,206.5	13.1%	467.8	-6.8%	255.1	23.7%	221.4	61.6%	169.0	29.4%	93.3	2.4%
2003	1,211.7	13.6%	470.9	-6.2%	251.3	21.8%	225.6	64.7%	171.1	31.0%	92.8	1.8%
2004	1,211.6	13.6%	468.2	-6.7%	245.2	18.9%	238.8	74.3%	170.1	30.2%	89.2	-2.0%
2005	1,219.0	14.3%	456.9	-9.0%	239.7	16.2%	238.9	74.4%	179.9	37.7%	103.7	13.8%
2006	1,199.9	12.5%	471.8	-6.0%	236.1	14.5%	235.7	72.0%	168.3	28.8%	88.0	-3.4%
2007	1,234.6	15.7%	472.0	-6.0%	234.0	13.5%	237.3	73.2%	183.7	40.7%	107.6	18.1%
2008	1,153.2	8.1%	417.0	-16.9%	225.3	9.2%	231.5	69.0%	173.7	33.0%	105.8	16.1%
2009	1,090.0	2.2%	382.1	-23.9%	221.4	7.4%	219.9	60.5%	163.4	25.1%	103.2	13.3%
2010	1,138.8	6.7%	413.5	-17.6%	222.1	7.7%	218.8	59.7%	174.1	33.3%	110.2	21.0%
2011	1,188.4	11.4%	429.0	-14.5%	220.5	6.9%	235.9	72.2%	191.8	46.8%	111.3	22.1%
2012	1,220.7	14.4%	432.2	-13.9%	226.1	9.6%	253.6	85.1%	204.2	56.3%	104.6	14.8%
2013	1,235.0	15.8%	431.9	-14.0%	224.7	8.9%	278.3	103.1%	201.3	54.2%	98.9	8.5%
2014	1,189.3	11.5%	425.9	-15.1%	217.0	5.2%	260.9	90.5%	191.8	46.8%	93.7	2.8%

CO2 emissions from non-energy sources

	Total ②		Industrial processes		Agriculture		Waste		Leakage from fuel		total (① + ②)	
1990	89.1		64.0		0.6		24.0		0.6		1,156.0	
1991	90.4	1.4%	65.1	1.7%	0.5	-10.0%	24.2	0.8%	0.6	8.7%	1,164.5	0.7%
1992	92.2	3.4%	65.0	1.6%	0.5	-19.0%	26.0	8.3%	0.7	13.9%	1,174.6	1.6%
1993	89.9	0.8%	63.7	-0.4%	0.5	-14.0%	25.0	4.2%	0.7	12.0%	1,167.7	1.0%
1994	94.7	6.3%	65.2	1.9%	0.3	-43.7%	28.6	19.1%	0.7	12.5%	1,228.9	6.3%
1995	95.8	7.5%	65.5	2.3%	0.4	-41.0%	29.1	21.4%	0.9	59.1%	1,242.5	7.5%
1996	96.9	8.7%	65.9	3.0%	0.3	-42.6%	29.6	23.5%	1.0	76.7%	1,255.3	8.6%
1997	95.9	7.6%	63.2	-1.2%	0.4	-39.0%	31.2	30.0%	1.1	94.0%	1,253.1	8.4%
1998	90.1	1.1%	57.3	-10.5%	0.4	-38.1%	31.4	31.0%	1.1	83.2%	1,218.3	5.4%
1999	90.2	1.2%	57.4	-10.2%	0.4	-39.2%	31.3	30.7%	1.1	90.0%	1,253.1	8.4%
2000	92.2	3.4%	57.9	-9.5%	0.4	-27.3%	32.8	36.9%	1.0	77.3%	1,274.3	10.2%
2001	90.4	1.4%	56.5	-11.7%	0.4	-39.6%	32.4	35.3%	1.1	84.9%	1,257.4	8.8%
2002	87.9	-1.4%	53.8	-16.0%	0.4	-33.0%	32.7	36.4%	1.0	76.0%	1,294.4	12.0%
2003	87.8	-1.5%	53.0	-17.2%	0.4	-29.3%	33.4	39.5%	1.0	66.4%	1,299.5	12.4%
2004	86.8	-2.6%	52.9	-17.4%	0.4	-33.9%	32.6	36.1%	0.9	59.2%	1,298.4	12.3%
2005	86.9	-2.5%	54.0	-15.7%	0.4	-32.6%	31.6	31.8%	1.0	65.6%	1,305.9	13.0%
2006	85.3	-4.4%	54.1	-15.5%	0.4	-37.0%	29.8	24.3%	1.0	70.4%	1,285.2	11.2%
2007	85.2	-4.4%	53.3	-16.7%	0.5	-17.9%	30.4	26.7%	1.0	77.8%	1,319.8	14.2%
2008	82.2	-7.8%	49.2	-23.2%	0.4	-27.7%	31.6	32.0%	0.9	63.1%	1,235.5	6.9%
2009	72.6	-18.5%	43.5	-32.0%	0.4	-35.9%	27.8	16.1%	0.9	48.8%	1,162.6	0.6%
2010	74.2	-16.8%	44.7	-30.2%	0.4	-33.8%	28.3	18.1%	0.8	40.0%	1,213.0	4.9%
2011	73.5	-17.6%	44.5	-30.4%	0.4	-31.9%	27.8	15.8%	0.8	33.0%	1,261.9	9.2%
2012	75.4	-15.4%	44.7	-30.1%	0.5	-14.6%	29.4	22.8%	0.8	30.4%	1,296.2	12.1%
2013	76.5	-14.2%	46.4	-27.5%	0.6	-5.1%	28.8	20.1%	0.7	21.4%	1,311.5	13.5%
2014	76.2	-14.5%	46.1	-27.9%	0.6	-5.1%	28.8	20.2%	0.7	16.8%	1,265.5	9.5%

Note:
The emissions from energy sources by sector are the amount that CO2 emissions caused by power and heat generation are allocated to each of the final consumption sectors.

Source: "National Greenhouse Gas Inventory Report of JAPAN," MOE, the Government of Japan.

2.03 Trend in Major Socioeconomic Activities and Carbon Dioxide emissions

	FY1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Total CO_2 emissions (M Mt-CO_2)	1,156.0	1,242.5	1,255.3	1,253.1	1,218.3	1,253.1	1,274.3	1,257.4	1,294.4	1,299.5	1,298.4	1,305.9
(vs. the previous year)		1.1%	1.0%	-0.2%	-2.8%	2.9%	1.7%	-1.3%	2.9%	0.4%	-0.1%	0.6%
(vs. 1990)		7.5%	8.6%	8.4%	5.4%	8.4%	10.2%	8.8%	12.0%	12.4%	12.3%	13.0%
Emissions from energy sources	1,066.8	1,146.7	1,158.4	1,157.2	1,128.1	1,162.8	1,182.1	1,167.0	1,206.5	1,211.7	1,211.6	1,219.0
(vs. the previous year)		1.1%	1.0%	-0.1%	-2.5%	3.1%	1.7%	-1.3%	3.4%	0.4%	0.0%	0.6%
(vs. 1990)		7.5%	8.6%	8.5%	5.7%	9.0%	10.8%	9.4%	13.1%	13.6%	13.6%	14.3%
Emissions from non-energy sources	89.1	95.8	96.9	95.9	90.1	90.2	92.2	90.4	87.9	87.8	86.8	86.9
(vs. the previous year)		1.2%	1.1%	-1.0%	-6.0%	0.1%	2.2%	-2.0%	-2.8%	-0.1%	-1.2%	0.1%
(vs. 1990)		7.5%	8.7%	7.6%	1.1%	1.2%	3.4%	1.4%	-1.4%	-1.5%	-2.6%	-2.5%
Electric energy generation of electric companies (in MM kWh)	757,593	868,027	884,574	904,935	909,150	921,062	940,687	921,997	935,807	920,134	946,756	969,135
(vs. the previous year)		2.2%	1.9%	2.3%	0.5%	1.3%	2.1%	-2.0%	1.5%	-1.7%	2.9%	2.4%
(vs. 1990)		14.6%	16.8%	19.4%	20.0%	21.6%	24.2%	21.7%	23.5%	21.5%	25.0%	27.9%
Components of power supply by source	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Thermal power	61.5%	56.5%	56.2%	54.1%	52.7%	55.8%	56.0%	55.6%	59.2%	63.1%	59.7%	60.0%
Hydro power	11.7%	9.7%	9.4%	10.3%	10.5%	9.6%	9.5%	9.4%	9.0%	10.4%	10.1%	8.2%
Nuclear power	26.6%	33.4%	34.0%	35.2%	36.4%	34.3%	34.2%	34.7%	31.4%	26.1%	29.8%	31.4%
New energy	0.2%	0.3%	0.4%	0.4%	0.4%	0.4%	0.3%	0.3%	0.3%	0.4%	0.3%	0.3%
Industrial Production Index (IPI : in 2005 = 100)	107.4	101.7	105.1	106.3	99.0	101.6	106.0	96.3	99.0	102.0	105.9	107.6
(vs. the previous year)		2.1	3.4	1.2	-7.3	2.6	4.3	-9.7	2.8	2.9	3.9	1.7
Crude steel production (in 1,000 t)	111,710	100,023	100,793	102,800	90,979	97,999	106,901	102,064	109,786	110,998	112,897	112,718
(vs. the previous year)		-1.3%	0.8%	2.0%	-11.5%	7.7%	9.1%	-4.5%	7.6%	1.1%	1.7%	-0.2%
(vs. 1990)		-10.5%	-9.8%	-8.0%	-18.6%	-12.3%	-4.3%	-8.6%	-1.7%	-0.6%	1.1%	0.9%
Ethylene production (in 1,000 t)	5,810	6,944	7,138	7,338	7,223	7,721	7,566	7,206	7,283	7,419	7,555	7,549
(vs. the previous year)		13.4%	2.8%	2.8%	-1.6%	6.9%	-2.0%	-4.8%	1.1%	1.9%	1.8%	-0.1%
(vs. 1990)		19.5%	22.9%	26.3%	24.3%	32.9%	30.2%	24.0%	25.4%	27.7%	30.0%	130593.9%
Cement production (in 1,000 t)	86,893	91,645	94,363	89,446	80,794	80,494	80,068	75,722	70,819	68,253	67,046	70,127
(vs. the previous year)		0.0%	3.0%	-5.2%	-9.7%	-0.4%	-0.5%	-5.4%	-6.5%	-3.6%	-1.8%	4.6%
(vs. 1990)		5.5%	8.6%	2.9%	-7.0%	-7.4%	-7.9%	-12.9%	-18.5%	-21.5%	-22.8%	-19.3%
Paper, paperboard and pulp production (in 1,000 t)	39,227	40,637	41,068	42,414	40,507	42,086	43,008	40,942	41,415	41,149	41,550	41,832
(vs. the previous year)		4.3%	1.1%	3.3%	-4.5%	3.9%	2.2%	-4.8%	1.2%	-0.6%	1.0%	0.7%
(vs. 1990)		3.6%	4.7%	8.1%	3.3%	7.3%	9.6%	4.4%	5.6%	4.9%	5.9%	6.6%
Number of households (in 1,000)	41,156	44,236	44,831	45,498	46,157	46,812	47,420	48,015	48,638	49,261	49,838	50,382
(vs. the previous year)		1.3%	1.3%	1.5%	1.4%	1.4%	1.3%	1.3%	1.3%	1.3%	1.2%	1.1%
(vs. 1990)		7.5%	8.9%	10.5%	12.1%	13.7%	15.2%	16.7%	18.2%	19.7%	21.1%	22.4%
Commercial sector's floor area (in M m2)	1,285	1,498	1,530	1,564	1,601	1,631	1,656	1,686	1,702	1,722	1,739	1,759
(vs. the previous year)		3.0%	2.1%	2.2%	2.4%	1.9%	1.5%	1.8%	0.9%	1.2%	1.0%	1.2%
(vs. 1990)		16.6%	19.1%	21.7%	24.6%	26.9%	28.9%	31.2%	32.5%	34.0%	35.3%	36.9%
Transport volume in passenger sector (in M persons / km)	1,295,356	1,385,408	1,405,948	1,416,287	1,421,926	1,422,105	1,417,323	1,422,857	1,423,180	1,424,193	1,416,130	1,409,239
(vs. the previous year)		1.5%	1.5%	0.7%	0.4%	0.0%	-0.3%	0.4%	0.0%	0.1%	-0.6%	-0.5%
(vs. 1990)		7.0%	8.5%	9.3%	9.8%	9.8%	9.4%	9.8%	9.9%	9.9%	9.3%	8.8%
Private vehicles	727,049	806,336	823,552	839,254	852,031	854,762	851,893	856,140	857,330	855,827	849,692	833,455
Business vehicles	12,558	11,078	10,661	10,293	9,912	9,728	9,678	9,477	9,557	9,610	9,303	9,222
Bus	110,972	97,287	94,891	92,900	90,433	88,686	87,306	86,350	86,181	86,391	86,286	88,066
Railway	387,478	400,056	402,156	395,239	388,938	385,101	384,441	385,421	382,236	384,958	385,163	391,228
Navigation	6,274	5,637	5,634	5,351	4,620	4,479	4,304	4,006	3,893	4,024	3,869	4,025
Aviation	51,624	65,014	69,053	73,250	75,992	79,349	79,700	81,463	83,982	83,382	81,816	83,242
Transport volume in cargo sector (in M tons / km)	461,127	466,837	477,615	472,844	457,134	463,584	479,072	481,592	471,895	461,655	465,892	463,815
(vs. the previous year)		1.7%	2.3%	-1.0%	-3.3%	1.4%	3.3%	0.5%	-2.0%	-2.2%	0.9%	-0.4%
(vs. 1990)		1.2%	3.6%	2.5%	-0.9%	0.5%	3.9%	4.4%	2.3%	0.1%	1.0%	0.6%
Truck	188,586	202,482	209,929	210,226	206,250	210,572	214,190	213,954	213,190	219,643	223,525	228,351
Railway	27,196	25,101	24,968	24,618	22,920	22,541	22,136	22,193	22,131	22,794	22,476	22,813
Navigation	244,546	238,330	241,756	237,018	226,980	229,432	241,671	244,451	235,582	218,191	218,833	211,576
Aviation	799	924	963	981	985	1,039	1,075	994	991	1,027	1,059	1,076

Source: materials of Low Carbon Society Promotion Office, Global Environment Bureau, MOE, the Government of Japan

2.03 Trend in Major Socioeconomic Activities and Carbon Dioxide emissions

	2006	FY2007	2008	2009	2010	2011	2012	2013	2014	Source
Total CO_2 emissions (M Mt-CO_2)	1,285.2	1,319.8	1,235.5	1,162.6	1,213.0	1,261.9	1,296.2	1,311.5	1,265.5	Greenhouse Gas emissions/removals listings
(vs. the previous year)	-1.6%	2.7%	-6.4%	-5.9%	4.3%	4.0%	2.7%	1.2%	-3.5%	
(vs. 1990)	11.2%	14.2%	6.9%	0.6%	4.9%	9.2%	12.1%	13.5%	9.5%	
Emissions from energy sources	1,199.9	1,234.6	1,153.2	1,090.0	1,138.8	1,188.4	1,220.7	1,235.0	1,189.3	
(vs. the previous year)	-1.6%	2.9%	-6.6%	-5.5%	4.5%	4.4%	2.7%	1.2%	-3.7%	
(vs. 1990)	12.5%	15.7%	8.1%	2.2%	6.7%	11.4%	14.4%	15.8%	11.5%	
Emissions from non-energy sources	85.3	85.2	82.2	72.6	74.2	73.5	75.4	76.5	76.2	
(vs. the previous year)	-1.9%	-0.1%	-3.5%	-11.7%	2.2%	-1.0%	2.6%	1.4%	-0.4%	
(vs. 1990)	-4.4%	-4.4%	-7.8%	-18.5%	-16.8%	-17.6%	-15.4%	-14.2%	-14.5%	
Electric energy generation of electric companies (in MM kWh)	972,883	1,004,622	957,889	925,392	918,239	857,405	821,955	823,668	790,561	The Electric Power Companies Handbook(Component ratio of electric power supply is based on electric-generating capacity.)
(vs. the previous year)	0.4%	3.3%	-4.7%	-3.4%	-0.8%	-6.6%	-4.1%	0.2%	-4.0%	※As to the data for 2010, neither other "electric power suppliers" in the area of "Electric power distributors" nor their electric power generating amount are included in this table.
(vs. 1990)	28.4%	32.6%	26.4%	22.1%	21.2%	13.2%	8.5%	0	0	
Components of power supply by source	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
Thermal power	59.4%	65.8%	64.9%	61.4%	60.3%	79.1%	89.5%	90.2%	90.8%	
Hydro power	9.1%	7.6%	7.9%	8.1%	8.1%	8.7%	8.2%	8.3%	8.9%	
Nuclear power	31.2%	26.3%	26.9%	30.2%	31.4%	11.9%	1.9%	1.1%	0.0%	
New energy	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	
Industrial Production Index (IPI : in 2005 = 100)	112.5	115.6	101.0	91.3	99.4	98.8	95.8	99.0	98.5	The comprehensive list of Production Index(Indices of Industrial Production, Producer's Shipment and Producer's Inventory) -
(vs. the previous year)	4.9	3.1	-14.6	-9.7	8.1	-0.6	-3.0	3.2	-0.5	Base year 2005 -
Crude steel production (in 1,000 t)	117,745	121,511	105,500	96,448	110,793	106,462	107,305	111,524	109,844	Current Survey of Production, Ministry of Economy, Trade, and Industry (For 2002 - 2010, the Annual Report of Statistics for Metals, Non-metals, and Metal products. For 1990 ~ 2000, cf. The Annual Report of Statistics for steel)
(vs. the previous year)	4.5%	3.2%	-13.2%	-8.6%	14.9%	-3.9%	0.8%	3.9%	-1.5%	
(vs. 1990)	5.4%	8.8%	-5.6%	-13.7%	-0.8%	-4.7%	-3.9%	-0.2%	-1.7%	
Ethylene production (in 1,000 t)	7,661	7,559	6,520	7,219	6,999	6,474	6,261	6,764	6,687	Current Survey of Production, Ministry of Economy, Trade, and Industry (For 1990 - 2010, the Annual Report of Statistics for Chemical industries)
(vs. the previous year)	1.5%	-1.3%	-13.7%	10.7%	-3.0%	-7.5%	-3.3%	8.0%	-1.1%	
(vs. 1990)	31.9%	30.1%	12.2%	24.3%	20.5%	11.4%	7.8%	16.4%	15.1%	
Cement production (in 1,000 t)	70,145	66,477	61,295	53,195	50,901	52,641	55,072	58,827	56,882	Current Survey of Production, Ministry of Economy, Trade, and Industry (For 1990 - 2010, the Annual report of Statistics re: Ceramic engineering and Architectural materials
(vs. the previous year)	0.0%	-5.2%	-7.8%	-13.2%	-4.3%	3.4%	4.6%	6.8%	-3.3%	
(vs. 1990)	-19.3%	-23.5%	-29.5%	-38.8%	-41.4%	-39.4%	-36.6%	-32.3%	-34.5%	
Paper, paperboard and pulp production (in 1,000 t)	41,910	42,304	38,620	35,782	36,754	35,543	34,275	35,618	35,118	Current Survey of Production, Ministry of Economy, Trade, and Industry (For 1990-2001, the Annual Report for Paper, Pulp; For 2002-2003, the Annual Report for Paper, Pulp, Plastics, Rubber products, For 2004 - 2010, the Annual Report of Statistics for Paper, Printing, Plastics, Rubber products) For 1990-1996, the data are taken by the calendar year.
(vs. the previous year)	0.2%	0.9%	-8.7%	-7.4%	2.7%	-3.3%	-3.6%	3.9%	-1.4%	
(vs. 1990)	6.8%	7.8%	-1.5%	-8.8%	-6.3%	-9.4%	-12.6%	-9.2%	-10.5%	
Number of households (in 1,000)	51,102	51,713	52,325	52,878	53,363	53,783	54,171	54,595	54,952	Survey on Population, Demographics and the number of households based on the Basic Resident Register (Ministry of Internal Affairs and Communications)
(vs. the previous year)	1.4%	1.2%	1.2%	1.1%	0.9%	0.8%	0.7%	0.8%	0.7%	
(vs. 1990)	24.2%	25.6%	27.1%	28.5%	29.7%	30.7%	31.6%	32.7%	33.5%	
Commercial sector's floor area (in M m2)	1,776	1,791	1,812	1,821	1,830	1,827	1,834	1,846	1,856	The Handbook of Japan's & World Energy & Economic Statistics (Japanese version)
(vs. the previous year)	1.0%	0.8%	1.2%	0.5%	0.5%	-0.2%	0.4%	0.7%	0.5%	
(vs. 1990)	38.2%	39.4%	41.0%	41.7%	42.4%	42.2%	42.7%	43.7%	44.4%	The Energy Data and Modelling Center (EDMC, 2016)
Transport volume in passenger sector (in M persons / km)	1,401,124	1,410,596	1,392,870	1,368,794	1,366,333	1,362,496	1,423,126	1,456,453	1,497,279	The Handbook of Japan's & World Energy & Economic Statistics (Japanese version)
(vs. the previous year)	-0.6%	0.7%	-1.3%	-1.7%	-0.2%	-0.3%	4.4%	2.3%	2.8%	
(vs. 1990)	8.2%	8.9%	7.5%	5.7%	5.5%	5.2%	9.9%	12.4%	15.6%	The Energy Data and Modelling Center (EDMC, 2016)
Private vehicles	817,785	818,993	805,415	801,163	802,562	804,557	847,476	866,391	906,816	※ The figure of navigation in 2014 is not shown.
Business vehicles	9,198	8,913	8,489	8,155	7,796	7,292	7,210	7,044	6,930	
Bus	88,699	88,969	89,921	87,402	85,725	81,907	83,021	81,197	79,493	
Railway	395,908	405,544	404,585	393,765	393,466	395,067	404,396	414,387	413,970	
Navigation	3,783	3,834	3,510	3,073	3,004	3,047	3,092	3,265	N.A.	
Aviation	85,752	84,343	80,950	75,235	73,779	71,226	77,931	84,169	86,807	
Transport volume in cargo sector (in M tons / km)	468,498	469,200	447,518	417,214	449,006	431,266	410,724	422,694	417,046	The Energy Data and Modelling Center (EDMC, 2015)
(vs. the previous year)	1.0%	0.1%	-4.6%	-6.8%	7.6%	-4.0%	-4.8%	2.9%	-1.3%	
(vs. 1990)	1.6%	1.8%	-3.0%	-9.5%	-2.6%	-6.5%	-10.9%	-8.3%	-9.6%	
Trucks	239,363	241,758	236,324	228,293	247,676	235,374	211,444	215,663	211,772	
Railway	23,192	23,334	22,256	20,562	20,398	19,998	20,471	21,071	21,029	
Navigation	207,849	202,962	187,859	167,315	179,898	174,900	177,791	184,860	183,120	
Aviation	1,095	1,146	1,080	1,044	1,033	993	1,018	1,100	1,125	

2.04 Trends in carbon dioxide emissions by energy use in major countries and regions

CO_2 emissions in the world (Unit: million t-CO_2)

	1971	1973	1980	1990	1995	2000	2005	2007	2008	2009	2010	2011	2012	2013
North America	4,628	5,066	5,017	5,221	5,522	6,159	6,238	6,240	6,050	5,624	5,871	5,743	5,556	5,656
USA	4,288	4,690	4,595	4,802	5,073	5,643	5,702	5,686	5,512	5,120	5,355	5,219	5,032	5,120
Canada	340	376	422	419	448	516	536	554	539	504	515	524	524	536
Latin America	452	528	732	842	975	1,171	1,291	1,372	1,431	1,408	1,504	1,546	1,613	1,661
Mexico	93.7	118	205	260	286	344	382	405	399	396	414	428	434	452
Brazil	87.5	112	168	184	228	292	311	330	348	324	370	390	422	452
Chile	21.0	20.0	21.4	29.4	37.1	48.6	54.4	63.1	66.5	64.2	68.6	75.3	77.2	82.0
Peru	15.4	16.3	20.4	19.1	23.3	26.4	28.6	30.9	35.2	37.7	41.1	44.2	44.0	45.5
Europe	5,813	6,389	7,394	7,841	6,454	6,266	6,495	6,608	6,586	6,072	6,329	6,324	6,244	6,126
Europe OECD	3,625	3,929	4,101	3,900	3,819	3,889	4,024	4,017	3,944	3,668	3,792	3,650	3,638	3,553
UK	621	634	570	548	514	521	531	521	508	459	477	439	462	449
Germany	978	1,052	1,048	940	857	812	787	767	775	720	759	731	745	760
France	423	474	455	346	344	365	370	353	349	333	340	310	312	316
Italy	289	328	355	389	401	420	456	441	429	384	392	384	367	338
Europe non-OECD	2,188	2,460	3,293	3,940	2,635	2,377	2,471	2,591	2,642	2,404	2,537	2,673	2,606	2,573
Former Soviet Union	1,942	2,189	2,936	3,606	2,400	2,164	2,232	2,344	2,397	2,181	2,318	2,435	2,384	2,370
Russia	N.A.	N.A.	N.A.	2,163	1,548	1,474	1,482	1,533	1,554	1,440	1,529	1,604	1,551	1,543
Africa	249	285	398	529	576	658	858	909	968	956	999	1,001	1,054	1,075
South Africa	157	178	208	244	260	281	372	391	423	399	409	395	408	420
Middle East	96	124	303	535	744	886	1,154	1,281	1,366	1,436	1,496	1,548	1,615	1,647
Iran	39	52	88	171	244	312	418	480	487	504	498	509	516	526
Saudi Arabia	13	18	99	151	192	235	298	333	364	379	419	435	463	472
Asia	2,067	2,360	3,139	4,710	6,141	6,924	9,562	10,813	10,900	11,298	12,055	13,521	13,850	14,459
China	831	920	1,436	2,184	2,998	3,259	5,360	6,276	6,338	6,618	7,095	8,420	8,519	8,977
Japan	751	897	870	1,049	1,122	1,157	1,196	1,221	1,137	1,076	1,126	1,178	1,217	1,235
Hong Kong	9.2	9.6	14.6	33.3	36.5	40.3	41.3	44.0	42.9	46.2	42.0	45.6	45.1	46.1
Taiwan	29.8	38.1	71.4	111	154	214	254	264	253	240	256	255	247	249
South Korea	52.9	68.2	126	232	357	432	458	477	489	502	551	574	575	572
Singapore	6.06	8.12	12.65	28.96	37.57	42.12	37.86	39.37	39.30	40.28	44.22	46.68	46.14	46.56
Brunei	0.400	0.680	2.64	3.26	4.50	4.42	4.82	6.84	7.22	7.43	6.86	7.01	6.97	6.85
Indonesia	25.2	32.1	67.6	134	204	258	322	358	355	370	383	390	416	425
Malaysia	12.8	13.0	23.7	49.2	78.9	114	155	177	189	169	188	190	191	207
Philippines	23.0	27.3	33.3	38.0	57.2	68.1	71.5	69.0	71.2	71.5	77.1	77.7	80.4	89.6
Thailand	16.2	20.7	33.7	80.9	140	152	200	209	215	207	223	222	239	247
India	182	189	264	534	708	892	1,086	1,266	1,342	1,513	1,597	1,660	1,780	1,869
Vietnam	16.3	17.6	14.9	17.4	27.5	44.2	79.1	89.8	101	112	126	127	127	130
Oceania	157	174	223	281	309	364	405	419	422	425	415	415	418	419
Australia	143	158	207	260	285	335	371	386	389	394	385	385	387	389
New Zealand	13.5	16.7	16.5	21.7	23.9	29.0	33.7	32.5	33.5	30.4	30.3	29.7	31.2	30.7
OECD34	9,342	10,288	10,582	11,006	11,496	12,447	12,816	12,907	12,573	11,819	12,306	12,132	11,990	12,038
Non-OECD	4,130	4,647	6,638	8,987	9,261	10,021	13,229	14,779	15,195	15,446	16,406	18,012	18,405	19,053
EU 28	N.A.	N.A.	N.A.	4,024	3,807	3,782	3,916	3,868	3,790	3,499	3,611	3,465	3,425	3,340
EU 15	N.A.	N.A.	N.A.	3,038	3,008	3,082	3,188	3,121	3,060	2,822	2,906	2,763	2,751	2,692
Euro zone 19	N.A.	N.A.	N.A.	2,549	2,480	2,549	2,659	2,605	2,561	2,367	2,434	2,334	2,303	2,258
APEC 20	N.A.	N.A.	N.A.	11,935	12,943	14,201	16,767	17,922	17,764	17,446	18,458	19,843	19,790	20,429
ASEAN 9	105	123	194	356	558	695	883	963	989	988	1,062	1,073	1,124	1,171
Bunker	523	579	559	630	721	854	1,003	1,097	1,104	1,056	1,127	1,149	1,096	1,099
World	13,995	15,515	17,780	20,623	21,478	23,322	27,048	28,783	28,871	28,322	29,838	31,293	31,491	32,190

Note:
For the figures in the shadowed columns, the values are calculated by summing CO2 emissions of each country in the group, as the source data do not pertain the same group.

Source: "CO_2 Emissions from Fuel Combustion 2015 Edition," IEA.

2.04 Trends in carbon dioxide emissions by energy use in major countries and regions

CO_2 emissions per person in the world (Unit: t-CO_2 / person)

	1971	1973	1980	1990	1995	2000	2005	2007	2008	2009	2010	2011	2012	2013
North America	20.2	21.6	19.9	18.8	18.7	19.7	19.0	18.7	17.9	16.5	17.1	16.6	15.9	16.1
USA	20.7	22.1	20.2	19.2	19.0	20.0	19.3	18.9	18.1	16.7	17.3	16.7	16.0	16.2
Canada	15.5	16.7	17.2	15.1	15.3	16.8	16.6	16.9	16.2	15.0	15.2	15.3	15.1	15.3
Latin America	1.56	1.73	2.03	1.90	2.03	2.25	2.33	2.41	2.49	2.42	2.56	2.60	2.68	2.73
Mexico	1.75	2.06	2.91	2.98	3.02	3.41	3.56	3.69	3.58	3.51	3.62	3.70	3.71	3.82
Brazil	0.89	1.09	1.37	1.23	1.41	1.67	1.67	1.74	1.81	1.68	1.90	1.98	2.12	2.26
Chile	2.16	1.99	1.92	2.23	2.57	3.16	3.35	3.80	3.97	3.79	4.01	4.36	4.43	4.65
Peru	1.13	1.13	1.18	0.88	0.97	1.02	1.03	1.09	1.23	1.30	1.40	1.49	1.47	1.50
Europe	7.81	8.44	9.30	9.29	7.54	7.26	7.44	7.52	7.46	6.85	7.11	7.07	6.95	6.80
Europe OECD	8.08	8.63	8.66	7.80	7.46	7.45	7.49	7.39	7.21	6.67	6.86	6.57	6.52	6.34
UK	11.1	11.3	10.1	9.57	8.85	8.85	8.79	8.50	8.22	7.37	7.59	6.93	7.24	7.00
Germany	12.5	13.3	13.4	11.9	10.5	9.9	9.54	9.32	9.44	8.80	9.28	8.94	9.09	9.25
France	8.07	8.89	8.25	5.93	5.78	5.99	5.86	5.52	5.43	5.16	5.23	4.75	4.75	4.79
Italy	5.35	5.99	6.29	6.86	7.05	7.38	7.84	7.51	7.24	6.44	6.55	6.40	6.08	5.58
Europe non-OECD	7.39	8.15	10.3	11.5	7.66	6.96	7.35	7.73	7.87	7.15	7.52	7.88	7.66	7.54
Former Soviet Union	7.97	8.81	11.1	12.54	8.28	7.52	7.86	8.25	8.42	7.63	8.08	8.42	8.22	8.14
Russia	N.A.	N.A.	N.A.	14.62	10.46	10.03	10.36	10.80	10.94	10.14	10.77	11.22	10.84	10.79
Africa	0.67	0.73	0.84	0.85	0.81	0.82	0.94	0.95	0.99	0.95	0.97	0.95	0.97	0.97
South Africa	6.95	7.54	7.56	6.93	6.64	6.38	7.86	8.04	8.58	7.98	8.05	7.66	7.79	7.91
Middle East	1.49	1.80	3.43	4.22	5.19	5.53	6.39	6.74	7.00	7.18	7.31	7.40	7.56	7.57
Iran	1.32	1.68	2.27	3.04	4.04	4.74	5.95	6.68	6.71	6.85	6.69	6.75	6.76	6.79
Saudi Arabia	2.09	2.64	10.10	9.32	10.3	11.6	12.1	12.9	13.8	14.2	15.4	15.7	16.4	16.4
Asia	1.01	1.11	1.29	1.60	1.94	2.04	2.66	2.94	2.94	3.01	3.18	3.54	3.59	3.71
China	0.99	1.04	1.46	1.92	2.50	2.59	4.12	4.75	4.80	4.98	5.30	6.28	6.31	6.60
Japan	7.15	8.24	7.43	8.49	8.95	9.12	9.36	9.54	8.88	8.41	8.79	9.21	9.54	9.70
Hong Kong	2.28	2.27	2.88	5.84	5.93	6.05	6.07	6.37	6.16	6.63	5.98	6.45	6.30	6.41
Taiwan	1.99	2.45	3.99	5.45	7.21	9.62	11.1	11.5	11.0	10.4	11.1	11.0	10.6	10.6
South Korea	1.61	2.00	3.29	5.41	7.92	9.18	9.50	9.8	10.0	10.2	11.2	11.5	11.5	11.4
Singapore	2.87	3.70	5.24	9.50	10.66	10.46	8.87	8.58	8.12	8.08	8.71	9.00	8.69	8.62
Brunei	2.93	4.63	13.67	12.68	15.26	13.33	13.10	17.96	18.61	18.86	17.11	17.23	16.91	16.39
Indonesia	0.22	0.26	0.47	0.75	1.05	1.24	1.44	1.55	1.52	1.56	1.59	1.60	1.69	1.70
Malaysia	1.14	1.11	1.71	2.70	3.81	4.87	5.98	6.59	6.92	6.06	6.66	6.60	6.55	6.97
Philippines	0.62	0.70	0.70	0.61	0.82	0.88	0.83	0.78	0.79	0.78	0.83	0.82	0.83	0.91
Thailand	0.43	0.52	0.71	1.43	2.37	2.44	3.05	3.17	3.25	3.13	3.36	3.33	3.58	3.69
India	0.32	0.32	0.38	0.61	0.74	0.86	0.96	1.09	1.15	1.27	1.32	1.36	1.44	1.49
Vietnam	0.37	0.38	0.28	0.26	0.38	0.57	0.96	1.07	1.19	1.30	1.45	1.44	1.43	1.45
Oceania	9.8	10.5	12.4	13.7	14.2	15.8	16.6	16.6	16.4	16.2	15.7	15.5	15.3	15.1
Australia	10.9	11.6	14.0	15.1	15.8	17.5	18.3	18.4	18.2	18.1	17.4	17.2	16.9	16.7
New Zealand	4.71	5.62	5.24	6.45	6.48	7.50	8.13	7.68	7.83	7.04	6.93	6.75	7.06	6.89
OECD34	10.4	11.2	10.8	10.3	10.3	10.8	10.7	10.6	10.3	9.60	9.93	9.73	9.56	9.55
Non-OECD	1.44	1.55	1.92	2.14	2.03	2.03	2.50	2.72	2.77	2.78	2.91	3.16	3.18	3.25
EU 28	N.A.	N.A.	N.A.	8.42	7.87	7.76	7.89	7.73	7.55	6.95	7.15	6.84	6.75	6.57
EU 15	N.A.	N.A.	N.A.	8.30	8.07	8.15	8.20	7.93	7.73	7.10	7.29	6.90	6.85	6.68
Euro zone 19	N.A.	N.A.	N.A.	8.19	7.83	7.95	8.07	7.83	7.65	7.05	7.24	6.92	6.81	6.67
APEC 20	N.A.	N.A.	N.A.	5.22	5.36	5.59	6.35	6.68	6.59	6.42	6.73	7.20	7.13	7.30
ASEAN 9	0.378	0.422	0.562	0.832	1.17	1.35	1.60	1.70	1.72	1.70	1.81	1.80	1.87	1.92
World	3.72	3.97	4.01	3.91	3.78	3.83	4.17	4.34	4.30	4.17	4.34	4.50	4.47	4.52

Note:
For the figures in the shadowed columns, the values are calculated by dividing the total CO_2 emissions of each country in the group by total population of each country, as the source data do not pertain the same group.

Source: "CO_2 Emissions from Fuel Combustion 2015 Edition," IEA.

2.05 Carbon dioxide emissions by source in major countries and regions

(Unit: million t)

	Transport sector 1)		Bunker oil 2)		Energy conversion 3)		Industry 4)		Others 5)	
	1988	2005	1988	2005	1988	2005	1988	2005	1988	2005
Canada	128.3	160.2	6.1	4.4	107.0	191.2	102.8	90.9	89.9	106.2
Mexico	67.3	130.8	5.2	10.6	62.3	166.5	59.8	58.5	23.3	33.6
USA	1,237.6	1,813.3	109.1	134.2	1,780.2	2,743.6	951.9	636.0	697.9	624.0
Japan	156.7	249.2	40.8	40.3	333.3	512.9	251.9	268.2	127.0	183.9
South Korea	14.4	86.9	1.1	38.9	33.4	199.6	29.5	93.8	44.6	68.6
Australia	49.3	79.7	5.9	10.8	99.7	236.2	47.6	42.4	11.1	18.5
New Zealand	6.7	14.1	1.7	3.2	2.2	13.1	4.7	4.9	2.8	2.9
Austria	11.9	22.4	0.4	1.7	11.8	25.3	14.3	15.7	18.0	13.9
Belgium	16.1	26.2	8.9	28.5	41.9	28.9	34.9	25.5	33.7	31.1
Czech Republic	6.7	18.9	0.9	1.0	57.4	65.4	67.0	22.3	34.4	11.6
Denmark	9.1	13.3	3.0	5.2	26.8	22.8	8.3	5.1	18.8	6.3
Finland	8.4	13.3	2.3	2.9	20.9	24.7	14.8	12.3	11.5	5.2
France	89.7	134.5	18.4	26.0	135.2	72.0	120.3	78.2	119.6	103.8
Germany	130.2	158.5	19.6	28.3	443.0	363.7	234.5	118.5	252.9	172.8
Greece	9.6	22.1	5.0	11.5	19.6	50.1	10.6	9.4	5.9	14.1
Hungary	8.5	11.9	0.4	0.7	34.0	20.0	22.8	8.5	20.4	17.3
Iceland	0.5	0.7	0.1	0.6	0.0	0.0	0.5	0.8	0.7	0.7
Ireland	4.6	12.8	0.9	2.8	8.2	15.5	6.0	5.2	7.2	10.4
Italy	71.8	119.1	17.5	22.1	119.3	160.9	92.7	84.2	78.8	89.8
Luxembourg	1.3	7.0	0.2	1.3	1.8	1.3	7.4	1.6	1.5	1.4
Netherlands	22.4	34.6	32.4	64.7	49.4	71.9	35.7	40.3	46.3	36.0
Norway	8.6	13.8	1.6	3.0	3.4	12.2	10.9	7.3	5.5	3.7
Poland	28.1	34.9	2.9	2.0	240.3	172.2	68.1	37.8	82.8	50.8
Portugal	6.9	19.3	2.3	4.0	6.5	27.6	7.9	9.5	2.8	6.6
Slovakia	3.7	6.5	0.0	0.1	18.4	15.9	20.1	9.6	16.1	6.3
Spain	45.5	110.7	7.8	34.7	70.4	129.3	53.7	64.5	19.9	37.3
Sweden	17.0	22.9	3.2	8.1	10.6	11.7	20.1	11.8	26.6	4.7
Switzerland	10.5	16.7	2.1	3.7	1.3	2.7	8.7	6.5	19.3	19.1
Turkey	16.8	37.9	0.1	6.7	16.5	81.1	20.9	57.1	17.3	42.9
UK	90.5	129.1	16.6	43.5	257.8	232.8	104.7	63.5	119.9	104.5
North America	1,433.2	2,104.3	120.4	149.2	1,949.5	3,101.3	1,114.6	785.4	811.1	763.9
Europe (OECD members)	618.4	987.1	146.3	302.9	1,594.2	1,607.7	984.8	694.8	959.8	790.4
EU-15	535.1	845.8	138.3	285.2	1,223.0	1,238.3	765.6	545.0	763.4	637.8
OECD countries	2,278.7	3,521.3	316.3	545.3	4,012.2	5,670.9	2,433.1	1,889.4	1,956.5	1,828.2
Brazil	72.5	137.1	2.0	14.3	20.0	58.6	68.2	99.5	17.4	34.1
Russia	..	206.0	..	31.7	..	933.9	..	221.9	..	182.0
India	55.5	97.5	4.3	10.5	99.2	694.8	90.8	243.4	46.7	111.8
Indonesia	17.7	73.9	1.5	3.4	11.9	135.1	21.7	93.3	17.8	38.7
China *	82.9	337.3	7.0	63.1	360.5	2,700.5	653.5	1,594.6	321.2	468.2
South Africa	25.3	42.9	6.1	10.7	103.4	210.5	73.0	51.2	13.0	25.7
Europe (Non-OECD members)	26.8	45.1	3.0	7.7	120.0	140.1	136.0	48.6	77.3	28.9
Africa	83.3	181.6	26.0	35.1	156.9	405.1	123.4	140.2	47.4	108.1
Asia	127.6	407.5	35.5	149.0	212.5	1,303.1	260.7	634.9	116.8	245.5
Former Soviet Union	278.6	279.3	87.4	37.1	1,283.1	1,280.5	904.2	390.5	597.4	352.2
South America	181.0	324.4	25.9	45.6	145.6	262.9	155.8	238.8	64.5	111.5
Middle East	78.5	281.5	46.3	76.1	113.5	544.1	99.9	247.1	48.9	165.5
Non-OECD countries	858.6	1,856.7	231.1	413.7	2,392.0	6,636.4	2,333.4	3,294.6	1,273.4	1,479.9
World	3,684.7	6,337.0	547.4	959.1	6,404.2	12,307.2	4,766.5	5,184.0	3,229.9	3,308.1

Notes:

・ Published data indicate anthropogenic emission of carbon dioxide only by energy use.
Emissions from the use of bunker oil for international navigation and aviation are excluded (except for "world").
Emission from the use of biomass fuel are excluded. Peat is included.

・China* includes Hong Kong.

1. Regardless of the modes, emissions caused by fuel combustion from every transporting activities are included. However, bunker oil for international navigation and aviation are excluded;
It means to include domestic air, domestic marine transport, road transport, railway transport, and pipeline transport. "World" includes bunker oil for domestic navigation as well as international aviation.
2. Bunker oil for international navigation and aviation.
3. Power plants, heat supply plant, and oil refining.
4. Manufacturing industry and constructing industry. Excludes oil refining.
5. Emissions from commerce, public, agriculture, forestry, fishery, residence and other unidentified emission sources.

Source: "OECD Environmental Data Compendium"

2.06 Atmospheric concentrations and anthropogenic emission of CO2

	Annual average concentration of CO2 (ppm)	Anthropogenic emissions of CO2					
		Total (million t-CO2)	Shares by emissions source (%)				
			Solid fuel	Liquid fuel	Natural gas	Flare gas	Cement manufacturing
1950	-	5,977	65.6	25.9	5.9	1.4	1.1
1955	-	7,487	59.1	30.6	7.3	1.5	1.5
1960	316.9	9,420	54.9	33.1	8.8	1.5	1.7
1965	320.0	11,477	46.6	38.9	10.8	1.8	1.9
1970	325.7	14,861	38.4	45.4	12.2	2.1	1.9
1971	326.3	15,429	37.0	46.3	12.6	2.1	2.0
1972	327.5	16,045	36.0	47.0	12.8	2.2	2.0
1973	329.7	16,918	34.3	48.6	12.7	2.4	2.1
1974	330.2	16,951	34.1	48.6	12.9	2.3	2.1
1975	331.1	16,852	36.4	46.4	13.1	2.0	2.1
1976	332.1	17,835	35.1	47.6	12.9	2.2	2.1
1977	333.8	18,392	35.0	47.8	13.0	2.1	2.2
1978	335.4	18,605	35.1	47.1	13.4	2.1	2.3
1979	336.8	19,642	35.0	47.5	13.5	1.8	2.2
1980	338.8	19,437	36.5	45.7	13.9	1.6	2.3
1981	340.0	18,839	37.1	44.6	14.7	1.3	2.4
1982	340.8	18,678	38.8	43.1	14.5	1.3	2.4
1983	342.4	18,608	39.0	42.9	14.6	1.1	2.5
1984	344.0	19,279	39.4	41.8	15.3	1.0	2.4
1985	345.5	19,862	40.9	40.4	15.4	0.9	2.4
1986	346.9	20,471	40.8	41.1	14.9	0.8	2.5
1987	348.6	20,992	40.9	40.3	15.6	0.8	2.5
1988	351.2	21,765	40.2	40.6	15.8	0.8	2.6
1989	352.8	22,242	40.0	40.5	16.2	0.7	2.6
1990	354.0	22,352	39.1	40.9	16.8	0.7	2.6
1991	355.3	22,627	37.5	42.2	17.0	0.7	2.6
1992	356.0	22,403	38.0	40.9	17.7	0.6	2.7
1993	356.7	22,381	37.1	41.2	18.3	0.6	2.9
1994	358.2	22,763	37.3	40.8	18.3	0.6	3.0
1995	360.0	23,261	37.8	40.3	18.2	0.6	3.1
1996	361.8	23,800	37.3	40.5	18.5	0.6	3.1
1997	362.9	24,160	37.1	41.0	18.1	0.6	3.2
1998	365.6	24,094	35.7	42.0	18.6	0.5	3.2
1999	367.6	24,050	35.2	41.8	19.2	0.5	3.3
2000	368.9	24,666	34.6	42.3	19.1	0.7	3.4
2001	370.4	25,249	35.5	41.3	19.1	0.7	3.4
2002	372.4	25,469	35.5	40.8	19.4	0.7	3.6
2003	375.0	27,012	36.6	40.2	18.9	0.7	3.7
2004	376.8	28,362	37.5	39.4	18.6	0.7	3.9
2005	378.8	29,425	38.6	38.2	18.4	0.7	4.0
2006	380.9	30,459	39.3	37.2	18.4	0.7	4.3
2007	382.7	31,123	39.8	36.5	18.4	0.8	4.5
2008	384.8	32,039	40.4	35.8	18.6	0.8	4.4
2009	386.3	31,684	40.7	35.5	18.3	0.7	4.8
2010	388.6	33,502	41.5	34.2	18.6	0.7	4.9
2011	390.5	34,863	42.4	33.2	18.5	0.7	5.2
2012	392.5	35,460	42.2	33.2	18.5	0.7	5.4
2013	395.2	35,845	42.3	32.9	18.5	0.7	5.7
2014	397.2	-	-	-	-	-	-
2015	399.4	-	-	-	-	-	-

Notes:

・ The standard observation point: Mauna Loa Island, Hawaii. (19. 32 north latitude and 155. 35 west longitude.)

・ For annual average CO2 concentration, refer to the website (http://www.esrl.noaa.gov/gmd/ccgg/trends/) of NOAA Earth System Research Laboratory (NOAA / ESRL).

・ ppm : One-millionth for dry air (by volume)

・ For anthropogenic emission of CO2, refer to the website (http://cdiac.ornl.gov/trends/emis/meth_reg.html) of The Carbon Dioxide Information Analysis Center (CDIAC), Oak Ridge National Laboratory (ORNL).

・ Shares by emission source are estimates based on emissions by source, using the data from the Carbon Dioxide Information Analysis Center (CDIAC) of Oak Ridge National Laboratory.

・ For 2014 and 2015, data of "Anthropogenic emissions of CO2" were not disclosed to the public as of June 2, 2016.

Source: Compiled by MOE based on the data from NOAA/ESRL and data from the Carbon Dioxide Information Analysis Center (CDIAC) of Oak Ridge National Laboratory

2.07 Emissions of greenhouse gasses in major countries and regions (2005)

(Unit : 1,000 t-CO2)

	Carbon dioxide (CO2)	Methane (CH4)	Nitrous oxide (N2O)	Hydro fluorocarbons (HFCs)	Perfluorocarbons (PFCs)	Sulfur hexafluoride (SF6)	Total 1)
Canada	583,379	109,233	43,837	4,844	3,078	2,518	746,889
Mexico *	393,532	142,919	12,033	4,425	405	15	553,329
USA	6,089,490	527,717	461,267	140,066	6,107	16,835	7,241,482
Japan	1,293,469	24,071	25,450	7,138	5,673	4,114	1,359,914
South Korea *	510,671	25,788	18,129	7,687	2,501	17,418	582,194
Australia *	384,161	111,108	23,799	4,252	1,567	521	525,408
New Zealand	35,880	27,175	13,260	742	81	22	77,159
Austria	79,650	7,057	5,256	912	118	287	93,280
Belgium	123,329	7,833	11,049	1,454	141	43	143,848
Czech Republic	125,932	10,950	8,039	594	10	86	145,611
Denmark	50,426	5,636	7,044	805	14	22	63,947
Finland	57,011	4,487	6,850	864	10	20	69,241
France	416,610	56,742	70,819	11,060	1,801	1,360	558,392
Germany	872,943	47,632	66,079	9,363	718	4,740	1,001,476
Greece	111,668	8,492	13,095	5,911	72	4	139,242
Hungary	61,808	7,777	9,707	518	209	201	80,219
Iceland	2,872	416	309	77	26	5	3,705
Ireland	47,292	13,102	8,850	431	174	96	69,945
Italy	493,372	39,721	40,366	5,267	361	460	579,548
Luxembourg	11,874	349	428	83	..	4	12,738
Netherlands	175,905	16,711	17,562	1,354	265	337	212,134
Norway	43,149	4,600	4,781	482	829	312	54,153
Poland	326,511	38,308	31,099	2,750	261	24	398,952
Portugal	67,918	11,147	6,072	391	..	10	85,538
Slovakia	39,757	4,155	3,743	175	20	17	47,866
Spain	368,282	37,269	29,571	5,011	244	272	440,649
Sweden	52,569	5,613	7,558	777	296	142	66,955
Switzerland	45,966	3,518	3,260	639	56	196	53,636
Turkey *	256,326	49,317	3,432	2,379	..	859	312,312
United Kingdom	557,546	49,492	39,643	9,221	351	1,143	657,396
North America *	6,672,900	636,900	505,100	144,900	9,200	19,400	7,988,400
Europe * (OECD members)	4,388,700	430,300	394,600	60,500	6,000	10,600	5,290,800
EU-15 *	3,486,400	311,300	330,200	52,900	4,600	8,900	4,194,300
OECD countries *	12,775,100	1,229,600	962,200	217,600	22,500	34,600	15,241,600

Notes:

Mexico: Figure as of year 2002.

Korea: National data of year 2003.

Denmark: Excludes Faroe Islands and Greenland.

France: Metropolitan France and French overseas territories

Turkey: National data.

Total: Estimated aggregation of North America, Europe, EU-15, OECD countries, excluding Mexico and South Korea.

1. Does not include emissions caused by change of land use and woodlands.

Source: "OECD Environmental Data Compendium"

2.08 Penetration rate of major consumer durables (general households)

(Unit : %)

Survey time \ Durables	Toilet seat with a warm-water shower feature	Bathroom vanity with a shampoo bowl	Built-in kitchen	Water heater	Cloth dryer	Washer integrated	Others(including bathroom dryer)	Dishwasher	Fan heater	Air conditioner	Air purifier		Color TV	
													CRT TV	Thin-type (LCD, plasma)
1959.2														
1960.2														
1961.2										*0.4*				
1962.2										*0.7*				
1963.2										*1.3*				
1964.2										*1.7*				
1965.2										*2.0*				
1966.2										2.0		0.3		
1967.2										2.8		1.6		
1968.2										3.9		5.4		
1969.2										4.7		13.9		
1970.2										5.9		26.3		
1971.2										7.7		42.3		
1972.2										9.3		61.1		
1973.2										12.9		75.8		
1974.2										12.4		85.9		
1975.2										17.2		90.3		
1976.2										19.5		93.7		
1977.2										25.7		95.4		
1978.3										29.9		97.7		
1979.3										35.5		97.8		
1980.3										39.2		98.2		
1981.3										41.2		98.5		
1982.3										42.2		98.9		
1983.3				21.0	5.4				18.5	49.6		98.8		
1984.3				22.5	7.8				22.3	49.3		99.2		
1985.3				24.2	9.3				28.7	52.3		99.1		
1986.3				24.8	9.7				33.2	54.6		98.9		
1987.3				26.5	11.0				37.1	57.0		98.7		
1988.3				31.1	12.7				40.4	59.3		99.0		
1989.3				33.4	14.4				45.4	63.3		99.3		
1990.3				34.8	14.9				48.0	63.7		99.4		
1991.3				37.0	15.8				53.6	68.1		99.3		
1992.3	14.2	26.2	24.4	30.0	16.6				55.6	69.8		99.0		
1993.3	17.6	29.9	26.3	31.1	18.1				56.4	72.3		99.1		
1994.3	21.3	29.7	26.8	30.4	20.1				59.0	74.2		99.0		
1995.3	23.6	30.8	28.2	30.4	19.4				59.2	77.2		98.9		
1996.3	26.3	32.0	29.3	30.3	19.8				61.0	77.2		99.1		
1997.3	30.3	37.3	33.7	30.8	20.8				61.9	79.3		99.2		
1998.3	33.9	38.4	34.1	31.7	20.9				61.9	81.9		99.2		
1999.3	36.5	40.3	35.5	32.5	20.8				62.6	84.4		98.9		
2000.3	41.0	43.9	39.9	33.4	21.7				63.7	86.2		99.0		
2001.3	43.2	46.7	40.8	33.0	21.7				64.2	86.2		99.2		
2002.3	47.1	48.5	42.9	36.0	22.8				65.6	87.2		99.3		
2003.3	51.7	51.5	46.2	35.3	22.7				66.9	88.8		99.4		
2004.3	53.0	52.6	46.5	35.3	22.4				67.5	87.1		99.0		
2005.3	59.7	57.4	49.6	50.7	25.9			21.6	68.8	87.0		99.3	97.4	11.5
2006.3	62.7	58.0	50.8	50.9	27.3			24.4	67.5	88.2		99.4	96.2	19.8
2007.3	65.3	61.4	54.2	49.0	28.6			25.8	66.2	88.6	35.8	99.5	92.9	29.4
2008.3	68.3	63.3	57.8	52.3	31.1			27.4	64.4	89.0	37.1	99.7	88.3	43.9
2009.3	69.1	64.1	59.2	52.7	29.2			28.8	65.0	87.9	35.7	99.4	83.5	54.9
2010.3	71.6	66.4	59.0	54.9	30.1			29.7	65.6	89.0	36.6	99.5	71.6	69.2
2011.3	70.9	66.8	60.7	55.8	29.8			29.4	63.0	89.2	38.8	99.6	47.3	87.9
2012.3	73.5	68.9	63.2	58.0	32.2			28.7	64.4	90.0	40.0	99.4	24.5	95.2
2013.3	74.0	70.3	64.1	57.1	31.7			30.6	61.7	90.5	43.5	99.3	19.0	96.4
2014.3	76.0	70.4	66.3	56.5	55.2			30.9	59.9	90.6	42.3	96.5	-	96.5
2015.3	77.5	71.5	68.6	58.9	58.3			32.6	59.1	91.2	44.4	97.5	-	97.5
2016.3	81.2	74.4	71.4	62.2	59.1	45.1	26.5	34.4	58.5	92.5	44.3	98.1	-	98.1

Water heater includes solar water heater after Mar. 1988.

Prior to Feb 1974, it was "Cooler".

Notes:

1. Shaded figures in italic are data among non-farmers and are only in cities 1963 or before.
2. As of the end of fiscal year (end of March). Up to 1978, as of end of February, since survey was not conducted in March until 1978.
3. Since Starting in FY 2013, survey methods have been were changed. For detailed information on the change, please refer to the web site at http://www.esri.cao.go.jp/jp/stat/shouhi/yuusouka2.html "Information regarding changes of the survey after 2013 April. Before the changes of the survey, preliminary investigation was conducted. For detailed information of the preliminary investigation, please refer to "Consumer Confidence Survey (Preliminary investigation)" at http ww.esri.cao.go.jp/jp/stat/shouhi/shiken2012/shikenchousa.html.)
4. Since March, 2014, cloth dryer was segmentalized into washer integrated-type machine and others including the ones equipped with the bathroom drying machine.
5. Survey on TV sets with CRT was discontinued at March, 2013

Source: "Consumer Confidence Survey (National Index)," Economic Statistics Division, Economic and Social Research Institute, Cabinet Office.

2.08 Penetration rate of major consumer durables (general households)

(Unit : %)

Durables / Survey time	Video camera	Digital	Optical disk player and recorder	DVD player (playback only)	DVD recorder (playback/recording)	DVD (player/recorder)	Blu-ray (player/recorder)	PC	FAX	Cell phone	Smart-phone	Others	Car	Car: New when purchased	Car: Used when purchased
1959.2															
19602	*2.4*														
1961.2	*2.8*												*2.8*		
1962.2	*3.8*												*5.1*		
1963.2	*4.7*												*6.1*		
1964.2	3.2												*6.0*		
1965.2	3.4												*9.2*		
1966.2	4.0												12.1		
1967.2	4.1												9.5		
1968.2	5.1												13.1		
1969.2													17.3		
1970.2													22.1		
1971.2													26.8		
1972.2													30.1		
1973.2													36.7		
1974.2	7.1												39.8		
1975.2	7.9												41.2		
1976.2	9.0												44.0		
1977.2	10.1												48.7		
1978.3	8.6												51.7		
1979.3	9.3												54.6		
1980.3	8.6												57.2		
0981.3	9.0												58.5		
1982.3	8.8												62.0		
1983.3	8.2												62.9	31.0	36.2
1984.3	8.8												64.8	33.8	36.2
1985.3	8.4												67.4	37.5	35.4
1986.3	8.5												67.4	38.5	34.2
1987.3	10.4							11.7					70.6	40.5	36.3
1988.3	11.3							9.7					71.9	40.5	38.2
1989.3	14.9							11.6					76.0	45.5	39.2
1990.3	15.6							10.6					77.3	44.8	40.9
1991.3	23.7							11.5					79.5	48.7	39.9
1992.3	26.0							12.2	5.5				78.6	46.8	41.7
1993.3	25.6							11.9	6.7				80.0	46.7	42.8
1994.3	29.9							13.9	7.6				79.7	47.6	41.9
1995.3	31.3							15.6	10.0				80.0	47.0	42.2
1996.3	32.3							17.3	12.9				80.1	46.6	43.9
1997.3	33.6							22.1	17.5				82.6	48.1	44.5
1998.3	35.0							25.2	22.2				83.1	48.4	45.2
1999.3	36.3							29.5	26.4				82.5	48.0	45.4
2000.3	37.9							38.6	32.9				83.6	49.7	44.5
2001.3	36.8							50.1	35.5				85.3	51.1	45.3
2002.3	37.2	22.7	19.3					57.2	39.3	78.6			84.4	50.9	45.7
2003.3	39.1	32.0	25.3					63.3	42.8	83.3			86.4	52.0	47.5
2004.3	42.0	51.8	35.4					65.7	45.6	85.1			86.0	54.4	43.1
2005.3	39.6	46.2	49.0	28.8	28.7			64.6	49.7	82.0			81.6	48.2	44.9
2006.3	40.2	53.7	61.1	32.5	40.0			68.3	56.7	85.3			83.9	51.1	44.9
2007.3	41.2	58.9	65.1	34.5	43.2			71.0	57.7	88.0			83.9	67.1	30.9
2008.3	41.4	66.0	71.7	38.3	48.7			73.1	59.0	90.5			85.1	70.7	29.1
2009.3	41.0	69.2	73.1	38.7	51.2			73.2	58.0	90.2			83.2	67.8	29.9
2010.3	40.0	71.5	69.5	38.6	46.2		15.2	74.6	57.7	92.4			83.3	67.3	30.2
2011.3	39.9	73.3	72.8	38.0	45.4		27.1	76.0	56.4	92.9			82.7	64.9	31.9
2012.3	40.2	76.3	75.3	35.6	44.3		35.7	77.3	58.6	94.5			84.2	67.3	31.9
2013.3	41.5	77.0	77.7	34.8	45.1		39.0	78.0	57.8	95.0			84.1	66.5	30.8
2014.3	40.1	76.5	71.3	-	-	56.4	39.7	78.7	57.4	93.2	54.7	73.7	81.0	65.1	28.8
2015.3	39.1	75.2	73.8	-	-	56.3	43.5	78.0	56.2	94.4	60.6	69.8	80.1	63.9	28.0
2016.3		75.6	75.9	-	-	57.2	46.6	79.1	56.1	95.3	67.4	64.3	81.8	64.8	30.1

Projector set, recording cameras 1974/Feb ~ 1990/March (including for VTR after 1983/March)

Photographic machine (1960/Feb.~1968/Feb.)

Projector set (1960/Feb ~ 1968/Feb), Projector set, recording cameras 1974/Feb ~ 1990/March (including for VTR after 1983/March)

Optical disk player and recorder excludes Blu-ray machines prior to 2009/Mar.

Excluding mobile phone with camera from 2005/March

Accessories come with car navigation system, PC, and games etc. are excluded.

Notes:

1. Shaded figures in italic are data among o non-farmers and are only in cities 1963 or before.
2. As of the end of fiscal year (end of March). Up to 1978, as of end of February, since survey was not conducted in March until 1978.
3. Since Starting in FY 2013, survey methods have been were changed. For detailed information on the change, please refer to the web site at http://www.esri.cao.go.jp/jp/stat/shouhi/yuusouka2.html "Information regarding changes of the survey after 2013 April. Before the changes of the survey, preliminary investigation was conducted. For detailed information of the preliminary investigation, please refer to "Consumer Confidence Survey (Preliminary investigation)" at http ww.esri.cao.go.jp/jp/stat/shouhi/shiken2012/shikenchousa.html.)
4. As more than one vehicles are owned in a household, the aggregated number of the registered units of automobiles is divided by the number of surveyed households and then multiply by 100.
5. Following changes were made starting in 2014 March survey: "DVD player" and "DVD recorder" were categorized under "DVD player/recorder." ; The "Cell phone" was divided into two categories: "Smart phone" and "Other than smart phone."
6. The names of breakdown items were changed from "New car" and "Used car" to "New when purchased" and "Used when purchased" starting in 2005 March survey.

Source: "Consumer Confidence Survey (National Index)," Economic Statistics Division, Economic and Social Research Institute, Cabinet Office.

2.09 Anomalies of annual average land temperature in the World and Japan

Anomalies of annual average land temperature of the World.

(Unit : ℃)

Year	World	Northern Hemisphere	Southern Hemisphere	Year	World	Northern Hemisphere	Southern Hemisphere
1891	-0.63	-0.68	-0.59	1956	-0.56	-0.61	-0.53
1892	-0.71	-0.80	-0.62	1957	-0.28	-0.32	-0.25
1893	-0.75	-0.87	-0.63	1958	-0.22	-0.19	-0.28
1894	-0.70	-0.73	-0.68	1959	-0.29	-0.30	-0.30
1895	-0.68	-0.75	-0.60	1960	-0.33	-0.32	-0.36
1896	-0.47	-0.53	-0.42	1961	-0.23	-0.25	-0.24
1897	-0.49	-0.53	-0.45	1962	-0.21	-0.19	-0.26
1898	-0.66	-0.65	-0.68	1963	-0.18	-0.16	-0.23
1899	-0.56	-0.58	-0.55	1964	-0.49	-0.50	-0.49
1900	-0.49	-0.48	-0.51	1965	-0.42	-0.48	-0.37
1901	-0.58	-0.55	-0.63	1966	-0.35	-0.33	-0.39
1902	-0.70	-0.75	-0.66	1967	-0.35	-0.32	-0.42
1903	-0.77	-0.78	-0.77	1968	-0.37	-0.37	-0.39
1904	-0.84	-0.88	-0.79	1969	-0.27	-0.38	-0.14
1905	-0.70	-0.72	-0.68	1970	-0.29	-0.36	-0.22
1906	-0.60	-0.59	-0.62	1971	-0.41	-0.48	-0.33
1907	-0.78	-0.85	-0.70	1972	-0.29	-0.49	-0.06
1908	-0.82	-0.84	-0.82	1973	-0.16	-0.26	-0.05
1909	-0.82	-0.84	-0.81	1974	-0.44	-0.54	-0.34
1910	-0.79	-0.78	-0.80	1975	-0.39	-0.42	-0.35
1911	-0.82	-0.79	-0.85	1976	-0.48	-0.58	-0.36
1912	-0.73	-0.83	-0.61	1977	-0.19	-0.25	-0.12
1913	-0.70	-0.79	-0.60	1978	-0.28	-0.34	-0.21
1914	-0.53	-0.57	-0.49	1979	-0.16	-0.25	-0.07
1915	-0.43	-0.47	-0.40	1980	-0.13	-0.22	-0.05
1916	-0.64	-0.70	-0.59	1981	-0.09	-0.05	-0.13
1917	-0.71	-0.77	-0.64	1982	-0.21	-0.29	-0.13
1918	-0.55	-0.61	-0.48	1983	-0.06	-0.13	0.02
1919	-0.58	-0.68	-0.45	1984	-0.24	-0.36	-0.13
1920	-0.51	-0.56	-0.46	1985	-0.26	-0.40	-0.11
1921	-0.43	-0.39	-0.52	1986	-0.17	-0.25	-0.09
1922	-0.56	-0.56	-0.58	1987	-0.01	-0.10	0.08
1923	-0.54	-0.54	-0.55	1988	-0.03	-0.06	-0.01
1924	-0.55	-0.53	-0.60	1989	-0.10	-0.12	-0.09
1925	-0.46	-0.42	-0.52	1990	0.04	0.08	0.00
1926	-0.36	-0.33	-0.42	1991	-0.02	-0.06	0.00
1927	-0.47	-0.43	-0.54	1992	-0.17	-0.25	-0.09
1928	-0.47	-0.47	-0.50	1993	-0.15	-0.22	-0.06
1929	-0.60	-0.62	-0.59	1994	-0.07	-0.07	-0.08
1930	-0.38	-0.33	-0.46	1995	0.01	0.06	-0.04
1931	-0.34	-0.31	-0.41	1996	-0.09	-0.15	-0.04
1932	-0.38	-0.38	-0.39	1997	0.09	0.10	0.07
1933	-0.53	-0.57	-0.50	1998	0.22	0.24	0.19
1934	-0.37	-0.37	-0.39	1999	0.00	0.03	-0.05
1935	-0.46	-0.45	-0.49	2000	0.00	0.02	-0.04
1936	-0.48	-0.43	-0.56	2001	0.12	0.14	0.10
1937	-0.37	-0.32	-0.46	2002	0.16	0.18	0.13
1938	-0.33	-0.26	-0.45	2003	0.16	0.20	0.10
1939	-0.37	-0.34	-0.46	2004	0.12	0.20	0.04
1940	-0.32	-0.39	-0.25	2005	0.17	0.26	0.08
1941	-0.26	-0.31	-0.21	2006	0.16	0.24	0.07
1942	-0.26	-0.31	-0.24	2007	0.12	0.24	0.00
1943	-0.23	-0.21	-0.31	2008	0.05	0.12	-0.02
1944	-0.11	-0.15	-0.11	2009	0.16	0.19	0.15
1945	-0.25	-0.33	-0.16	2010	0.20	0.28	0.12
1946	-0.40	-0.36	-0.52	2011	0.08	0.13	0.02
1947	-0.43	-0.43	-0.46	2012	0.15	0.21	0.09
1948	-0.40	-0.36	-0.50	2013	0.20	0.25	0.15
1949	-0.42	-0.40	-0.47	2014	0.27	0.38	0.17
1950	-0.49	-0.52	-0.47	2015	0.42	0.59	0.27
1951	-0.35	-0.31	-0.44				
1952	-0.29	-0.31	-0.30				
1953	-0.22	-0.18	-0.31				
1954	-0.45	-0.43	-0.52				
1955	-0.47	-0.42	-0.57				

Anomalies of annual average land temperature of Japan.

(Unit : ℃)

Year	Japan	Year	Japan
1891		1956	-0.74
1892		1957	-0.76
1893		1958	-0.29
1894		1959	0.12
1895		1960	-0.22
1896		1961	0.18
1897		1962	-0.37
1898	-0.73	1963	-0.64
1899	-0.81	1964	-0.29
1900	-1.06	1965	-0.99
1901	-1.03	1966	-0.53
1902	-1.03	1967	-0.47
1903	-0.76	1968	-0.64
1904	-0.86	1969	-0.79
1905	-0.95	1970	-0.75
1906	-1.32	1971	-0.68
1907	-1.21	1972	-0.14
1908	-1.44	1973	-0.30
1909	-1.13	1974	-0.91
1910	-1.22	1975	-0.35
1911	-0.70	1976	-0.87
1912	-1.12	1977	-0.41
1913	-1.59	1978	-0.16
1914	-0.20	1979	0.20
1915	-0.56	1980	-0.78
1916	-0.14	1981	-0.98
1917	-1.31	1982	-0.33
1918	-1.09	1983	-0.49
1919	-0.74	1984	-0.99
1920	-0.51	1985	-0.37
1921	-1.08	1986	-0.95
1922	-0.58	1987	-0.13
1923	-0.76	1988	-0.65
1924	-1.01	1989	0.16
1925	-0.94	1990	0.78
1926	-1.32	1991	0.25
1927	-0.93	1992	-0.11
1928	-0.62	1993	-0.52
1929	-0.87	1994	0.56
1930	-0.32	1995	-0.19
1931	-1.04	1996	-0.54
1932	-0.72	1997	0.10
1933	-0.64	1998	0.75
1934	-1.14	1999	0.49
1935	-0.76	2000	0.28
1936	-1.10	2001	-0.05
1937	-0.37	2002	0.29
1938	-0.54	2003	-0.06
1939	-0.68	2004	0.77
1940	-0.85	2005	-0.01
1941	-0.79	2006	0.20
1942	-0.67	2007	0.61
1943	-0.86	2008	0.22
1944	-1.09	2009	0.30
1945	-1.57	2010	0.61
1946	-0.36	2011	0.13
1947	-1.42	2012	0.04
1948	-0.08	2013	0.34
1949	-0.65	2014	0.14
1950	-0.29	2015	0.69
1951	-0.62		
1952	-0.74		
1953	-0.74		
1954	-0.53		
1955	-0.12		

Note: Anomaly, also known as the deviation from normal, is a value obtained by subtracting normal from average temperature. As normal, an average for 30 years from 1981 to 2010 is used.

Source: Compiled from the materials below.

World Meteorological Agency press release (updated on 2016/2/1)
http://www.data.jma.go.jp/cpdinfo/temp/list/an_wld.html

Japan Meteorological Agency press release (updated on 2016/1/29)
http://www.data.kishou.go.jp/climate/cpdinfo/temp/list/an_jpn.html

2.10 Shipping volume of CFC in Japan

Shipment volume of CFC (* ChloroFluorCarbon = CFC) (Unit : in ton)

	CFC-11						CFC-12					
	Refrigerant	Aerosol	Foaming agent	Detergent	Other	Total	Refrigerant	Aerosol	Foaming agent	Detergent	Other	Total
1985	2,139	4,283	18,295	200	291	25,208	18,834	7,059	8,269	0	149	34,311
1986	2,573	4,439	21,211	305	873	29,401	21,439	7,157	9,292	0	315	38,203
1987	2,802	4,511	25,609	503	806	34,231	22,716	7,042	11,004	0	178	40,940
1988	2,348	4,218	25,232	1,236	1,303	34,337	20,708	7,401	12,115	0	990	41,214
1989	3,051	3,807	23,541	1,156	930	32,485	24,880	6,585	9,606	0	335	41,406
1990	2,444	1,120	19,235	411	401	23,611	18,480	3,461	5,646	0	0	27,587
1991	2,156	653	17,286	713	158	20,966	15,495	2,544	2,825	81	501	21,446
1992	1,950	299	11,366	477	86	14,178	15,091	1,286	1,253	88	288	18,006
1993	2,305	93	8,557	531	14	11,500	20,109	1,016	261	75	249	21,710
1994	785	46	8,212	363	0	9,406	9,694	1,013	104	0	45	10,856
1995	493	299	6,850	23	88	7,753	4,678	423	101	0	174	5,376
1996	7	40	749	1	8	805	1,731	119	1	29	16	1,896
1997	7	95	189	0	17	308	484	172	0	0	16	672
1998	11	19	5	0	0	35	509	33	0	0	0	542
1999	0	34	7	0	4	45	58	62	0	0	5	125
2000	–	–	–	–	–	–	–	–	–	–	–	–
2001	–	–	–	–	–	–	–	–	–	–	–	–
2002	–	–	–	–	–	–	–	–	–	–	–	–
2003	–	–	–	–	–	–	–	–	–	–	–	–
2004	–	–	–	–	–	–	–	–	–	–	–	–
2005	–	–	–	–	–	–	–	–	–	–	–	–
2006	–	–	–	–	–	–	–	–	–	–	–	–
2007	–	–	–	–	–	–	–	–	–	–	–	–

	CFC-113						CFC-114					
	Refrigerant	Aerosol	Foaming agent	Detergent	Other	Total	Refrigerant	Aerosol	Foaming agent	Detergent	Other	Total
1985	155	143	197	54,749	1,544	56,788	130	131	1,382	0	10	1,653
1986	144	159	176	62,182	917	63,578	134	150	1,318	0	11	1,613
1987	130	171	251	76,707	2	77,261	117	542	1,871	0	0	2,530
1988	115	23	276	79,968	3	80,385	141	401	2,057	0	60	2,659
1989	108	227	210	82,927	19	83,491	161	588	1,975	0	14	2,738
1990	168	160	224	57,177	75	57,804	57	41	1,424	0	0	1,522
1991	70	81	246	50,371	0	50,768	179	24	1,465	0	1	1,669
1992	93	9	274	26,462	0	26,838	194	17	690	0	1	902
1993	72	9	31	11,655	34	11,801	193	15	246	0	1	455
1994	204	4	21	10,709	4	10,942	43	15	17	0	256	331
1995	13	0	48	11,654	52	11,767	22	19	5	0	191	237
1996	0	0	0	1,598	179	1,777	24	12	0	0	4	40
1997	0	0	0	281	22	303	0	55	0	0	0	55
1998	0	0	0	91	0	91	0	0	0	0	0	0
1999	0	0	0	14	1	15	0	0	0	0	0	0
2000	–	–	–	–	–	–	–	–	–	–	–	–
2001	–	–	–	–	–	–	–	–	–	–	–	–
2002	–	–	–	–	–	–	–	–	–	–	–	–
2003	–	–	–	–	–	–	–	–	–	–	–	–
2004	–	–	–	–	–	–	–	–	–	–	–	–
2005	–	–	–	–	–	–	–	–	–	–	–	–
2006	–	–	–	–	–	–	–	–	–	–	–	–
2007	–	–	–	–	–	–	–	–	–	–	–	–

	CFC-115						CFC Total					
	Refrigerant	Aerosol	Foaming agent	Detergent	Other	Total	Refrigerant	Aerosol	Foaming agent	Detergent	Other	Total
1985	93	0	0	0	2	95	21,351	11,616	28,143	54,949	1,996	118,055
1986	119	0	0	0	11	130	24,409	11,905	31,997	62,487	2,127	132,925
1987	610	0	0	0	0	610	26,375	12,266	38,735	77,210	986	155,572
1988	616	0	0	0	9	625	23,928	12,043	39,680	81,204	2,365	159,220
1989	601	0	0	0	0	601	28,801	11,207	35,332	84,083	1,298	160,721
1990	686	0	0	0	0	686	21,835	4,782	26,529	57,588	476	111,210
1991	728	0	0	0	1	729	18,628	3,302	21,822	51,165	661	95,578
1992	679	0	0	0	1	680	18,007	1,611	13,583	27,027	376	60,604
1993	409	0	0	0	0	409	23,088	1,133	9,095	12,261	298	45,875
1994	214	0	0	0	0	214	10,940	1,078	8,354	11,072	305	31,749
1995	335	0	0	0	0	335	5,541	741	7,004	11,677	505	25,468
1996	39	0	0	0	0	39	1,801	171	750	1,628	207	4,557
1997	6	0	0	0	0	6	497	322	189	281	55	1,344
1998	0	0	0	0	0	0	520	52	5	91	0	668
1999	0	0	0	14	1	15	58	96	7	28	11	200
2000	–	–	–	–	–	–	40	0	0	5	26	71
2001	–	–	–	–	–	–	0	0	0	0	0	0
2002	–	–	–	–	–	–	0	0	0	0	0	0
2003	–	–	–	–	–	–	0	0	0	0	0	0
2004	–	–	–	–	–	–	0	0	0	0	0	0
2005	–	–	–	–	–	–	0	0	0	0	0	0
2006	–	–	–	–	–	–	0	0	0	0	0	0
2007	–	–	–	–	–	–	0	0	0	0	0	0

2.10 Shipping volume of CFC in Japan

Shipment volume of HCFC (* Hydro Chlorofluorocarbon = CFC) (Unit : in 1,000 tons)

HCFC-22

	Refrigerant	Aerosol	Foaming agent	Detergent	Other	Total
1995	30.6	-	0.8	0.0	0.1	31.5
1996	31.7	-	0.6	0.0	0.3	32.6
1997	28.4	-	0.5	0.0	1.5	30.4
1998	27.5	–	0.4	0.0	1.6	29.5
1999	26.8	–	0.3	0.0	1.7	28.8
2000	24.0	–	0.0	–	2.0	26.0
2001	21.6	–	0.2	0.0	1.2	23.0
2002	15.6	–	0.2	0.0	0.7	16.5
2003	13.7	–	0.1	0.0	1.2	15.0
2004	12.7	0.0	0.0	0.0	1.2	14.0
2005	10.8	0.0	0.0	0.0	1.2	12.0
2006	9.1	0.0	0.0	0.0	0.1	9.2
2007	–	–	–	–	–	–

HCFC-141b

	Refrigerant	Aerosol	Foaming agent	Detergent	Other	Total
1995	0.0	-	8.6	2.1	0.0	10.7
1996	0.0	-	13.5	3.2	0.1	16.8
1997	0.0	-	14.8	3.0	0.0	17.8
1998	0.0	–	12.9	3.3	–	16.2
1999	0.0	–	11.9	4.0	–	15.9
2000	0.0	–	11.0	3.0	0.0	15.0
2001	0.0	–	9.3	3.0	0.2	12.5
2002	0.0	–	9.3	3.0	0.0	12.4
2003	0.0	–	11.5	3.0	0.0	14.5
2004	0.0	0.0	0.7	2.3	0.0	3.1
2005	0.0	0.0	0.0	2.3	0.0	2.3
2006	0.0	0.0	0.0	2.5	0.0	2.5
2007	–	–	–	–	–	–

HCFC-142b

	Refrigerant	Aerosol	Foaming agent	Detergent	Other	Total
1995	0.0	-	3.7	0.0	0.1	3.8
1996	0.0	-	3.9	0.0	0.1	4.0
1997	0.0	-	3.8	0.0	0.2	4.1
1998	0.0	–	3.4	0.0	0.2	3.6
1999	–	–	3.7	0.0	0.7	4.4
2000	–	–	–	–	–	–
2001	–	–	–	–	–	–
2002	–	–	–	–	–	–
2003	–	–	–	–	–	–
2004	–	–	–	–	–	–
2005	–	–	–	–	–	–
2006	–	–	–	–	–	–
2007	–	–	–	–	–	–

HCFC-225

	Refrigerant	Aerosol	Foaming agent	Detergent	Other	Total
1995	0.0	-	0.0	1.2	0.0	1.2
1996	0.0	-	0.0	2.0	0.0	2.0
1997	0.0	-	0.0	2.8	0.0	2.8
1998	0.0	–	0.0	2.6	0.0	2.6
1999	0.0	–	0.0	3.0	0.1	3.1
2000	–	–	–	–	–	–
2001	–	–	–	–	–	–
2002	–	–	–	–	–	–
2003	–	–	–	–	–	–
2004	–	–	–	–	–	–
2005	–	–	–	–	–	–
2006	–	–	–	–	–	–
2007	–	–	–	–	–	–

HCFC-123

	Refrigerant	Aerosol	Foaming agent	Detergent	Other	Total
1995	0.5	-	0.0	0.0	0.0	0.5
1996	0.5	-	0.0	0.0	0.0	0.5
1997	0.4	-	0.0	0.0	0.0	0.4
1998	0.4	–	0.0	–	–	0.4
1999	0.3	–	–	0.0	–	0.3
2000	–	–	–	–	–	–
2001	–	–	–	–	–	–
2002	–	–	–	–	–	–
2003	–	–	–	–	–	–
2004	–	–	–	–	–	–
2005	–	–	–	–	–	–
2006	–	–	–	–	–	–
2007	–	–	–	–	–	–

HCFC-124

	Refrigerant	Aerosol	Foaming agent	Detergent	Other	Total
1995	0.0	-	0.0	0.0	0.0	0.0
1996	0.0	-	0.0	0.0	0.0	0.0
1997	0.0	-	0.0	0.0	0.0	0.0
1998	–	–	0.0	0.0	–	–
1999	–	–	0.1	0.0	0.0	0.1
2000	–	–	–	–	–	–
2001	–	–	–	–	–	–
2002	–	–	–	–	–	–
2003	–	–	–	–	–	–
2004	–	–	–	–	–	–
2005	–	–	–	–	–	–
2006	–	–	–	–	–	–
2007	–	–	–	–	–	–

HCFC-142b,225,123,124 Total

	Refrigerant	Aerosol	Foaming agent	Detergent	Other	Total
1995	0.5	-	3.7	1.2	0.1	5.5
1996	0.5	-	3.9	2.0	0.1	6.5
1997	0.4	-	3.9	2.8	0.2	7.3
1998	0.4	–	3.4	2.6	0.2	6.6
1999	0.3	–	3.8	3.0	0.8	7.9
2000	0.0	–	4.0	3.0	1.0	7.0
2001	0.3	–	3.5	2.2	0.7	6.7
2002	0.2	–	2.9	2.0	0.1	5.2
2003	0.2	–	1.4	1.6	0.2	3.4
2004	0.2	0.1	0.4	2.8	0.0	3.4
2005	0.2	0.1	0.0	2.3	0.2	2.8
2006	0.2	0.1	0.0	1.3	0.1	1.7
2007	–	–	–	–	–	–

HCFC Total

	Refrigerant	Aerosol	Foaming agent	Detergent	Other	Total
1995	31.1	-	13.1	3.3	0.2	47.7
1996	32.2	-	18.0	5.2	0.5	55.9
1997	28.8	-	19.2	5.8	1.7	55.5
1998	27.9	–	16.7	5.9	1.8	52.3
1999	27.1	–	16.0	7.0	2.5	52.6
2000	25.0	–	15.0	6.0	2.0	48.0
2001	21.9	–	13.0	5.2	2.0	42.1
2002	15.8	–	12.3	5.0	0.8	34.1
2003	13.9	–	13.0	4.6	1.4	32.9
2004	12.9	0.1	1.1	5.1	1.3	20.5
2005	11.0	0.1	0.0	4.6	1.4	17.1
2006	9.3	0.1	0.0	3.8	0.1	13.3
2007	8.0	0.1	0.0	3.4	0.3	11.8

2.10 Shipping volume of CFC in Japan

Shipment volume of HFC (* Hydro Fluorocarbon = HFC) (Unit : in 1,000 tons)

	HFC-134a						Other HFC					
	Refrigerant	Aerosol	Foaming agent	Detergent	Other	Total	Refrigerant	Aerosol	Foaming agent	Detergent	Other	Total
1995	7.8	1.2	0.3	0.0	0.0	9.3	0.1	0.0	0.0	0.0	0.1	0.2
1996	8.6	1.8	0.4	0.0	0.0	10.8	0.1	0.0	0.0	0.0	0.1	0.2
1997	8.9	2.2	0.4	0.0	0.0	11.5	0.2	0.0	0.0	0.0	0.2	0.4
1998	8.4	2.5	0.5	0.0	0.0	11.4	0.4	0.0	0.0	0.2	0.3	0.9
1999	9.6	3.1	0.6	0.0	0.2	13.5	1.0	0.0	–	–	0.2	1.2
2000	–	–	–	–	–	–	–	–	–	–	–	–
2001	–	–	–	–	–	–	–	–	–	–	–	–
2002	–	–	–	–	–	–	–	–	–	–	–	–
2003	–	–	–	–	–	–	–	–	–	–	–	–
2004	–	–	–	–	–	–	–	–	–	–	–	–
2005	–	–	–	–	–	–	–	–	–	–	–	–
2006	–	–	–	–	–	–	–	–	–	–	–	–
2007	–	–	–	–	–	–	–	–	–	–	–	–

	HFC Total					
	Refrigerant	Aerosol	Foaming agent	Detergent	Other	Total
1995	7.9	1.2	0.3	0.0	0.1	9.5
1996	8.7	1.8	0.4	0.0	0.1	11.0
1997	9.1	2.2	0.4	0.0	0.2	11.9
1998	8.8	2.5	0.5	0.2	0.3	12.3
1999	10.6	3.1	0.6	0.0	0.4	14.7
2000	11.0	3.0	1.0	0.0	1.0	16.0
2001	14.0	2.9	0.7	0.0	0.2	17.9
2002	18.0	3.1	0.8	0.1	0.5	22.5
2003	19.2	2.9	1.5	0.1	0.5	24.2
2004	21.0	2.4	3.3	0.3	0.5	27.5
2005	22.8	2.3	5.2	0.3	0.1	30.7
2006	23.5	2.0	7.6	0.8	0.3	34.1
2007	24.9	1.4	6.9	0.8	0.2	34.3

Note: In 2000 and 2007, calculation method has been changed, and now only total shipment volumes of CFC, HCFC, and HFC are shown.

Source: "The Annual Report of Ozone Monitoring result in the FY 2011," Global Environment Bureau, MOE, the Government of Japan.

2.11 Production and consumption volumes of HCFC in Japan

(Unit: ODP ton) 1)

	Production	Consumption 2)
Basis volume 3)		5,562
January 1996 – December 1996		4,141
January 1997 – December 1997		4,152
January 1998 – December 1998	3,966	3,633
January 1999 – December 1999	4,608	3,899
January 2000 – December 2000	3,928	3,531
January 2001 – December 2001	3,792	3,500
January 2002 – December 2002	3,195	2,907
January 2003 – December 2003	3,145	2,810
January 2004 – December 2004	1,921	1,473
January 2005 – December 2005	1,344	1,118
January 2006 – December 2006	872	747
January 2007 – December 2007	728	770
January 2008 – December 2008	777	787
January 2009 – December 2009	494	518
January 2010 – December 2010	400	453
January 2011 – December 2011	397	470
January 2012 – December 2012	297	342
January 2013 – December 2013	294	335
January 2014 – December 2014	252	283

Notes:

1) ODP ton is a sum of production and consumption amounts of each HCFC substance multiplied by relevant ozone depletion potential (ODP).

2) Consumption = production + import – export

3) Basis volume of HCFC consumption = "the estimated consumption of HCFC in 1989" + "the estimated consumption of CFC in 1989" × 0.028

Source: "The Annual Report of Result of Ozone Monitoring in 2014," CFC Measures Promotion Agency, Environmental Protection Measures Division, Global Environment Bureau, Ministry of the Environment, and a web page of Ministry of Economy, Trade and Industry, the Government of Japan.

2.12 Changes in production volume of major CFCs in the world

(Unit: t)

Year	CFC-11	CFC-12	CFC-113	CFC-114	CFC-115	HCFC-22	HCFC-124	HCFC-141b	HCFC-142b	HFC-134a	HFC-125	HFC-143a
1931～1935	90	2,676										
1936～1940	590	16,102										
1941～1945	1,724	57,244										
1946～1950	16,149	122,244										
1951	9,072	36,242										
1952	13,562	37,240										
1953	17,282	46,493										
1954	20,911	49,124										
1955	26,263	57,606										
1956	32,477	68,674										
1957	33,929	74,163										
1958	29,529	73,437										
1959	35,562	87,589										
1960	49,714	99,428										
1961	60,464	108,499										
1962	78,109	128,095										
1963	93,304	146,420										
1964	111,085	170,097										
1965	122,833	190,056										
1966	141,022	216,182										
1967	159,756	242,763										
1968	183,116	267,484										
1969	217,271	297,285										
1970	238,136	321,099				56,071						
1971	263,175	341,556				60,582						
1972	306,856	379,884				63,250						
1973	349,085	423,338				74,346						
1974	369,724	442,798				83,390						
1975	314,068	380,973				74,989						
1976	339,832	410,729				90,706						
1977	320,464	382,833				101,375						
1978	308,852	372,082				111,662						
1979	289,483	357,159	*1 706,830	*1 319,830	*1 57,533	117,892						
1980	289,619	350,219	103,667	14,994	9,342	126,323						
1981	286,943	351,308	108,536	14,011	9,955	130,811			2,587			
1982	271,443	328,039	112,987	13,580	10,366	123,616			1,898			
1983	291,731	355,331	132,743	14,774	11,629	143,881			2,204			
1984	312,355	382,107	171,122	15,573	11,221	152,356			2,352			
1985	326,814	376,339	187,011	17,091	10,036	153,432			1,370			
1986	350,148	398,363	196,614	19,101	11,818	164,993			7,121			
1987	382,050	424,726	225,812	17,098	12,772	173,304			6,883			
1988	375,986	421,002	247,444	16,483	13,550	203,545			7,841			
1989	302,489	379,778	251,326	14,963	14,191	219,537			10,288			
1990	232,916	230,950	174,801	8,311	11,347	213,714		99	18,757	189		
1991	213,486	224,805	147,625	6,658	12,276	236,812	17	1,507	27,154	2,198		
1992	186,434	216,207	107,507	4,691	10,711	245,715	99	13,254	30,691	6,404		
1993	147,131	214,664	48,037	4,576	11,411	240,619	532	43,291	33,682	26,526		
1994	60,232	133,600	29,547	3,207	6,834	239,444	897	81,231	38,361	50,400		
1995	32,683	82,822	23,321	3,135	3,651	243,468	3,078	113,154	38,711	73,769		
1996	22,123	48,856	6,007	713	2,019	267,523	4,834	121,085	37,736	83,674	*2 0	*2 794
1997	18,577	32,900	3,008	1,196	836	246,937	4,143	122,356	40,197	97,949	296	339
1998	14,600	33,269	1,589	1,199	922	271,980	5,181	129,037	38,771	112,174	698	557
1999	12,871	27,132	1,000	292	396	248,552	2,776	130,415	40,166	131,710	1,243	750
2000	9,900	24,564	942	505	213	239,197	3,131	132,476	40,517	130,056	7,400	5,396
2001	8,311	20,873	787	280	237	213,328	2,064	121,757	33,616	133,956	12,583	9,151
2002	6,795	20,181	917	608	145	193,955	2,736	116,673	21,417	156,987	16,190	9,656
2003	3,145	12,536	599	336	37	187,262	2,765	74,596	19,685	166,899	22,631	12,972
2004	2,043	8,938	-	1,114	-	189,545	2,529	40,417	21,539	173,851	32,734	14,053
2005	-	-	-	-	-	176,373	1,878	25,619	22,112	169,999	31,819	16,321
2006	-	-	-	-	-	165,478	2,134	22,548	22,257	156,573	38,537	16,257
2007	-	-	-	-	-	165,862	2,120	21,835	33,779	158,161	42,573	18,325
Total	8,714,314	11,507,103	-	514,319	-	6,411,825	40,914	1,311,350	601,693	1,831,475	206,704	103,776

Note:
*1 The sum up to 1979.
*2 The sum up to 1996.
The data and the total of CFC-113 and CFC-115 in 2004 and 2005 are not published.
The data and the total of CFC-11, CFC-12, and CFC-114 in 2005 are not published.

Source: "The Alternative Fluorocarbons Environmental Acceptability Study (AFEAS)"

2.13 Emissions of Ozone Depleting Substances on PRTR basis

(Unit: t)

Substance		Emissions notified 1)		Emissions outside notification 2)	Total emissions	Transferred amount notified 3)
		Air	Public Water Areas			
CFC	FY2003	51	1	3,526	3,578	65
	2004	80	1	2,577	2,659	48
	2005	49	2	1,815	1,866	109
	2006	38	1	1,490	1,529	77
	2007	23	0	1,227	1,250	98
	2008	19	1	1,353	1,372	51
	2009	32	0	1,197	1,230	58
	2010	17	0	2,330	2,348	2
	2011	9	0	2,177	2,186	5
	2012	10	0	2,046	2,056	6
	2013	9	0	1,522	1,531	2
	2014	13	0	1,478	1,491	20
Halon	FY2003	13	0	17	30	0
	2004	10	0	12	22	5
	2005	7	0	13	20	0
	2006	9	0	19	28	14
	2007	12	0	12	24	4
	2008	8	0	13	22	4
	2009	11	0	15	26	2
	2010	11	0	13	24	2
	2011	13	0	9	23	2
	2012	27	0	11	38	1
	2013	15	0	13	28	10
	2014	10	0	5	15	0
HCFC	FY2003	11	0	11	22	2
	2004	6	0	7	13	0
	2005	6,194	2	16,327	22,523	1546
	2006	4,334	3	16,339	20,676	468
	2007	3,953	2	15,571	19,526	451
	2008	2,867	2	14,961	17,831	409
	2009	2,429	3	15,545	17,977	352
	2010	2,088	0	15,262	17,350	353
	2011	1,910	0	14,413	16,323	357
	2012	1,570	0	20,384	21,953	303
	2013	1,306	0	18,283	19,589	280
	2014	1184	0	18,639	19,823	172
Carbon tetrachloride	FY2003	1009	0	17069	18079	117
	2004	912	0	15726	16638	149
	2005	973	0	12982	13956	152
	2006	824	0	11727	12552	160
	2007	72	1	0	72	151
	2008	66	1	0	66	131
	2009	46	1	0	47	166
	2010	22	1	0	22	211
	2011	7	1	0	8	244
	2012	15	1	0	16	227
	2013	9	1	0	9	411
	2014	6	0	0	6	229
1, 1, 1-trichloroethane	FY2003	6	0	0	7	170
	2004	7	0	0	7	391
	2005	7	0	0	7	198
	2006	7	0	0	7	325
	2007	7	0	0	7	289
	2008	6	0	0	6	290
	2009	49	35	0	85	1
	2010	25	18	0	43	0
	2011	21	21	0	42	23
	2012	20	14	0	35	32
	2013	16	14	0	30	9
	2014	9	13	0	22	17
Methyl bromide	FY2003	8	9	0	17	19
	2004	8	11	0	19	18
	2005	3	11	0	13	0
	2006	4	11	0	14	1
	2007	0	12	0	13	0
	2008	0	14	0	14	0
	2009	0	14	0	15	0
	2010	0	16	0	17	0
	2011	542	0	3,172	3,715	27
	2012	567	0	3,857	4,424	27
	2013	559	0	2,666	3,225	23
	2014	475	0	2,631	3,105	19
Methyl bromide	FY2003	413	0	2,747	3,159	10
	2004	329	0	1,493	1,821	5
	2005	279	0	1,343	1,622	7
	2006	217	0	1,054	1,271	8
	2007	222	0	855	1,078	5
	2008	223	0	681	904	7
	2009	181	0	700	881	6
	2010	147	0	690	838	6
	2011	127	0	488	615	6
	2012	119	0	443	563	8
	2013	127	0	488	615	6
	2014	119	0	443	563	8

Notes:

1) The amount of emissions released into the environment over a year from business entities subject to PRTR, which was notified to the state by them.

2) The state's estimated amount of emissions released from business entities not subject to PRTR

3) The carried-away amount as waste from business entities subject to PRTR

Source: "PRTR Data Overview (each fiscal year version)," Environmental Safety Division, Environmental Health Department, Integrated Environmental Policy Bureau, MOE, the Government of Japan.

2.14 Chronological changes in Background Concentration of Specified Substances in the Atmosphere in Hokkaido

Sampling period		CFC-11		CFC-12		CFC-113		CFC-114		CFC-115		Halon 1211		Halon 1301	
		Concentra -tion	Standard deviation	Concentra -tion	Standard deviation	Concentra -tion	Standard deviation	Concentra -tion	Standard deviation	Concentra -tion	Standard deviation	Concentra -tion	Standard deviation	Concentra -tion	Standard deviation
1989	Jan	246	4	500	1	74	1	14.3	0.30	5.30	0.10	2.40	0.120	1.90	0.030
	Mar	247	2	501	7	76	1	14.3	0.20	5.80	0.10	2.50	0.041	1.90	0.050
	Oct	254	6	509	8	85	3	14.6	0.20	5.70	0.30	2.70	0.070	2.00	0.100
1990	Jan	255	3	504	4	75	2	14.7	0.20	6.00	0.30	2.70	0.040	2.10	0.060
	Mar	252	3	503	3	75	1	14.8	0.10	5.90	0.10	2.80	0.010	2.10	0.020
	Oct	264	6	509	2	79	1	14.8	0.10	6.20	0.30	2.80	0.040	2.20	0.040
1991	Jan	264	4	510	2	79	1	14.8	0.10	6.20	0.50	2.90	0.080	2.20	0.030
	Mar	264	3	511	4	81	1	14.9	0.30	6.30	0.30	2.90	0.050	2.30	0.050
	Aug	262	2	516	5	80	1	14.7	0.10	6.40	0.10	2.90	0.050	2.20	0.020
1992	Jan	266	5	520	3	84	1	14.9	0.30	6.60	0.20	3.10	0.080	2.40	0.020
	Mar	267	2	519	5	85	2	15.1	0.10	6.50	0.10	3.20	0.100	2.40	0.060
	Aug	270	4	525	2	87	-	15.0	0.10	7.10	0.40	3.20	0.030	2.40	0.070
1993	Jan	271	6	530	3	85	1	14.9	0.20	7.00	0.20	3.40	0.070	2.60	0.030
	Mar	264	2	526	6	86	1	15.0	0.30	7.10	0.10	3.40	0.080	2.60	0.060
	Aug	264	2	529	3	85	1	15.0	0.10	7.20	0.30	3.30	0.030	2.60	0.020
1994	Jan	269	3	537	5	86.1	-	15.1	0.22	7.58	0.37	3.52	0.120	2.70	0.014
	Mar	266	6	534	3	86.3	0.9	15.1	0.32	7.51	0.40	3.54	0.041	2.64	0.062
	Jul	266	7	539	4	86.5	1.7	15.1	0.25	7.57	0.24	3.58	0.074	2.68	0.051
1995	Jan	266	2	541	5	86.2	1.5	15.0	0.20	7.61	0.23	3.67	0.080	2.72	0.050
	Mar	265	3	543	4	86.0	2.0	15.1	0.35	7.67	0.19	3.75	0.054	2.74	0.045
	Aug	262	4	543	5	86.2	1.4	15.0	0.20	7.76	0.11	3.78	0.100	2.74	0.089
1996	Jan	262	1	541	4	84.5	1.2	15.2	0.16	7.89	0.09	3.88	0.042	2.80	0.071
	Mar	262	2	541	4	85.4	1.1	15.2	0.16	8.04	0.29	3.87	0.090	2.82	0.058
	Aug	265	3	542	4	84.4	2.1	15.0	0.21	8.04	0.18	3.91	0.083	2.79	0.019
1997	Jan	261	1	549	3	84.9	1.6	15.2	0.12	8.38	0.08	4.02	0.099	2.86	0.039
	Mar	261	2	548	3	84.1	0.6	15.2	0.21	8.32	0.07	4.00	0.044	2.83	0.031
	Aug	263	3	552	6	84.5	1.2	15.0	0.34	8.33	0.03	4.08	0.094	2.87	0.046
1998	Jan	257	3	548	4	84.6	0.7	15.2	0.11	8.27	0.39	4.20	0.050	2.94	0.077
	Mar	256	1	547	4	84.6	0.4	15.2	0.22	8.56	0.12	4.25	0.079	2.96	0.069
	Aug	260	4	552	2	83.6	1.1	15.3	0.21	8.64	0.19	4.20	0.048	2.86	0.048
1999	Feb	256	3	546	1	82.6	0.9	15.1	0.16	8.36	0.29	4.34	0.030	2.94	0.064
	Mar	256	3	548	4	83.4	2.1	15.2	0.26	8.56	0.48	4.26	0.058	2.90	0.043
	Aug	258	4	547	3	83.3	0.7	15.2	0.26	8.55	0.13	4.31	0.025	2.90	0.034
2000	Jan	251	2	551	4	82.7	1.4	15.2	0.10	8.48	0.13	4.43	0.056	2.93	0.032
	Mar	253	3	550	2	82.9	1.3	15.2	0.15	8.58	0.25	4.40	0.073	2.94	0.058
	Aug	255	2	551	2	81.3	0.6	15.0	0.10	8.44	0.10	4.51	0.029	2.99	0.036
2001	Jan	255	2	551	4	82.4	0.7	15.1	0.15	8.56	0.22	4.60	0.047	3.04	0.024
	Mar	253	2	549	3	82.5	0.7	15.2	0.10	8.48	0.16	4.56	0.059	3.03	0.034
	Aug	254	1	549	2	81.4	0.7	15.1	0.21	8.65	0.17	4.58	0.077	3.08	0.034
2002	Jan	253	1	550	2	80.5	0.5	15.2	0.25	8.72	0.16	4.62	0.039	3.12	0.010
	Mar	252	1	550	2	80.8	0.2	15.0	0.16	8.70	0.12	4.68	0.026	3.11	0.062
	Aug	251	1	551	1	80.8	1.1	15.1	0.19	8.79	0.22	4.60	0.061	3.12	0.048
2003	Jan	250	1	551	4	79.6	0.7	15.2	0.19	8.83	0.23	4.73	0.061	3.16	0.021
	Mar	249	2	549	2	80.6	0.5	15.2	0.14	8.79	0.25	4.69	0.052	3.18	0.028
	Aug	247	1	554	2	79.7	0.2	15.1	0.15	8.90	0.20	4.68	0.015	3.22	0.025
2004	Jan	247	2	550	2	79.3	0.4	14.9	0.08	8.82	0.23	4.71	0.058	3.26	0.027
	Mar	247	1	550	3	79.7	0.4	15.0	0.06	8.87	0.19	4.69	0.022	3.27	0.013
	Aug	246	1	548	4	79.4	0.4	14.9	0.18	8.85	0.24	4.70	0.029	3.26	0.016
2005	Jan	246	1	549	1	78.8	0.5	14.9	0.23	8.86	0.16	4.74	0.029	3.30	0.022
	Mar	246	1	549	1	79.0	0.4	15.0	0.08	8.87	0.23	4.78	0.020	3.30	0.018
	Aug	244	1	549	2	78.9	0.3	15.0	0.10	8.89	0.13	4.73	0.010	3.29	0.021
2006	Jan	244	1	548	2	78.3	0.3	15.1	0.10	8.93	0.11	4.76	0.031	3.32	0.018
	Mar	244	1	549	1	78.7	0.6	15.0	0.04	8.92	0.08	4.77	0.028	3.32	0.013
	Aug	242	1	549	3	78.1	0.5	15.0	0.18	8.92	0.13	4.75	0.069	3.33	0.020
2007	Jan	244	2	549	4	76.4	0.4	15.1	0.12	8.91	0.08	4.71	0.024	3.34	0.044
	Aug	243	2	545	2	76.1	0.6	14.8	0.25	9.02	0.11	4.65	0.038	3.35	0.030
2008	Jan	241	1	544	2	77.1	0.5	14.9	0.31	9.09	0.16	4.68	0.085	3.36	0.006
	Aug	238	2	544	3	76.4	0.2	14.9	0.10	8.96	0.08	4.56	0.032	3.37	0.014
2009	Jan	238	1	543	2	77.2	0.2	15.0	0.10	8.90	0.07	4.61	0.040	3.40	0.008
	Aug	236	1	539	1	76.3	0.3	14.9	0.12	8.96	0.17	4.51	0.028	3.37	0.023
2010	Jan	236	1	539	1	76.3	0.5	15.0	0.04	8.96	0.10	4.48	0.021	3.40	0.012
	Aug	233	1	537	1	75.4	0.3	15.0	0.19	8.96	0.09	4.42	0.013	3.43	0.014
	Dec	233	1	536	1	75.6	0.3	14.9	0.08	8.95	0.10	4.43	0.008	3.44	0.024
2011	Aug	233	2	534	1	75.0	0.3	14.9	0.09	8.97	0.16	4.36	0.016	3.51	0.021
	Dec	232	2	535	2	74.9	0.2	14.8	0.07	8.90	0.08	4.37	0.019	3.48	0.016
2012	Aug	230	1	531	1	74.3	0.4	14.8	0.05	8.95	0.14	4.24	0.042	3.46	0.039
	Dec	230	1	532	2	74.5	0.2	14.8	0.05	8.95	0.13	4.22	0.010	3.46	0.021
2013	Aug	228	1	529	1	74.2	0.4	14.8	0.00	8.84	0.04	4.14	0.020	3.50	0.020
	Dec	228	1	528	3	73.8	0.4	14.8	0.07	8.86	0.13	4.11	0.010	3.49	0.020
2014	Aug	226	2	526	2	73.8	0.2	14.8	0.06	8.91	0.14	4.03	0.030	3.51	0.020
	Dec	227	1	526	2	73.6	0.2	14.8	0.12	8.88	0.15	4.02	0.020	3.52	0.030

Note:
The figures are averages of measurement for each month (in principle, n = 6, n is the number of samples per 1 plot). For some substances, concentrations are indicated down to the three decimal places, however, they don't necessarily mean to be significant digits.

Source: "The Annual Report of Result of Ozone Monitoring in 2014," Office of Fluorocarbons Control Policy, Global Environmental Issues Division, Global Environment Bureau, Ministry of the Environment.

2.14 Chronological changes in Background Concentration of Specified Substances in the Atmosphere in Hokkaido

Sampling period		Halon 2402		1, 1, 1-trichloroethane		Carbon terachloride		HCFC-22		HCFC-142b		Methyl bromide		HCFC-134a	
		Concentration	Standard deviation	Concentration	Standard deviation	Concentration	Standard deviation	Concentration	Standard deviation	Concentration	Standard deviation	Concentration	Standard deviation	Concentration	Standard deviation
1989	Jan	0.45	0.020	165.0	2	-	-	-	-	-	-	-	-	-	-
	Mar	0.47	0.010	166.0	4	-	-	-	-	-	-	-	-	-	-
	Oct	0.46	0.010	178.0	13	114.0	4.0	-	-	-	-	-	-	-	-
1990	Jan	0.47	0.030	176.0	6	112.0	5.0	-	-	-	-	-	-	-	-
	Mar	0.48	0.020	175.0	2	106.0	1.0	-	-	-	-	-	-	-	-
	Oct	0.50	0.020	179.0	12	111.0	4.0	-	-	-	-	-	-	-	-
1991	Jan	0.49	0.020	176.0	2	111.0	1.0	-	-	-	-	-	-	-	-
	Mar	0.48	0.020	177.0	2	108.0	1.0	-	-	-	-	-	-	-	-
	Aug	0.48	0.010	172.0	8	116.0	4.0	-	-	-	-	-	-	-	-
1992	Jan	0.51	0.020	177.0	3	113.0	3.0	-	-	-	-	-	-	-	-
	Mar	0.52	0.020	177.0	1	111.0	1.0	-	-	-	-	-	-	-	-
	Aug	0.52	0.030	177.0	4	116.0	2.0	111	2	4.50	0.70	-	-	-	-
1993	Jan	0.51	0.010	177.0	10	110.0	2.0	112	6	5.40	0.40	-	-	-	-
	Mar	0.54	-	174.0	9	113.0	4.0	114	7	5.40	0.40	-	-	-	-
	Aug	0.50	0.010	146.0	4	110.0	5.0	114	5	6.30	0.70	-	-	-	-
1994	Jan	0.52	0.023	147.0	6	105.0	2.0	120	5	7.00	0.54	-	-	-	-
	Mar	0.51	0.028	143.0	2	109.0	2.0	121	2	6.61	0.27	-	-	-	-
	Jul	0.53	0.012	144.0	11	108.0	2.0	120	3	7.45	1.10	-	-	-	-
1995	Jan	0.54	0.006	129.0	2	104.0	3	123	4	7.78	0.68	-	-	-	-
	Mar	0.53	0.015	130.0	2	105.0	3	124	2	7.68	0.38	-	-	-	-
	Aug	0.54	-	120.0	2	-	-	125	4	8.52	0.64	-	-	-	-
1996	Jan	0.54	-	112.0	1	-	-	128	3	8.94	0.96	-	-	-	-
	Mar	0.54	0.013	111.0	2	-	-	127	5	9.60	0.43	-	-	-	-
	Aug	0.53	0.013	102.0	7	104.0	1	133	5	9.94	0.86	-	-	-	-
1997	Jan	0.53	-	95.6	0.7	-	-	134	3	9.88	0.40	-	-	-	-
	Mar	0.54	-	95.4	0.4	107.0	1	133	5	10.0	1.1	-	-	-	-
	Aug	0.54	0.016	88.3	4.3	110.0	5	137	3	10.4	2.1	-	-	-	-
1998	Jan	0.53	-	78.1	1.8	106.0	4	136	2	11.2	0.59	-	-	-	-
	Mar	0.52	0.012	76.0	1.5	106.0	3	138	3	10.8	1.1	11.2	0.52	-	-
	Aug	0.53	0.029	76.5	1.5	108.0	2	142	3	11.6	0.57	11.7	0.55	-	-
1999	Feb	-	-	70.1	1.6	103.0	1	150	2	12.0	0.43	11.2	0.59	-	-
	Mar	0.53	0.036	71.5	1.6	108.0	3	150	2	12.2	0.59	10.6	0.00	-	-
	Aug	0.52	0.020	64.2	0.8	110.0	4	149	7	11.5	0.45	10.4	0.68	-	-
2000	Jan	0.53	0.018	58.7	0.7	103.0	2	150	3	13.2	0.39	9.4	0.35	-	-
	Mar	0.51	0.018	57.5	1.9	106.0	1	150	1	12.8	1.1	9.5	0.78	-	-
	Aug	0.52	0.021	50.1	1.5	108.0	1.3	153	2	13.4	0.64	10.0	0.65	17.0	0.45
2001	Jan	0.51	0.028	50.4	0.5	105.0	0.5	157	2	14.4	0.26	9.2	0.39	20.1	1.00
	Mar	0.51	0.018	50.7	0.5	105.0	1.4	158	2	14.1	0.55	10.2	0.90	19.5	1.20
	Aug	0.50	0.013	43.0	0.7	105.0	0.8	157	3	14.1	0.17	9.4	0.99	21.3	0.60
2002	Jan	0.50	0.028	37.6	0.1	104.0	0.8	158	2	15.3	0.47	9.5	0.52	24.1	0.98
	Mar	0.51	0.026	37.1	0.2	104.0	0.8	158	2	15.4	0.47	8.9	0.33	24.4	1.30
	Aug	0.50	0.027	35.7	0.6	106.0	1.0	163	2	15.2	0.59	10.0	0.56	25.8	0.42
2003	Jan	0.51	0.020	32.5	0.4	104.0	2.1	166	1	15.4	0.64	9.5	0.11	29.4	0.84
	Mar	0.50	0.012	31.8	0.8	103.0	0.4	163	1	15.9	0.58	9.5	0.28	28.9	2.00
	Aug	0.50	0.018	28.4	0.4	100.0	0.7	168	3	15.5	0.64	9.6	0.80	30.7	1.00
2004	Jan	0.50	0.004	26.6	0.3	99.5	0.8	168	1	15.9	0.44	10.3	0.62	32.3	1.10
	Mar	0.50	0.024	26.6	0.4	99.3	0.8	169	1	16.5	0.32	9.6	0.51	33.1	0.58
	Aug	0.49	0.013	23.8	0.6	99.0	0.7	171	2	16.6	0.18	9.4	0.39	34.8	1.40
2005	Jan	0.50	0.008	21.9	0.3	98.0	0.7	174	2	16.4	0.08	9.4	0.38	36.9	1.00
	Mar	0.50	0.008	21.9	0.9	99.4	0.7	174	1	16.6	0.20	9.8	0.29	37.5	1.20
	Aug	0.49	0.010	20.8	0.3	97.5	0.7	179	3	17.1	0.26	10.2	0.45	40.0	1.50
2006	Jan	0.49	0.019	19.2	0.2	96.7	0.4	179	2	17.4	0.23	9.1	0.15	41.8	1.00
	Mar	0.50	0.021	18.6	0.3	96.0	1.1	183	1	17.2	0.26	9.5	0.21	43.5	1.40
	Aug	0.48	0.006	16.2	0.4	97.0	0.6	186	2	17.6	0.35	9.5	0.17	44.8	0.85
2007	Jan	0.48	0.021	16.2	0.1	96.5	0.4	190	2	18.4	0.18	9.4	0.42	46.8	0.91
	Aug	0.48	0.008	14.4	0.2	96.0	0.8	200	2	20.3	0.46	9.8	0.69	50.5	0.37
2008	Jan	0.46	0.014	14.5	0.3	95.6	0.6	198	3	19.7	0.23	9.4	0.49	51.8	1.60
	Aug	0.48	0.008	11.6	0.1	93.4	0.6	203	4	20.2	0.67	8.7	0.71	54.4	1.30
2009	Jan	0.48	0.005	11.6	0.1	92.9	0.4	204	4	21.1	0.18	8.7	0.34	56.9	0.40
	Aug	0.47	0.004	10.4	0.2	93.0	1.2	205	1	20.7	0.49	8.9	0.87	57.4	0.70
2010	Jan	0.47	0.012	9.6	0.2	91.7	0.6	206	1	21.4	0.32	8.3	0.17	59.7	1.40
	Aug	0.47	0.012	8.5	0.2	90.8	0.5	212	1	22.4	0.38	9.1	0.34	65.0	0.90
	Dec	0.47	0.008	8.2	0.1	90.6	0.8	220	2	22.6	0.37	8.4	0.31	66.2	0.70
2011	Aug	0.46	0.005	6.8	0.2	90.3	0.7	236	2	23.2	0.71	10.8	0.83	71.2	0.60
	Dec	0.46	0.006	6.7	0.1	89.6	0.2	224	2	23.6	0.34	8.5	0.15	72.7	1.00
2012	Aug	0.46	0.004	5.6	0.1	88.8	0.4	226	8	23.7	0.77	10.7	0.46	74.0	1.60
	Dec	0.45	0.005	5.5	0.1	88.9	1.0	229	2	23.6	0.21	8.6	0.26	76.4	0.80
2013	Aug	0.45	0.010	88.7	0.9	4.8	0.1	233	2	24.2	0.20	9.3	0.30	78.8	0.50
	Dec	0.45	0.010	88.6	0.5	4.6	0.1	234	2	24.2	0.20	8.2	0.10	81.9	0.30
2014	Aug	0.45	0.010	87.7	0.5	4.0	0.1	244	3	26.7	0.60	24.4	0.30	9.0	0.20
	Dec	0.45	0.010	87.3	0.8	3.8	0.1	236	1	26.6	0.30	24.4	0.40	7.7	0.20

Source: "The Annual Report of Result of Ozone Monitoring in 2014," Office of Fluorocarbons Control Policy, Global Environmental Issues Division, Global Environment Bureau, Ministry of the Environment.

2.15 Changes in annual average of total ozone amount over Japan

(Unit: m atm - cm)

	Sapporo	Tsukuba	Kagoshima	Naha
1958	361	327	306	–
1959	374	317	290	–
1960	384	320	310	–
1961	363	316	–	–
1962	372	321	–	–
1963	373	321	290	–
1964	373	312	275	–
1965	371	317	284	–
1966	375	314	281	–
1967	359	307	280	–
1968	359	319	295	–
1969	362	308	288	–
1970	370	318	282	–
1971	366	313	275	–
1972	348	310	284	–
1973	363	313	281	–
1974	354	310	281	266
1975	351	315	285	259
1976	352	298	278	261
1977	365	309	278	263
1978	357	309	272	256
1979	361	314	286	269
1980	368	313	280	264
1981	368	318	280	267
1982	369	318	284	270
1983	361	312	276	264
1984	368	316	281	263
1985	353	298	268	257
1986	360	314	279	264
1987	364	310	286	262
1988	362	308	283	253
1989	352	308	289	265
1990	346	311	287	266
1991	355	313	288	267
1992	342	309	288	263
1993	334	298	276	255
1994	343	311	290	263
1995	345	307	285	258
1996	350	306	284	265
1997	342	301	281	262
1998	352	310	287	267
1999	354	308	283	261
2000	348	309	285	269
2001	357	312	288	268
2002	350	308	280	266
2003	352	314	283	272
2004	349	303	282	270
2005	358	316	–	271
2006	357	316	–	269
2007	357	315	–	274
2008	348	309	–	267
2009	355	311	–	269
2010	362	319	–	272
2011	354	311	–	271
2012	353	309	–	271
2013	357	311	–	271
2014	355	315	–	275
2015	360	315	–	267

Source: materials of Japan Meteorological Agency

2.16 Changes in ozone hole area in the Antarctic

(Unit : 10,000 ㎢)

	Area
1979	110
1980	330
1981	310
1982	1,080
1983	1,220
1984	1,460
1985	1,880
1986	1,440
1987	2,240
1988	1,370
1989	2,170
1990	2,100
1991	2,250
1992	2,490
1993	2,570
1994	2,510
1995	2,280
1996	2,670
1997	2,500
1998	2,780
1999	2,560
2000	2,960
2001	2,630
2002	2,170
2003	2,830
2004	2,270
2005	2,670
2006	2,930
2007	2,490
2008	2,650
2009	2,400
2010	2,190
2011	2,550
2012	2,080
2013	2,340
2014	2,340
2015	2,780

Source: materials of Japan Meteorological Agency

2.17 Recovery and Destruction of Fluorocarbons

				CFC	HCFC	HFC	Total
Commercial equipment for refrigeration and air conditioning		Number of collected equipment	2005	138,927	638,013	127,749	904,689
			2006	115,157	597,874	165,399	878,430
			2007	104,096	667,412	261,127	1,032,635
			2008	104,130	685,974	447,374	1,237,478
			2009	84,141	593,761	494,489	1,172,391
			2010	72,615	571,284	520,259	1,164,158
			2011	62,944	538,777	628,339	1,230,060
			2012	55,178	514,037	730,014	1,299,229
			2013	64,469	497,208	806,291	1,367,968
			2014	58,864	456,750	878,429	1,394,043
		Amount recovered (ton)	2005	292	1,823	183	2,298
			2006	348	1,987	206	2,541
			2007	342	2,404	422	3,168
			2008	290	2,814	669	3,773
			2009	207	2,661	733	3,601
			2010	216	2,862	817	3,895
			2011	185	2,850	922	3,958
			2012	211	3,140	1,193	4,543
			2013	175	2,917	1,371	4,463
			2014	150	2,847	1,427	4,424
		Recycled	2005	82	310	42	434
			2006	63	325	34	422
			2007	126	493	111	729
			2008	90	511	135	736
			2009	73	599	151	824
			2010	65	672	166	903
			2011	69	719	209	996
			2012	75	739	271	1,084
			2013	45	790	341	1,176
			2014	50	877	389	1,316
Car air conditioners	Automobile Recycling Act	Amount recovered (ton)	2005	342	-	441	783
			2006	320	-	608	928
			2007	256	-	724	980
			2008	193	-	821	1,014
			2009	164	-	977	1,141
			2010	70	-	845	915
			2011	34	-	640	673
			2012	26	-	781	807
			2013	19	-	792	811
			2014	14	-	773	787
		Recycled	2005	17	-	15	32
			2006	10	-	12	22
			2007	9	-	14	22
			2008	6	-	11	17
			2009	5	-	12	17
			2010	4	-	12	16
			2011	2	-	13	15
			2012	1	-	10	11
			2013	1	-	11	12
			2014	2		13	15
	Law Concerning the Recovery and Destruction of Fluorocarbons	Car air-conditioners collected (units)	2005	45	-	53	98
			2006	9,310	-	16,105	25,415
			2007	26	-	90	116
			2008	26	-	90	116
			2009	6	-	40	46
			2010	2	-	7	9
			2011	3	-	3	6
			2012	2	-	10	12
			2013	0	-	1	1
			2014	0	-	0	0
		Amount recovered (tons)	2005	12	-	16	28
			2006	2.92	-	5.91	8.83
			2007	0.01	-	0.03	0.04
			2008	0.008	-	0.029	0.038
			2009	0.004	-	0.007	0.011
			2010	0.003	-	0.006	0.008
			2011	0.002	-	0.002	0.004
			2012	0.001	-	0.005	0.006
			2013	-	-	0.001	0.001
			2014	-	-	-	-
Amount of destruction (ton)			2005	556	1,623	608	2,788
			2006	590	1,821	772	3,183
			2007	479	2,095	1,036	3,611
			2008	376	2,439	1,346	4,161
			2009	271	2,164	1,505	3,941
			2010	271	2,284	1,596	4,152
			2011	226	2,362	1,528	4,116
			2012	218	2,393	1,829	4,440
			2013	181	2,349	1,940	4,470
			2014	155	2,305	2,034	4,495

Notes:

1) Because of rounding fractions, the figures in "Total" column may not be consistent with the sums of each figure.

2) Collection of car air conditioners has been transferred to control of the Automobile Recycling Law since January 2005. However, as for the specific second-class products handed over to the second-class Fluorocarbons collectors by December 31, 2004, those products collected under transitional measures are included in "Law concerning the Recovery and Destruction of Fluorocarbons."

Sources: materials of Ministry of the Environment and Ministry of Economy, Trade and Industry, and Japan Automobile Recycling Promotion Center

2.18 Japan's contribution to the Montreal Protocol Multilateral Fund

(Unit: million dollars)

Period	Total contributions (including carryover)	Japan's contribution
First period 1991 - 1993	240	33
Second period 1994 - 1996	510	65
Third period 1997 - 1999	540	85
Fourth period 2000- 2002	476	99
Fifth period 2003 - 2005	573	104
Sixth period 2006 - 2008	470	88
Seventh period 2009 - 2010	490	81
Eighth period 2012 - 2014	450	64
Ninth period 2015 - 2017	508	66

Source: material of Ministry of Foreign Affairs, the Government of Japan, Web page of Ministry of Foreign Affairs : http://www.mofa.go.jp/mofaj/gaiko/kankyo/jyoyaku/ozone.html

2.19 Trends in emissions of sulfur dioxide (SOx) by country

(Unit : 1,000 t)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Japan	1183.6	1181.1	1153.9	1108.9	1084.1	1057.5	1031.8	989.99	956.95	951.21	942.24	936.84	695.43
Australia	2,600	2,784	2,769	2,509	2,514	2,478	2,440	2,618	2,595	2,381	2,356	2,334	2,309
Austria	33	31	32	27	27	28	25	22	17	19	18	17	16
Belgium	166	157	153	157	143	133	124	96	74	60	53	48	44
Canada	2,345	2,289	2,250	2,241	2,187	2,046	1,968	1,790	1,538	1,375	1,287	1,288	1,206
Czech Republic	251	237	232	227	219	211	216	174	173	170	169	158	138
Denmark	29	27	34	27	25	28	25	20	15	15	14	12	13
Finland	90	89	102	84	68	84	82	68	59	67	61	52	48
France	563	522	503	482	460	435	424	359	311	288	246	232	218
Germany	616	551	522	485	460	471	454	454	407	430	424	427	410
Greece	504	515	553	548	541	533	538	445	426	265	262	245	141
Hungary	342	277	248	151	43	41	36	37	31	32	35	32	29
Iceland	38.6	41.0	37.6	32.6	38.3	44	58.0	74.3	68.7	73.4	80.2	83.9	71
Ireland	134	101	79	72	72	61	55	45	32	26	25	23	25
Italy	701	620	523	485	406	383	340	285	233	214	194	178	145
South Korea	487.73	474.08	469.15	446.8	408.46	446.49	402.53	417.98	387.73	401.74	433.96	...	...
Luxembourg	3.9	2.8	2.7	2.5	2.4	2.8	2.4	2.3	2.2	2.2	1.7	2.0	1.6
Mexico	...	...	...	...	3,102	...	...	2,241	...	...	...	...	...
Netherlands	73	67	62	65	63	63	59	50	37	34	34	34	29
New Zealand	76	78	91	87	94	90	82	86	74	73	74	78	75
Norway	25	23	23	25	24	21	20	20	15	19	18	17	17
Poland	1,436	1,331	1,287	1,249	1,217	1,292	1,229	1,007	868	936	898	853	847
Portugal	250	249	191	193	195	170	163	114	79	70	64	59	53
Slovakia	131	103	105	96	89	88	71	69	64	69	68	59	53
Spain	1,446	1,572	1,307	1,334	1,279	1,168	1,136	513	460	425	459	408	259
Sweden	41	41	41	37	36	36	32	30	30	32	29	28	27
Switzerland	18	16	16	16	16	15	13	14	12	12	11	11	9
Turkey	2,075	1,965	1,888	1,879	2,105	2,269	2,646	2,560	2,664	2,559	2,653	2,739	1,931
UK	1,134	1,015	993	833	708	667	588	490	397	415	385	426	386
USA	14,413	13,564	13,361	13,146	13,145	11,854	10,563	9,302	8,224	7,017	5,853	4,695	4,538

Source: "Air Emissions by source, OECD Environmental Statistics"

2.20 Trends in emissions of nitrogen oxide (NOx) by country

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Japan	2,097	2,151	2,134	2,063	2,039	2,014	1,957	1,870	1,778	1,730	1,675	1,627	1,310
Canada	1,545	1,586	1,601	1,617	1,597	1,610	1,660	1,668	1,658	1,670	1,678	1,707	2,531
Mexico	215	221	233	231	236	221	217	205	189	193	183	178	160
USA	2,546	2,529	2,567	2,471	2,405	2,315	2,273	2,184	2,076	2,062	1,964	1,862	201
South Korea	302	291	289	295	285	272	261	231	205	212	198	190	1,938
Australia	332	318	324	328	278	282	283	261	251	239	226	211	222
New Zealand	204	201	210	193	185	186	172	154	136	132	125	115	122
Austria	211	208	217	203	174	192	183	168	154	166	155	146	149
Belgium	1,537	1,509	1,473	1,444	1,403	1,330	1,269	1,168	1,086	1,066	1,000	982	963
Czech Republic	1,841	1,761	1,706	1,638	1,563	1,554	1,477	1,402	1,303	1,325	1,289	1,269	1,271
Denmark	382	383	393	399	417	413	414	392	380	319	296	259	249
Finland	202	211	203	198	165	168	163	160	154	152	137	122	121
France	26	27	27	27	26	25	26	24	25	22	21	21	21
Germany	139	129	129	130	129	123	121	109	87	80	72	74	77
Greece	1,406	1,352	1,328	1,285	1,219	1,163	1,112	1,042	970	952	928	849	820
Hungary	1,219	1,242	1,362	1,378	1,307	1,275	1,188	1,045	1,014	1,061	1,040	...	...
Iceland	45.1	45.1	48.1	57.9	61.3	55.8	51.6	49.7	43.3	45.6	47.6	45.4	32
Ireland	...	...	...	...	2,784	...	...	3,207	...	...	...	...	...
Italy	363	351	344	329	317	303	288	279	255	254	238	227	240
Luxembourg	148.0	151.0	160.1	154.9	163.7	162.4	160.5	161.9	151.8	150.6	152.8	157.9	160.0
Netherlands	204	199	199	200	201	199	202	190	180	182	174	166	153
Norway	839	806	828	855	851	855	860	830	809	862	846	817	798
Poland	273	280	257	263	268	247	242	216	204	189	179	170	167
Portugal	108	100	98	99	102	96	96	94	84	89	85	81	80
Slovakia	1,371	1,412	1,412	1,449	1,434	1,380	1,369	1,180	1,044	966	959	928	824
Spain	199	191	188	181	176	172	164	156	147	149	139	132	139
Sweden	105	99	96	94	92	88	85	82	77	75	71	69	72
Switzerland	817	795	821	836	884	926	1,039	989	968	938	1,116	1,088	1,044
Turkey	1,758	1,687	1,659	1,603	1,587	1,534	1,468	1,318	1,147	1,113	1,040	1,057	1,032
UK	19,394	21,632	20,446	19,249	18,381	17,358	16,335	15,253	14,316	13,497	13,045	12,258	11,691

Source: Air Emissions by source, OECD Environmental Statistics

2.21 Acid deposition in Europe (Annual average of pH in precipitation)

Country	Station name	1985	1990	1995	2000	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Iceland	Irafoss	5.41	5.38	5.55	5.58	5.45	5.49	5.59	5.41	5.44	5.50	5.50	5.36	5.33	5.48	-
Ireland	Valentia	5.38	5.20	5.04	-	5.28	5.18	5.37	5.13	5.27	5.25	5.30	5.30	5.36	5.28	5.32
Italy	Montelibretti	5.09	-	4.83	4.60	5.86	5.65	5.84	5.20	5.62	5.21	5.56	5.92	-	6.02	5.87
UK	Yarner Wood	-	4.88	4.84	-	4.63	4.86	4.81	4.84	4.96	4.90	4.99	5.11	5.12	5.04	5.07
Austria	Illmitz	4.38	4.50	5.06	5.30	5.21	4.83	4.96	4.92	5.09	5.85	5.47	-	-	-	-
Netherlands	Kollumerwaard	-	-	5.14	5.25	5.42	-	5.29	-	5.39	5.53	5.48	5.54	-	-	-
Switzerland	Payerne	4.77	4.93	5.10	5.37	5.51	5.32	5.37	5.48	5.43	5.42	5.40	5.37	5.67	5.59	5.64
Sweden	Vavihill	4.29	4.41	4.46	4.56	4.82	4.72	4.80	4.87	4.96	4.83	4.98	4.91	5.16	4.88	4.91
	Bredkalen	4.47	4.60	4.81	4.81	4.91	5.09	5.03	5.06	5.09	5.04	5.04	-	-	-	5.06
Spain	Niembro	-	-	-	4.89	4.98	4.36	4.23	4.69	5.10	4.91	5.07	3.09	4.88	4.57	4.61
Slovakia	Chopok	4.27	4.27	4.67	4.55	4.57	4.71	4.85	4.75	4.93	4.93	4.83	5.00	5.04	4.74	4.99
Czech Republic	Svratouch	4.46	4.34	4.54	4.75	4.81	4.68	4.73	4.80	4.92	4.93	4.73	4.94	5.10	4.89	4.92
	Kosetice	-	4.36	4.47	4.68	4.93	4.78	4.84	4.79	4.91	4.92	4.88	4.91	5.33	5.22	5.01
Denmark	Keldsnor	4.32	4.66	4.62	4.85	4.96	5.02	4.94	5.33	5.08	5.11	4.96	-	-	-	-
Germany	Deuselbach	4.37	4.64	4.76	4.82	5.08	4.61	4.83	4.98	4.87	5.24	5.12	5.11	5.10	5.45	5.17
	Zingst	-	-	4.59	-	4.79	4.75	4.75	4.93	4.93	4.92	5.02	-	5.25	5.33	5.25
Norway	Birkenes	4.24	4.37	4.48	4.56	4.59	4.69	4.68	4.70	4.75	4.77	4.72	4.69	4.86	4.86	4.97
	Skreadalen	4.48	4.61	4.75	4.90	4.89	5.07	5.20	-	-	-	-	-	-	-	-
Hungary	K-Puszta	5.08	4.99	4.83	5.79	5.94	5.53	5.67	5.58	5.53	5.75	5.50	5.63	5.82	5.77	5.66
Finland	Ahtari	4.55	4.57	4.61	4.73	4.73	4.75	4.78	4.72	4.79	4.79	4.79	4.87	4.88	4.86	4.86
France	La Hague	4.41	4.68	5.05	5.04	5.14	-	-	-	-	-	-	-	-	-	-
Poland	Jarczew	4.16	4.33	4.43	4.61	4.80	4.61	4.63	4.71	4.71	4.85	5.05	4.98	4.90	4.93	4.82
Portugal	Braganca	5.12	5.41	5.92	5.52	5.75	5.68	5.76	5.78	5.79	5.35	5.50	-	-	-	-

Note:
Skreadalen, La Hague and Braganca stations suspended their operations in February 2005, December 2003, and December 2009 respectively.

Source : EMEP ccc Reports <http://www.nilu.no/projects/ccc/reports.html>

2.22 Acid Deposition in Japan (Annual Average of pH in Precipitation)

Monitoring site	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Rishiri	4.85	4.86	4.73	4.66	4.59	4.94	4.67	4.75	4.67	4.70	4.69	4.76
Sapporo	4.76	4.75	4.70	4.54	4.57	4.62	4.87	4.86	4.76	4.69	4.65	4.73
Tappimisaki	4.56	4.61	4.59	4.60	4.58	4.89	4.72	4.68	4.61	4.72	4.71	4.72
Obanazawa	4.72	4.65	4.65	4.83	4.72	4.73	-	-	-	-	-	-
Sado	-	-	-	-	-	-	-	-	-	-	-	-
Sado seki misaki	4.65	4.69	4.59	4.65	4.51	4.59	4.72	4.70	4.66	4.75	4.70	4.72
Niigata	-	-	-	-	-	-	-	-	-	-	-	-
Niitsu	-	-	-	-	-	-	-	-	-	-	-	-
Niigata maki	4.60	4.65	4.47	4.61	4.48	4.57	4.63	4.68	4.60	4.62	4.65	4.67
Tateyama	-	-	-	-	-	-	-	-	-	-	-	-
Wajima	-	-	-	-	-	-	-	-	-	-	-	-
Echizenmisaki	4.54	4.61	4.49	4.57	4.48	4.62	4.58	4.59	4.63	4.57	4.60	4.64
Happo one	4.90	4.86	4.78	4.96	4.78	4.88	5.03	5.07	5.04	4.93	5.00	5.02
Kyoto yawata	-	-	-	-	-	-	-	-	-	-	-	-
Oki	4.80	4.76	4.55	4.69	4.69	4.63	4.67	4.66	4.68	4.66	4.61	4.67
Matsue	-	-	-	-	-	-	-	-	-	-	-	-
Masuda	-	-	-	-	-	-	-	-	-	-	-	-
Banryuko	4.65	4.67	4.55	4.64	4.53	4.52	4.70	4.69	4.58	4.51	4.63	4.59
Ochiishimisaki	4.88	4.70	4.82	4.86	4.79	4.89	5.01	4.81	4.87	4.83	5.00	5.19
Hachimantai	4.75	4.70	4.75	4.73	4.81	4.77	4.92	4.94	4.86	4.73	4.83	-
Nonodake	4.77	4.75	4.54	4.92	4.70	4.76	4.81	4.95	5.02	4.93	4.98	5.05
Sendai	-	-	-	-	-	-	-	-	-	-	-	-
Oze	-	-	-	-	-	-	-	-	-	-	-	-
Tsukuba	4.61	4.64	4.56	4.89	4.71	4.85	-	-	-	-	-	-
Kashima	-	-	-	-	-	-	-	-	-	-	-	-
Nikko	-	-	-	-	-	-	-	-	-	-	-	-
Akagi	4.59	4.69	4.51	4.80	4.83	4.82	4.76	4.82	4.84	4.74	4.85	4.85
Ichihara	-	-	-	-	-	-	-	-	-	-	-	-
Ogasawara	5.04	5.02	4.84	4.99	4.99	5.06	5.18	5.22	5.34	5.37	5.22	5.07
Kawasaki	-	-	-	-	-	-	-	-	-	-	-	-
Tanzawa	-	-	-	-	-	-	-	-	-	-	-	-
Tokyo	-	-	-	-	4.77	4.62	4.76	4.95	4.79	4.88	5.03	4.83
Ijirako	4.40	4.65	4.53	4.46	4.54	4.78	4.65	4.78	4.72	4.70	4.74	4.70
Inuyama	4.63	4.62	4.50	4.57	4.64	4.58	-	-	-	-	-	-
Nagoya	-	-	-	-	-	-	-	-	-	-	-	-
Ushiomisaki	4.74	4.85	4.49	4.62	4.54	4.76	4.80	4.86	4.81	4.76	4.81	-
Ashizurimisaki	-	-	-	-	-	-	-	-	-	-	-	-
Yusuhara	4.76	4.92	4.67	4.83	4.78	4.68	4.78	4.83	4.87	4.83	4.77	4.93
Ebino	4.73	4.82	4.59	4.69	4.69	4.83	4.61	4.72	4.71	4.67	4.73	4.70
Kyotoyawata	4.67	4.84	4.47	4.65	4.60	4.64	4.68	4.73	4.73	4.66	4.77	-
Osaka	-	-	-	-	-	-	-	-	-	-	-	-
Amagasaki	4.71	4.85	4.56	4.57	4.63	4.63	4.74	4.84	4.84	4.71	4.79	4.65
Kurashiki	-	-	-	-	-	-	-	-	-	-	-	-
Kurahashijima	4.48	4.63	4.52	4.64	4.55	4.54	-	-	-	-	-	-
Ube	-	-	-	-	-	-	-	-	-	-	-	-
Oitakujyu	4.59	4.70	4.58	4.74	4.79	4.69	4.66	4.66	4.66	4.69	4.66	4.40
Kitakyusyu	-	-	-	-	-	-	-	-	-	-	-	-
Chikugoogoori	4.85	4.83	4.67	4.49	4.82	4.76	4.74	4.80	4.67	4.65	4.66	4.69
Omuta	-	-	-	-	-	-	-	-	-	-	-	-
Tsushima	4.83	4.78	4.62	4.59	4.51	4.49	4.53	4.77	4.65	4.66	4.75	4.72
Goto	4.82	4.90	4.56	4.62	4.60	4.67	-	-	-	-	-	-
Yakushima	4.67	4.78	4.54	4.53	4.42	4.65	4.50	4.66	4.56	4.68	4.59	4.59
Amami	-	-	-	-	-	-	-	-	-	-	-	-
Okinawakunigami	-	-	-	-	-	-	-	-	-	-	-	-
Hedomisaki	4.83	4.84	4.88	4.95	4.98	5.07	5.03	5.21	4.91	5.12	4.93	5.14
Maximum	5.04	5.02	4.88	4.96	4.99	5.07	5.18	5.22	5.34	5.37	5.22	5.19
Minimum	4.40	4.61	4.47	4.46	4.48	4.48	4.50	4.59	4.56	4.51	4.59	4.40
Average	4.71	4.75	4.61	4.69	4.67	4.71	4.76	4.82	4.77	4.76	4.78	4.78
Standard deviation	0.14	0.11	0.12	0.14	0.14	0.15	0.17	0.16	0.17	0.18	0.16	0.20

Notes:
- - : Not measured.
- Data of the shaded area: Rejected annual average by the year criterion

Source: Transboundary air pollutions and acid deposition monitoring Report (2014) , MOE, the Government of Japan.

2.23 Annual average pH at monitoring sites of East Asia acid deposition monitoring network (EANET)

			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Cambodia	Phnom Penh		—	—	5.32	6.32	6.72	6.69	5.84	6.19	5.97	5.96	6.16	6.18	6.21
China	Xian	Han Cisne	6.24	6.00	6.30	5.41	5.56	5.52	6.40	6.53	6.68	6.27	6.26	6.93	6.61
		Vishuiyan	6.03	6.11	5.98	5.15	5.84	—	—	-	-	-	-	-	-
		Dabago	—	—	—	—	—	—	—	-	-	-	-	-	-
		Jiwozi	6.00	6.05	6.11	6.20	5.87	6.85	6.94	6.10	5.54	5.95	7.12	6.20	6.98
	Chongqing	Guaninchao	4.60	4.49	4.59	4.95	4.86	4.65	—	-	-	-	-	-	-
		Nan Shan	—	—	—	—	—	—	—	-	-	-	-	-	-
		Jinyunshan	4.36	4.30	4.59	4.62	4.69	4.52	4.36	4.33	3.94	4.04	4.09	4.20	4.39
	Xiamen	Hongwen	4.79	4.46	4.71	4.70	4.83	4.79	4.59	4.52	4.57	4.65	4.51	4.88	5.08
		Xiaoping	4.47	4.38	4.61	4.78	4.78	4.60	4.55	4.47	4.58	4.82	4.80	5.00	4.71
	Zhuhai	Xiang Zhou	5.11	5.10	4.78	4.56	4.87	4.63	4.93	4.87	4.85	5.05	5.11	5.23	5.00
		Zhuxiandong	4.89	5.10	4.63	4.61	4.82	—	4.88	4.75	4.95	4.78	-	-	-
Indonesia	Kototabang		5.31	5.30	4.67	4.68	4.53	5.27	5.22	4.65	4.80	5.04	5.01	4.97	4.82
	Jakarta		4.77	5.16	4.69	4.31	4.38	4.56	4.65	4.63	4.73	4.55	4.76	4.77	4.71
	Serpong		4.65	4.62	4.68	4.59	4.60	4.59	4.62	4.71	4.76	4.70	4.91	5.06	5.14
	Bandung		4.46	5.00	5.03	5.03	5.15	4.93	5.17	5.30	5.10	5.40	5.46	5.40	5.21
	Maros		—	—	—	—	—	—	5.63	5.33	5.21	5.35	5.62	5.47	5.23
Japan	Rishiri		4.82	4.88	4.84	4.74	4.67	4.58	4.91	4.74	4.73	4.70	4.70	4.67	4.73
	Tappimisaki		4.68	4.57	4.59	4.60	4.58	4.62	4.59	4.74	4.69	4.61	4.69	4.80	4.66
	Ogasawara		5.09	5.04	5.13	4.81	4.99	5.03	5.00	5.17	5.25	5.30	5.33	5.25	5.08
	Sadozekimisaki		4.64	4.67	4.70	4.56	4.70	4.50	4.55	4.75	4.70	4.68	4.73	4.74	4.70
	Happo one		4.93	4.91	4.86	4.80	4.97	4.79	4.83	4.97	5.10	5.04	4.88	5.00	5.01
	Ijirako		4.52	4.41	4.65	4.51	4.51	4.53	4.45	4.64	4.76	4.75	4.69	4.75	4.71
	Oki		4.73	4.76	4.80	4.56	4.73	4.64	4.60	4.71	4.66	4.73	4.58	4.61	4.65
	Banryuko		4.69	4.63	4.70	4.49	4.69	4.49	4.53	4.66	4.70	4.66	4.48	4.64	4.55
	Yusuhara		4.76	4.73	4.97	4.64	4.84	4.81	4.67	4.77	4.79	4.93	4.77	4.78	4.88
	Hedomisaki		4.95	4.90	4.78	4.83	4.99	4.99	5.00	5.11	5.20	4.90	5.13	4.96	5.02
	Ochiishimisaki		—	4.91	4.68	4.84	4.86	4.78	4.87	5.02	4.83	4.88	4.82	5.03	-
	Tokyo		—	—	—	—	—	4.79	4.60	4.75	4.95	4.83	4.84	5.05	4.83
Laos	Vientiane		—	6.51	5.65	6.32	6.49	5.67	6.01	5.48	-	-	6.46	-	6.54
Malaysia	Tanarata		4.97	4.90	4.86	4.84	4.95	4.95	5.10	5.08	5.06	5.01	4.96	4.95	4.86
	Petaling Jaya		4.23	4.28	4.33	4.37	4.42	4.56	4.43	4.35	4.26	4.16	4.21	4.42	4.42
	Danang Valley		—	—	—	4.98	5.05	5.10	5.22	5.22	5.22	5.21	5.18	5.27	5.31
	Kuching		—	—	—	—	—	—	5.26	5.26	5.28	5.43	5.32	5.29	5.34
Mongolia	Ulan Bator		6.38	5.72	6.46	5.99	6.45	6.26	6.28	6.11	5.88	5.44	5.88	5.98	-
	Tereruji		5.75	5.40	5.78	5.26	5.16	5.22	5.43	6.22	5.61	5.26	5.74	4.91	-
Myanmar	Yangon		—	—	—	—	—	5.57	6.41	6.46	6.42	6.46	6.49	6.45	6.70
Philippines	Metro Manila		5.09	4.44	5.18	4.95	5.30	5.27	5.55	5.23	5.65	5.64	5.22	5.55	6.13
	Los Banos		5.74	4.49	5.26	5.14	5.61	5.54	4.95	5.58	5.88	5.57	5.66	5.85	-
	Mt. Sto. Tomas		—	—	—	—	6.32	5.53	5.49	5.83	6.70	5.35	5.95	5.29	6.14
Korea	Kanghwa		4.65	4.67	4.57	4.25	4.68	4.62	4.55	4.59	4.41	-	4.61	4.58	4.87
	Imsil		5.69	5.08	4.93	6.00	5.19	5.73	4.88	5.09	4.87	-	5.11	5.22	5.29
	Cheju		4.61	4.83	4.74	4.55	4.34	4.51	4.67	5.11	5.04	-	5.31	5.38	5.79
Russia	Mondy		5.39	5.35	5.34	5.36	5.39	5.52	5.17	5.48	5.55	5.54	5.62	5.32	5.33
	Irkutsk		5.02	5.37	4.91	5.12	5.15	4.93	4.77	5.41	5.13	5.02	4.93	5.01	5.06
	Listvyanka		4.88	5.01	4.92	4.83	4.64	4.67	4.63	4.84	4.76	4.73	4.78	4.80	4.90
	Primorskaya		5.20	4.88	4.84	5.06	4.83	4.84	4.79	4.98	4.97	4.63	5.07	5.06	5.47
Thailand	Chiang Mai (Mae Hia)		5.72	5.61	5.59	5.23	5.70	5.95	5.98	5.92	6.17	5.29	6.10	6.04	6.28
	Kanchanaburi		5.64	5.46	6.07	5.54	5.75	5.78	5.66	5.66	5.69	5.49	6.02	5.33	5.79
	Bangkok		5.10	4.53	5.19	4.89	5.16	5.05	5.28	5.09	5.07	5.05	5.68	5.60	7.03
	Samut Prakan		—	—	5.47	5.47	5.87	5.61	5.29	5.13	5.32	5.90	6.17	5.98	6.51
	Pathum Thani		5.33	4.86	4.87	4.89	4.89	4.81	5.03	5.15	5.24	5.00	5.44	5.41	5.51
	Nakhon Ratchasima		—	—	—	—	5.12	5.08	5.03	4.87	4.75	5.00	5.07	5.24	4.82
Vietnam	Hanoi		5.55	5.81	5.65	6.15	5.73	5.58	5.84	5.67	5.93	5.30	5.62	5.66	5.74
	Hua Hin		5.19	5.38	5.60	5.69	5.59	5.06	5.49	5.29	5.37	5.44	5.63	6.04	5.44
	Cuc Phuong		—	—	—	—	—	—	—	4.99	5.23	5.04	5.43	5.42	5.52
	Da Nang		—	—	—	—	—	—	—	4.77	5.11	4.98	5.44	5.58	5.52

Note:
Data of the shaded area: Rejected annual average was by the year criterion.

Source: "Data Report on the Acid Deposition in the East Asian Region(2000 ~ 2005)," "EANET Data Report(2006 ~ 2014)"

2.24 Water quality in rivers

(Unit : mg-O2/L)

Country (region)	River	Biochemical oxygen demand (BOD)						
		1985	1990	1995	2000	2005	2010	2012
Asia								
Japan	Ishikarigawa	1.5	1.2	1.3	1.0	0.9	...	...
	Chikugogawa	2.2	1.7	1.5	1.5	1.4	...	...
	Tonegawa	2.6	2.3	1.9	1.7	1.6	...	...
	Yodogawa	3.4	2.5	2.3	1.5	1.3	...	...
South Korea	Geumgang	...	...	4.5	3.5	...	...	...
	Nakutongan	...	3.0	5.1	2.7	2.6	2.4	2.4
	Hangang	...	3.4	3.8	2.7	3.1	3.2	2.6
	Yonsangan	...	6.7	7.0	6.5	5.3	4.3	4.6
Turkey	Gediz River	2.3	10.6	...	3.7	...	...	...
	Sakarya River	3.6	2.7	4.1	3.1	...	...	...
	Porsuk River	2.0	1.1	1.6	1.1	...	...	...
North America								
USA	Delaware River	2.1	1.2	2.6	3.7	3.2	...	...
	Mississippi River	1.2	1.9	1.1	1.5	1.9	...	...
Mexico	Grijalva River	1.5	2.2	2.0	1.8	2.2	4.3	16.6
	Bravo River	2.5	3.6	3.1	2.2	...	8.3	8.9
	Lerma River	...	13.5	...	30.0	4.2	10.6	5.9
Europe								
Ireland	River Clare	...	...	...	1.5	0.6	0.6	0.8
	River Barrow	...	...	...	1.5	1.4	1.2	1.8
	River Blackwater	...	...	...	2.0	2.1	1.4	1.6
	River Boyne				2.1	1.5	1.7	2.3
UK	Clyde River	3.2	3.5	2.9	2.3	...	...	...
	Severn River	1.7	2.8	2.4	...	...	...	...
	Thames River	2.4	2.9	1.8	1.7	...	...	...
Austria	Inn River	...	...	2.8	0.8	0.6	0.8	1.2
	Danube River	...	...	2.1	0.4	0.4	0.6	0.6
Netherlands	Meuse River (Maas)	2.9	1.6	2.0	2.2	...	...	...
	Rhein River	2.3	1.6	1.9	...	...	...	...
Spain	Ebro River	...	4.0	9.2	8.1	2.3	...	...
	Guadalquivir River	...	9.8	77.1	5.9	3.9	...	...
	Douro River	...	3.0	5.4	3.1	2.5	...	...
Czech Republic	Oder River	10.1	5.9	7.1	5.8	4.3	3.5	...
	Morava River	...	...	4.6	2.9	3.0	...	...
	Rabe River	6.6	6.8	3.7	3.9	2.9	2.8	...
Denmark	Gudena River	2.5	2.0	2.4	1.9	1.5	1.2	...
	Sukyan River	5.5	2.3	...	1.2	0.8	1.0	...
Germany	Danube River	...	...	...	...	1.7	1.6	1.6
Hungary	Tisza River	...	3.3	3.8	2.5	3.0	...	...
	Danube River	...	3.8	3.1	2.7	3.1	...	...
	Doraba River	...	3.4	3.3	2.9	2.1	...	...
France	Seine River	4.3	5.6	4.4	3.2	...	1.1	...
	Rhone River	5.0	1.4	1.3	2.0	...	1.0	...
	Loire River	6.0	7.0	4.0	4.3	...	1.7	...
Belgium	Schelde River							
	Meuse River (Maas River)	...	...	1.6	2.2	1.0	1.0	1.0
Poland	Oder River	...	...	...	5.2	5.5	3.1	3.5
	Vistula River	...	...	...	4.7	4.3	2.9	4.1
Luxemburg	Syre River	...	...	2.7	3.2	1.2	1.9	1.5
	Moselle River	...	...	...	...	...	2.5	...

Notes:

・ Rivers: Measurement was conducted at the estuary of major rivers with large basin areas, or downstream points of within the borders.

・ Biochemical oxygen demand (BOD): An index showing to which extent river water is polluted, indicating the oxygen amounts needed for decomposing organic matter by microorganisms (bacteria) in water. The higher annual average value is, the further pollution is indicated. Each country or region uses a different measuring method.

Source: "Lake and river quality, OECD Environmental Statistics

2.25 Water quality in lakes

Country (region)	Lakes and marshes	Total phosphorus （mgP/l）			Total nitrogen （mgN/l）		
		1990	2000	2012	1990	2000	2012
Asia							
Japan	Kasumigaura	0.050	0.110	…	0.93	0.97	…
	Biwako (North)	0.007	0.006	…	0.29	0.29	…
	Biwako (South)	0.020	0.020	…	0.38	0.39	…
South Korea	Lake Chungju	0.044	0.025	0.023	0.62	2.27	3.04
	Chuncheon Lake	0.014	0.015	0.020	0.60	1.43	2.02
	Paltang Lake	0.048	0.029	0.039	1.36	1.96	2.27
Turkey	Lake Altun-apa	0.110	…	…	…	…	…
	Lake Gala	0.680	…	…	…	…	…
	Lake Sapanca	0.030	…	…	…	…	…
North America							
Canada	Lake Ontario	0.010	…	0.007	1.59	…	1.77
	Lake Superior	0.003	…	…	1.48	…	…
	Lake Huron	0.005	0.004	0.004	1.52	1.53	1.45
Mexico	Laguna Catemaco	…	0.070	0.048	0.08	0.22	2.00
	Lake Chapala	0.240	0.570	0.400	0.15	0.20	0.95
Europe							
UK	Lake Neagh	…	…	…	…	…	…
	Lake Lomond j	0.019	…	…	0.13	…	…
Italy	Lake Garda	…	…	…	…	…	…
	Lake Como	…	…	…	…	…	…
	Lake Maggiore	…	…	…	…	…	…
Austria	Lake Ossiach	…	0.011	0.011	…	…	…
	Lake Mondsee	…	0.008	0.006	…	…	…
Switzerland	Lake Geneva	0.055	0.036	…	0.69	0.68	…
Sweden	Lake Vanern	0.009	0.006	0.006	0.79	0.82	0.61
	Lake Vattern	0.007	0.003	0.003	0.69	0.73	0.67
	Lake Malaren	0.025	0.024	0.022	0.58	0.66	0.52
Denmark	Lake Arreso	0.514	0.194	0.094	3.50	2.61	1.39
	Lake Fureso	0.169	0.097	0.074	0.97	0.82	0.68
Germany	Lake Bodensee	0.021	0.011	…	…	…	…
Norway	Lake Mjosa	…	…	…	…	…	…
	Fjordland	…	…	…	…	…	…
Hungary	Lake Balaton	0.036	0.086	…	0.78	0.79	…
Finland	Lake Parr	0.027	0.024	…	0.93	0.89	…
	Lake Päijänne	0.014	0.013	…	0.62	0.78	…
	Lake Yli-Kitka	0.017	0.014	…	0.45	0.54	…
France	Lake Annecy	0.010	…	…	0.07	…	…
	Lac de Biscarrosse et de Parentis	…	…	…	…	…	…
Luxemburg	Lake Echternach	…	…	…	…	…	…
Oceania							
New Zealand	Lake Taupo	…	0.007	…	…	0.07	…

Notes:

・ The annual averages of concentrations of phosphorus and nitrogen in each lake. Use the figures with caution because measuring methods may differ from countries or regions, and surveyed years.

Total Phosphorus: The total amount of phosphorus in inorganic and organic phosphorus compounds existing in water.

Total Nitrogen: The total of inorganic nitrogen and organic nitrogen existing in water. Inorganic nitrogen is classified into ammonium nitrogen, nitrite nitrogen and nitrate nitrogen.

Source: OECD Environmental Statistics / Lake and river quality

2.26 Population accessible to sewage treatment facilities

(Unit : %)

Country (region)	Primary treatment only					Secondary treatment					Tertiary treatment					Total				
	2000	2005	2010	2010	2013	2000	2005	2010	2010	2013	2000	2005	2010	2010	2013	2000	2005	2010	2010	2013
Canada	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mexico	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	59.2	67.6	70.6	...	...
USA	2.3	...	...	...	...	32.0	...	...	...	...	36.6	...	...	...	...	75.4	...	...	...	...
Japan	0.0	0.0	0.0	0.0	0.0	54.0	55.3	54.9	53.9	52.8	8.0	14.0	20.2	22.4	24.2	62.0	69.3	75.1	76.3	77.0
South Korea	1.1	0.7	0.0	0.0	0.0	68.0	64.7	35.5	31.1	10.0	0.8	17.6	54.1	59.9	82.1	70.5	83.5	90.1	91.6	92.1
Australia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
New Zealand	14.0	...	...	...	...	26.0	...	...	...	...	40.0	...	...	...	...	...	...	...	...	...
Austria	...	...	0.0	0.0	...	...	...	1.3	1.0	...	...	...	92.6	93.5	...	85.4	...	93.9	94.5	...
Belgium	0.0	0.0	0.0	0.0	0.0	5.5	7.7	8.6	9.8	10.8	35.6	46.7	66.4	71.5	73.4	79.1	84.0	...	...	...
Czech Republic	...	0.2	0.1	0.1	0.2	...	16.9	8.7	8.6	8.2	...	55.9	68.2	69.4	71.6	72.4	76.7	82.3	83.0	84.7
Denmark	0.7	...	2.4	2.3	0.8	4.4	...	2.4	1.8	1.9	82.7	...	85.6	86.6	88.2	87.8	...	90.3	90.7	90.8
Finland	0.0	...	0.0	0.0	0.0	0.0	...	0.0	0.0	0.0	80.0	...	83.0	83.0	83.0	80.0	...	83.0	83.0	83.0
France	...	...	...	0.8	0.9	...	...	...	33.6	33.3	...	...	...	22.5	22.1	...	...	...	81.5	81.5
Germany	...	...	0.0	...	0.0	...	...	3.0	...	2.5	...	...	92.6	...	92.8	...	...	96.4	...	96.8
Greece	...	...	0.0	0.0	...	...	...	7.8	6.3	...	...	...	79.6	85.8	...	...	...	87.3	92.0	...
Hungary	16.2	18.9	2.3	0.1	0.1	24.3	20.4	36.4	17.9	16.1	5.5	21.3	33.1	54.9	56.5	51.0	64.8	72.4	74.0	75.0
Iceland	33.0	55.0	65.0	...	...	0.0	2.0	0.0	...	...	0.0	0.0	1.0	...	...	90.0	89.0	91.0	...	...
Ireland	...	...	...	...	1.2	...	...	...	...	46.5	...	...	...	...	17.8	...	...	...	...	68.6
Italy	...	2.3	...	3.3	...	...	18.3	...	22.4	...	...	35.9	...	35.2	...	...	...	...	...	...
Luxembourg	...	...	4.4	2.0	1.9	...	...	62.0	27.3	26.5	...	...	29.3	68.8	69.8	...	...	97.1	100.0	100.0
Netherlands	0.0	0.0	0.0	0.0	...	16.5	5.0	1.3	0.7	...	81.6	94.0	98.1	98.7	...	98.2	99.0	99.3	99.4	...
Norway	22.1	20.6	21.9	19.1	19.3	0.9	1.4	1.6	1.4	1.4	51.1	56.6	57.6	61.2	61.2	79.9	83.6	85.1	85.2	85.3
Poland	3.4	2.1	0.1	0.2	0.1	30.1	20.8	14.9	13.9	14.2	20.1	37.3	49.6	54.6	56.0	53.6	60.2	64.7	68.7	70.3
Portugal	...	10.9	...	...	...	...	27.4	...	...	...	...	15.2	...	...	...	...	74.0	...	...	...
Slovakia	10.0	5.0	0.5	0.5	0.5	10.9	21.2	36.3	34.9	33.2	1.4	10.9	16.2	19.3	21.7	62.6	62.6	62.6	62.7	62.6
Spain	1.0	1.0	3.0	0.6	...	65.0	...	33.0	28.1	...	15.0	...	60.0	66.7	...	93.0	...	98.0	99.1	...
Sweden	0.0	0.0	0.0	0.0	0.0	5.0	5.0	4.0	4.0	4.0	81.0	81.0	82.0	83.0	83.0	86.0	86.0	86.0	87.0	87.0
Switzerland	0.0	0.1	0.0	...	0.0	22.0	19.7	19.8	...	11.0	74.0	77.0	77.5	...	87.0	96.0	96.8	97.3	...	98.3
Turkey	8.0	13.6	14.4	16.3	...	14.6	18.5	19.8	20.2	...	3.7	10.0	17.8	21.8	...	63.0	68.8	78.7	83.8	...
UK	3.6	0.1	0.0	...	...	64.0	56.4	49.6	...	...	27.0	42.9	49.9	...	...	96.6	99.3	100.0	...	...

Source: OECD Environmental Statistics / Waste Water Treatment (as of March 2016)

2.27 Amount of water intake and fresh water resources by country

Country	Water resource		Annual amount of water intake				
	Domestic water flow (㎦)	Per person (㎥)	Total (㎦)	Shares in water resources(%)	Agriculture (%)	Industry (%)	Life (%)
	2014	2014	2014				
World	42,801	5,925	3,908.5	9.1	60.0	22.0	18.0
Asia							
Japan	430	3,382	81.5	18.9	67.0	14.0	19.0
Afghanistan	47	1,491	20.3	43.0	99.0	1.0	1.0
Yemen	2	80	3.6	169.8	91.0	2.0	7.0
Israel	1	91	2.0	260.5	58.0	6.0	36.0
Iraq	35	1,011	66.0	187.5	79.0	15.0	7.0
Iran	129	1,644	93.3	72.6	92.0	1.0	7.0
India	1,446	1,116	761.0	52.6	90.0	2.0	7.0
Indonesia	2,019	7,935	113.3	5.6	82.0	7.0	12.0
South Korea	65	1,286	29.2	45.0	55.0	15.0	24.0
North Korea	67	2,677	8.7	12.9	76.0	13.0	10.0
Kuwait	0	0	0.9	..	54.0	2.0	44.0
Saudi Arabia	2	78	23.7	986.3	88.0	3.0	9.0
Syria	7	322	16.8	235.0	88.0	4.0	9.0
Sri Lanka	53	2,542	13.0	24.5	87.0	6.0	6.0
Thailand	225	3,315	57.3	25.5	90.0	5.0	5.0
China	2,813	2,062	554.1	19.7	65.0	23.0	12.0
Turkey	227	2,990	40.1	17.7	74.0	11.0	15.0
Nepal	198	7,035	9.5	4.8	98.0	0.0	2.0
Pakistan	55	297	183.5	333.6	94.0	1.0	5.0
Bangladesh	105	660	35.9	34.2	88.0	2.0	10.0
Philippines	479	4,832	81.6	17.0	82.0	10.0	8.0
Vietnam	359	3,961	82.0	22.8	95.0	4.0	1.0
Malaysia	580	19,397	11.2	1.9	22.0	43.0	35.0
Myanmar	1,003	18,770	33.2	3.3	89.0	1.0	10.0
Mongolia	35	11,959	0.6	1.6	44.0	43.0	13.0
Jordan	1	103	0.9	138.0	65.0	4.0	31.0
Laos	190	28,463	3.5	1.8	91.0	5.0	4.0
Lebanon	5	1,056	1.3	27.3	60.0	11.0	29.0
Oceania							
Australia	492	20,963	19.8	4.0	66.0	13.0	22.0
New Zealand	327	72,510	5.2	1.6	62.0	23.0	16.0
Papua New Guinea	801	107,321	0.4	0.0	0.0	43.0	57.0
North & Latin America							
USA	2,818	8,838	478.4	17.0	40.0	46.0	14.0
El Salvador	16	2,559	2.1	13.6	68.0	10.0	22.0
Canada	2,850	80,183	38.8	1.4	12.0	80.0	14.0
Guatemala	109	6,818	3.3	3.0	57.0	18.0	25.0
Costa Rica	113	23,751	2.4	2.1	57.0	11.0	32.0
Jamaica	11	3,977	0.8	7.5	55.0	9.0	35.0
Dominican Republic	24	2,258	7.2	30.5	80.0	8.0	12.0
Nicaragua	156	25,973	1.5	1.0	77.0	5.0	19.0
Haiti	13	1,231	1.5	11.1	83.0	4.0	13.0
Panama	137	35,320	1.0	0.8	43.0	1.0	56.0
Honduras	91	11,387	1.6	1.8	73.0	7.0	20.0
Mexico	409	3,262	80.3	19.6	77.0	9.0	14.0
South America							
Argentina	292	6,794	37.8	12.9	74.0	11.0	15.0
Uruguay	92	26,963	3.7	4.0	87.0	2.0	11.0
Ecuador	442	27,819	9.9	2.2	81.0	6.0	13.0
Colombia	2,145	44,883	11.8	0.5	54.0	19.0	27.0
Chile	885	49,824	35.4	4.0	83.0	13.0	4.0
Paraguay	117	17,856	2.4	2.1	79.0	6.0	15.0
Brazil	5,661	27,470	74.8	1.3	60.0	17.0	23.0
Venezuela	805	26,227	22.6	2.8	74.0	4.0	23.0
Peru	1,641	52,981	13.7	0.8	89.0	2.0	9.0
Bolivia	304	28,735	2.1	0.7	92.0	2.0	7.0
Europe							
Ireland	49	10,616	0.8	1.5	15.0	7.0	83.0
Albania	27	9,294	1.3	4.9	39.0	18.0	43.0
Italy	183	3,002	53.8	29.5	44.0	36.0	17.0
Ukraine	55	1,215	14.9	27.0	30.0	48.0	22.0
Ukraine	145	2,246	10.8	7.5	9.0	32.0	58.0
Austria	55	6,436	3.7	6.6	3.0	79.0	18.0
Netherlands	11	652	10.7	97.0	1.0	87.0	11.0
Greece	58	5,336	9.5	16.4	89.0	2.0	9.0
Switzerland	40	4,934	2.0	4.9	10.0	54.0	36.0
Sweden	171	17,636	2.7	1.6	4.0	63.0	34.0
Spain	111	2,393	33.5	30.2	64.0	21.0	16.0
Slovakia	13	2,325	0.7	5.5	3.0	50.0	47.0
Slovenia	19	9,054	0.9	5.0	0.0	82.0	18.0
Czech Republic	13	1,249	1.8	14.0	2.0	63.0	35.0
Denmark	6	1,064	0.7	10.9	25.0	20.0	55.0
Germany	107	1,321	33.0	30.9	1.0	84.0	15.0
Norway	382	74,364	2.9	0.8	29.0	43.0	28.0
Hungary	6	608	5.1	84.2	6.0	79.0	14.0
Finland	107	19,592	6.6	6.1	1.0	93.0	6.0
France	200	3,020	33.1	16.6	9.0	74.0	17.0
Bulgaria	21	2,907	6.1	29.1	16.0	68.0	16.0
Belgium	12	1,068	6.2	51.5	1.0	88.0	11.0
Poland	54	1,410	11.5	21.4	10.0	73.0	18.0
Portugal	38	3,653	9.2	24.1	79.0	13.0	11.0

2.27 Amount of water intake and fresh water resources by country

Country	Water resource		Annual amount of water intake				
	Domestic water flow (㎦)	Per person (㎥)	Total (㎦)	Shares in water resources(%)	Agriculture (%)	Industry (%)	Life (%)
	2014	2014	2014				
Romania	42	2,129	6.9	16.2	17.0	61.0	22.0
Russia	4,313	29,989	66.2	1.5	20.0	60.0	20.0
Africa							
Algeria	11	289	8.4	74.9	59.0	5.0	36.0
Angola	148	6,109	0.7	0.5	21.0	34.0	45.0
Uganda	39	1,032	0.6	1.6	41.0	8.0	51.0
Egypt	2	20	68.3	3,794.4	86.0	6.0	8.0
Ethiopia	122	1,258	5.6	4.6	94.0	0.0	6.0
Eritrea	3	548	0.6	20.8	95.0	0.0	5.0
Ghana	30	1,131	1.0	3.2	66.0	10.0	24.0
Cameroon	273	11,988	1.0	0.4	76.0	7.0	17.0
Guinea	226	18,411	0.6	0.2	53.0	9.0	38.0
Kenya	21	461	3.2	15.5	59.0	4.0	37.0
Ivory Coast	77	3,468	1.5	2.0	38.0	21.0	41.0
Democratic Republic of Congo	900	12,020	0.7	0.1	11.0	21.0	68.0
Zambia	80	5,101	1.6	2.0	73.0	8.0	18.0
Sierra Leone	160	25,334	0.2	0.1	22.0	26.0	52.0
Zimbabwe	12	804	4.2	34.3	79.0	7.0	14.0
Sudan	4	102	26.9	673.3	96.0	0.0	4.0
Senegal	26	1,758	2.2	8.6	93.0	3.0	4.0
Somalia	6	570	3.3	55.0	99.0	0.0	0.0
Tanzania	84	1,621	5.2	6.2	89.0	0.0	10.0
Chad	15	1,104	0.9	5.9	76.0	12.0	12.0
Central Africa	141	29,349	0.1	0.1	1.0	17.0	83.0
Tunisia	4	381	3.3	78.8	80.0	5.0	15.0
Togo	12	1,616	0.2	1.5	45.0	2.0	53.0
Nigeria	221	1,245	13.1	5.9	54.0	15.0	31.0
Namibia	6	2,564	0.3	4.7	70.0	5.0	25.0
Niger	4	183	1.0	28.1	67.0	3.0	30.0
Burkina Faso	13	711	0.8	6.5	51.0	3.0	46.0
Burundi	10	930	0.3	2.9	77.0	6.0	17.0
Benin	10	972	0.1	1.3	45.0	23.0	32.0
Botswana	2	1,081	0.2	8.1	41.0	18.0	41.0
Madagascar	337	14,297	16.5	4.9	98.0	1.0	1.0
Malawi	16	967	1.4	8.4	86.0	4.0	11.0
Mari	60	3,512	5.2	8.6	98.0	0.0	2.0
South Africa	45	830	12.5	27.9	63.0	6.0	31.0
Mauritania	0	101	1.4	337.5	91.0	2.0	7.0
Mozambique	100	3,685	0.9	0.9	78.0	3.0	19.0
Morocco	29	855	10.4	36.0	88.0	2.0	10.0
Libya	1	112	4.3	618.0	83.0	3.0	14.0
Rwanda	10	838	0.2	1.6	68.0	8.0	24.0
Lesotho	5	2,480	0.0	0.8	9.0	46.0	46.0

Source: "The World Development Indicators 2016"

2.28 Oil spill accident from tankers 1975 - 2003

Year	Date	Vessel name	Registry	Damaged country	Runoff (t)	Compensation (Estimated amount) (million US dollar)
1975	1.4	Shell Barge No2	USA	USA	..	5.7
	1.6	Showa Maru	Japan	Singapore	3,800	10.9
	1.10	British Ambassador	UK	Japan	45,000	..
	1.29	Jakob Maersk	Denmark	Portugal	84,000	2.8
	1.31	Corinthos/E.M.Queeny	USA	USA	40,000	5.9
	4.4	Spartan Lady	Liberia	USA	25,000	..
	4.17	Mitsu Maru 3	Japan	Japan	500	5.7
	5.13	Epic Colocoltroni	Greece	Dominican Republic	57,000	..
1976	2.6	Saint Peter	Liberia	Colombia	33,000	0.9
	5.12	Urquiola	Spain	Spain	101,000	19.7
	6.23	Nepco 140	USA	Canada-USA	1,200	11.1
	7.12	Cretan Star	Cyprus	Indian Ocean	28,600	..
	10.14	Boehlen	East Germany	France	11,000	20.3
	12.15	Argo Merchant	Liberia	USA	28,000	2.5
1977	1.7	Borag	Liberia	East China Sea	4,000	15.6
	1.18	Irenes Challenge	Liberia	Pacific	34,000	..
	2.25	Hawaiian Patriot	Liberia	Honolulu	99,000	..
	5.27	..	Panama	Nicaragua	30,000	..
	12.16	Venoil/Venpet	Liberia	South Africa	26,000	5.4
	12.30	Grand Zenith	Panama	USA	29,000	..
1978	3.16	Amoco Cadiz	Liberia	France	228,000	..
	5.6	Eleni V	Greece	UK	3,000	10.6
	7.7	Cabo Tamar	Chile	Chile	60,000	4.2
	10.12	Christos Bitas	Greece	UK	5,000	13.1
	12.30	Esso Bernica	UK	UK	1,160	9.8
	12.31	Andoros Patria	Greece	Spain	47,000	6.4
1979	1.8	Betelgeuse	France	Ireland	27,000	36.2
	2.28	Antonio Gramsci	Soviet Union	Sweden, Finland, Soviet Union	6,000	54.1
	3.2	Messlaniki Frontis	Liberia	Greece	6,000	11.5
	3.15	Kurdistan	UK	Canada	7,000	5.1
	4.28	Gino	Liberia	France	42,000	0.8
	6.28	Aviles	Liberia	Arabian Sea	25,000	..
	7.29	Atlantic Express	Greece	Tobago	276,000	1.5
	8.16	Ionnis Angelicoussis	Greece	Angola	30,000	..
	9.1	Chevron Hawaii	USA	USA	2,000	12.0
	11.1	Burmah Agate	Liberia	USA	40,000	11.5
	11.15	Independenta	Romania	Turkey	94,600	17.2
1980	1.28	Princess Anne Marie	Greece	Cuba	6,000	51.7
	2.24	Irenes Serenade	Greece	Greece	102,000	12.5
	3.7	Tanio	Madagascar	France, UK	13,500	40.0
	12.29	Juan A.Lavalleja	Uruguay	Algeria	40,000	..
1981	1.7	Jose Marti	Soviet Union	Sweden	6,000	6.7
	3.3	Ondina	Dubai	Germany	5,000	7.0
1983	1.7	Assimi	Greece	Oman	51,431	..
	8.6	Castillo de Bellver	Spain	South Africa	255,525	1.0
	9.27	Sivand	Iran	UK	6,000	5.0
	11.25	Feoso Ambassador	China	China	4,000	10.0
	12.10	Pericles GC	Greece	Qatar	46,631	..
1985	2.14	Neptunia	Liberia	Iran	60,000	..
	12.6	Nova	Liberia	Iran	71,120	..
1988	11.10	Odyssey	Liberia	Canada	132,000	..
1989	3.24	Exxon Valdez	United States of America	USA	35,000	2,000.0
	12.19	Kharg 5	Iran	Morocco	70,000	37.0
	12.29	Aragon	Spain	Portugal	25,000	..
1991	4.9/11	Le Haven	Cyprus	Italy	30,000	..
	5.28	ABT Summer	Liberia	Angola	260,000	..
1992	1.21	Maersk Navigator	Singapore	Sumatra	>25,000	..
	4.17	Katina P	..	Mozambique	72,000	50.0
	12.3	Aegean Sea	Greece	Spain	74,000	22.0
1993	1.5	Braer	Liberia	UK	84,000	..
1994	1.6	Red Star	..	Portugal	..	14.0
	2.8	Albinoni	Bahamas	Caribbean	..	50.0
1995	1.21	Maersk Navigator	Denmark	Indonesia	..	33.0
1996	2.15	Sea Empress	Liberia	UK	72,000	30.0
1997	1.2	Nakhodka	Russia	Japan	3,700	1,233.0
	10.15	Evoikos	Cyprus	Singapore	>25,000	100.0
1999	12.12	Erika	Malta	France	19,800	155.0
2002	11.13	Prestige	Bahamas	Spain, Portugal, France	>60,000	12,000.0
2003	7.27	Tasman Spirit	..	Pakistan	29,000	1,000.0

Notes:
- Accidents with more than 25,000 tons runoff, or more than 5 million U.S. Dollars of compensation in the world are listed.
- There was no outbreak of over 25,000 tons of serious spill in 1986 and 1987.
- " > ~ " indicates that the runoff volume is larger than " ~ ", but the exact value is unknown.

Source: "OECD Environmental Data Compendium 2004".

2.29 Ocean-dumping of Waste

(Unit: 10,000 t)

	Industrial waste	Non-industrial waste	Dredged soil	Total
1996	347	247	1,187	1,781
1997	333	240	647	1,220
1998	320	219	705	1,244
1999	292	189	663	1,144
2000	314	171	543	1,027
2001	285	149	627	1,061
2002	263	127	559	949
2003	284	100	658	1,042
2004	292	87	968	1,346
2005	272	77	425	774
2006	255	64	507	827
2007	255	4	369	628
2008	264	0	304	568
2009	208	0	236	444
2010	183	0	255	438
2011	178	0	203	381
2012	173	0	251	424
2013	129	0	223	352
2014	102	0	254	356

Note:
- "Total" may not be consistent with a sum of each column due to rounding at the first decimal place.
- Ocean dumping of non-industrial waste has been prohibited since April 1st, 2007.

Sources: Japan Coast Guard (up to March, 2007), Ministry of the Environment (from April, 2007)

2.30 Consumption of fertilizer by country

(Unit ; 1,000 t)

Country (region)	Nitrogen fertilizer (N)			Phosphatic fertilizer (P2O5)			Potash fertilizer (K2O)		
	2011	2012	2013	2011	2012	2013	2011	2012	2013
World	**98,367**	**98,698**	**99,572**	**38,750**	**39,617**	**38,182**	**28,618**	**27,794**	**28,841**
Asia									
Japan	440	433	437	443	408	375	258	260	275
Iran	243	308	261	197	131	210	34	22	17
India	17,368	* 16,860	* 16,732	8,410	* 6,947	* 5,941	2,597	* 1,989	* 2,058
Indonesia	2,934	2,947	2,825	579	681	783	1,150	1,200	1,200
South Korea	220	303	238	139	213	151	140	216	151
Saudi Arabia	266	438	360	197	685	535	6	4	7
Thailand	1,505	1,561	1,633	459	500	602	554	439	583
China	23,814	23,999	23,942	8,192	9,286	8,306	6,051	6,177	6,274
Turkey	1,458	1,477	1,584	601	669	652	106	99	100
Pakistan	3,188	2,487	3,235	653	669	866	28	20	20
Bangladesh	1,284	1,131	756	417	578	473	381	430	373
Philippines	518	443	287	146	119	73	120	55	40
Vietnam	966	917	1,134	433	482	644	595	502	617
Malaysia	513	480	444	290	342	402	982	734	802
North America									
USA	11,619	12,090	12,007	3,409	3,462	3,607	3,945	4,082	4,415
Canada	2,490	2,503	2,893	822	737	809	350	350	350
Mexico	1,101	1,291	1,290	390	321	307	184	203	212
South America									
Argentina	857	721	772	725	638	622	36	45	41
Colombia	609	619	569	299	294	287	274	266	235
Brazil	4,418	4,251	3,954	4,129	4,343	4,676	4,680	4,601	4,721
Europe									
UK	1,000	999	* 1,060	188	194	* 201	259	267	* 284
Italy	517	685	* 600	199	208	* 171	187	181	* 110
Ukraine	899	928	1,041	195	220	236	169	194	213
Spain	847	843	962	363	377	433	315	321	355
Czech Republic	248	338	331	43	39	40	27	21	29
Germany	1,640	1,649	1,675	247	284	284	386	421	457
Hungary	303	303	340	50	62	72	56	63	70
France	1,944	1,915	2,005	242	253	259	396	337	310
Belarus	601	557	535	292	221	208	787	720	683
Poland	1,095	1,179	1,368	371	374	327	418	390	485
Russia	1,263	1,180	1,167	427	422	438	280	276	256
Africa									
Egypt	1,345	1,206	1,406	313	373	290	28	32	47
South Africa	419	430	417	186	190	184	121	124	121
Oceania									
Australia	1,099	1,099	1,315	880	810	823	180	197	215
New Zealand	290	301	457	512	518	307	37	42	99

Note:
* indicates a provisional or estimated value.

Source: "World Statistics 2016" Statistics Bureau, Ministry of Internal Affairs and Communications.

2.31 Changes in land-use by country

(Unit : 1,000 ha)

Country	Arable land, permanent cropland							Permanent meadows						
	1995	2000	2005	2010	2011	2012	2013	1995	2000	2005	2010	2011	2012	2013
Japan	5,038	4,830	4,692	4,593	4,561	4,549	4,537	405	428					
China	130,880	130,027	125,439	122,538	122,533	122,527	122,524	392,834	392,834	392,834	392,831	392,834	392,834	392,834
India	169,911	170,130	169,674	169,234	169,369	169,346	170,000	11,034	10,845	10,452	10,339	10,301	10,296	10,280
South Korea	1,985	1,918	1,824	1,715	1,698	1,730	1,711	63	55	57	58	58	58	58
Australia	40,300	47,600	49,742	42,968	48,078	47,493	46,611	423,048	407,900	395,407	355,612	361,595	357,981	350,004
New Zealand	1,625	1,550	488	570	542	580	618	13,350	13,863	11,224	10,838	10,829	10,629	10,488
Canada	52,312	52,178	52,139	48,418	47,894	50,746	50,651	15,682	15,435	15,430	14,851	14,703	14,600	14,600
Mexico	24,952	25,378	25,903	26,158	25,658	25,808	25,668	81,243	80,952	80,667	80,547	81,047	80,897	81,037
USA	184,139	178,068	167,815	158,526	154,269	157,708	154,437	236,000	236,331	243,969	249,900	250,400	250,999	251,000
Austria	1,492	1,453	1,447	1,429	1,425	1,420	1,419	1,940	1,920	1,810	1,756	1,756	1,745	1,735
Belgium		883	866	857	847	826	838		507	519	500	489	507	498
Czech Republic	3,378	3,319	3,286	3,248	3,240	3,233	3,225	902	961	974	986	989	992	994
Denmark	2,328	2,289	2,339	2,426	2,503	2,424	2,414	398	358	368	200	187	200	195
Finland	2,146	2,192	2,241	2,259	2,255	2,253	2,228	98	26	33	33	32	32	31
France	19,348	19,494	19,485	19,315	19,281	19,287	19,302	10,802	10,366	10,076	9,578	9,597	9,559	9,472
Germany	12,061	12,020	12,102	12,045	12,075	12,034	12,076	5,282	5,048	4,929	4,655	4,644	4,630	4,621
Greece	3,904	3,854	3,775	3,704	3,700	3,676	3,677	5,260	4,675	4,580	4,490	4,480	4,470	4,460
Hungary	5,031	4,803	4,806	4,580	4,578	4,579	4,581	1,148	1,051	1,057	763	759	759	759
Iceland	135	129	129	123	122	121	121	1,764	1,760	1,753	1,751	1,751	1,751	1,751
Ireland	1,033	1,079	1,187	1,013	1,063	1,171	1,114	3,356	3,333	3,115	3,555	3,492	3,362	3,363
Italy	10,928	11,284	10,334	9,630	9,241	9,560	9,087	4,405	4,353	4,402	4,698	4,612	4,169	4,543
Netherlands	916	944	1,143	1,059	1,042	1,047	1,075	1,048	1,012	795	813	816	795	773
Norway	992	884	867	830	822	816	811	135	158	169	176	177	177	176
Poland	14,575	14,330	12,519	11,219	11,488	11,323	11,204	4,047	4,083	3,387	3,230	3,291	3,206	3,206
Portugal	2,900	2,397	2,052	1,847	1,840	1,836	1,825	1,024	1,433	1,769	1,830	1,827	1,822	1,817
Russia	129,400	126,238	123,581	120,650	121,650	121,350	123,840	87,000	90,924	92,099	93,302	93,000	93,000	93,000
Slovakia	1,606	1,575	1,417	1,417	1,412	1,413	1,415	840	865	524	527	518	515	514
Spain	18,753	18,304	17,844	17,221	16,992	17,539	17,539	10,966	11,462	11,320	10,324	10,022	9,403	9,403
Switzerland	446	433	430	429	428	428	428	1,136	1,133	1,120	1,106	1,104	1,101	1,097
Sweden	2,767	2,706	2,703	2,634	2,619	2,608	2,605	500	447	513	451	447	441	443
Turkey	27,115	26,379	26,606	24,395	23,630	23,790	23,806	12,378	14,100	14,617	14,617	14,617	14,617	14,617
UK	5,993	5,928	5,776	6,016	6,107	6,258	6,310	11,386	11,036	11,180	11,208	11,057	10,924	10,940
World	1,535,390	1,537,435	1,554,219	1,547,095	1,558,350	1,576,659	1,575,263	3,394,084	3,417,599	3,386,769	3,360,287	3,364,138	3,359,913	3,353,666

Note:
Includes estimation.

Source: FAOSTAT, Food and Agriculture Organization (http://faostat.fao.org/) , downloaded in July 2016.

2.32 Threatened species in each country

	Mammals	Birds	Reptiles	Amphibians	Fishes	Mollusks	Others	Plants	Total
●Africa									
North Africa									
Algeria	14	11	8	3	35	10	16	17	**114**
Egypt	18	11	12	0	42	0	55	3	**141**
Libya	12	4	6	0	27	0	2	3	**54**
Morocco	17	12	13	2	46	35	17	34	**176**
Tunisia	13	7	6	1	34	6	9	7	**83**
Western Sahara	9	2	1	0	24	0	3	0	**39**
Sub-Saharan Africa									
Angola	17	26	4	0	40	5	4	34	**130**
Benin	12	10	5	0	28	0	3	16	**74**
Botswana	8	12	0	0	2	0	0	2	**24**
Burkina Faso	9	10	2	0	4	1	0	3	**29**
Burundi	12	13	0	3	17	4	3	8	**60**
Cameroon	42	25	6	56	108	11	16	433	**697**
Cape Verde	4	4	5	0	22	12	1	3	**51**
Central African Republic	13	14	2	0	3	0	0	22	**54**
Chad	14	12	2	0	1	4	0	5	**38**
Comoros	5	10	4	0	7	0	73	7	**106**
Republic of Congo	16	5	4	0	46	5	2	41	**119**
Congo, The Democratic Republic of the	35	36	5	11	84	43	10	109	**333**
Côte d'Ivoire	27	20	6	14	46	3	3	107	**226**
Djibouti	7	10	0	0	17	1	56	3	**94**
Equatorial Guinea	23	7	7	5	29	0	5	79	**155**
Eritrea	10	15	6	0	20	1	57	4	**113**
Ethiopia	33	29	1	12	14	4	11	41	**145**
Gabon	19	5	5	3	61	0	3	135	**231**
Gambia	10	10	4	0	24	0	2	5	**55**
Ghana	20	19	5	11	44	0	5	119	**223**
Guinea	24	18	8	5	67	1	6	34	**163**
Guinea-Bissau	14	8	6	0	31	0	2	5	**66**
Kenya	30	38	10	10	69	17	67	222	**463**
Lesotho	2	7	0	0	1	0	3	4	**17**
Liberia	22	13	6	4	53	1	10	49	**158**
Madagascar	118	35	139	69	85	24	86	409	**965**
Malawi	8	17	3	4	98	7	9	25	**171**
Mari	12	14	3	0	2	0	0	8	**39**
Mauritania	16	13	5	0	32	0	3	0	**69**
Mauritius	7	9	8	0	17	28	90	90	**249**
Mayotte	1	3	7	0	4	0	69	0	**84**
Mozambique	13	29	12	4	59	3	64	84	**268**
Namibia	13	27	5	1	27	0	4	28	**105**
Niger	12	10	1	0	4	1	0	3	**31**
Nigeria	29	19	8	13	58	1	16	189	**333**
Réunion	5	6	0	0	11	16	71	17	**126**
Rwanda	23	15	0	4	9	0	2	8	**61**
St. Helena, Association and Tristan da Cunha	4	19	2	0	12	1	12	30	**80**
Sao Tome and Principe	5	13	5	3	12	1	4	38	**81**
Senegal	17	14	7	0	44	10	3	11	**106**
Seychelles	6	12	11	6	19	36	283	62	**435**
Sierra Leone	21	14	6	3	48	3	5	58	**158**
Somalia	14	17	4	0	25	2	60	43	**165**
South Africa	25	45	21	19	99	22	180	116	**527**
South Sudan	9	16	1	0	0	0	0	16	**42**
Sudan	13	20	3	0	21	0	50	16	**123**
Swaziland	7	12	0	0	4	0	0	11	**34**
Tanzania, United Republic of	38	45	32	57	174	15	114	602	**1,077**
Togo	12	10	3	2	24	0	3	12	**66**
Uganda	27	23	3	3	61	9	10	52	**188**
Zambia	11	17	1	0	20	13	1	20	**83**
Zimbabwe	10	16	3	6	3	0	5	17	**60**
Antarctica									
The Antarctic Continent	2	4	0	0	0	0	0	0	**6**
Bouvet Island	1	1	0	0	1	0	0	0	**3**
French Southern Territories	3	12	4	0	3	0	0	0	**22**
Heard Island and McDonald Islands	1	10	0	0	1	0	0	0	**12**
South Georgia and the South Sandwich Islands	3	6	0	0	0	0	0	0	**9**
●Asia									
East Asia									
China	74	85	43	88	130	15	61	544	**1,040**
Hong Kong	2	20	5	5	13	1	7	7	**60**
Japan	27	39	14	19	72	33	137	23	**364**
Korea, Democratic People's Republic of	9	25	2	1	16	0	3	8	**64**
Korea, Republic of	9	28	2	3	23	0	4	7	**76**
Macao	0	4	1	0	5	0	1	0	**11**
Mongolia	11	20	0	0	2	0	3	0	**36**
Taiwan, Province of China	10	22	9	10	63	1	127	83	**325**
North Asia									
Belarus	3	6	0	0	2	3	6	1	**21**
Moldavia	4	8	2	0	8	2	3	2	**29**
Russian Federation	31	49	9	0	37	8	28	55	**217**
Ukraine	11	14	1	0	21	6	17	17	**87**
South and Southeast Asia									
Bangladesh	34	31	23	1	20	0	7	21	**137**
Bhutan	27	18	3	1	3	0	1	18	**71**
British Indian Ocean Territory	0	0	2	0	9	0	69	1	**81**
Brunei Darussalam	35	23	8	3	8	0	8	104	**189**
Cambodia	37	27	19	4	43	1	76	36	**243**
Disputed territory [includes Paracel Islands and Spratly Islands]	0	0	0	0	1	0	1	0	**2**
India	96	82	53	75	214	7	128	384	**1,039**
Indonesia	186	131	32	32	149	6	284	426	**1,246**
Lao Peoples Democratic Republic	45	24	17	7	55	16	5	41	**210**
Malaysia	71	48	28	48	74	35	227	721	**1,252**
Maldives	2	0	3	0	18	0	46	0	**69**
Myanmar	47	45	29	0	42	3	74	61	**301**
Nepal	32	34	9	3	7	1	2	17	**105**
Philippines	39	89	39	48	76	3	234	239	**767**
Singapore	11	15	5	0	25	0	173	58	**287**
Sri Lanka	31	16	11	56	45	0	130	291	**580**
Thailand	57	48	27	4	98	15	196	150	**595**
Timor-Leste	4	7	2	0	6	0	1	1	**21**
Vietnam	54	44	43	23	75	18	109	199	**565**

2.32 Threatened species in each country

	Mammals	Birds	Reptiles	Amphibians	Fishes	Mollusks	Others	Plants	**Total**
East and Central Asia									
Afghanistan	10	14	1	1	5	0	2	5	**38**
Armenia	9	12	7	0	3	2	7	71	**111**
Azerbaijan	7	14	9	1	12	2	5	42	**92**
Bahrain	3	3	4	0	9	0	13	0	**32**
Cyprus	5	5	5	0	19	1	7	18	**60**
Georgia	10	11	7	1	9	4	11	61	**114**
Iran, Islamic Republic of	17	22	13	4	38	2	22	3	**121**
Iraq	14	16	3	1	17	1	16	1	**69**
Israel	15	14	10	2	37	11	63	0	**152**
Jordan	13	10	6	0	11	6	55	1	**102**
Kazakhstan	16	22	1	1	15	2	5	16	**78**
Kuwait	6	8	3	0	12	0	13	0	**42**
Kirghizstan	6	12	2	0	3	0	4	14	**41**
Lebanon	10	9	7	0	22	9	7	5	**69**
Oman	10	10	8	0	25	2	29	6	**90**
Pakistan	24	30	10	0	35	0	18	12	**129**
Palestine Territory, Occupied	3	10	4	1	2	2	2	0	**24**
Qatar	3	5	2	0	12	0	13	0	**35**
Saudi Arabia	10	15	3	0	29	1	58	3	**119**
Syrian Arab Republic	16	15	8	0	45	9	11	4	**108**
Tajikistan	7	12	2	0	5	0	3	12	**41**
Turkey	17	16	20	11	127	44	32	103	**370**
Turkmenistan	9	16	2	0	11	1	6	4	**49**
United Arab Emirates	8	9	3	0	13	0	15	0	**48**
Uzbekistan	9	16	2	0	7	1	2	17	**54**
Yemen	9	15	6	1	26	2	66	162	**287**
●Europe									
Europe									
Albania	3	6	4	2	39	49	9	0	**112**
Andorra	2	1	1	0	0	3	4	0	**11**
Austria	3	9	1	0	11	43	26	13	**106**
Belgium	2	4	0	0	10	6	8	0	**30**
Bosnia and Herzegovina	4	6	3	1	34	17	19	1	**85**
Bulgaria	7	14	2	0	19	25	12	6	**85**
Croatia	8	12	3	2	59	45	22	8	**159**
Czech Republic	2	7	0	0	2	6	18	10	**45**
Denmark	2	3	0	0	15	5	10	1	**36**
Estonia	1	5	0	0	5	3	3	0	**17**
Faeroe Islands	4	1	0	0	9	0	0	0	**14**
Finland	1	6	0	0	6	3	7	2	**25**
France	8	9	5	2	46	91	42	33	**236**
Germany	4	7	0	0	22	31	26	17	**107**
Gibraltar	5	3	0	0	13	3	2	0	**26**
Greece	10	12	9	5	75	65	57	58	**291**
Greenland	7	1	0	0	8	0	0	1	**17**
Guernsey	0	0	0	0	2	0	0	0	**2**
Holly See (Vatican City State)	1	0	0	0	0	0	0	0	**1**
Hungary	2	10	1	0	9	8	27	10	**67**
Iceland	6	1	0	0	14	0	0	0	**21**
Ireland	5	3	1	0	23	2	4	1	**39**
Isle of Man	1	0	0	0	2	0	0	0	**3**
Italy	7	10	4	9	46	72	64	67	**279**
Jersey	0	0	0	0	2	0	1	0	**3**
Latvia	1	6	0	0	6	4	8	0	**25**
Liechtenstein	0	0	0	0	0	2	2	0	**4**
Lithuania	2	6	0	0	6	2	5	1	**22**
Luxembourg	0	1	0	0	1	5	2	0	**9**
Macedonia, the former Yugoslav Republic of	5	11	2	0	13	61	8	0	**100**
Malta	3	3	0	0	17	3	1	4	**31**
Monaco	2	0	0	0	11	0	3	0	**16**
Montenegro	6	12	3	1	27	20	14	2	**85**
Netherlands	3	4	0	0	12	5	5	0	**29**
Norway	7	4	0	0	19	3	7	4	**44**
Poland	4	8	0	0	7	7	15	10	**51**
Portugal	12	9	4	1	55	76	18	81	**256**
Romania	7	14	2	0	19	11	27	5	**85**
San Marino	0	0	0	0	0	0	1	0	**1**
Serbia	6	11	1	0	11	5	17	5	**56**
Slovakia	3	8	0	0	5	6	16	7	**45**
Slovenia	5	5	1	2	29	32	44	7	**125**
Spain	16	11	20	6	70	141	74	213	**551**
Svalbard and Jan Mayen	2	1	0	0	2	0	0	0	**5**
Sweden	1	4	0	0	11	4	11	5	**36**
Switzerland	2	3	0	1	9	10	33	4	**62**
United Kingdom	5	4	1	0	43	5	13	16	**87**
●North and Central America									
Central America									
Belize	9	5	8	5	43	0	12	35	**117**
Costa Rica	10	23	12	61	56	1	29	131	**323**
El Salvador	7	6	10	10	14	0	7	29	**83**
Guatemala	17	14	32	80	33	2	7	97	**282**
Honduras	8	12	40	56	40	0	18	120	**294**
Mexico	101	61	97	210	170	7	86	377	**1,109**
Nicaragua	7	16	9	10	37	2	16	44	**141**
Panama	16	22	9	49	52	0	22	203	**373**

2.32 Threatened species in each country

	Mammals	Birds	Reptiles	Amphibians	Fishes	Mollusks	Others	Plants	**Total**
Caribbean									
Anguilla	1	1	7	0	28	0	10	4	**51**
Antigua and Barbuda	2	2	6	0	28	0	11	4	**53**
Aruba	2	1	1	0	21	1	1	2	**29**
Bahamas	6	7	8	0	40	1	11	8	**81**
Barbados	3	2	4	0	28	0	11	3	**51**
Bermuda Islands	4	1	3	0	20	0	28	8	**64**
Bonaire, Saint Eustatius and Saba	3	2	6	0	30	0	11	3	**55**
Cayman Islands	1	2	4	0	31	1	10	22	**71**
Cuba	14	18	16	49	41	0	23	176	**337**
Curaçao	3	2	3	0	28	0	11	2	**49**
Dominica	3	3	4	2	28	0	11	11	**62**
Dominican Republic	6	15	14	32	28	0	16	42	**153**
Grenada	3	1	6	1	27	0	10	3	**51**
Guadeloupe	5	2	7	3	28	1	15	9	**70**
Haiti	5	15	15	49	29	0	14	42	**169**
Jamaica	5	10	10	15	29	0	15	214	**298**
Martinique	2	4	7	2	19	2	0	9	**45**
Caribbean									
Montserrat	3	3	3	1	27	0	11	6	**54**
Puerto Rico	3	9	15	14	29	0	0	57	**127**
Saint Barthélemy	1	0	2	0	13	0	11	2	**29**
Saint Kitts and Nevis	2	2	5	1	29	0	10	2	**51**
Saint Lucia	2	5	6	0	28	0	11	6	**58**
Saint Martin (French part)	2	1	6	0	29	0	10	3	**51**
Saint Vincent and the Grenadines	2	2	6	1	28	0	10	5	**54**
Sint Maarten (Dutch part)	2	1	6	0	28	0	10	2	**49**
Trinidad and Tobago	2	5	5	8	33	0	10	2	**65**
Turks and Caicos Islands	2	3	4	0	28	0	10	9	**56**
Virgin Islands, British	1	2	9	2	27	0	10	10	**61**
Virgin Islands, U.S.	2	1	10	2	26	0	0	12	**53**
North America									
Canada	11	13	6	1	37	5	17	7	**97**
St. Pierre and Miquelon	4	2	0	0	1	0	0	0	**7**
United States	35	77	37	56	239	301	274	280	**1,299**
•South America									
South America									
Argentina	39	49	6	30	36	0	13	70	**243**
Bolivia, Plurinational States of	21	55	3	35	0	2	1	99	**216**
Brazil	81	164	29	36	86	22	32	516	**966**
Chile	20	32	2	22	22	1	11	72	**182**
Columbia	56	119	22	215	61	0	33	245	**751**
Ecuador	46	96	26	174	53	48	17	1,848	**2,308**
Falkland Islands (Malvinas)	4	9	0	0	5	0	0	5	**23**
French Guiana	8	7	6	3	27	0	0	16	**67**
Guiana	11	14	5	5	28	0	1	23	**87**
Paraguay	9	27	3	0	0	0	0	19	**58**
Peru	55	121	9	111	21	4	4	318	**643**
Suriname	9	8	5	1	26	0	1	26	**76**
Uruguay	10	22	5	5	37	0	2	22	**103**
Venezuela, Bolivarian Republic of	34	45	14	73	43	1	25	77	**312**
•Oceania									
Oceania									
American Samoa	1	8	6	0	10	5	59	1	**90**
Australia	56	50	43	47	108	174	340	91	**909**
Christmas Island	3	3	4	0	8	0	18	1	**37**
Cocos (Keeling) Islands	2	0	1	0	8	0	20	0	**31**
Cook Islands	1	15	3	0	11	0	32	11	**73**
Fiji	6	14	14	1	13	68	97	65	**278**
French Polynesia	0	31	2	0	30	34	31	47	**175**
Guam	2	14	5	0	10	6	54	4	**95**
Kiribati	1	5	2	0	11	1	80	0	**100**
Marshall Islands	2	3	4	0	13	1	72	0	**95**
Micronesia, Federation States of	7	10	7	0	20	4	111	4	**163**
Nauru	1	2	0	0	9	0	68	0	**80**
New Caledonia	9	16	54	0	30	28	97	259	**493**
New Zealand	9	69	14	4	34	32	14	21	**197**
Niue	1	8	3	0	8	0	30	0	**50**
Norfolk Island	0	10	2	0	5	12	11	1	**41**
Northern Mariana Islands	4	16	4	0	13	4	53	5	**99**
Palau	4	5	3	0	15	40	106	4	**177**
Papua New Guinea	39	38	9	11	49	2	179	151	**478**
Pitcairn	1	10	0	0	9	5	11	7	**43**
Samoa	2	6	5	0	13	1	61	2	**90**
Solomon Islands	20	25	5	2	18	2	149	17	**238**
Tokelau	0	1	2	0	8	0	35	0	**46**
Tonga	2	5	4	0	12	4	43	4	**74**
Tuvalu	1	1	3	0	10	1	77	0	**93**
United States Minor Outlying Islands	0	10	2	0	12	0	47	0	**71**
Vanuatu	7	9	4	0	15	4	88	10	**137**
Wallis and Futuna	0	9	2	0	11	1	64	1	**88**

Source: "IUCN Red List version 2015.2 (Updated 2015.6)"

2.33 Areas of agricultural land by country

(Unit : 1,000 ha)

Country (region)	Land area	Arable land		Permanent crops		Others
	2013	2012	2013	2012	2013	2013
World	**13,009,337**	**1,395,895**	**1,407,843**	**163,893**	**164,661**	**11,436,832**
Asia		**466,924**	**N/A**	**85,196**	**N/A**	**N/A**
Japan	36,456	a 4,246	a 4,237	303	300	a 31,919
India	297,319	156,200	157,000	12,800	13,000	127,319
Indonesia	181,157	23,500	23,500	22,000	22,500	135,157
Kazakhstan	269,970	22,900	29,395	75	132	240,444
South Korea	9,747	1,522	1,496	208	215	8,036
Saudi Arabia	214,969	3,160	3,068	230	227	211,674
Thailand	51,089	16,560	16,810	4,500	4,500	29,779
China	938,821	105,920	105,720	15,800	16,000	817,101
Turkey	76,963	20,577	20,574	3,213	3,232	53,157
Pakistan	77,088	21,185	30,470	855	810	45,808
Bangladesh	13,017	7,675	7,678	850	830	4,509
Philippines	29,817	5,545	5,590	5,350	5,350	18,877
Malaysia	32,855	965	954	6,500	6,600	25,301
North America		**235,073**	**N/A**	**13,966**	**N/A**	**N/A**
USA	914,742	155,108	151,837	2,600	2,600	760,305
Canada	909,351	45,915	45,915	4,831	4,736	858,700
Mexico	194,395	23,132	22,975	2,676	2,693	168,727
South America		**133,768**	**N/A**	**14,174**	**N/A**	**N/A**
Argentina	273,669	39,291	36,699	1,000	1,000	232,970
Brazil	835,814	72,605	76,008	7,000	6,800	753,006
Europe		**274,749**	**N/A**	**15,158**	**N/A**	**N/A**
Iceland	10,025	121	121	...	…	9,904
Ireland	6,889	1,170	1,113	1	1	5,775
UK	24,193	6,212	6,265	46	45	17,883
Italy	29,414	7,118	6,827	2,442	2,260	20,327
Ukraine	57,932	32,518	32,526	894	894	24,512
Estonia	4,239	621	632	6	6	3,601
Austria	8,253	1,355	1,354	65	65	6,834
Netherlands	3,367	1,011	1,038	36	36	2,293
Greece	12,890	2,540	2,547	1,150	1,130	9,213
Switzerland	3,952	404	404	24	25	3,523
Sweden	40,734	2,599	2,596	9	9	38,129
Spain	50,021	12,400	12,570	4,560	4,969	32,482
Slovakia	4,809	1,392	1,394	20	21	3,394
Czech Republic	7,723	3,157	3149	76	76	4,498
Denmark	4,243	2,418	2,408	6	6	1,829
Germany	34,854	11,834	11,876	200	200	22,778
Norway	36,525	811	806	5	5	35,714
Hungary	9,053	4,397	4,403	182	178	4,472
Finland	30,389	2,249	2,224	4	3	28,162
France	54,756	18,291	18,306	1,002	997	35,454
Belgium	3,028	802	816	24	22	2,190
Poland	30,621	10,925	10,792	398	412	19,417
Portugal	9,160	1,090	1,116	714	709	7,335
Russia	1,637,687	119,750	122,240	1,600	1,600	1,513,847
Africa		**237,135**	**N/A**	**33,815**	**N/A**	**N/A**
Egypt	99,545	2,800	2,738	812	1,023	95,784
Nigeria	91,077	35,000	34,000	6,700	6,500	50,577
South Africa	121,309	12,000	12,500	413	413	108,396
Oceania		**48,245**	**N/A**	**1,584**	**N/A**	**N/A**
Australia	768,230	47,113	46,219	380	392	721,619
New Zealand	26,331	580	547	71	71	25,713

Notes:

The definition of land use may differ from each country (region.)

Land area: Total land area, excluding inland water (major rivers and lakes).

Arable land: The land cultivated and harvested with short-term crops (land for successive-cropping is not counted twice).
Includes meadows for pasture grazing and temporary fallow land (for less than 5 years).

Permanent crops: The land cultivated with long-term crops which do not have to be replanted for several years (such as cocoa, coffee and rubber). Including areas of bush, orchards, tree nuts and vine crops. Excluding land planted with trees for timber.

Others: Permanent pasture, woodland, woods, building sites, roads, barren land and other land which is not classified in above items.

a. Permanent pasture is included in arable land.

Source: "World Statistics 2016" Statistics Bureau, Ministry of Internal Affairs and Communications, the Government of Japan

2.34 Forest area in each country

Country (region)1	Forest (1,000 ha)		Percentage of forest in national land (%)	The changes between 2000 ~ 2010 (1,000 ha) 2)
	2000	2010	2010	
World	**4,085,168**	**4,033,060**	**31**	**-5,211**
Asia	**570,164**	**592,512**	**19**	**2,235**
China	177,000	206,861	22	2,986
Japan	24,876	24,979	69	10
Mongolia	11,717	10,898	7	-82
Indonesia	99,409	94,432	52	-498
India	65,390	68,434	23	304
Myanmar	34,868	31,773	48	-310
Malaysia	21,591	20,456	62	-114
Thailand	19,004	18,972	37	-3
Laos	16,532	15,751	68	-78
Vietnam	11,725	13,797	44	207
Turkey	10,146	11,334	15	119
Iran	11,075	11,075	7	0
Others	66,831	63,750	-	-308
North America	**677,083**	**678,961**	**33**	**188**
Canada	310,134	310,134	34	0
USA	300,195	304,022	33	383
Mexico	66,751	64,802	33	-195
Others	3	3	-	0
Central America	**21,980**	**19,449**	**38**	**-248**
Caribbean islands	**6,434**	**6,933**	**30**	**50**
South America	**904,322**	**864,351**	**49**	**-3,997**
Brazil	545,943	519,522	62	-2,642
Peru	69,213	67,992	53	-122
Colombia	61,509	60,499	55	-101
Bolivia	60,091	57,196	53	-290
Venezuela	49,151	46,275	52	-288
Argentina	31,961	29,400	11	-246
Paraguay	19,368	17,582	44	-179
Chile	15,834	16,231	22	40
Guyana	15,205	15,205	77	0
Suriname	14,776	14,758	95	-2
Others	21,371	19,691	-	-168
Europe	**998,239**	**1,005,001**	**45**	**676**
Russia	809,269	809,090	49	-18
Sweden	27,389	28,203	69	81
Finland	22,459	22,157	73	-30
Spain	16,988	18,173	36	119
France	15,353	15,954	29	60
Germany	11,076	11,076	32	0
Others	95,705	100,348	-	464
Africa	**708,564**	**674,419**	**23**	**-3,415**
Sudan	70,491	69,949	29	-54
Angola	59,728	58,480	47	-125
Zambia	51,134	49,468	67	-167
Mozambique	41,188	39,022	50	-217
Tanzania	37,462	33,428	38	-403
Zimbabwe	18,894	15,624	40	-327
Madagascar	13,122	12,553	22	-57
Ethiopia	13,705	12,296	11	-141
Botswana	12,535	11,351	20	-118
Republic of the Congo	157,249	154,135	68	-311
Central Africa	22,903	22,605	36	-30
DR Congo	22,556	22,411	66	-15
Gabon	22,000	22,000	85	0
Cameroon	22,116	19,916	42	-220
Mali	13,281	12,490	10	-79
Chad	12,317	11,525	9	-79
Ivory coast	10,328	10,403	33	8
Others	107,555	96,763	-	-1,079
Oceania	**198,381**	**191,384**	**23**	**-700**
Australia	154,920	149,300	19	-562
Papua New Guinea	30,133	28,726	63	-141
Others	13,328	13,358	-	3

Notes:

Forest is defined as woodland where 10% or more of its tree-crown area is covered with trees 5m high or higher, including seedlings expected to be that high in the future. Forest includes the national parks, natural conservation areas, other protected areas, and windbreaks which are 0.5 ha or more, and 20m wide or wider, additionally, plantations of rubber and cork oak. Excludes trees for agricultural production such as orchards and trees which were grown as agro-forestry tree.

1. Top 50 countries with the largest forest areas in 2010.
2. A net change after offsetting expansion by plantation against losses and increases in natural forests, calculated from the forest area in 2000 and 2010.

Source: "Global Forest Resources Assessment 2010," Food and Agriculture Organization.

2.35 Major causes of soil degradation by region

(Unit: million ha)

Area	Land type	Degradation area by cause					Total degradation area	Non-degradation area	Total land area
		Overgrazing	Forest destruction	Agriculture	Over-exploitation	Biological Industries			
Africa	Drylands susceptible to degradation	184.6	18.6	62.2	54.0	0.0	319.4	966.6	1,286.0
	Others	58.5	48.2	59.2	8.7	0.2	174.8	1,504.9	1,679.7
Asia	Drylands susceptible to degradation	118.8	111.5	96.7	42.3	1.0	370.3	1,301.5	1,671.8
	Others	78.5	186.3	107.6	3.8	0.4	376.6	2,207.5	2,584.1
Australasia	Dry land susceptible to degradation	78.5	4.2	4.8	0.0	0.0	87.5	575.8	663.3
	Others	4.0	8.1	3.2	0.0	0.1	15.4	203.5	218.9
Europe	Drylands susceptible to degradation	41.3	38.9	18.3	0.0	0.9	99.4	200.2	299.6
	Others	8.7	44.9	45.6	0.5	19.7	119.4	531.4	650.8
North America	Dry land susceptible to degradation	27.7	4.3	41.4	6.1	0.0	79.5	652.9	732.4
	Others	10.2	13.6	49.1	5.4	0.4	78.7	1,379.8	1,458.5
South America	Drylands susceptible to degradation	26.2	32.2	11.6	9.1	0.0	79.1	436.9	516.0
	Others	41.7	67.8	51.9	2.9	0.0	164.3	1,087.3	1,251.6
Total		678.7	578.6	551.6	132.8	22.7	1,964.4	11,048.3	13,012.7

Notes:

- The table is based on GLASOD (Global Assessment of Human-Induced Soil Degradation.)
- "Dryland susceptible to degradation" in here is dry, semi-arid and dry semi-humid areas. This climatic division is defined by dryness index.
- Australasia refers to Australia, New Zealand and the coastal islands nearby.
- Due to round-up or down, totals may not foot.

Source: "World Atlas of Desertification 2nd Edition 1997," UNEP.

2.36 Generated amounts of waste by sectors in each country (latest data after 1993)

(Unit : 1,000 t)

Country (region)	Year	Agriculture and forestry	Mining and quarrying	Manufacturing	Energy-supply	Water supply	Construction	Others	Municipal waste	Total
		01-02 (a)	10-14	15-37	40	41	45		(b)	(c)
Canada	2004	..	..	..	..	..	..	..	13,380	..
Mexico	2006	..	..	..	..	..	..	..	36,090	..
USA	2005	..	..	..	..	..	..	..	222,860	..
Japan	2001	90,430	13,770	122,880	6,970	8,310	76,150	3,860	54,930	455,180
South Korea	2004	..	..	38,330	..	..	54,200	..	18,250	110,780
Australia	2002	..	..	9,470	..	..	13,740	..	8,900	32,380
New Zealand	1999	150	..	800	..	..	800	..	1,540	3,290
Austria	2004	..	..	..	..	1,910	28,600	18,900	4,590	54,000
Belgium	2002	1,150	120	13,650	850	200	10,490	6,300	4,750	36,360
Czech Republic	2005	460	650	6,040	2,310	650	9,110	2,770	2,950	24,940
Denmark	2005	..	..	1,850	1,080	820	5,270	1,850	3,340	14,210
Finland	2004	860	23,820	15,710	1,570	510	20,840	100	2,370	65,790
France	2004	..	..	90,000	..	960	..	..	33,780	128,610
Germany	2004	..	50,450	53,010	..	..	187,480	..	48,430	339,370
Greece	2003	..	..	..	..	..	5,000	..	4,710	..
Hungary	2004	..	13,080	5,200	3,330	..	1,740	2,050	4,590	29,990
Iceland	2004	50	-	50	-	-	20	230	150	490
Ireland	2004	60,170	4,050	5,300	290	60	2,680	..	3,000	57,160
Italy	2004	440	900	37,780	2,800	13,550	46,460	5,530	31,150	138,620
Luxembourg	2004	..	50	730	-	130	6,980	90	310	8,300
Netherlands	2004	2,390	90	16,900	1,430	170	24,000	6,150	10,160	61,290
Norway	2005	160	190	3,800	40	..	1,500	2,260	1,840	9,790
Poland	2005	..	39,620	58,440	19,840	3,280	240	2,740	9,350	133,960
Portugal	2002	..	3,630	8,980	320	50	..	110	4,620	17,710
Slovakia	2004	4,490	..	8,680	..	260	1,690	..	1,400	16,590
Spain	2004	..	21,780	28,510	5,940	..	..	9,510	27,590	..
Sweden	2004	..	58,640	29,470	1,250	920	11,270	..	4,170	105,710
Switzerland	2004	..	..	1,130	..	210	11,900	..	4,910	18,140
Turkey	2004	..	..	17,500	13,890	3,240	..	..	29,740	64,350
UK	2002	540	96,390	45,000	6,180	1,390	109,000	30,320	36,120	323,430

Notes:
a: The data is data for primary waste, including hazardous waste. Fractions are rounded down. Data before 1998 are not included.
b: General waste: Please refer to the notes of following table "Waste generation amount in each country" for details.
c: The total value may include estimation .

Canada) General waste: The data of household waste in fiscal year 2004; 27 million tons of non-hazardous waste were generated from homes, public organizations, industrial facilities and commercial facilities (excluding waste from construction and demolition).

Mexico) General waste: The data in fiscal year 2005.
USA) General waste: The data in fiscal year 2005.
Japan) The data in fiscal year 2001. The agriculture and forestry figures include livestock waste. General waste includes separate collections for recycling in the The total amounts include sludge waste and refuse disposal.

South Korea) The data in fiscal year 2004. Manufacturing also includes hazardous waste and is in the range of 01~02, 10~14, 40 and 41 by the classification of ISIC.

Australia) The data is from fiscal year 2002 to 2003. Manufacturing includes waste from the small industrial sector.
New Zealand) Includes landfill waste and recycled packing waste (which t is included to general waste) The data is as of fiscal year 1999; General waste: Only household waste.

Austria) The data is in fiscal year 2004. Including hazardous waste. The classification of Austria is by waste stream, not economic sectors. Therefore, the data may not be able to be compared with the data of other countries.

Water supply: (general and industry) Wet weight of sewage and water treatment. Building industry: Including 22 million tons of excavated soil.
Belgium) Estimate of NSI for the fiscal year 2002 (For agriculture is 2004).
Czech Republic) The data in 2005 include hazardous waste (Total 14 million tons).Others: Including waste from sludge and refuse disposal (ISIC: 12 million tons).

Denmark) The data in 2005. ISIC (International Standard Industrial Classification) 41: ISIC 90. Others: Waste from various facilities, wholesale and retail business, service industry and others.

General waste: Household waste. To avoid double counting with other categories. Total: Partial total that does not include waste from agriculture, industry and crushed stone industry.

Finland) The data in 2004 by sectors is according to the Regulations of waste statistics of the European Parliament. The data may also include liquid waste. Building industry: 1.920 tons of surplus soil. ISIC 41: ISIC 90.

France) The data in 2004. However, for water supply (sewage sludge) is 2001. The total is the data from 1999. Manufacturing: Including hazardous waste.
Germany) The data is by primary waste in 2004. Including hazardous waste. Building industry: Including excavated soil.
Greece) The data of 2003. Total production of waste in the 1990s was estimated to be 379 million tons.
Hungary) The data in 2004 by sectors is according to the Regulations of waste statistics of European Parliament. Excluding 37, 51.57 and 90 of the NACE sector and separated residue.

Iceland) The data of 2004 include hazardous waste. Manufacturing: Waste from meat processing plants and coastal fresh fish processing plants.

Others: Scrap metal, tires and other waste. The classification of Iceland is according to waste stream, not economic
Ireland) The data of 2004.
Agriculture: Organic fertilizers from mainly livestock (wet weight). Including dairy water pollution (excluding the total generated amount of waste). Building industry: excluding excavated soil.

Italy) The data of 2004. Including International Industrial Classification (ISIC) 01-02: ISIC; ISIC 40:
Including arising sewage and waste treatment from ISIC41: ISIC 90. Others: ISIC50-55, 60-85, 91-99.
Excluding the unspecified NACE from total amount.
Luxembourg) The data in 2004 by sectors is according to the Regulations of waste statistics of European Parliament. ISIC 41: ISIC
Netherland) The data of 2004. Excluding organic fertilizers, polluted soil, and dredged soil.
Norway) The preliminary data of 2005 includes hazardous wastes, excluding oil platforms and transport ships which are over total registered tons.
Industrial, quarrying industry and building industry, excludes soil, sand gravel, stones. Energy: Including ISIC41.
Others: Waste from the service industry and other unspecified sectors.
General waste: Household waste (Excluding scraped vehicles as it is included in the National Waste Account).
Poland) The data of 2005 is by the Catalog of European waste. ISIC41: Excluded waste from sewage and refuse disposal (ISIC 90: 439 thousand tons).
Others: The data is by ISIC/NACE50-52, 74, 93. General waste: collected garbage.
Portugal) The data of 2002 include Portugal and Azores islands. Excluding other islands. The data of general waste includes the Madeira Islands.
Slovakia) The data of 2004.
Spain) The data of 2004 include hazardous waste. Others: Waste from the service sector. However, excludes financial intermediation sector, government agencies, defense organizations, and social security.

Sweden) The data in 2004 by sectors are according to the Regulations of waste statistics of the European Parliament. Excluding 37, 51, 57 and 90 of NACE and separation residue. Total amount: Total reported amount.

Czech Republic) The data of 2004.
Turkey) Energy production (2002): the data is from of 16 points of 21 thermal plants.
The data of 2004. Energy production (2002): the data is from of 16 points of 21 thermal plants.

ISIC 41: ISIC 90 (fiscal year 2000). Subtotal: Total of submitted volume.
UK) Estimates of 2002. However, excluding general waste (May, 2004), agriculture (Britain), quarrying industry mining and the building industry (2004).
Energy: Including ISIC4. Water supply : sewage and water treatment (dry weight) Others: ISIC50-52, 55, 60-67, 70-75, 80 and 85.

Source: "OECD Environmental Data Compendium 2006"

2.37 Amount of municipal waste in each country (a)

	Total amount (Unit : 1,000 t)										Amount per person (kg/person)									
	municipal waste					Household waste out of municipal waste					municipal waste					Household waste out of municipal waste				
	1985	1990	1995	2000	2005(b)	1985	1990	1995	2000	2005(b)	1985	1990	1995	2000	2005(b)	1985	1990	1995	2000	2005(b)
Canada	..	18,110	..	..	..	..	8,925	7,030	11,279	13,375	..	640	..	..	..	..	310	240	370	420
Mexico	..	21,062	30,510	30,733	36,088	..	16,850	24,407	23,641	27,785	..	250	330	310	340	..	200	270	240	260
USA	149,189	186,167	193,869	215,578	222,863	..	115,423	116,321	129,347	133,718	630	750	730	760	750	..	460	440	460	450
Japan	43,450	50,441	50,694	52,362	51,607	..	..	..	34,372	34,798	360	410	400	410	400	..	..	..	270	270
South Korea	20,994	30,646	17,438	16,950	18,252	..	..	15,411	14,375	15,175	510	710	390	360	380	..	..	340	310	320
Australia	..	12,000	..	13,200	..	..	7,000	..	7,660	8,903	..	690	..	690	..	..	400	..	400	450
New Zealand	..	..	..	..	..	..	1,140	1,431	1,541	1,541	..	..	..	..	..	..	340	390	400	400
Austria	..	3,204	3,476	4,250	4,588	1,727	2,504	2,644	3,236	3,419	..	420	430	520	560	230	320	330	400	420
Belgium	3,055	3,436	4,615	4,783	4,847	2,630	2,884	3,646	3,863	3,724	310	340	460	470	460	270	290	360	380	360
Czech Republic	2,600	..	3,200	3,434	2,954	..	..	2,600	..	..	250	..	310	330	290	..	..	250	..	..
Denmark	2,430	..	2,960	3,546	3,990	1,900	..	2,610	3,084	3,337	480	..	570	660	740	370	..	500	580	620
Finland	..	..	2,109	2,600	2,450	..	..	870	1,040	1,201	..	..	410	500	470	..	..	170	200	230
France	..	26,220	28,253	31,232	33,963	18,700	20,420	20,009	21,130	22,000	..	450	480	510	540	340	350	340	350	350
Germany	..	..	44,390	50,132	49,563	..	..	35,129	37,667	39,886	..	..	540	610	600	..	..	430	460	480
West Germany	..	27,972	27,332	..	..	19,387	21,721	16,638	..	..	..	440	420	..	..	320	340	250	..	..
Greece	3,000	3,000	3,200	4,447	4,853	..	..	..	..	..	300	300	300	410	440	..	..	..	..	..
Hungary	..	5,500	4,752	4,552	4,632	..	2,468	2,543	2,674	2,677	..	530	460	450	460	..	240	250	260	270
Iceland	..	..	114	130	153	..	..	..	..	..	..	..	620	460	520	..	..	..	..	..
Ireland	1,100	..	1,848	2,279	3,050	..	..	1,325	1,333	1,746	310	..	510	600	740	..	..	370	350	420
Italy	15,000	20,000	25,780	28,959	31,677	..	..	..	..	..	270	350	450	510	540	..	..	..	..	..
Luxembourg	131	224	240	285	321	..	98	193	239	273	360	580	580	650	710	..	250	470	550	600
Netherlands	6,933	7,430	8,469	9,769	10,180	5,177	6,195	7,320	8,650	9,102	480	500	550	610	620	360	410	470	540	560
Norway	1,968	2,000	2,722	2,755	3,498	655	800	1,174	1,452	1,844	590	550	640	620	760	200	220	270	330	400
Poland	11,087	11,098	10,985	12,226	9,354	7,223	7,253	7,645	8,480	6,496	300	290	280	320	250	190	190	200	220	170
Portugal	2,350	3,000	3,855	4,531	5,009	..	..	..	..	..	230	300	390	440	470	..	..	..	..	..
Slovakia	1,901	1,600	1,620	1,707	1,468	..	..	995	953	1,248	360	300	300	320	270	..	..	190	180	230
Spain	..	..	20,076	26,505	27,593	10,013	12,611	15,107	18,925	22,735	..	..	510	660	650	260	320	380	470	530
Sweden	2,650	3,200	3,555	3,796	4,347	..	..	..	..	..	320	370	400	430	480	..	..	..	..	..
Switzerland	3,398	4,101	4,200	4,728	4,855	2,265	2,734	2,800	3,262	3,237	530	610	600	660	650	350	410	400	450	440
Turkey	18,000	22,315	27,234	30,617	31,352	..	..	..	..	..	360	390	440	450	440	..	..	..	..	..
UK	..	27,100	28,900	33,954	35,077	17,000	20,000	27,000	29,911	30,429	..	470	500	580	580	340	350	470	510	510
North America	183,000	230,000	242,000	272,000	285,000	..	..	..	..	..	540	630	630	660	660	..	..	..	..	..
Europe (OECD members)	159,000	185,000	219,000	246,000	261,000	..	..	..	..	..	380	430	490	540	560	..	..	..	..	..
EU-15	135,000	156,000	184,000	208,000	222,000	..	..	..	..	..	380	430	490	550	570	..	..	..	..	..
OECD countries	397,000	479,000	526,000	586,000	614,000	..	..	..	..	..	440	510	540	580	580	..	..	..	..	..

Notes:

a) municipal waste is collected by municipalities. This includes household waste, waste from commercial activities, office buildings, small business, buildings like schools or government offices, and this waste is treated in the same facilities as waste from municipalities collection. Household waste is generated by home activities and by home activities and includes scrap, large-size refuse, and separately collected waste. The definitions in each country may be different. The volume per person is rounded down.

b) The available data for latest year.

Canada) Data of 1990, 1995, 2005 are from 1992, 1996, 2004 respectively. Time series between 1992 and 1996 are not continuous partially.
27 million tons of non-hazardous waste generated in 2002 from home, facilities, commercial facilities and industry (excluding building and demolition waste).

Mexico) The data of 1990 is by the data of 1991. The time series were interrupted between 1991 and 1995.
The latest fiscal year: The data of 2006; Household waste: Estimates are by the secretariat.

Japan) In 2005: The data of 2003. Household waste: The data of 2001. ; municipal waste: Collected municipal waste, delivered waste, and waste treated at home.
Excluding collected waste for recycling by mainly private sector. (28 million tons).

South Korea) In 2005: The data of 2004. The measuring method was changed in 1992; Household waste in 1995: The data of 1996.

Australia) Data of 1980, 1990, 2000 are from 1978, 1992, the later half of 1990 respectively, estimated by the secretariat.
municipal waste: It may be included a quite large amount of commercial and industrial waste; Household: In 2005: Fiscal year 2002 ~ 2003.

New Zealand) The data of 1980, 1990 and 2000 are by the data of 1982, 1986~1991 and 1999 ;
The data of 1995, 2000 and 2005 are included land filled household waste and recycled packing waste. ;
The data of 1995 and 2000: Excluding 150,000 tons of building and demolition waste, which are included in the definition of the country.

Austria) municipal waste: Excluding those definition by the country, includes waste from building sites, plant waste from onsite compost treatment from municipal business, waste from general kitchen and dining rooms.
In 2005: The data of 2004; Household waste: Including a small amount of waste from commercial and trade source; The data of 1980 and 1985 are by the data of 1979 and 1984.

Belgium) The data estimates of NSI. Household waste is included waste from small business a. ; For 2005 is the data of 2003.

Czech Republic) In 1985, 1995: The data 1987 and 1996. Before 2000: It is an incomplete estimate because the survey was in trial stage.

Denmark) The data of 1980 and 1985 are a survey of treatment facilities. Household waste: It is by the Danish classification of life waste, large-size refuse, garden waste, packing waste and others.

Finland) The data of 1995 is by the data of municipal waste in 1994. : Before 2000: Collection amount; After 2000: Estimates amount is included compost; Estimated amount of household waste in 2005.

France) The data of 1990 is by the data of 1989 ; The data is included DOM ; municipal waste (estimates of 2005) : Including household waste from commercial, trade and similar sources, large-size refuse and collected waste from municipalities ; Household waste (for 2005 is the data of 2004) : Excluding similar waste to waste from commercial, trade and large-size refuse.

Germany) For 1995 is the data of 1996. ; In 2000, 2005 (estimate): There is the interrupted time serial. From 2000; Waste is by the catalog of European waste. ;
Household waste: Household waste and similar waste, large-seize refuse, compost waste from bio-containers, collected waste by separate collection; In 2005: Estimates by the secretariat.

West Germany) The data of 1985, 1995 are by the data of 1984 and 1993. Household waste: Excluding separate collection for the purpose of recycling by non-public sector (about 5 million tons in 1993).

Hungary) municipal waste (pre-data of 2005): Including estimates of population that do not receive municipal collection of waste; Household waste: Only collected waste. In 2005: Estimates by the secretariat.

Ireland) In 1985: It is by the data of 1984. The measuring method was changed between 2002 and 2005. Household waste: Include the calculations of rise of the waste collection domestic service.

Luxembourg) In 2005: Estimates. municipal waste after 1995: Including separate collection; Household waste in 1990: It is by the data of 1992.

Netherlands municipal waste (pre-data in 2005): Including separate collection for the purpose of recycling. In 1980: The data of 1981. Household waste: Including collected paper by schools, churches and sports clubs. In 2005: Estimates by the secretariat.

Norway) municipal waste : Before 1995 : Excluding waste from areas that do not receive municipal collection of waste Including small amount of building demolition waste ; Excluding glass that is not process and waste treatment. ; After 1995: Including about 90,000 tons of building demolition waste. ; Household waste in 1980 and 1985 (excluding scraped cars which are included in the National Waste Account) : The data of 1982 and 1983, ; Waste amount per person : It is adapted to the population which receive, municipal waste collection services.

Poland) The data is for collected waste in 1980, 1985: Includes sewage tanks and liquid waste from other containers.

Portugal) Including the Azores and Madeira Islands.

Slovakia In 1985 and 1990: It is he data of 1987 and 1992. municipal waste until 2000 include the waste of sewage tank (in 2000: 367,200 tons). After 2000, halted.

Spain) In 2005: The data of 2004. Including Balearic and Canary Islands. ; municipal waste: Including household waste, similar waste from small business a, large-size refuses and waste from collection services of municipal and separate collections. ; The measuring method was changed in 2004.

Switzerland) municipal waste: Including separate collected waste for the purpose of re-cycling.

Turkey) The data of 1990 is by the data of 1991. The data included estimates of population that do not receive waste services. After 2004 The measuring methods changed.
Household waste : (in 2005 : estimates by the secretariat) : Including organic waste from home, medical waste, street cleaning and garbage ;
1990: estimated amount of waste collected mainly from households plus 5,000,000 tons of waste from Civic Amenity Center (Household Waste Recycling Center)
The volume until 1985 is only England and Wales, so there is not the credibility as of the estimate of 1990.

Total) It is estimates and is different to the total of reported data from each country. Excluding Czech, Poland and South Korea.

Source: "OECD Environmental Data Compendium 2006"

2.38 Breakdown ratios of municipal waste in each country

(Unit: %)

	Paper and paperboard					Organic substances					Plastic					Glass					Metal					Textiles and others				
	85	90	95	00	05	85	90	95	00	05	85	90	95	00	05	85	90	95	00	05	85	90	95	00	05	85	90	95	00	05
Canada	37	28	44	52	47	..	34	11	17	24	5	11	2	3	3	7	7	5	6	6	7	8	32	17	13	..	13	6	5	8
Mexico	..	14	14	14	15	..	52	52	52	51	..	4	4	4	6	..	6	6	6	6	..	3	3	3	3	..	20	20	20	18
USA	37	35	38	37	34	26	27	24	24	25	7	8	9	11	12	8	6	6	5	5	9	8	7	8	8	13	15	15	15	16
Japan	33	38	..	33	..	34	32	..	34	..	12	11	..	13	..	8	7	..	5	..	6	6	..	3	..	7	7	..	12	..
South Korea	9	14	23	26	24	23	31	36	25	28	8	8	5	7	8	3	3	5	4	5	4	5	8	9	7	53	39	23	29	28
Australia	..	..	22	..	23	..	..	50	..	47	..	..	7	..	4	..	..	9	..	7	..	..	5	..	5	..	..	8	..	13
New Zealand	..	..	21	..	..	..	..	56	..	..	..	..	8	..	..	..	..	3	..	..	..	..	7	..	..	..	..	5	..	..
Austria	34	27	27	23	22	25	27	30	23	25	7	8	14	10	11	10	8	11	7	8	4	7	7	7	5	20	23	12	30	19
Belgium	..	30	16	18	17	..	45	41	39	39	..	8	5	4	5	..	8	6	7	7	..	4	3	3	3	..	5	29	28	29
Czech Republic	10	..	8	..	..	..	..	18	..	..	6	..	4	..	..	8	..	4	..	..	6	..	2	..	..	..	..	63	..	..
Denmark	22	..	23	21	27	55	..	26	33	29	4	..	0	1	1	2	..	6	5	5	3	..	2	2	6	14	..	42	38	32
Finland	..	26	33	40	..	..	32	33	33	..	..	..	3	10	..	..	6	2	5	..	..	3	5	5	..	..	35	23	7	..
France	25	30	23	21	20	37	25	30	31	32	9	10	10	9	9	12	12	11	11	10	7	6	4	3	3	10	17	22	26	26
Germany	..	36	41	37	34	..	23	23	18	14	..	1	3	10	22	..	28	22	18	12	..	5	8	2	5	..	8	3	16	12
Greece	19	..	20	20	..	58	..	49	47	..	7	..	9	9	..	3	..	5	5	..	4	..	5	5	..	9	..	14	16	..
Hungary	16	20	17	14	15	39	32	35	41	29	3	5	4	11	17	6	5	3	3	2	4	6	4	2	2	32	32	37	30	35
Iceland	..	..	..	29	26	..	..	..	29	26	..	..	..	16	17	..	..	..	4	4	..	..	..	3	3	..	..	..	20	24
Ireland	25	..	33	36	31	..	..	29	22	25	14	..	9	10	11	8	..	6	5	5	3	..	3	3	4	..	..	21	23	23
Italy	22	..	23	28	28	43	..	15	28	29	7	..	3	4	5	6	..	22	16	13	3	..	0	5	2	19	..	37	19	22
Luxembourg	17	..	24	26	22	44	..	35	40	45	6	..	1	1	1	7	..	16	14	12	3	..	7	4	4	23	..	16	16	16
Netherlands	23	25	34	32	26	54	52	38	32	35	7	8	11	12	19	7	5	4	5	4	3	3	4	4	4	6	7	9	15	12
Norway	31	..	36	36	33	18	..	30	30	30	7	..	9	9	9	..	..	3	3	4	8	..	4	4	4	36	..	18	18	20
Poland	..	10	..	..	..	..	38	..	..	..	..	10	..	..	..	..	12	..	..	..	..	8	..	..	..	..	23	..	..	..
Portugal	19	25	23	24	21	..	..	35	36	34	3	9	12	11	11	3	3	5	6	7	4	3	3	2	4	..	..	23	21	23
Slovakia	14	..	15	13	13	16	..	28	38	38	7	..	8	7	7	9	..	6	8	8	7	..	9	3	3	48	..	35	31	31
Spain	15	20	21	21	21	52	49	44	49	49	6	7	11	12	12	6	8	7	8	8	3	4	4	4	4	19	12	13	7	7
Sweden	..	44	..	74	68	..	30	..	..	..	..	7	..	2	2	..	8	..	13	11	..	2	..	1	2	..	9	..	10	17
Switzerland	..	29	29	..	20	..	22	38	..	29	..	15	15	..	15	..	3	3	..	4	..	3	3	..	3	..	28	12	..	29
Turkey	..	..	6	..	..	..	..	64	..	..	..	..	3	..	..	..	..	2	..	..	..	..	1	..	..	..	..	24	..	..
UK	..	37	32	18	..	..	19	21	40	..	..	10	11	8	..	..	9	9	7	..	..	7	8	8	..	..	18	19	19	..

Notes:

Canada) The data in 1990, 1995 and 2005 is according to the data in 1988, 1998 and 2004 respectively. From 1998 to 2004: waste which generated from residential, industrial, commercial and facilities, but excluding one from construction and demolition sites.

Mexico) The percentage of municipal waste (%); In 1990: The data in 1991; Others: Fine powder, rubber, diapers and others. Latest: The data in 2006.

USA) Food waste: Food waste and garden pruning branches; Others: Rubber, leather, wood and various inorganic wastes.

Japan) In 1980 : The average of 4 cities ; Others : Rubber, ceramics ; In 1985 and 1990 : Only in Tokyo area ; In 2000 : The percentage of wet weight (%), by the survey of Ministry of the Environment.

South Korea) There are interruption in the time series between 1990 and 1995. In 2005: The data in 2004.

Australia) In 1995 : The synthesis results of state research (South Australia, New South Wales, Tasmania, Australia Special Territory, Victoria, West Australia and Queensland) ; The data referred to various years of the early 1990s ; Others : Including Concrete (3%) and wood (1%).

New Zealand) In 1995: The data is only for land filled household waste.

Austria) In 1995, 2000 and 2005: the data in 1993, 1999 and 2004; Only household waste; Food waste: Including all organic waste. Textiles and other waste in 1999 and 2004: Including bulky refuse.

Belgium) After 1995: Estimates of NSI; The data in 2005 is by the data in 2003; Textiles and other waste: Including large-size refuse; The data in 1980 and 1990 referred to only household waste.

Czech Republic) In 1985 and 1995: The data in 1987 and 1996. Including incomplete estimates in trial stage; Others: Minerals, bulky waste , street scrap.

Denmark) In 1980 (the data in 1979) ; In 1985 : Only household waste ; In 1995, 2000 and 2005 (The data in 2003) : The separate collection waste (52% of municipal waste in 2003).

Finland) The data in 1990 and 1995 are substituted by the data in 1992 and 1994.

France) Household waste excludes bulky waste e; After 1995: Municipal waste: In 1990 and 2005: The data in 1989 and 2002 are used.

Germany) Only waste separately collected: In 1995: the data in 1993 are used; The time series was interrupted between 2000 and 2005 (the data in 2002).

Greece) In 2000: The data in 1997 are used; Others: Inert waste and other waste are not referred to.

Hungary) The data in based on the information of volume from Budapest; Others: Inorganic waste; In 2000 and onward, including hazardous waste.

Iceland) Household waste; In 2005: The data in 2003 are used; Others: Diapers, waste from electronics, electrical equipment's, minerals, wax candle, etc. and also waste not specified.

Ireland) In1980: The data in 1979 are used; in 1995 and onward: By total amount of land filled or collected municipal waste; Others: Waste from wood, electrical and electronic equipment and from street cleaning.

Italy) The data in 1985 and 1995 are by the data in 1986 and 1996; After 1995: Only separated collection and bulky waste (26% of general waste in 2005).

Luxembourg) In 1985 : Only household waste ; Others : A mixture of diapers for kids, hazardous waste etc. ; After 1995 : Only separate collected waste (42% of general waste in 2003) ; In 2005 : The data in 2003 ; Plastic and metal : The volume is incomplete after 1997.

Netherlands) In 2005: The data in 2004. Only household waste; The data is based on the contents of garbage bags (except separate collections).

Norway) Metal in 1985: Including glass in 1995: The data in! 996; In 2005: The data in 2001. Only household waste.

Poland) The data in 1990, 1995 and 2005 are by the data in 1989, 1994 and 2001: In 2000: Only the collection with conventional methods; Others: Wood, fine power and other waste.

Slovakia) In 1985, 2005: The data in 1987 and 2002; Others: Ash and inert substances.

Spain) Household waste and similar waste; In 2005: The data in 2002; Others: Batteries, rubber and wood.

Sweden) In 1980 : Estimates for the period from 1975 ~ 1980 ; Paper : Including separated construction materials by emission source ; Including plastic-laminated paper ; Food: rotting waste; Fiber and sand others: Including leather and rubber; In 2000, 2005: The separate collection (34% of general waste in 2005). Excluding organic waste.

Switzerland) Excluding separately collected waste ; In 1995, 2005 : The data in 1994, 2002 ; Others : Including mixed materials, minerals and fragments smaller than 8mm.

Turkey) In 1995: The data is substituted by the ones in 1993By breakdown of household waste of municipal waste in 58 cities with populations over 20,000. Others: Including Ash, slag etc.

UK) In 1990: Only household waste; The breakdown is based on limited samples; Not compatible with previous data. Others: Fragments and mixtures. In 1995: The data in 1997 are used. In 2000: Composted kitchen organic waste, waste from gardens and soil.

Source: "OECD Environmental Data Compendium 2006".

2.39 Status of municipal waste disposal in each country

(Unit : 1,000 t)

	Year	Total disposal volume (a)	Population that can receive waste disposal services (%)	Recycling	Composting	Incineration		Landfill	Percentage of landfill of disposal (%、1995年)	Others
						Energy recovery of incineration	Total			
Canada	2004	13,375	99.0	3,582	1,669	..	..	..	..	..
Mexico	2006	36,088	90.0	1,175	-	-	-	34,913	98	..
USA	2005	222,863	100.0	52,980	18,643	30,300	30,300	120,939	57	..
Japan	2003	54,367	99.8	9,157	..	37,656	40,237	1,863	11	3,110
South Korea	2004	18,252	99.3	8,975	-	2,113	2,637	6,641	72	..
Australia	2003	8,903	..	2,701	..	..	..	6,202	..	..
New Zealand	1999	1,541	..	236	..	..	..	1,305	89	..
Austria	2004	4,588	100.0	1,218	2,052	969	969	310	36	41
Belgium	2003	4,608	100.0	1,433	1,049	1,453	1,581	533	48	..
Czech Republic	2004	2,841	100.0	36	92	396	397	2,267	..	..
Denmark	2003	3,618	100.0	925	553	1,955	1,955	184	17	..
Finland	2004	2,374	100.0	715	..	184	236	1,423	65	..
France	2005	33,963	100.0	5,380	4,870	10,805	11,475	12,238	45	-
Germany	2004	48,434	100.0	16,052	8,305	12	11,892	8,578	..	3,607
Greece	2003	4,710	100.0	382	-	-	-	4,328	93	..
Hungary	2003	4,387	89.5	117	47	245	245	3,968	91	11
Iceland	2004	147	100.0	23	13	13	13	106	75	-
Ireland	2005	2,847	76.0	964	..	..	..	1,883	92	..
Italy	2005	31,677	100.0	..	10,546	3,781	3,824	17,225	93	..
Luxembourg	2003	306	100.0	71.0	59	119	119	58	31	..
Netherlands	2004	10,161	100.0	2,581	2,387	3,281	3,281	175	30	..
Norway	2004	1,746	99.0	588	267	431	431	453	..	8
Poland	2005	9,354	..	368	318	-	44	8,623	98	..
Portugal	2005	5,009	100.0	430	314	1,057	1,057	3,210	..	..
Slovakia	2005	1,468	100.0	17	21	2	183	1,144	..	103
Spain	2004	22,735	..	2,036	7,433	1,505	1,515	11,752	80	..
Sweden	2005	4,347	100.0	1,474	454	2,182	2,182	210	35	26
Switzerland	2005	4,855	99.0	1,645	770	2,416	2,416	24	13	..
Turkey	2004	24,237	72.8	-	349	-	-	23,714	96	174
UK	2005	35,077	100.0	6,100	3,262	2,933	2,939	22,559	83	217

Notes:

a) The total disposal amount may be smaller than the volume of all disposal because of some of processing methods (incineration, composting), which reduce emissions of waste, except where noted.

Canada) Total disposal amount : Only household waste ; The percentage of population that can receive treatment services : The data in 1996 ;
Compost : It is generated from home and outside the home ;
9,800 million ton of household waste was land filled or incinerated in 2004.
98,000,000 tons of household waste in 2004 was incinerated or land filled

Mexico) Landfill: Illegal use of landfill: 11 million 528 thousand tons.

USA) Incineration: After collection; Landfill: After collection and incineration.

Japan) Total disposal amount : Waste is treated by the local government and uses separate collections for recycling by the private sector ; Recycling : Recycled (including recovered amounts by the private sector) and recovered amount from intermediate treatment ;
Incinerated disposal amount with energy recovery : Estimates ; Landfill : Directed disposal amount (excluding 6.6 million tons of residues from other treatment methods) ; Others : Intermediate treatment : Residue recovery amount by intermediate treatment is lower.

South Korea) Percentage of population that can receive treatment services and incineration amount with energy recovery: The data in 2002.

Australia) Data according to FY 2002 and 2003.

New Zealand) Recycling: Only packing waste; Landfill: Household waste. Excludes construction and demolition waste.

Austria) Composting: Including disposal amount by mechanical-biological facilities; Landfill: Direct transport without pre-treatment.

Belgium) Estimates of NSI; Recycling, landfill: Including remnants from incineration disposal.

Czech Republic) Total disposal amount: Including the selected amount that be taken before treatment or disposal.

Finland) Total disposal amount: The amount that is being managed; Recycling: Including composting.

Germany) Incineration with energy recovery: Including energy consumption of the incineration itself; Others: other materials in recycling and the chemical treatment of waste.

Greece) Landfill in 1995: It is the data in 1992.

Hungary) Total disposal amount: Total collection amount: Landfill: Excluding remnants from other treatment methods (54,000 tons in 2003).

Ireland) Total disposal amount: Landfill of waste and recovery (including waste from streets); Recycling: Including composting:
Percentage of population that can receive treatment: Percentage of household waste.

Italy) Composting: Including physical and biological treatment; Incineration: Including fuel which is derived from waste.

Luxembourg) Total disposal amount: Disposed domestically. (Excludes exported items).

Netherlands) The difference between total disposal amount and collection amounts are the amounts that are performed before treatment or disposal.

Norway) Only household waste; Recycling: waste from separate collection (excluding food, park and waste from garden in composting amount) Incineration:
Excluding land filled remnants.

Portugal) Landfill: Including uncontrolled dumping place.

Slovakia) Group 20 of European waste list.

Spain) Household waste and similar waste; Recycling: separate collection.

Sweden) Others: Hazardous waste.

Switzerland) Recycling: Excluding batteries (2,400 tons) and electrical and electronic equipment (82,500 tons).

Turkey) Total disposal amount: Only collected amounts. Others: Dumping into lakes, oceans and rivers and incineration of waste in open areas.

UK) Others: Includes the process of making general waste into RDF pellets (used as fuel in power plants later).

Source: "OECD Environmental Data Compendium 2006"

2.40 Recycling rate of waste in each country (paper and paperboard) (a)

(Recycling rate (%): consumption (domestic production + imports - exports) ratio)

	1980	1985	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Canada	20	23	..	28	32	35	38	39	41	44	45	44	42	42	40	42	43	45	46
Mexico	..	..	..	..	..	7	7	7	7	7	7	7	7	7	7	..	7	7	7
USA	21	21	..	28	32	33	33	36	40	41	40	41	41	43	46	46	48	47	50
Japan	48	50	49	50	51	51	51	52	51	52	54	56	56	59	63	65	66	..	..
South Korea	..	..	42	44	43	44	46	51	53	55	57	58	59	60	62	64	66	69	..
Australia	..	..	..	..	..	..	..	40	42	44	49	48	51	44	49	50	48	53	53
New Zealand	..	..	..	..	..	..	..	42	47	52	55	52	52	56	53	61	69	72	72
Austria	30	37	..	52	54	56	68	66	66	71	69	65	66	64	65	61	62	63	70
Belgium	..	..	..	33	33	33	38	36	37	43	45	48	55	52	51	48	53	61	60
Czech Republic	..	..	..	..	..	..	..	..	..	38	33	38	39	42	43	45	44	43	47
Denmark	26	31	30	35	35	36	46	43	44	52	51	52	52	48	45	56	53	57	60
Finland	35	39	40	43	46	48	49	43	56	62	61	63	65	67	74	72	73	71	70
France	30	35	34	34	34	34	36	36	39	42	41	43	46	47	49	51	53	54	55
Germany	34	43	44	44	47	50	55	59	67	70	71	71	73	72	75	72	72	73	..
Greece	22	25	..	28	29	32	31	33	32	29	33	21	31	35	30	34	33	37	..
Hungary	..	..	..	..	44	36	24	36	43	45	40	43	42	42	45	45	56	50	50
Iceland	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	11	12	13	..
Ireland	..	..	..	..	..	12	12	13	11	11	22	21	18	19	27	34	38	77	78
Italy	..	25	26	27	28	28	30	28	28	31	32	33	35	37	44	45	47	49	50
Luxembourg	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Netherlands	46	50	48	50	54	51	55	55	59	65	58	58	57	45	64	65	69	70	72
Norway	..	..	..	29	32	38	38	41	46	49	53	54	65	57	66	68	68	72	71
Poland	34	34	33	46	48	42	14	13	28	32	34	32	32	32	32	32	35	34	34
Portugal	38	37	39	40	39	39	38	40	37	39	40	42	43	45	44	45	46	36	50
Slovakia	..	..	34	35	33	32	30	26	32	33	34	34	42	40	39	40	48	49	50
Spain	39	44	39	39	38	37	37	36	41	41	42	43	46	48	55	52	51	55	59
Sweden	34	..	..	46	46	50	50	65	70	61	69	71	71	66	68	67	..	74	..
Switzerland	35	39	47	49	51	54	54	58	61	67	63	65	64	63	69	70	70	70	74
Turkey	..	..	..	26	29	29	30	36	34	33	36	36	35	40	44	41	42	..	..
UK	32	28	31	33	34	34	32	35	35	39	41	40	40	41	44	48	50	56	..
EU-15	..	..	..	..	..	40	42	44	46	48	49	49	51	51	55	56	58	61	64

Notes:

a) Recycling is defined as re-use of substance in the production process of waste treatment process, except recycling in industrial plants and thermal recycling. Recycling rate is ratio of the collected amount for recycling for the nominal consumption (domestic production + imports – exports). Equivalent to the collection rate of CEPI.

Canada)	The consumption of recycled paper / paper and cardboard; The data of pulp and paper products council.
Mexico)	Recycling rate is based on production of general waste.
USA)	The data is the generation of substance from treatment process of general waste; Recycling rate is based on the generated amount .
Australia)	The data of newspapers, cardboard and paper packing material; The percentage of collected paper waste for domestic paper consumption. The data is based on the information supplied from 6 major paper manufacturing companies in Australia.
New Zealand)	The data of packing waste.
France)	The ratio of recycled amount in the country against gross consumption.
Germany)	From 1980 to 1989 : Only west Germany
Iceland)	The data is based on the amount of packing waste.
EU)	Excludes Luxembourg. In 2005: Excludes Greece.

Source: Compiled from data by OECD, CEP, and FAO.

2.41 Recycling rate of waste in each country (glass) (a)

(Recycling rate(%) : consumption(domestic production + imports - exports)ratio)

	1980	1985	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Canada	12	12	..	..	..	17	..	..	..	..	..	..	..	..	..	..	..	..	..
Mexico	..	..	..	..	..	13	13	13	13	13	13	13	13	13	13	..	13	13	13
USA	5	8	..	20	20	22	22	23	24	26	24	23	23	23	19	19	21	22	22
Japan	35	47	48	48	52	56	56	56	61	65	67	74	79	78	82	83	90	..	..
South Korea	..	..	49	46	45	43	44	46	57	60	68	66	66	67	69	74	70	72	..
Australia	..	..	..	..	..	36	..	..	42	..	..	..	..	40	..	..	..	38	..
New Zealand	..	..	..	..	..	..	..	36	30	35	37	40	42	42	45	45	48	50	49
Austria	..	38	..	60	60	64	68	76	..	..	88	86	84	84	83	87	86	88	83
Belgium	..	42	..	..	55	54	55	67	67	66	75	..	..	87	88	95	88	90	92
Czech Republic	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Denmark	..	19	..	..	35	48	64	67	63	66	70	63	63	65	65	76	71	75	70
Finland	10	21	..	36	31	44	46	50	50	63	62	69	78	89	91	92	73	72	72
France	..	26	..	..	41	44	46	48	50	50	52	55	55	55	55	55	58	58	62
Germany	23	43	53	54	61	60	65	75	75	79	79	81	81	83	87	90	88	91	86
Greece	15	15	..	15	22	20	27	29	35	29	26	27	25	26	27	27	30	24	17
Hungary	..	..	..	..	..	..	..	..	..	..	..	..	14	..	..	..	..	..	..
Iceland	..	..	..	..	..	..	..	..	..	..	..	..	..	80	80	85	85	85	..
Ireland	8	7	..	23	23	27	29	31	39	46	38	37	35	35	40	49	67	69	81
Italy	20	25	..	..	53	53	52	54	53	53	34	37	41	40	55	52	59	61	62
Luxembourg	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Netherlands	17	49	55	67	70	73	76	77	80	81	82	84	80	78	78	78	76	76	78
Norway	..	..	..	..	22	44	67	72	75	75	76	81	83	85	88	88	86	90	90
Poland	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Portugal	..	10	30	27	29	31	29	32	42	42	44	42	42	41	34	35	38	39	41
Slovakia	..	..	..	..	..	..	..	..	..	..	40	..	..	..	..	..	..	..	..
Spain	..	26	24	27	27	27	29	31	32	35	37	41	40	31	33	36	38	41	45
Sweden	..	20	22	..	44	58	59	56	61	72	76	84	84	86	84	88	92	96	96
Switzerland	..	46	55	65	71	72	78	84	85	89	91	91	93	91	92	94	96	96	95
Turkey	..	33	33	31	28	40	29	26	24	25	32	31	32	31	33	36	32	..	..
UK	5	12	17	21	21	25	27	27	26	26	25	26	31	36	36	37	42	48	..
EU-15	..	..	..	..	49	51	52	52	..	..	53	..	..	54	58	59	60	63	65

Notes:

a) Recycling is defined as re-use of substances in the production process of waste treatment process, except recycling in industrial plants and thermal recycling. Recycling rate is a ratio of the collected amount for recycling for nominal consumption (domestic production + imports – exports).

Canada)	Only packing glass
Mexico)	Recycling rate is based on the amount of municipal waste generated.
USA)	The data is that of the substances generated from the treatment process of municipal waste; Recycling rate is on the generation basis .
Japan)	Excluding returnable bottles; The data are ratios of recycled glass as cullet for the domestic product of glass bottles.
New Zealand)	Only packing glass
France)	The percentage of collection for nominal consumption (FEVE)
Germany)	From 1980 to 1990: Only West Germany; After 1990: Total of Germany; Recycling rate is based on total sales.
Netherlands)	The percentage of collected glass at the collection place for product sales of disposable glass in the domestic market.
Norway)	Excludes the volume equivalent to that of glass collected before processing of waste treatment.
UK	Only Great Britain; Glass collected from bottle-collection stations from industrial sources (bottling business and the packers) and board glass.
EU)	Excludes Luxembourg.

Source: "OECD Environmental Data Compendium 2006"

2.42 Generation and movement of hazardous waste in each country

(Unit : 1,000 t)

	Year	(b)	Occurrence A	Import (c) B	Export (c) C	Management A + B - C	Management and disposal (d)					
							Recovery	Biological and physicochemical treatment	Heat treatment	Landfill	Releases to water	Others
Canada	1996	-	..	467	198	..	..	..	..	..	..	..
	2000	-	..	560	324	..	..	..	..	..	..	..
	2001	-	..	500	313	..	..	..	..	..	..	..
	2002	-	..	423	340	..	..	..	..	..	..	..
	2003	-	..	417	321	..	..	..	..	..	..	..
	2004	-	..	416	308	..	..	..	..	..	..	..
	2005	-	..	476	328	..	..	..	..	..	..	..
Mexico	1999	N	3,183	265	33	3,415	1,583	1,583	..	..	..	..
	2000	N	3,706	277	97	3,886	86	86	135	..	..	..
	2001	..	..	254	1,876	..	132	132	20	..	..	..
	2002	..	..	326	864	..	311	811	7	..	..	..
	2003	..	..	295	63	..	1,013	1,013	36	..	..	..
	2004	..	..	303	309	..	416	416	13	..	..	..
	2005	..	..	510	150	..	408	408	..	..	..	..
USA	1997	N	36,901	..	..	34,222	4,808	4,808	1,503	26,301	-	..
	1999	N	36,312	..	..	23,868	3,521	3,521	1,319	17,771	-	..
	2001	N	37,033	..	..	41,211	5,023	5,023	1,493	23,829	-	2,137
	2003	N	27,376	..	..	38,189	4,108	4,108	1,155	17,719	-	7,027
	2005	N	34,788	..	..	39,848	4,481	4,481	1,305	24,786	-	3,830
Japan	1995	N	2,883	1	3	2,881	..	..	..	..	..	..
	1996	N	3,158	9	2	3,165	..	..	..	..	..	..
	1997	N	2,994	8	6	2,996	..	..	..	..	..	..
	1998	N	2,653	0.8	2	2,652	..	..	..	..	..	..
	1999	N	3,306	2	3	3,305	..	..	..	..	..	..
	2000	..	..	4	2	..	..	..	..	..	..	..
	2001	..	..	4	2	..	..	..	..	..	..	..
	2002	..	..	3	2	..	..	..	..	..	..	..
	2003	-	..	5	7	..	..	..	..	..	..	..
	2004	..	..	4	14	..	..	..	..	..	..	..
	2005	..	..	5	7	..	..	..	..	..	..	..
	2006	..	..	4	17	..	..	..	..	..	..	..
	2007	..	..	6	49	..	..	..	..	..	..	..
	2008	..	..	4	54	..	..	..	..	..	..	..
	2009	..	..	4	85	..	..	..	..	..	..	..
South Korea	1995	N	1,622	2	..	1,624	781	..	252	80	181	509
	2000	N	2,779	17	..	2,796	1,400	..	603	336	..	269
	2001	N	2,858	14	..	2,872	1,471	..	648	332	92	329
	2002	N	2,915	15	-	2,930	1,702	..	488	506	-	219
	2003	N	2,913	44	-	2,957	1,695	..	501	519	-	198
Australia	2000	-	..	-	25	..	..	..	..	..	..	..
	2001	-	649	2	17	634	..	..	..	..	..	..
	2002	-	642	..	..	..	..	..	..	..	..	..
New Zealand	2001	-	..	-	2	..	..	..	..	..	..	..
	2002	-	..	2	6	..	..	..	..	..	..	..
	2003	-	..	15	6	..	..	..	..	..	..	..
	2004	-	..	39	-	..	..	..	..	..	..	..
Austria	1996	N	608	20	40	588	..	..	106	..	..	..
	1997	N	629	27	56	600	..	..	..	..	..	..
	1998	N	979	15	68	926	..	..	..	..	..	..
	1999	N	1,021	16	109	928	..	..	110	..	..	..
	2000	N	1,035	..	..	..	..	..	..	..	..	..
	2001	N	1,026	..	..	..	..	..	..	..	..	..
	2002	N	920	..	..	..	..	..	..	..	..	..
	2004	N	1,014	59	236	837	443	190	186	-	-	18
Belgium	1999	N	..	437	748	..	634	634	129	631	631	..
	2000	-	..	476	849	..	..	..	..	..	..	..
	2001	-	..	605	746	..	..	..	..	..	..	..
	2003	-	..	868	792	..	..	..	..	..	..	..
Czech Republic	2000	-	2,630	..	1	2,630	1,008	754	6	299	..	199
	2001	-	2,817	..	5	2,812	1,003	824	5	394	..	148
	2002	-	1,311	..	4	1,307	323	300	24	135	..	525
	2003	N	1,219	..	7	1,212	392	428	38	200	-	86
	2004	N	1,447	..	9	1,438	412	521	31	152	-	39
	2005	N	1,372	..	9	1,363	430	658	32	72	-	46
Denmark	1999	N	231	86	153	347	230	..	..	117	..	..
	2000	N	183	116	225	287	184	..	..	103	..	..
	2001	N	200	117	344	346	185	..	..	161	..	..
	2002	N	248	95	268	333	159	..	..	175	..	..
	2003	N	328	161	521	416	200	..	..	216	..	..
	2004	N	342	125	429	429	212	..	..	217	..	..
	2005	N	340	147	464	423	182	..	..	241	..	..
Finland	2001	N	827	..	..	827	189	..	75	563	..	..
	2002	N	1,188	18	60	1,188	200	..	77	911	..	..
	2004	N	2,349	32	81	2,300	169	..	242	1,818	..	71
France	1995	N	..	479	49	..	172	324	1,193	747	-	7
	1996	N	..	569	88	..	171	301	1,288	689	-	1
	1997	N	..	410	203	..	209	288	1,238	707	-	1
	1998	N	..	514	146	..	222	302	1,361	803	-	-
	1999	N	9,000	573	168	9,405	..	..	..	722	..	..
	2000	N	9,150	769	192	9,727	..	..	1,600	809	..	..
	2004	N	..	824	664	..	..	..	..	..	..	..
Germany	1995	N		241	740						..	
	1996	N	12,128	254	822	11,559	3,511	1,823	1,351	4,198	..	1,255
	2000	N	14,937	665	278	15,324	2,991	2,500	1,582	4,686	..	3,178
	2001	N	15,830	799	270	16,051	3,536	2,474	1,510	4,678	..	3,632
	2002	-	19,636	1,089	224	20,501	5,056	2,865	1,875	5,545	..	4,295
	2003	N	19,515	1,244	186	20,572	5,373	2,797	2,117	5,035	..	4,192
	2004	N	18,401	1,635	195	19,841	8,954	3,678	1,075	3,515	..	1,178
Greece	2002	N	353	..	..	..	53	..	..	..	..	242
	2003	N	354	..	..	..	60	..	..	..	..	235
Hungary	1997	-	601	..	..	..	..	..	..	..	..	..
	1998	-	908	..	..	..	..	..	..	..	..	..
	1999	-	914	..	..	..	..	..	..	..	..	..
	2000	-	951	..	..	..	..	..	..	..	..	..
	2001	-	893	..	..	..	..	..	..	..	..	..
	2002	-	543	..	..	..	..	..	..	..	..	..
Iceland	1999	-	8	-	2	6	6	-	-	-	-	-
	2000	-	7	-	1	6	6	-	-	-	-	-
	2001	-	8	-	2	6	6	-	-	-	-	-
	2002	-	8	..	2	6	6	..	..	..	..	..
	2003	-	8	-	4	4	4	-	-	-	-	-
	2004	-	8	-	4	4	4	-	-	-	-	-
Ireland	1996	N	328	-	52	276	139	7	46	33	..	..
	1998	N	370	-	100	271	153	13	66	41	-	-
	1999	..	..	-	145	..	..	..	..	..	..	..
	2000	..	..	2	137	..	..	..	..	..	..	..
	2001	..	492	-	275	216	317	22	64	35	-	3
	2004	..	674	..	470	204	208	292	102	23	-	1
Italy	2000	N	3,911	..	..	4,954	1,815	1,415	475	601	..	649
	2001	N	4,279	..	..	5,949	1,853	1,886	456	803	..	952
	2002	N	5,025	..	..	6,706	1,756	3,141	493	626	..	689
	2003	N	5,440	..	..	7,006	2,126	3,029	424	756	..	671
	2004	N	5,365	..	..	6,396	1,659	2,977	500	875	..	385
Luxembourg	1998	N	201	23	184	40	34	6	-	-	-	-
	1999	N	201	37	152	85	76	9	-	-	-	-
	2000	N	197	31	145	83	72	11	-	-	-	-
	2001	N	202	34	153	83	73	10	-	-	-	-
	2002	N	228	32	181	78	70	8	-	-	-	-

2.42 Generation and movement of hazardous waste in each country

(Unit : 1,000 t)

	Year	(b)	Occurrence	Import (c)	Export (c)	Management	Management and disposal (d)					
			A	B	C	A + B - C	Recovery	Biological and physicochemical treatment	Heat treatment	Landfill	Releases to water	Others
Netherlands	1996	..	1,016	259	202	..	153	234	162	117	..	..
	1997	..	1,277	243	298	..	138	355	149	146	..	..
	1998	..	1,600	246	267	..	278	601	246	372	..	..
	1999	..	1,500	200	314	..	283	532	290	353	..	..
	2000	..	1,785	144	478	..	339	627	389	390	..	..
	2001	..	..	237	435	..	..	..	..	..	..	..
	2002	..	2,160	..	..	..	557	78	215	593	739	..
Norway	1999	N	594	62	56	600	110	293	..	110	..	61
	2000	N	673	56	26	..	..	..	..	..	..	62
	2001	N	655	204	38	..	..	..	..	..	..	51
	2003	N	825	..	77	..	125	..	..	546	..	77
	2004	N	940	..	81	..	76	..	..	672	..	80
	2005	N	939	..	66	..	64	..	..	722	..	87
Poland	1998	N	1,105	..	..	..	367	..	..	160	..	..
	2000	N	1,601	..	..	..	491	..	..	96	..	..
	2001	N	1,308	..	..	..	406	..	..	63	..	..
	2002	N	1,029	..	..	..	491	..	..	150	..	..
	2003	N	1,339	..	..	..	525	..	..	254	..	..
	2004	N	1,349	..	..	..	508	..	..	234	..	..
	2005	N	1,779	..	..	..	541	..	..	317	..	..
Portugal	2001	N	254	74	48	279	..	..	..	..	..	..
	2002	N	205	13	74	144	..	..	..	..	..	..
	2003	..	..	0.9	89	..	..	..	..	..	..	..
	2004	..	..	0.7	112	..	..	..	..	..	..	..
	2005	..	..	-	106	..	..	..	..	..	..	..
Slovakia	2000	N	1,627	-	-	1,627	239	985	89	195	-	119
	2001	N	1,663	0.6	-	1,663	283	842	94	179	-	235
	2002	N	1,441	1	0.8	1,441	230	918	61	135	-	34
	2003	N	1,258	4	2	1,259	354	468	40	208	-	21
	2004	N	1,021	0.6	3	1,019	288	471	49	118	-	10
Spain	2000	N	3,063	205	59	3,209	1,300	1,090	84	1,472	..	..
	2001	N	3,223	206	60	3,369	..	..	..	..	..	..
	2002	N	3,223	152	141	3,235	..	..	..	..	..	..
	2003	N	3,223	234	43	3,414	..	..	..	..	..	..
	2004	N	3,534	..	..	..	2,306	..	124	1,237	..	..
Sweden	2001	-	..	123	111	..	..	..	..	..	..	..
	2002	N	..	..	..	676	..	..	..	..	..	..
	2003	-	..	189	140	..	..	..	..	..	..	..
	2004	N	1,354	..	..	..	..	..	..	..	..	..
Switzerland	1996	N	874	14	124	764	47	246	298	173	-	-
	1997	N	948	21	122	847	46	246	334	221	-	-
	1998	N	1,044	20	123	940	74	277	371	219	-	-
	1999	N	999	18	113	903	70	234	366	234	-	-
	2000	N	1,115	..	136	989	63	228	417	282	-	-
	2001	N	1,134	..	131	1,013	78	267	425	243	-	-
	2002	N	1,112	14	122	1,004	78	245	415	266	-	-
	2003	..	..	15	138	..	..	..	..	..	..	..
	2004	..	..	29	154	..	..	..	..	..	..	..
UK	1995	N	2,160	55	7	2,208	..	..	..	..	..	..
	1996	N	2,677	111	12	2,776	..	..	..	..	..	..
	1997	N	5,101	137	18	5,220	..	..	..	..	..	..
	1998	N	5,069	91	14	5,146	558	1,585	98	2,324	..	345
	2000	N	5,419	..	..	..	1,026	1,556	100	2,041	..	473
	2001	N	5,526	..	..	..	1,045	1,576	102	2,054	..	436
	2002	N	5,370	..	..	..	1,163	1,330	95	1,986	..	485
	2003	N	4,991	..	..	..	1,041	1,335	89	1,801	..	506
	2004	N	5,285	..	..	..	985	1,410	98	2,294	..	499

Notes:

a: Hazardous wastes are referred to the flow of waste by Basel Convention on the Control of Trans boundary Movements of Hazardous Wastes and Their Disposal ("a complete definition and administrative" and "movements and disposal methods" are referred the Basel Convention Annex IV). These values must be dealt carefully with because the definition of countries may be differ.

b: "-" is by the definition of the Basel Convention. "N" is includes the waste catalog of each country or Europe by other definitions.

c: Import, export: It should be actual movements, but it may be total reported amount.

d: The landfill includes land management, high depth injection, surface disposal and special management of landfills. Including the released estimates in addition to injection into seabed, inland and seawater areas.
Others includes disposal methods, such as other management and permanent storage.

Canada) The management and disposal methods in 1991: Only Ontario (about 32% of total generation). Release to water is only after proper treatment; Others: It is included permanent storage (280,800 t). 1.1 million tons of hazardous waste were treated and destroyed in 2000.

Mexico) The generated amounts in 1990, 1992 and 2000: Estimates; The data in 1996, 1999 and 2000 are based on the survey in 1996 (an investigation of 3000 companies in 1996, 12,514 companies
Recovery: Recycling and reuse.

USA) The interrupted time series ; Excluding waste water for the data after 1997 (in 1997 : 40,765.3 million tons) ;
The interrupted time series in 2001 : Because reporting requirements changed. Including wastewater; Management volume: Excluding the managed volume of only storage.

South Korea) The interrupted time series in 1991 and 1994; Transfers: It is by defined in the Basel Convention.

Australia) In 1992: Only Victoria.

New Zealand) Copper ammonium chloride was imported 160,000 liters more in 2004.

Austria) The amount is the amount of waste in early stages.

Belgium) The management and disposal: The state's estimates based on various administrative articles. Including all of the hazardous waste (defined by region).

Czech Republic) The time series interrupted by new waste law in 1998 and 2002. After 1998, it included hazardous waste of the living system.

Denmark) The data of hazardous waste is by the catalog of Europe waste. ; Amount: The amount of movement waste of early development. : By enforcement notice;
Management volume: Waste amount of early stage and second stage. ; For recovery, including physical and chemical treatment before incineration with energy recovery.

Finland) The management amount after 1997 and 2000: Amount of yield and reported, except pre-treatment (92,000 tons in 1997, 124,000 tons in 2000)
2000 and 2002: each amount of 600,000 tons and 400,000 tons of waste were newly classified as being hazardous.
Transfers: The waste was regulated by 259/93/EC of regulation.

France) Amount generated: The total estimate amount of substances defined as special industrial waste by the legislative of France. ; Amount of treatment and waste: Excluding internal treatment by
The data is interrupted time series by change classification in law in 1996.

Germany) It is a hazardous waste from management of site damage (It was needed a power of attorney until 2003) ; measuring method was changed in 2004 ; Others : Temporary storage :
Transportation : In 1990 ~ 1993 and January to May in 1994 : It is only the final disposal of waste : The data is based on domestic law ; In 1994 (July to December) and in 1995 ~ 2004 : The

Greece) PCB in 1997 ~ 2003: Waste is by the catalog of European waste; Heat treatment in 2000: Including the burning of medical waste. ;
Others in 1998 ~ 2000: Temporary storage preceded the final disposal.

Hungary) Occur: The time series was interrupted in 1995 and 1996; In 1990: Including red clay; In 1995: Excluding red clay.

Ireland) Amount: Including the reported waste and non-reported waste, contaminated soil (307,000 tons in 2004) and
on-site treatment. ; Treatment: Including on-site treatment, treatment outside country (470 tons of exported waste in 2004) and contaminated soil;
Excluding non-reported waste.

Italy) The definition (country)of hazardous waste is based on the catalog of European waste : After 1997 : The management volume is more than the generated amount because it included stored

Netherlands) In1990 ~ 2002 : All converted waste to European waste list (2002) as special waste by the laws of the Netherlands ;
amount in 1990: includes contaminated soil ; In1992 ~ 2002 : Excluding contaminated soil ; The imports are occupied contaminated soil mainly until 1999 ;
Management and disposal : Including the amount treated abroad ; Before 1997 : Excluding temporary storage.

Norway) The data in 1990 is the estimate based on conducted statistics in 1998. Excluding on-site treatment. : Transfers: Excluding slag of aluminum salt;
Import in 1996: Mostly the ash is imported from Denmark. ; In 1998 ~ 1999: The total amount does not match the national movement and management
It was treated by the pre-treatment to remove water by burning small amount of waste oil and lipophilic waste before burning.
Physical and chemical treatment: Landfill which is utilizing the special technology forinorganic hazardous waste.
In 2003: A new type of waste is defined as hazardous waste by the law of country.

Poland) The data contain special waste, which is not included in the Basel Convention; After 1998: The data is by new classification based on the catalog of European waste.

Portugal) in 1994: It is estimates volume.

Spain) Amount generated: The data in reference to the catalog of European waste; In 2004: It is a provisional data; Landfill: Including permanent preservation.

Sweden) Management amount in 1998: The time series is interrupted; The data: It is by reported amount.

Switzerland) Amount: All of waste is defined as special waste by the Swiss law.

UK) Amount before 1997 : It is defined by the Control Pollution ; After 1997 :
It is by the defined special waste of the Control Pollution in 1996 and the hazardous waste list (EC, 904 in 1994);
In 1996 : The definition has changed in the year, and the data is by new and old regulations ;
Transfers before 1995: It is based on "Tran frontier Shipment of Waste Regulation" in 1998. ;
After 1995: It is based on "Tran frontier Shipment of Waste Regulation" in 1994; In1994 is based on legal reported amount of England and Wales
(until 2003); Others: Short term storage and long term storage.

Source: Compiled from OECD materials

2.43 Performance records of Environment-related ODA

Performance records in line with aid form

(Based on aid commitments, unit: million dollar & %)

	Grant aid		Government aid, etc.		Technical aid		Total	
2010	989.07	(27.1)	7,395.19	(68.3)	210.96	(6.0)	8,595.21	(47.7)
2011	1,044.35	(27.4)	4,039.98	(47.3)	240.57	(6.2)	5,324.91	(32.8)
2012	450.54	(13.5)	5,824.26	(56.5)	373.29	(10.1)	6,648.08	(38.4)
2013	524.46	(9.2)	6,552.38	(49.8)	265.26	(9.3)	7,342.10	(33.8)
2014	270.81	(10.0)	6,665.68	(61.2)	251.60	(9.5)	7,188.09	(44.3)

Notes:
- The data are based on DAC_CRS statistics.
- The figures in ( ) under the column of types of aids indicate the ratio of each type to the total.
- ( ) under the total column is percentage of total environment-related ODA in the grand total ODA amount..
- Includes aids for graduated countries.

Source: "ODA reference handbook 2015," Ministry of Foreign Affairs.

Small classification of aid between the two countries.

(Based on aid commitments, unit: million dollar & %)

Year	Conservation of environment in general		Biodiversity		Climate change		Combat Desertification		Total
					Alleviation	Adaptation			
2010	29.76	(0.3)	1,082.74	(12.6)	6,609.80 (76.9)	2,257.15 (26.3)	273.85	(3.2)	8,595.21
2011	25.27	(0.5)	1,476.98	(27.7)	3,827.78 (71.9)	2,368.74 (44.5)	585.09	(11.0)	5,324.91
2012	22.55	(0.3)	450.10	(6.8)	4,486.03 (67.5)	2,479.20 (37.3)	367.89	(5.5)	6,648.08
2013	18.33	(0.2)	109.11	(1.5)	5,278.82 (71.9)	2,224.54 (30.3)	116.64	(1.6)	7,342.10
2014	19.45	(0.2)	1,124.00	(15.6)	4,787.22 (66.6)	2,329.02 (32.4)	147.36	(2.1)	7,188.09

Notes:
- The data are based on DAC_CRS statistics (however, the data includes Eastern Europe and graduated countries).
- ( ) are the rate (%) to the total each year.
- Biodiversity, Climate change and Combat Desertification comprise overlapping data in line with multiple conventions, totals do not foot.
- Includes aids for graduated countries.

Source: "ODA reference handbook 2015," Ministry of Foreign Affairs.

Breakdown of Technical Aid (Number of persons)

	Accepted trainees	Dispatched experts	Dispatched Japan Overseas Cooperation Volunteers
2010	2,558	1,867	158
2011	2,497	1,012	167
2012	6,289	2,911	158
2013	4,316	3,352	131
2014	2,869	2,886	73

Note:
- The data are based on DAC_CRS statistics (including graduated countries.)
- "Dispatched Japan Overseas Cooperation Volunteers" do not include other volunteers such as Overseas cooperation senior volunteers and the like.

Source: "ODA reference handbook 2015," Ministry of Foreign Affairs.

3.01 Area of forest converted by purpose

(Unit : 10 ha)

Group	Total	Land for factories and business sites	Land for houses and holiday homes	Golf courses and leisure facilities	Farmland	Common land	Others
In April 1980 ~ March 1990	23,175	1,777	1,908	3,610	8,667	3,757	3,454
In April 1990 ~ March 2000	15,177	1,496	1,452	4,163	2,009	3,698	2,357
Hokkaido	2,409	184	4	271	981	563	407
Tohoku	2,064	171	227	494	255	710	208
Hokuriku	826	74	40	303	22	239	147
Kanto Higashiyama	3,289	300	382	1,315	216	484	592
Tokai	1,392	157	148	468	72	373	175
Kinki	1,217	124	266	420	61	238	108
Chugoku	1,553	259	182	296	100	533	184
Shikoku	479	53	24	101	26	118	157
Kyushu	1,538	164	169	481	146	398	181
Okinawa	410	11	11	15	131	44	198

Note:
Data from "World Agriculture and Forestry census" by Statistics and Information Department, Ministry of Agriculture, Forestry and Fisheries. Each figure is a sum of 10 years.

Source: "Handbook of Agriculture, Forestry and Fisheries statistics 2011(March, 201)," Statistics Department, Ministry of Agriculture, Forestry and Fisheries, the Government of Japan

3.02 Area of five categories on Basic Land Use Planning by prefecture

(Unit: ha, %) (March 31, 2015)

	Five categories												White areas		Total		Land area
	Urban area		Agricultural area		Forest area		Nature park area		Nature conservation area		Total						
Nationwide	10,114,003	27.3	17,061,928	46.1	25,252,387	68.2	5,437,679	14.7	105,196	0.3	57,971,194	156.5	252,762	0.7	58,223,957	157.2	37,040,982
Hokkaido	646,604	8.2	2,903,279	37.0	5,693,218	72.6	872,932	11.1	9,662	0.1	10,125,695	129.1	62,452	0.8	10,188,147	129.9	7,842,117
Aomori	230,459	23.9	480,534	49.8	649,455	67.3	115,088	11.9	10,887	1.1	1,486,423	154.1	11,918	1.2	1,498,341	155.4	964,474
Iwate	236,804	15.5	746,972	48.9	1,174,630	76.9	72,011	4.7	4,956	0.3	2,235,373	146.3	8,345	0.5	2,243,718	146.9	1,527,501
Miyagi	210,080	28.8	304,143	41.7	415,765	57.1	171,199	23.5	8,574	1.2	1,109,761	152.3	9,484	1.3	1,119,245	153.6	728,592
Akita	193,517	16.6	381,080	32.7	839,301	72.1	123,777	10.6	5,155	0.4	1,542,830	132.6	12,502	1.1	1,555,332	133.6	1,163,754
Yamagata	126,659	13.6	337,393	36.2	669,377	71.8	153,600	16.5	4,892	0.5	1,291,921	138.6	5,893	0.6	1,297,814	139.2	932,346
Fukushima	341,783	24.8	770,888	55.9	991,739	71.9	182,033	13.2	4,892	0.4	2,291,335	166.2	4,001	0.3	2,295,336	166.5	1,378,375
Ibaraki	432,834	71.0	478,140	78.4	199,804	32.8	90,896	14.9	645	0.1	1,202,319	197.2	1,354	0.2	1,203,673	197.4	609,693
Tochigi	413,349	64.5	286,021	44.6	348,904	54.4	133,444	20.8	5,281	0.8	1,186,999	185.2	2,683	0.4	1,189,682	185.6	640,828
Gunma	202,730	31.9	327,130	51.4	424,533	66.7	89,227	14.0	7,645	1.2	1,051,265	165.2	1,603	0.3	1,052,868	165.5	636,228
Saitama	276,162	72.7	168,546	44.4	121,260	31.9	125,335	33.0	519	0.1	691,822	182.2	524	0.1	692,346	182.3	379,775
Chiba	357,350	69.3	399,095	77.4	161,494	31.3	28,553	5.5	1,774	0.3	948,266	183.9	1,810	0.4	950,076	184.2	515,764
Tokyo	174,499	79.6	13,926	6.4	78,567	35.9	79,889	36.5	772	0.4	347,653	158.7	3,634	1.7	351,287	160.3	219,090
Kanagawa	199,753	82.7	50,762	21.0	90,931	37.6	55,293	22.9	11,235	4.7	407,974	168.9	412	0.2	408,386	169.0	241,605
Niigata	413,725	32.9	735,247	58.4	856,634	68.1	316,891	25.2	2,008	0.2	2,324,505	184.7	821	0.1	2,325,326	184.8	1,258,384
Toyama	173,083	40.7	152,378	35.9	287,915	67.8	125,847	29.6	865	0.2	740,088	174.2	3,004	0.7	743,092	174.9	424,761
Ishikawa	103,548	24.7	221,742	53.0	294,977	70.5	52,512	12.5	1,058	0.3	673,837	161.0	4,096	1.0	677,933	161.9	418,616
Fukui	97,894	23.4	90,146	21.5	315,466	75.3	62,065	14.8	253	0.1	565,824	135.0	1,967	0.5	567,791	135.5	419,043
Yamanashi	86,383	19.3	294,475	66.0	347,577	77.8	121,153	27.1	2,144	0.5	851,732	190.8	1,882	0.4	853,614	191.2	446,499
Nagano	357,753	26.4	463,584	34.2	1,058,819	78.1	278,833	20.6	790	0.1	2,159,779	159.2	12,717	0.9	2,172,496	160.2	1,356,223
Gifu	241,619	22.7	159,689	15.0	861,376	81.1	195,093	18.4	2,957	0.3	1,460,734	137.5	7,369	0.7	1,468,103	138.2	1,062,129
Shizuoka	346,960	44.6	447,631	57.5	491,421	63.2	84,045	10.8	6,301	0.8	1,376,358	176.9	10,432	1.3	1,386,790	178.2	778,060
Aichi	355,028	68.8	176,786	34.2	222,658	43.1	88,967	17.2	294	0.1	843,733	163.4	2,494	0.5	846,227	163.9	516,402
Mie	203,024	35.1	200,258	34.7	370,698	64.2	208,748	36.1	459	0.1	983,187	170.2	4,349	0.8	987,536	170.9	577,735
Shiga	193,352	48.1	108,518	27.0	197,672	49.2	149,371	37.2	0	0.0	648,913	161.5	4,276	1.1	653,189	162.6	401,736
Kyoto	188,553	40.9	141,889	30.8	325,919	70.7	25,737	5.6	221	0.0	682,319	147.9	5,125	1.1	687,444	149.0	461,220
Osaka	189,604	99.6	32,463	17.1	55,970	29.4	20,039	10.5	38	0.0	298,114	156.6	123	0.1	298,237	156.7	190,354
Hyogo	537,823	64.0	191,725	22.8	561,094	66.8	166,738	19.8	394	0.0	1,457,774	173.5	1,385	0.2	1,459,159	173.7	840,090
Nara	115,859	31.4	72,059	19.5	283,386	76.8	63,328	17.2	92	0.0	534,724	144.9	7,309	2.0	542,033	146.8	369,109
Wakayama	92,882	19.7	173,671	36.8	361,304	76.5	50,309	10.6	329	0.1	678,495	143.6	4,029	0.9	682,524	144.5	472,468
Tottori	71,413	20.4	171,162	48.8	250,564	71.4	49,485	14.1	203	0.1	542,827	154.8	545	0.2	543,372	154.9	350,710
Shimane	132,035	19.7	496,044	73.9	520,747	77.6	39,624	5.9	179	0.0	1,188,629	177.2	771	0.1	1,189,400	177.3	670,798
Okayama	219,777	30.9	529,078	74.4	488,222	68.6	81,503	11.5	200	0.0	1,318,780	185.4	4,480	0.6	1,323,260	186.0	711,462
Hiroshima	274,800	32.4	603,793	71.2	634,394	74.8	37,973	4.5	2,359	0.3	1,553,319	183.2	1,918	0.2	1,555,237	183.4	847,938
Yamaguchi	274,974	45.0	373,496	61.1	425,516	69.6	42,374	6.9	0	0.0	1,116,360	182.6	813	0.1	1,117,173	182.7	611,414
Tokushima	62,303	15.0	246,773	59.5	312,913	75.5	38,001	9.2	59	0.0	660,049	159.2	513	0.1	660,562	159.3	414,693
Kagawa	76,539	40.8	143,715	76.6	96,590	51.5	20,543	10.9	93	0.0	337,480	179.8	557	0.3	338,037	180.1	187,658
Ehime	132,778	23.4	348,513	61.4	404,923	71.3	39,891	7.0	1,947	0.3	928,052	163.5	2,758	0.5	930,810	164.0	567,610
Kochi	90,859	12.8	444,620	62.6	602,305	84.8	49,800	7.0	708	0.1	1,188,292	167.3	2,591	0.4	1,190,883	167.6	710,391
Fukuoka	292,071	58.6	240,437	48.2	225,088	45.1	88,790	17.8	135	0.0	846,521	169.8	3,032	0.6	849,553	170.4	498,640
Saga	1,144	46.9	1,634	67.0	1,153	47.2	284	11.6	2	0.1	4,218	172.8	26	1.1	4,245	173.9	2,441
Nagasaki	107,398	26.0	246,294	59.6	260,340	63.0	75,456	18.3	768	0.2	690,256	167.0	6,537	1.6	696,793	168.6	413,232
Kumamoto	129,855	17.9	490,154	67.4	527,156	72.5	164,074	22.6	332	0.0	1,311,571	180.5	5,997	0.8	1,317,568	181.3	726,793
Oita	103,865	16.4	412,316	65.0	451,758	71.2	174,646	27.5	15	0.0	1,142,600	180.2	6,988	1.1	1,149,588	181.3	634,061
Miyazaki	88,747	11.5	306,366	39.6	592,018	76.5	95,842	12.4	192	0.0	1,083,165	140.0	6,545	0.8	1,089,710	140.9	773,599
Kagoshima	205,128	22.3	563,712	61.3	593,232	64.6	89,390	9.7	1,874	0.2	1,453,336	158.2	8,828	1.0	1,462,164	159.1	918,899
Okinawa	110,644	48.6	133,651	58.7	113,604	49.9	47,050	20.7	1,038	0.5	405,987	178.3	1,870	0.8	407,857	179.1	227,672
Three metropolitan areas	2,839,274	52.8	1,607,198	29.9	3,133,353	58.3	1,057,720	19.7	18,755	0.3	8,656,300	161.1	34,534	0.6	8,690,834	161.7	5,373,273
(Former three major metropolitan areas)	2,481,796	63.0	1,375,450	34.9	1,988,591	50.4	799,299	20.3	15,706	0.4	6,660,842	169.0	19,856	0.5	6,680,698	169.5	3,942,035
Rural areas	7,274,729	23.0	15,454,730	48.8	22,119,034	69.8	4,379,959	13.8	86,441	0.3	49,314,894	155.7	218,228	0.7	49,533,123	156.4	31,667,709
(Former rural areas)	7,632,207	23.1	15,686,478	47.4	23,263,796	70.3	4,638,380	14.0	89,490	0.3	51,310,352	155.0	232,906	0.7	51,543,259	155.7	33,098,947

Notes:

・ The figures of the right of each column show the shares to the prefecture's land area or national land area.

・ The prefecture's land area is from data of prefectures. The land area of all Japan is the total of prefecture land area (the national land area and area of Hokkaido does not include Habomai, Shikotan, Kunashiri, Etorofu, areas of islands).

・ The three metropolitan area are the total of Tokyo area (Saitama, Chiba, Tokyo and Kanagawa), Nagoya area (Aichi, Mie and Gifu), and Osaka area (Kyoto, Osaka, Hyogo and Nara).

・ "Former three major metropolitan areas" excludes Gifu and Nara prefectures out of the Three metropolitan areas.

Source: materials of Ministry of Ministry of Land, Infrastructure, Transport and Tourism.

3.03 Shares of Vegetation Categories by Region

(%)

	Hokkaido	Tohoku	Kanto	Chubu	Kinki	Chugoku	Shikoku	Kyushu	Okinawa	Nationwide
Arctic, alpine natural vegetation	0.8	0.1	0.1	0.5	0.0	0.0	0.0	0.0	0.0	0.3
Boreal,(the subarctic zone), natural vegetation	13.7	1.2	2.1	4.5	0.0	0.0	0.0	0.0	0.0	4.3
Buna, (fagus crenata) class of natural vegetation	33.0	12.3	3.3	9.4	1.2	0.6	1.5	1.1	0.0	12.0
Yabutsubaki, (camellia japonica) class of natural vegetation	0.0	0.9	0.5	0.3	1.7	0.8	2.1	7.4	42.3	1.6
Rivers, wetland, salt marsh, dune vegetation (common in each class)	1.1	0.6	0.9	0.3	0.5	0.2	0.3	0.6	5.6	0.7
Boreal,(the subarctic zone) compensated vegetation	1.0	0.1	0.1	0.5	0.0	0.0	0.1	0.0	0.0	0.3
Buna,(fagus crenata) compensated vegetation	9.0	21.6	6.7	21.5	4.0	5.9	1.7	1.2	0.0	11.4
Yabutsubaki (camellia japonica) compensated vegetation	0.0	10.3	12.3	11.4	31.2	50.9	30.4	20.1	8.5	15.5
Plantations cultivated vegetation (common in each class)	37.7	47.9	55.1	42.8	48.6	35.4	59.0	61.5	34.0	46.2
Others	3.6	5.0	18.8	8.8	12.8	6.2	5.0	8.2	9.7	7.6

Note:
As of March, 1999. "0.0%" means "0%."

Source: "Basic Survey of the Natural Environment 5th [vegetation survey]," Center for Biological Diversity, Nature Conservation Bureau, MOE, the Government of Japan.

3.04 Shares of Vegetation Naturalness by Region

(%)

Vegetation naturalness	Classification	Hokkaido	Tohoku	Kantou	Chubu	Kinki	Chugoku	Shikoku	Kyushu	Okinawa	Nationwide
10	Natural vegetation of grasslands and moorlands	2.2	0.9	1.1	0.9	0.5	0.2	0.3	0.5	5.6	1.1
9	Natural vegetation of forests	46.5	14.3	5.9	14.2	2.9	1.4	3.6	8.5	42.3	17.9
8	Substitutional communities close to natural vegetation in forest	2.5	5.4	1.9	7.1	5.4	2.6	9.8	11.2	1.2	5.3
7	Substitutional communities in secondary forest	3.3	22.8	15.2	23.7	28.8	48.3	21.5	6.9	0.0	18.6
6	Planted forests	17.0	26.3	22.7	24.0	30.9	16.9	41.8	36.5	1.1	24.8
5	Substitutional communities in high profile grasslands	2.7	1.0	0.9	1.3	0.4	0.7	0.5	2.5	7.2	1.5
4	Substitutional communities in low profile grasslands	1.9	2.8	1.5	1.5	1.2	5.4	0.7	1.3	0.4	2.1
3	Fruit orchards, mulberry plantations, tea gardens, and other horticultural area	0.3	1.7	2.8	1.9	2.1	1.3	4.0	3.8	2.0	1.8
2	Paddies, fields, and other arable land, residential area with abundant trees	20.9	20.7	33.8	18.6	16.5	19.2	14.2	23.4	30.8	21.1
1	Urban land, developed tracts, and other zone where plant life is virtually nonexistent	1.2	2.9	11.9	5.1	8.5	2.9	2.7	4.5	9.2	4.3
Naturally barren land		0.3	0.1	0.7	0.7	0.3	0.2	0.4	0.4	0.1	0.4
Open water areas		1.1	1.0	1.6	1.0	2.7	1.0	0.7	0.4	0.1	1.1
Other (areas bare of vegetation - category unknown)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

Note:
As of March, 1999. "0.0%" means "0%."

Source: "Basic Survey of the Natural Environment 5th [vegetation survey]," Center for Biological Diversity, Nature Conservation Bureau, MOE, the Government of Japan.

3.05 Changes in Vegetation Naturalness over Time

Vegetation Naturalness	Classification	FY1973 (1st survey)		FY1988 (3rd survey)		FY1993 (4th survey)		FY1998 (5th survey)	
		Grid count	Ratio (%)	Grid count	Ratio (%)	Grid count	Ratio (%)	Grid count	Ratio (%)
10	Natural vegetation of grasslands and moorlands	3,862	1.1	4,038	1.1	4,011	1.1	3,993	1.1
9	Natural vegetation of forests	78,258	21.7	66,979	18.2	66,394	18.0	65,824	17.9
8	Substitutional communities close to natural vegetation in forest	16,075	4.5	20,046	5.4	19,733	5.4	19,598	5.3
7	Substitutional communities in secondary forest	75,521	21.0	70,710	19.2	69,256	18.8	68,540	18.6
6	Planted forests	75,140	20.9	90,803	24.6	91,846	24.9	91,414	24.8
5	Substitutional communities in high profile grasslands	7,019	1.9	5,737	1.6	5,626	1.5	5,568	1.5
4	Substitutional communities in low profile grasslands	5,857	1.6	5,939	1.6	6,498	1.8	7,591	2.1
3	Fruit orchards, mulberry plantations, tea gardens, and other horticultural area	5,509	1.5	6,798	1.8	6,817	1.8	6,788	1.8
2	Paddies, fields, and other arable land, residential area with abundant trees	81,815	22.7	76,945	20.9	77,311	21.0	77,695	21.1
1	Urban land, developed tracts, and other zone where plant life is virtually nonexistent	11,303	3.1	14,841	4.0	15,420	4.2	15,999	4.3
Naturally barren land		-	-	1,392	0.4	1,416	0.4	1,420	0.4
Open water areas		-	-	4,170	1.1	4,211	1.1	4,227	1.1
Other (areas bare of vegetation - category unknown)		-	-	72	0.0	71	0.0	70	0.0
Total		360,359	100.0	368,470	100.0	368,610	100.0	368,727	100.0

Source: "National Survey on the Natural Environment 1st, 3rd, 4th, & 5th [Vegetation Survey]," Center for Biological Diversity, Nature Conservation Bureau, MOE, the Government of Japan

3.06 Areas of Forest and Grazing Land (by prefectures and type of ownership)

(Unit: ha)

Prefectures	Total area of forest	National Ownership			Private Ownership							
							Public domain					
		Total	Forestry Agency	Government Agency other than Forestry Agency	Total	Independent Administrative Institutions	Subtotal	Prefectures	Forest improvement corporations (afforestation corporations)	Municipalities	Property wards	Privately Owned
Nation-wide	24,845,302	7,217,967	7,079,016	138,951	17,627,335	647,531	3,395,800	1,248,262	436,296	1,404,452	306,790	13,584,004
Hokkaido	5,552,779	2,933,233	2,844,955	88,278	2,619,546	126,296	966,121	622,815	14	343,292	–	1,527,129
Aomori	627,658	380,845	377,848	2,997	246,813	11,714	43,328	5,042	10,502	14,439	13,345	191,771
Iwate	1,158,497	368,654	366,277	2,377	789,843	22,482	159,047	90,279	–	58,445	10,323	608,314
Miyagi	412,348	123,770	119,037	4,733	288,578	13,176	59,847	14,250	10,012	34,916	669	215,555
Akita	836,327	374,002	373,804	198	462,325	13,969	108,143	13,013	27,660	50,810	16,660	340,213
Yamagata	646,819	330,580	330,328	252	316,239	8,511	49,229	3,380	15,853	13,117	16,879	258,499
Fukushima	942,516	373,634	371,412	2,222	568,882	13,367	94,404	11,059	16,428	42,694	24,223	461,111
Ibaraki	189,261	44,181	44,076	105	145,080	629	4,846	1,689	241	2,372	544	139,605
Tochigi	341,500	118,983	118,806	177	222,517	5,661	22,945	11,429	1,948	4,228	5,340	193,911
Gunma	405,899	178,012	177,090	922	227,887	11,667	25,996	6,633	5,171	13,966	226	190,224
Saitama	122,401	12,240	11,983	257	110,161	6,568	18,754	9,640	3,408	5,705	1	84,839
Chiba	161,052	7,873	7,755	118	153,179	2,364	10,940	8,995	–	1,721	224	139,875
Tokyo	79,653	8,077	7,705	372	71,576	159	21,481	11,473	666	7,676	1,666	49,936
Kanagawa	94,182	10,126	9,451	675	84,056	988	28,973	17,706	4,085	2,731	4,451	54,095
Niigata	807,377	232,231	230,054	2,177	575,146	7,512	82,055	7,044	10,457	58,411	6,143	485,579
Toyama	239,505	61,078	60,038	1,040	178,427	13,388	38,934	14,056	9,380	11,291	4,207	126,105
Ishikawa	279,023	26,010	25,360	650	253,013	5,959	34,730	12,148	14,209	8,209	164	212,324
Fukui	310,456	36,957	36,484	473	273,499	14,107	38,914	3,741	22,780	11,431	962	220,478
Yamanashi	349,372	6,459	4,443	2,016	342,913	10,387	198,729	167,644	8,175	11,759	11,151	133,797
Nagano	1,022,777	332,693	332,220	473	690,084	29,738	189,849	18,885	18,032	109,096	43,836	470,497
Gifu	842,091	157,482	157,335	147	684,609	31,670	107,499	15,454	26,031	50,392	15,622	545,440
Shizuoka	495,556	86,307	83,130	3,177	409,249	8,685	48,112	7,624	–	24,237	16,251	352,452
Aichi	218,975	11,237	10,747	490	207,738	2,206	23,973	7,865	4,386	6,462	5,260	181,559
Mie	373,317	22,437	22,255	182	350,880	12,083	31,001	3,691	–	21,962	5,348	307,796
Shiga	204,658	19,272	17,048	2,224	185,386	1,265	41,402	6,067	25,674	2,892	6,769	142,719
Kyoto	342,386	7,318	6,154	1,164	335,068	17,037	27,766	4,186	5,638	7,038	10,904	290,265
Osaka	58,094	1,336	1,084	252	56,758	464	4,813	1,015	–	883	2,915	51,481
Hyogo	562,100	30,002	28,603	1,399	532,098	25,826	73,086	8,154	25,053	30,156	9,723	433,186
Nara	283,966	12,760	11,623	1,137	271,206	14,273	22,284	6,645	1,944	10,771	2,924	234,649
Wakayama	363,040	16,554	16,550	4	346,486	12,151	21,335	5,135	3,835	8,492	3,873	313,000
Tottori	257,806	30,542	30,223	319	227,264	13,902	46,673	6,332	15,231	8,946	16,164	166,689
Shimane	526,064	31,818	31,793	25	494,246	33,873	55,266	3,258	26,116	24,436	1,456	405,107
Okayama	488,586	37,378	35,166	2,212	451,208	6,412	82,376	6,562	23,613	38,145	14,056	362,420
Hiroshima	618,912	47,745	46,380	1,365	571,167	16,199	67,956	8,779	17,274	33,618	8,285	487,012
Yamaguchi	439,795	11,418	10,957	461	428,377	11,393	70,940	4,128	13,790	52,302	720	346,044
Tokushima	312,258	18,473	18,256	217	293,785	13,953	24,447	6,467	7,892	8,894	1,194	255,385
Kagawa	87,363	8,028	7,542	486	79,335	381	12,572	3,517	1,170	5,280	2,605	66,382
Ehime	401,117	39,818	39,693	125	361,299	8,337	35,299	6,817	–	21,480	7,002	317,663
Kochi	594,463	123,998	123,431	567	470,465	15,819	46,942	10,165	15,475	20,872	430	407,704
Fukuoka	220,354	25,527	24,091	1,436	194,827	3,635	24,659	8,289	–	12,617	3,753	166,533
Saga	110,668	15,590	15,530	60	95,078	3,649	12,589	3,075	–	9,514	–	78,840
Nagasaki	247,144	25,113	23,752	1,361	222,031	2,635	42,312	6,466	14,182	20,711	953	177,084
Kumamoto	467,277	65,334	63,467	1,867	401,943	15,696	58,183	11,335	9,031	29,737	8,080	328,064
Oita	459,392	53,462	47,745	5,717	405,930	15,811	38,193	16,851	–	19,933	1,409	351,926
Miyazaki	589,028	176,638	175,588	1,050	412,390	31,240	56,631	17,162	11,288	28,101	80	324,519
Kagoshima	590,628	151,250	150,453	797	439,378	10,256	72,294	6,766	9,652	55,876	–	356,828
Okinawa	110,862	31,492	31,294	198	79,370	38	49,932	5,536	–	44,396	–	29,400

Source: "2010 WORLD CENSUS OF AGRICULTURE AND FORESTRY IN JAPAN (Finalized value)," as of February 1st, 2010, Minister's Secretariat Statistic department, Ministry of Agriculture, Forestry and Fisheries, the Government of Japan (http://www.maff.go.jp/j/tokei/census/afc/2010/gaiyo/html)

3.07 Area of forest used for public benefits by prefecture

(Unit : 1,000 ha)

	Protected forest	Protected forest for water yield	Protected forest for erosion defense	Protected forest for health	Protected Forest for natural beauty	Erosion control area	Natural parks	Wildlife sanctuary	Nature conservation area	Forest recreation
Nationwide	8,569.9	6,269.2	1,940.0	531.5	26.3	593.8	3,935.4	2,197.7	100.2	480.1
Hokkaido	2,084.7	1,457.3	455.1	115.8	9.0	4.0	658.2	236.5	5.5	162.6
Aomori	274.8	221.8	39.6	24.2	0.2	3.6	88.5	73.3	10.3	12.7
Iwate	376.6	321.4	42.1	12.5	0.3	3.6	51.3	82.9	3.7	16.8
Miyagi	151.9	127.9	17.2	6.6	1.5	1.7	143.0	94.0	6.9	6.1
Akita	225.5	176.4	42.5	21.2	0.6	5.2	107.4	81.6	4.8	18.5
Yamagata	210.0	138.6	81.4	14.6	1.4	5.2	129.6	100.7	4.5	16.8
Fukushima	273.5	192.0	75.2	11.4	0.3	15.2	105.0	63.2	1.9	13.1
Ibaraki	37.9	31.7	3.3	2.1	0.1	1.5	54.4	23.8	0.5	1.9
Tochigi	163.0	125.5	36.4	13.9	0.1	2.7	112.6	62.7	4.8	11.6
Gunma	202.7	150.5	46.1	17.5	1.5	1.2	66.0	62.5	7.6	15.3
Saitama	49.1	36.3	9.7	5.8	0.0	2.2	92.6	22.3	0.5	3.2
Chiba	18.2	14.9	0.9	3.8	0.0	1.5	7.4	26.5	0.3	2.8
Tokyo	18.0	11.6	2.4	3.5	0.2	2.9	36.4	27.8	0.6	1.2
Kanagawa	48.6	22.4	35.2	8.5	0.1	1.0	49.3	30.3	11.0	6.1
Niigata	315.5	227.0	85.6	12.8	0.3	6.6	228.7	99.2	1.6	13.3
Toyama	150.1	69.1	82.0	8.7	0.0	28.4	70.4	57.2	0.6	6.3
Ishikawa	69.4	56.2	7.3	17.3	0.1	7.5	27.2	11.8	0.8	3.2
Fukui	135.6	121.9	7.1	2.6	0.0	14.0	46.7	3.5	0.3	2.7
Yamanashi	193.1	155.3	36.6	11.5	0.3	12.9	107.8	5.7	0.5	3.7
Nagano	480.1	355.0	117.2	17.3	0.4	44.2	190.0	233.6	13.7	36.8
Gifu	344.2	219.0	115.8	9.1	0.0	116.7	168.2	61.2	2.5	13.0
Shizuoka	158.8	123.6	33.6	11.1	0.1	43.1	66.0	115.4	6.2	8.2
Aichi	46.7	13.9	31.1	3.8	0.1	37.5	62.5	11.2	0.1	5.7
Mie	97.3	57.2	37.8	2.3	0.1	53.9	83.1	11.8	0.1	1.6
Shiga	70.3	30.6	37.1	14.3	0.7	24.2	61.4	25.1	−	4.8
Kyoto	97.3	60.6	27.3	6.5	0.8	18.8	6.6	14.6	0.1	2.0
Osaka	16.1	9.0	6.4	5.1	0.1	23.2	16.5	7.3	0.1	2.2
Hyogo	177.8	137.2	31.0	10.4	0.2	26.3	133.5	41.9	0.4	7.2
Nara	61.6	55.3	5.8	2.9	0.4	8.3	56.5	3.3	1.4	1.6
Wakayama	106.8	79.7	24.1	3.7	0.2	2.9	34.0	15.3	0.3	2.0
Tottori	131.5	117.9	9.4	6.2	0.3	0.8	38.3	19.4	0.1	2.8
Shimane	174.2	162.7	7.2	7.3	0.4	3.7	29.8	22.1	0.1	4.1
Okayama	156.8	108.3	44.9	13.0	0.3	3.5	67.5	31.0	0.8	4.5
Hiroshima	237.0	152.8	77.2	15.1	2.9	6.9	30.9	36.6	1.7	8.8
Yamaguchi	94.0	62.6	27.7	4.0	0.3	5.1	32.9	31.4	−	1.4
Tokushima	94.4	76.5	14.6	5.5	0.3	7.0	35.5	5.8	0.0	4.9
Kagawa	23.2	11.5	9.6	1.5	0.8	2.6	8.5	4.9	0.1	1.8
Ehime	124.6	76.9	43.8	7.8	0.0	4.9	30.9	22.9	2.1	5.5
Kochi	141.3	100.5	37.1	8.7	0.2	12.8	40.9	18.5	0.3	9.6
Fukuoka	92.4	72.7	18.1	10.9	0.1	1.5	66.2	27.2	0.1	3.9
Saga	35.4	30.9	6.8	3.4	0.0	0.5	22.5	11.2	0.1	2.8
Nagasaki	47.4	26.1	14.6	6.3	0.0	0.7	57.6	25.0	0.5	5.7
Kumamoto	137.6	119.2	16.7	8.4	0.0	9.0	76.6	75.4	0.5	8.5
Oita	140.2	115.8	19.9	7.5	0.8	10.9	155.1	42.3	0.0	4.6
Miyazaki	161.1	140.9	11.9	10.2	0.1	1.8	82.1	42.7	0.2	3.4
Kagoshima	101.7	83.7	6.6	10.6	0.1	2.0	77.0	68.4	1.8	2.9
Okinawa	21.5	11.3	0.9	4.3	0.4	0.5	22.3	6.6	0.6	1.6

Note:
As of August 1st, 2000, if the type of forest use on public benefits is duplicated, it is recorded as such in each area.

Source: "Overview of the World Census of Agriculture and Forestry 2010," Minister's Secretariat Statistic department, Ministry of Agriculture, Forestry and Fisheries, the Government of Japan

3.08 Number of Natural Parks and Visitors

(Unit : thousand persons)

Year	National parks		Quasi-national parks		Prefectural natural parks		Total		Changes in # of visitors to the previous year
	Number of parks	Annual number of visitors	Number of parks	Annual number of visitors	Number of parks	Annual number of visitors	Number of parks	Annual number of visitors	
1950		21,795						21,795	-
1951		29,572						29,572	135.7
1952		35,870						35,870	121.3
1953		39,190						39,190	109.3
1954		41,951						41,951	107.0
1955		47,158						47,158	112.4
1956		58,564						58,564	124.2
1957		64,516		24,546				89,061	152.1
1958		68,504		43,250				111,754	125.5
1959		77,963		44,497				122,460	109.6
1960	19	90,163	20	51,531	-		-	141,694	115.7
1961	19	109,193	20	58,357	-		-	167,550	118.2
1962	20	124,490	19	68,263	-		-	192,753	115.0
1963	21	144,641	22	77,032	-		-	221,673	115.0
1964	23	163,819	24	89,756	-		-	253,575	114.4
1965	23	189,260	27	110,274	238	99,821	288	399,355	157.5
1966	23	202,119	27	127,927	261	134,163	311	464,209	116.2
1967	23	218,845	30	137,359	263	162,843	316	519,047	111.8
1968	23	250,671	36	163,344	274	156,653	333	570,668	109.9
1969	23	269,814	40	195,623	270	185,713	333	651,150	114.1
1970	23	284,574	44	217,611	279	200,584	346	702,769	107.9
1971	23	303,600	44	233,830	279	193,210	346	730,640	104.0
1972	26	318,690	46	261,610	286	200,010	358	780,310	106.8
1973	26	338,090	50	278,770	287	212,760	363	829,620	106.3
1974	27	337,450	50	281,770	290	220,000	367	839,220	101.2
1975	27	325,290	50	280,790	293	218,810	370	824,890	98.3
1976	27	320,610	50	272,670	290	220,220	367	813,500	98.6
1977	27	316,270	50	276,790	292	220,130	369	813,190	100.0
1978	27	317,700	51	270,890	291	228,430	369	817,020	100.5
1979	27	323,450	51	272,320	291	227,960	369	823,730	100.8
1980	27	310,820	51	268,120	293	220,640	371	799,580	97.1
1981	27	323,680	52	274,580	294	235,500	373	833,760	104.3
1982	27	323,130	54	273,500	294	230,940	375	827,570	99.3
1983	27	323,650	54	274,530	297	235,930	378	834,110	100.8
1984	27	342,490	54	286,920	298	243,310	379	872,720	104.6
1985	27	352,610	54	287,420	298	246,870	379	886,900	101.6
1986	27	362,520	54	289,070	298	255,580	379	907,170	102.3
1987	28	371,030	54	283,090	299	262,450	381	916,570	101.0
1988	28	375,460	54	282,500	300	264,540	382	922,500	100.6
1989	28	386,860	54	291,700	300	276,270	382	954,830	103.5
1990	28	407,150	55	306,710	299	283,930	382	997,790	104.5
1991	28	415,960	55	312,630	299	285,850	382	1,014,440	101.7
1992	28	413,020	55	320,280	301	286,040	384	1,019,340	100.5
1993	28	389,920	55	296,070	301	269,650	384	955,640	93.8
1994	28	408,280	55	308,210	301	283,380	384	999,870	104.6
1995	28	391,070	55	305,610	302	274,330	385	971,010	97.1
1996	28	395,740	55	311,880	304	276,940	387	984,560	101.4
1997	28	385,480	55	302,400	305	271,580	388	959,460	97.5
1998	28	381,020	55	301,030	306	264,660	389	946,710	98.7
1999	28	381,560	55	296,165	307	274,537	390	952,262	100.6
2000	28	366,363	55	296,766	307	273,644	390	936,773	98.4
2001	28	368,000	55	296,972	308	269,760	391	934,732	99.8
2002	28	369,547	55	296,250	308	270,182	391	935,979	100.1
2003	28	357,923	55	293,077	308	265,716	391	916,716	97.9
2004	28	351,350	55	290,645	309	266,123	392	908,118	99.1
2005	28	351,837	55	293,957	309	259,475	392	905,269	99.7
2006	28	352,769	55	288,882	309	264,017	392	905,668	100.0
2007	29	354,232	56	294,756	309	267,857	394	916,845	101.2
2008	29	345,763	56	291,703	309	257,332	394	894,798	97.6
2009	29	343,559	56	291,436	311	264,832	396	899,827	100.6
2010	29	340,872	56	284,644	312	261,328	397	886,844	98.6
2011	29	309,043	56	270,010	314	228,856	399	807,909	91.1
2012	30	332,988	56	273,671	315	237,215	401	843,874	104.5
2013	30	354,956	56	278,625	314	239,618	400	873,199	103.5

Source: "Survey on the number of visitors to the natural parks 2013," Office of Communication with Nature, Policy Planning Division, Nature Conservation Bureau, MOE, the Government of Japan

3.09 Annual number of visitors in each national park (1)

Unit: ten thousand

park \ year	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
1 Rishiri-Rebun-Sarobetsu					(102)	(102)	(82)	(101)	(93)	(122)	(94)	(119)	(111)	(102)
				114	116	119	97	98	91	111	104	124	137	140
2 Shiretoko	(210)	(85)	(126)	(101)	(87)	(107)	(99)	(101)	(102)	(124)	(156)	(112)	(61)	(103)
	121	103	130	132	115	124	123	124	127	158	246	276	168	174
3 Akan	(134)	(125)	(112)	(95)	(99)	(103)	(96)	(103)	(106)	(98)	(95)	(100)	(101)	(102)
	394	493	553	523	517	535	511	527	557	545	520	519	526	538
4 Kushiroshitsugen														
5 Daisetsuzan	(140)	(92)	(116)	(106)	(96)	(107)	(95)	(98)	(103)	(98)	(95)	(105)	(98)	(101)
	445	408	474	505	483	517	492	481	497	488	466	490	481	488
6 Shikotsu-Toya	(111)	(91)	(98)	(124)	(86)	(105)	(77)	(104)	(106)	(101)	(98)	(103)	(102)	(109)
	1,323	1,206	1,182	1,472	1,273	1,341	1,032	1,076	1,145	1,160	1,131	1,165	1,188	1,299
7 Towada Hachimantai	(112)	(109)	(115)	(85)	(91)	(95)	(106)	(105)	(102)	(120)	(98)	(113)	(97)	(106)
	626	685	789	673	614	588	622	652	662	796	781	886	855	909
8 Rikuchukaigan	(115)	(92)	(165)	(107)	(108)	(93)	(111)	(103)	(123)	(82)	(114)	(104)	(98)	(128)
	359	329	542	582	629	589	655	676	833	683	777	811	794	1,012
9 Bandai-Asahi	(98)	(106)	(115)	(109)	(88)	(99)	(88)	(102)	(101)	(91)	(109)	(102)	(95)	(103)
	1,093	1,162	1,339	1,456	1,281	1,272	1,114	1,137	1,147	1,049	1,139	1,160	1,100	1,133
10 Nikko	(102)	(108)	(102)	(93)	(93)	(90)	(104)	(105)	(101)	(97)	(99)	(101)	(99)	(105)
	1,773	1,919	1,968	1,837	1,716	1,560	1,625	1,705	1,719	1,672	1,654	1,686	1,666	1,744
11 Oze														
12 Jyoshin'etsukogen	(118)	(108)	(114)	(95)	(101)	(96)	(103)	(100)	(102)	(102)	(107)	(101)	(101)	(103)
	2,440	2,632	3,005	2,872	2,899	2,798	2,893	2,889	2,956	3,008	3,234	3,255	3,289	3,391
13 Chichibu-Tama-Kai	(115)	(111)	(105)	(105)	(103)	(100)	(103)	(103)	(97)	(100)	(100)	(91)	(101)	(110)
	756	839	882	923	948	956	984	1,016	989	988	988	904	914	1,001
14 Ogasawara				(118)	(77)	(80)	(125)	(120)	(125)	(107)	(68)	(200)	(105)	(96)
		0	1	1	1	1	1	1	1	2	1	2	2	2
15 Fuji-Hakone-Izu	(105)	(104)	(103)	(95)	(98)	(99)	(101)	(102)	(101)	(100)	(103)	(99)	(101)	(108)
	8,062	8,391	8,631	8,240	8,075	8,013	8,057	8,222	8,288	8,285	8,517	8,474	8,562	9,242
16 Chubusangaku	(117)	(107)	(105)	(88)	(98)	(98)	(114)	(104)	(95)	(102)	(101)	(101)	(103)	(100)
	705	756	798	706	692	682	781	816	775	790	797	808	831	827
17 Hakusan	(141)	(148)	(117)	(137)	(101)	(93)	(176)	(100)	(84)	(87)	(98)	(114)	(101)	(116)
	31	46	54	74	75	70	123	123	103	89	87	99	100	117
18 Minami Alps	(176)	(112)	(68)	(96)	(100)	(95)	(87)	(105)	(100)	(97)	(101)	(55)	(101)	(149)
	67	75	51	49	48	46	40	42	42	41	42	23	24	35
19 Ise-Shima	(103)	(107)	(108)	(113)	(89)	(105)	(101)	(105)	(101)	(96)	(100)	(96)	(100)	(107)
	915	979	1,251	1,414	1,259	1,328	1,344	1,410	1,431	1,374	1,374	1,314	1,313	1,399
20 Yoshino-Kumano	(111)	(97)	(104)	(107)	(91)	(100)	(92)	(80)	(98)	(96)	(104)	(97)	(97)	(103)
	1,151	1,122	1,165	1,194	1,086	1,093	1,009	809	794	761	792	772	745	764
21 San'inkaigan	(109)	(116)	(107)	(109)	(96)	(99)	(102)	(107)	(90)	(89)	(111)	(98)	(96)	(102)
	547	632	676	736	706	703	721	772	697	623	693	676	652	666
22 Setonaikai	(98)	(106)	(103)	(102)	(96)	(97)	(97)	(94)	(104)	(84)	(112)	(98)	(103)	(106)
	4,595	4,878	5,052	5,151	4,942	4,796	4,659	4,381	4,555	3,841	4,296	4,191	4,306	4,543
23 Daisen-Oki	(114)	(118)	(106)	(92)	(94)	(103)	(102)	(109)	(117)	(90)	(98)	(104)	(89)	(105)
	693	819	869	799	755	781	808	883	1,037	938	919	952	850	893
24 Ashizuri-Uwakai			(136)	(102)	(102)	(102)	(90)	(94)	(96)	(96)	(105)	(100)	(99)	(111)
		151	206	211	215	220	198	186	178	171	179	179	177	197
25 Saikai	(116)	(110)	(66)	(92)	(128)	(87)	(112)	(104)	(82)	(101)	(109)	(97)	(105)	(102)
	417	458	305	282	363	316	355	369	301	304	330	320	336	341
26 Unzen-Amakusa	(111)	(110)	(89)	(97)	(108)	(101)	(99)	(100)	(103)	(94)	(107)	(96)	(102)	(99)
	930	1,024	913	883	958	976	972	972	1,006	941	1,007	970	990	975
27 Aso-Kuju	(98)	(86)	(101)	(97)	(98)	(98)	(88)	(100)	(99)	(92)	(106)	(99)	(109)	(103)
	1,630	1,405	1,424	1,379	1,351	1,333	1,170	1,167	1,154	1,061	1,130	1,123	1,220	1,257
28 Kirishima-Yaku	(107)	(105)	(113)	(99)	(92)	(91)	(95)	(100)	(102)	(95)	(97)	(97)	(100)	(102)
	1,287	1,354	1,539	1,532	1,402	1,288	1,225	1,221	1,242	1,184	1,149	1,117	1,121	1,146
29 Iriomote			(188)	(132)	(120)	(168)	(84)	(128)	(105)	(106)	(96)	(89)	(105)	(102)
		3	6	8	10	17	14	18	18	20	19	17	18	18
(% vs. the previous year)	(107)	(105)	(106)	(100)	(96)	(99)	(99)	(100)	(102)	(96)	(104)	(100)	(100)	(106)
Total	30,360	31,869	33,809	33,765	32,529	32,061	31,627	31,770	32,345	31,082	32,368	32,313	32,365	34,249

Note:
The figures above are rounded off at the digit of thousand, thus "Total" may not be tally with a sum of a column.

Source: "Survey on the number of visitors to the natural parks 2013," Office of Communication with Nature, Policy Planning Administration Division, Nature Conservation Bureau, MOE, the Government of Japan

3.09 Annual number of visitors in each national park (2)

Unit: ten thousand persons

park \ year	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
1 Rishiri-Rebun-Sarobetsu	(102)	(102)	(110)	(126)	(111)	(107)	(100)	(101)	(94)	(92)	(111)	(106)	(56)	(98)
	143	146	160	201	223	238	238	240	225	208	231	245	139	136
2 Shiretoko	(104)	(108)	(107)	(95)	(106)	(107)	(106)	(100)	(98)	(107)	(90)	(100)	(105)	(103)
	180	195	209	198	209	223	237	237	233	249	224	225	235	242
3 Akan	(102)	(101)	(105)	(100)	(107)	(106)	(106)	(100)	(93)	(102)	(100)	(98)	(104)	(110)
	549	554	581	582	621	660	697	699	651	662	659	646	672	741
4 Kushiroshitsugen				(236)	(133)	(102)	(115)	(105)	(121)	(116)	(90)	(98)	(79)	(121)
			16	38	51	52	60	63	76	87	79	77	61	74
5 Daisetsuzan	(98)	(104)	(105)	(101)	(108)	(114)	(106)	(102)	(89)	(109)	(88)	(103)	(103)	(105)
	476	497	524	527	568	649	685	700	622	677	595	614	633	665
6 Shikotsu-Toya	(107)	(105)	(105)	(107)	(106)	(102)	(101)	(98)	(97)	(99)	(98)	(99)	(93)	(100)
	1,392	1,463	1,539	1,647	1,740	1,766	1,784	1,743	1,691	1,672	1,638	1,616	1,507	1,514
7 Towada Hachimantai	(103)	(107)	(99)	(92)	(112)	(98)	(106)	(105)	(94)	(109)	(91)	(100)	(89)	(96)
	938	1,003	997	917	1,023	1,006	1,067	1,118	1,049	1,147	1,041	1,040	922	885
8 Rikuchukaigan	(102)	(96)	(93)	(96)	(115)	(106)	(99)	(100)	(80)	(123)	(87)	(98)	(98)	(91)
	1,031	989	916	882	1,011	1,070	1,054	1,054	846	1,042	911	892	876	796
9 Bandai-Asahi	(100)	(100)	(101)	(101)	(111)	(101)	(98)	(98)	(94)	(130)	(96)	(98)	(96)	(90)
	1,137	1,132	1,146	1,154	1,275	1,291	1,262	1,237	1,157	1,501	1,445	1,419	1,359	1,229
10 Nikko	(106)	(106)	(106)	(98)	(113)	(110)	(103)	(101)	(99)	(99)	(99)	(99)	(93)	(93)
	1,849	1,967	2,091	2,045	2,301	2,525	2,601	2,640	2,606	2,592	2,575	2,559	2,385	2,227
11 Oze														
12 Jyoshin'etsukogen	(100)	(102)	(103)	(102)	(105)	(105)	(103)	(97)	(96)	(98)	(93)	(101)	(99)	(92)
	3,395	3,448	3,563	3,620	3,788	3,979	4,099	3,974	3,813	3,720	3,446	3,494	3,468	3,178
13 Chichibu-Tama-Kai	(99)	(101)	(103)	(110)	(100)	(105)	(107)	(101)	(102)	(100)	(115)	(93)	(98)	(104)
	993	999	1,025	1,131	1,128	1,190	1,276	1,290	1,314	1,308	1,506	1,405	1,380	1,439
14 Ogasawara	(95)	(96)	(90)	(139)	(92)	(113)	(100)	(100)	(100)	(83)	(79)	(100)	(80)	(131)
	2	2	2	3	2	3	3	3	3	2	2	2	2	2
15 Fuji-Hakone-Izu	(102)	(107)	(104)	(100)	(96)	(108)	(105)	(97)	(92)	(103)	(98)	(102)	(97)	(97)
	9,471	10,153	10,553	10,567	10,132	10,917	11,434	11,119	10,236	10,553	10,308	10,525	10,206	9,899
16 Chubusangaku	(109)	(109)	(103)	(104)	(110)	(108)	(103)	(99)	(95)	(93)	(117)	(104)	(96)	(98)
	897	975	1,003	1,039	1,147	1,236	1,269	1,259	1,202	1,122	1,309	1,362	1,313	1,293
17 Hakusan	(98)	(105)	(102)	(109)	(106)	(106)	(89)	(144)	(78)	(106)	(107)	(93)	(100)	(98)
	115	121	123	134	142	150	133	192	149	157	168	156	155	152
18 Minami Alps	(100)	(104)	(103)	(93)	(100)	(97)	(103)	(109)	(116)	(108)	(99)	(97)	(103)	(104)
	35	36	38	35	35	34	35	38	44	47	47	45	47	48
19 Ise-Shima	(99)	(99)	(97)	(93)	(106)	(109)	(97)	(97)	(111)	(130)	(73)	(97)	(94)	(90)
	1,389	1,374	1,335	1,248	1,322	1,444	1,398	1,361	1,508	1,954	1,417	1,378	1,295	1,166
20 Yoshino-Kumano	(100)	(105)	(101)	(92)	(104)	(105)	(105)	(105)	(95)	(101)	(104)	(103)	(101)	(92)
	763	798	802	735	761	798	835	876	830	836	873	896	903	835
21 San'inkaigan	(104)	(102)	(100)	(98)	(104)	(97)	(102)	(101)	(97)	(121)	(90)	(104)	(93)	(93)
	692	704	705	689	718	700	713	720	697	841	754	784	727	677
22 Setonaikai	(106)	(95)	(99)	(108)	(103)	(100)	(97)	(97)	(94)	(100)	(86)	(108)	(98)	(116)
	4,821	4,592	4,556	4,912	5,083	5,087	4,926	4,774	4,508	4,491	3,869	4,196	4,104	4,763
23 Daisen-Oki	(98)	(101)	(100)	(96)	(105)	(104)	(103)	(100)	(99)	(102)	(98)	(101)	(100)	(95)
	876	885	889	851	893	931	963	959	945	967	952	965	966	923
24 Ashizuri-Uwakai	(124)	(100)	(101)	(98)	(95)	(96)	(120)	(102)	(94)	(94)	(101)	(98)	(99)	(90)
	244	244	248	242	231	221	266	272	257	242	246	241	239	215
25 Saikai	(99)	(100)	(97)	(103)	(104)	(105)	(119)	(104)	(88)	(104)	(105)	(101)	(102)	(100)
	337	337	326	334	348	365	433	449	393	409	429	435	442	441
26 Unzen-Amakusa	(94)	(99)	(100)	(102)	(101)	(100)	(81)	(116)	(95)	(108)	(99)	(97)	(100)	(101)
	919	907	904	922	933	934	758	876	832	900	890	868	869	881
27 Aso-Kuju	(108)	(111)	(107)	(104)	(98)	(103)	(106)	(99)	(96)	(117)	(100)	(106)	(108)	(100)
	1,359	1,504	1,616	1,678	1,651	1,693	1,798	1,780	1,714	2,009	2,017	2,137	2,299	2,309
28 Kirishima-Yaku	(108)	(97)	(101)	(98)	(111)	(115)	(101)	(104)	(85)	(103)	(103)	(91)	(99)	(102)
	1,238	1,204	1,216	1,194	1,323	1,523	1,536	1,594	1,353	1,398	1,441	1,314	1,299	1,323
29 Iriomote	(111)	(113)	(89)	(110)	(120)	(107)	(124)	(106)	(100)	(91)	(109)	(99)	(126)	(107)
	20	23	20	22	27	29	36	38	38	34	37	37	47	50
(% vs. the previous year)	(103)	(103)	(102)	(101)	(103)	(105)	(102)	(99)	(94)	(105)	(96)	(101)	(97)	(99)
Total	35,261	36,252	37,103	37,546	38,686	40,715	41,596	41,302	38,992	40,828	39,107	39,574	38,548	38,102

Source: "Survey on the number of visitors to the natural parks 2013," Office of Communication with Nature, Policy Planning Administration Division, Nature Conservation Bureau, MOE, the Government of Japan

3.09 Annual number of visitors in each national park (3)

Unit: ten thousand persons

park \ year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
1 Rishiri-Rebun-Sarobetsu	(104)	(99)	(107)	(101)	(99)	(90)	(92)	(94)	(93)	(92)	(91)	(97)	(95)	(80)	(109)
	142	141	151	152	151	136	125	117	109	100	91	88	84	67	73
2 Shiretoko	(100)	(93)	(103)	(98)	(98)	(101)	(102)	(104)	(88)	(92)	(93)	(101)	(93)	(107)	(97)
	242	226	234	229	225	228	232	242	212	195	181	182	169	180	174
3 Akan	(106)	(88)	(105)	(95)	(94)	(94)	(99)	(78)	(89)	(95)	(93)	(99)	(94)	(104)	(98)
	786	693	725	691	652	614	606	471	420	400	373	369	347	360	353
4 Kushiroshitsugen	(86)	(88)	(94)	(89)	(100)	(96)	(107)	(81)	(97)	(92)	(91)	(106)	(118)	(115)	(101)
	64	56	53	47	47	45	48	39	38	35	32	34	40	46	46
5 Daisetsuzan	(95)	(99)	(99)	(101)	(101)	(96)	(101)	(99)	(90)	(91)	(95)	(97)	(90)	(108)	(107)
	630	624	620	627	636	610	619	610	549	501	478	466	420	455	487
6 Shikotsu-Toya	(100)	(70)	(120)	(106)	(99)	(87)	(127)	(98)	(98)	(77)	(93)	(97)	(86)	(108)	(110)
	1,507	1,055	1,271	1,343	1,333	1,155	1,462	1,439	1,414	1,084	1,003	969	835	901	990
7 Towada Hachimantai	(99)	(98)	(99)	(103)	(109)	(97)	(96)	(96)	(102)	(88)	(105)	(73)	(73)	(111)	(95)
	874	860	851	876	957	927	886	851	866	763	803	589	428	475	450
8 Rikuchukaigan	(105)	(101)	(92)	(99)	(90)	(109)	(93)	(97)	(102)	(94)	(106)	(58)	(11)	(311)	(157)
	836	847	780	774	697	762	705	682	699	659	699	407	46	143	225
9 Bandai-Asahi	(94)	(88)	(98)	(102)	(90)	(95)	(103)	(94)	(98)	(98)	(103)	(91)	(90)	(114)	(95)
	1,160	1,016	996	1,011	911	865	891	836	822	807	833	758	681	774	735
10 Nikko	(100)	(98)	(93)	(99)	(100)	(97)	(96)	(100)	(100)	(97)	(100)	(99)	(76)	(113)	(102)
	2,220	2,173	2,029	2,006	2,001	1,944	1,861	1,863	1,855	1,791	1,789	1,770	1,339	1,510	1,544
11 Oze									※ 29	(172)	(152)	(172)	(121)	(114)	(107)
										50	44	50	35	40	43
12 Jyoshin'etsukogen	(102)	(100)	(99)	(100)	(90)	(101)	(98)	(96)	(99)	(98)	(98)	(99)	(97)	(104)	(101)
	3,229	3,223	3,187	3,183	2,878	2,899	2,844	2,740	2,709	2,657	2,614	2,588	2,516	2,614	2,647
13 Chichibu-Tama-Kai	(109)	(100)	(100)	(101)	(93)	(101)	(113)	(101)	(91)	(106)	(93)	(94)	(90)	(112)	(97)
	1,571	1,567	1,569	1,589	1,470	1,482	1,682	1,700	1,553	1,639	1,519	1,430	1,287	1,440	1,396
14 Ogasawara	(143)	(90)	(111)	(67)	(100)	(100)	(100)	(100)	(150)	(67)	(100)	(100)	(200)	(100)	(98)
	3	3	3	2	2	2	2	2	3	2	2	2	4	4	4
15 Fuji-Hakone-Izu	(105)	(95)	(104)	(101)	(99)	(100)	(100)	(103)	(101)	(101)	(102)	(103)	(93)	(109)	(107)
	10,408	9,855	10,211	10,301	10,178	10,204	10,196	10,480	10,587	10,743	10,920	11,250	10,413	11,335	12,147
16 Chubusangaku	(97)	(101)	(93)	(101)	(94)	(91)	(97)	(103)	(99)	(98)	(95)	(99)	(94)	(104)	(102)
	1,252	1,263	1,177	1,187	1,110	1,012	980	1,006	1,000	977	929	917	863	897	917
17 Hakusan	(99)	(111)	(96)	(91)	(101)	(79)	(100)	(100)	(94)	(108)	(97)	(92)	(75)	(96)	(87)
	150	167	160	145	147	116	116	116	109	118	115	106	79	76	66
18 Minami Alps	(163)	(103)	(76)	(100)	(66)	(151)	(105)	(91)	(95)	(102)	(105)	(133)	(64)	(127)	(109)
	79	81	62	62	41	62	65	59	56	57	60	80	51	65	71
19 Ise-Shima	(93)	(100)	(99)	(95)	(101)	(99)	(103)	(110)	(90)	(78)	(99)	(103)	(91)	(99)	(143)
	1,081	1,076	1,067	1,018	1,024	1,017	1,046	1,150	1,032	803	793	820	748	744	1,063
20 Yoshino-Kumano	(113)	(91)	(97)	(100)	(96)	(107)	(104)	(97)	(100)	(94)	(95)	(105)	(76)	(110)	(105)
	945	863	838	835	798	854	892	861	865	814	773	812	618	679	710
21 San'inkaigan	(95)	(108)	(99)	(99)	(90)	(101)	(92)	(103)	(99)	(103)	(98)	(106)	(91)	(122)	(106)
	642	691	684	678	608	612	566	584	579	599	590	626	571	696	740
22 Setonaikai	(91)	(96)	(99)	(96)	(98)	(99)	(100)	(99)	(105)	(100)	(99)	(103)	(94)	(106)	(102)
	4,340	4,156	4,105	3,961	3,877	3,819	3,805	3,772	3,973	3,964	3,944	4,061	3,809	4,029	4,123
23 Daisen-Oki	(96)	(97)	(104)	(106)	(100)	(93)	(103)	(98)	(101)	(103)	(97)	(104)	(100)	(110)	(151)
	884	854	885	935	932	870	893	876	888	918	888	926	930	1,021	1,537
24 Ashizuri-Uwakai	(91)	(102)	(99)	(98)	(101)	(98)	(101)	(98)	(101)	(96)	(99)	(108)	(81)	(101)	(101)
	195	198	196	193	194	190	192	189	191	184	182	196	158	159	160
25 Saikai	(98)	(101)	(82)	(130)	(101)	(95)	(105)	(100)	(101)	(97)	(99)	(102)	(96)	(99)	(107)
	431	435	355	460	465	440	460	459	462	450	445	456	439	435	464
26 Unzen-Amakusa	(100)	(100)	(99)	(97)	(87)	(92)	(99)	(102)	(99)	(96)	(100)	(101)	(96)	(104)	(102)
	881	883	875	847	738	680	671	682	673	644	641	649	624	650	665
27 Aso-Kuju	(98)	(102)	(104)	(104)	(99)	(94)	(97)	(104)	(106)	(94)	(101)	(96)	(100)	(95)	(106)
	2,254	2,297	2,381	2,468	2,438	2,289	2,210	2,303	2,441	2,286	2,306	2,219	2,227	2,121	2,241
28 Kirishima-Kinkowan (Kirishima-Yaku)	(98)	(98)	(100)	(99)	(94)	(102)	(85)	(102)	(105)	(104)	(100)	(97)	(90)	(120)	(100)
	1,295	1,272	1,274	1,263	1,193	1,215	1,030	1,048	1,105	1,150	1,145	1,110	1,003	1,208	1,210
29 Yakushima (Island)															(95)
														18	17
30 Iriomote-Ishigaki	(110)	(118)	(94)	(120)	(125)	(93)	(113)	(105)	(184)	(101)	(87)	(96)	(89)	(113)	(126)
	55	65	61	73	91	85	96	101	186	188	164	157	140	158	199
(% vs. the previous year)	(100)	(96)	(100)	(100)	(97)	(98)	(100)	(100)	(100)	(98)	(99)	(99)	(91)	(108)	(107)
Total	38,156	36,636	36,800	36,955	35,792	35,135	35,184	35,278	35,425	34,578	34,356	34,087	30,904	33,299	35,495

Notes:

※ Data for "Oze" show the number of visitors to Oze national park after it was designated as national park in August, 2007.

※ Data for "Yakushima" show the number of visitors to Yakushima national park after it was designated as national park in March, 2012.

Source: "Survey on the number of visitors to the natural parks 2013," Office of Communication with Nature, Policy Planning Administration Division, Nature Conservation Bureau, MOE, the Government of Japan

3.10 Annual number of visitors to each quasi-national park

(Unit: ten thousand persons)

park \ year	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
1 Shokanbetsu-Teuri-Yagishiri												
2 Abashiri	229	314	432	466	430	439	414	409	383	392	393	452
3 Niseko-Shakotan-Otarukaigan	322	325	343	376	383	394	384	385	401	416	392	408
4 Hidakasanmyaku-Erimo											102	115
5 Onuma	220	174	189	243	242	268	243	277	305	324	305	275
6 Shimokitahanto	97	107	120	121	109	103	107	113	119	112	110	116
7 Tsugaru					206	202	206	215	218	207	202	210
8 Hayachine												28
9 Kurikoma	252	248	252	258	289	273	271	281	331	287	253	286
10 Minamisanriku-Kinkazan									311	203	224	206
11 Zao	755	786	845	789	818	725	731	742	632	683	735	775
12 Oga			258	232	223	194	176	200	204	200	184	192
13 Chokai	145	171	209	194	217	171	266	239	227	221	263	255
14 Echigosanzan-Tadami			127	110	134	107	112	107	111	91	90	98
15 Suigo-Tsukuba	752	734	782	799	725	690	701	647	720	724	673	735
16 Myougi-Arafune-Sakukogen	113	128	143	120	114	101	89	74	117	118	122	127
17 Minamiboso	1,637	1,644	1,743	1,627	1,603	1,659	1,635	1,850	1,750	1,607	1,909	1,772
18 Meiji Memorial Forest Takao	133	155	176	191	202	161	172	176	184	203	197	180
19 Tanzawa-Oyama	151	253	255	214	237	226	231	242	300	317	326	342
20 Sado-Yahiko-Yoneyama	528	664	592	525	605	653	585	643	510	535	592	584
21 Notohanto	493	529	606	658	673	620	674	730	726	713	751	718
22 Echizen-Kagakaigan	651	760	865	910	760	718	725	854	700	828	797	785
23 Wakasawan	1,023	1,062	1,043	1,078	946	927	903	941	926	919	896	879
24 Yatsugatake-Chushinkogen	1,085	1,170	1,316	1,379	1,343	1,332	1,354	1,429	1,444	1,409	1,546	1,516
25 Tenryu-Okumikawa	325	297	348	357	274	298	309	383	397	386	400	373
26 Ibi-Sekigahara-Yoro	118	132	143	151	152	153	151	168	169	164	179	183
27 Hida-Kisogawa	829	890	912	975	792	832	795	880	867	844	840	869
28 Aichikogen	352	375	386	371	514	571	597	717	708	740	527	537
29 Mikawawan	2,131	2,145	2,338	2,097	1,982	1,929	1,998	2,033	2,033	2,001	1,999	1,883
30 Suzuka	325	260	389	404	410	408	447	411	420	427	520	461
31 Muroo-Akame-Aoyama	173	196	215	251	159	182	188	174	182	177	199	187
32 Biwako	3,661	4,002	3,789	3,820	3,982	3,930	3,979	2,733	2,496	2,445	2,470	2,467
33 Tango-Amanohashidate-Oeyama												
34 Meiji Memorial Forest Minoo	156	150	151	155	279	202	216	215	220	237	215	231
35 Kongo-Ikoma-Kisen	1,935	2,151	2,505	2,734	2,501	2,135	2,123	1,910	1,935	1,982	1,938	1,907
36 Hyonosen-Ushiroyama-Nagisan	153	184	212	232	231	238	236	207	240	200	208	203
37 Yamato-Aogaki	360	375	468	475	493	540	546	575	563	561	521	537
38 Koya-Ryujin	148	165	148	139	134	128	122	130	128	185	173	193
39 Hiba-Dogo-Taishaku	88	62	72	84	78	106	101	103	97	98	88	95
40 Nishichugokusanchi	94	91	100	86	52	65	59	78	79	84	87	94
41 Kitanagatokaigan	302	253	384	291	270	258	250	232	278	257	247	248
42 Akiyoshidai	236	323	358	403	358	292	321	309	262	240	222	221
43 Tsurugisan	95	107	102	24	133	159	173	188	186	169	178	154
44 Muroto-Anankaigan	166	181	177	143	279	291	288	315	288	243	255	226
45 Ishizuchi	105	100	121	124	126	146	153	118	125	130	138	146
46 Kitakyusyu		724	455	457	453	475	476	509	524	509	524	517
47 Genkai	1,369	1,824	1,589	1,550	1,580	1,466	1,448	1,467	1,561	1,504	1,777	1,803
48 Yaba-Hita-Hikosan	553	698	682	687	562	581	642	664	653	633	663	693
49 Iki-Tsushima	78	91	93	76	74	73	102	107	111	103	115	107
50 Kyushuchuosanchi												17
51 Nippokaigan				146	196	210	188	161	176	188	179	166
52 Sobo-Katamuki	65	99	112	110	98	110	118	119	127	118	124	104
53 Nichinankaigan	784	785	909	967	926	906	859	769	779	735	715	684
54 Amamigunto				61	60	69	183	173	171	165	142	138
55 Okinawakaigan		118	197	273	364	306	344	378	413	427	467	464
56 Okinawasenseki		77	128	240	308	246	282	314	345	351	390	388
Rishiri Rebun	59	82	90	(in 1974, registered as Rishiri-Rebun-Sarobetsu National Park)								
Ashizuri	137			(in 1972, registered as Ashizuri-Uwakai National Park)								
(% vs. the previous year)	(107)	(112)	(107)	(101)	(100)	(97)	(102)	(98)	(101)	(98)	(102)	(100)
Total	23,383	26,161	27,877	28,177	28,079	27,267	27,679	27,089	27,232	26,812	27,458	27,350

Note:
The figures shown above are rounded to the ten thousands and the sums may not match "Total" figures due to rounding errors.

3.10 Annual number of visitors to each quasi-national park

Unit: ten thousand persons

park \ year	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
1 Shokanbetsu-Teuri-Yagishiri								※ 27	68	61	59	62
2 Abashiri	417	430	425	424	441	446	468	517	524	489	462	459
3 Niseko-Shakotan-Otaru Kaigan	407	420	433	428	432	512	567	597	622	621	577	625
4 Hidaka Sanmyaku-Erimo	109	124	122	124	119	152	118	123	117	109	108	111
5 Onuma	250	230	213	211	241	263	271	284	303	303	281	290
6 Shimokitahanto	115	119	125	135	134	127	132	129	129	122	116	119
7 Tsugaru	176	188	204	222	215	222	223	234	250	251	245	275
8 Hayachine	25	22	19	20	17	18	19	19	19	21	18	22
9 Kurikoma	293	292	322	352	335	342	372	389	402	411	386	372
10 Minami Sanriku Kinkazan	226	267	290	253	240	236	279	288	282	282	235	310
11 Zao	791	866	874	884	848	904	1,004	998	1,013	1,006	946	967
12 Oga	153	182	192	200	191	195	205	254	215	199	204	211
13 Chokai	259	288	290	280	298	316	335	349	299	329	283	373
14 Echigo Sanzan Tadami	90	90	101	98	99	87	97	97	99	104	103	106
15 Suigo Tsukuba	735	823	794	835	810	869	882	1,009	1,381	2,062	1,882	1,748
16 Myougi Arafune Saku Kogen	121	125	128	139	145	130	144	157	155	155	172	171
17 Minamiboso	1,773	1,914	1,810	1,753	1,674	1,605	1,769	1,846	1,828	1,801	1,593	1,715
18 Meiji no Mori Takao	177	163	159	160	150	165	176	188	152	156	184	184
19 Tanzawa Oyama	377	402	360	370	373	382	401	416	450	451	417	416
20 Sado Yahiko Yoneyama	584	683	774	823	795	790	798	840	852	877	737	799
21 Notohanto	719	753	734	738	740	752	834	865	943	926	817	863
22 Echizen Kagakaigan	803	816	822	832	806	817	826	887	885	876	827	834
23 Wakasawan	957	1,008	1,031	1,032	1,011	1,021	1,078	1,136	1,123	1,084	959	1,087
24 Yatsugatake Chushin Kogen	1,579	1,691	1,687	1,759	1,782	1,912	1,833	1,915	1,930	1,870	1,696	1,804
25 Tenryuu Oku Mikawa	393	418	420	448	464	497	543	579	664	642	584	622
26 Ibi Sekigahara Yourou	175	171	173	174	175	168	168	174	172	174	164	182
27 Hida Kisogawa	685	697	728	715	701	630	617	667	648	637	611	603
28 Aichi Kogen	593	629	618	631	624	577	609	622	668	723	724	679
29 Mikawa wan	1,904	1,970	1,963	1,959	1,960	1,920	1,906	1,930	1,922	1,796	1,691	1,699
30 Suzuka	502	438	488	425	428	412	416	430	417	421	389	386
31 Muro Akame Aoyama	207	213	223	220	232	226	231	223	225	231	228	235
32 Biwako	2,563	2,660	2,723	2,711	2,527	2,553	2,484	2,707	2,596	2,717	2,685	2,725
33 Tango Amanohashidate Oeyama												
34 Meiji no Mori Minoo	189	233	230	225	223	221	211	226	229	230	230	235
35 Kongo Ikoma Kisen	1,760	1,790	1,793	1,799	1,710	1,674	1,617	1,669	1,711	1,785	1,793	1,849
36 Hyonosen Ushiroyama Nagisan	241	250	255	218	239	203	216	291	315	335	336	366
37 Yamato Aogaki	540	579	571	585	546	538	565	562	577	577	562	546
38 Koya Ryujin	204	280	215	228	227	229	254	283	269	295	291	304
39 Hiba Dogo Taishaku	95	120	123	130	115	107	109	103	118	114	105	106
40 Nishi chugoku sanchi	96	99	104	117	106	93	100	124	132	118	108	114
41 Kita Nagato Kaigan	251	239	236	261	265	245	272	279	279	261	241	248
42 Akiyoshidai	259	270	248	248	233	243	259	271	258	231	229	218
43 Tsurugi san	181	169	180	214	181	179	166	162	166	186	127	166
44 Muroto Anan kaigan	247	253	254	260	252	245	243	248	248	246	220	241
45 Ishizuchi	94	95	91	89	89	88	86	89	99	119	112	122
46 Kita Kyuusyuu	508	524	523	527	526	255	295	322	377	362	327	390
47 Genkai	1,876	1,848	1,835	1,834	1,771	1,800	1,910	1,934	2,028	2,166	1,822	2,064
48 Yaba Hita Hikosan	654	662	692	711	727	736	753	774	726	710	721	727
49 Iki Tsushima	109	109	110	119	129	135	140	162	159	166	171	174
50 Kyushu Chuo Sanchi	37	65	53	72	63	63	62	64	61	61	54	58
51 Nippo kaigan	179	184	186	197	191	196	216	237	222	224	149	168
52 Sobokatamuki	104	115	124	119	114	126	131	142	146	152	123	137
53 Nichinan kaigan	671	664	665	612	581	581	671	703	641	609	322	343
54 Amami gunto	138	127	128	115	107	116	116	112	122	121	124	135
55 Okinawa kaigan	460	477	479	474	492	504	526	549	554	564	567	567
56 Okinawa senseki	384	400	402	398	416	427	449	472	477	487	490	490
(% vs. the previous year)	100	(105)	(100)	(101)	(98)	(100)	(103)	(105)	(102)	(102)	(92)	(104)
Total	27,435	28,692	28,742	28,907	28,309	28,250	29,170	30,671	31,263	32,028	29,607	30,821

Note:
Data for "1 Shokanbetsu-Teuri-Yagishiri" show the number of visitors to it after it was designated as a quasi-national park in August, 1990.

3.10 Annual number of visitors to each quasi-national park

(Unit: ten thousand persons)

park \ year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
1 Shokanbetsu-Teuri-Yagishiri	62	57	55	54	54	52	51	49	46	44	39	36	31
2 Abashiri	451	433	414	345	348	313	319	305	289	267	227	253	234
3 Niseko-Shakotan-Otarukaigan	624	622	760	704	715	691	648	617	512	518	491	453	449
4 Hidakasanmyaku-Erimo	109	112	102	92	87	69	66	62	54	51	49	47	50
5 Onuma	297	288	240	242	223	207	234	233	201	192	174	185	176
6 Shimokitahanto	122	128	127	138	140	139	141	143	166	154	140	136	141
7 Tsugaru	272	284	296	297	295	303	317	309	334	317	323	309	307
8 Hayachine	20	21	24	20	18	16	14	13	13	13	12	12	12
9 Kurikoma	356	318	334	314	318	305	310	300	290	298	305	256	262
10 Minamisanriku-Kinkazan	285	298	293	294	305	302	281	273	235	283	262	216	219
11 Zao	929	909	830	820	777	730	704	692	638	643	651	631	631
12 Oga	200	200	233	215	214	204	197	187	191	244	222	208	218
13 Chokai	320	348	337	300	296	293	280	239	232	234	221	221	222
14 Echigosanzan-Tadami	113	111	96	101	103	99	91	93	10	48	57	61	62
15 Suigo-Tsukuba	1,784	1,839	1,851	1,776	1,689	1,699	1,751	1,885	1,956	1,691	1,799	1,741	1,762
16 Myougi-Arafune-Sakukogen	172	172	158	165	171	171	187	161	179	170	169	171	150
17 Minamiboso	1,651	1,590	1,592	1,734	1,685	1,658	1,643	1,526	1,445	1,259	1,274	1,239	1,278
18 Meiji Memorial Forest Takao	152	135	115	107	135	143	169	217	216	234	240	259	264
19 Tanzawa-Oyama	419	375	372	322	307	262	309	301	290	277	263	249	267
20 Sado-Yahiko-Yoneyama	784	772	773	666	714	753	750	705	729	700	724	697	659
21 Notohanto	760	756	664	678	634	625	632	732	676	620	582	567	483
22 Echizen-Kagakaigan	812	799	691	672	667	686	678	677	636	951	1,151	585	577
23 Wakasawan	1,046	1,015	967	1,003	976	955	939	946	1,006	1,002	1,036	1,112	1,009
24 Yatsugatake-Chushinkogen	1,738	1,712	1,674	1,567	1,594	1,701	1,773	2,020	1,969	1,894	1,967	1,911	1,972
25 Tenryu-Okumikawa	605	637	619	580	567	543	537	536	495	487	486	510	503
26 Ibi-Sekigahara-Yoro	197	207	190	167	170	186	175	170	181	190	187	185	179
27 Hida-Kisogawa	600	580	545	492	505	494	461	388	379	380	423	418	801
28 Aichikogen	687	785	714	687	661	663	682	665	624	568	572	548	553
29 Mikawawan	1,776	1,688	1,608	1,553	1,505	1,487	1,360	1,245	1,151	1,171	1,093	1,088	1,090
30 Suzuka	439	459	483	462	445	445	439	445	441	442	453	441	440
31 Muroo-Akame-Aoyama	341	360	354	308	328	312	311	266	278	279	280	278	271
32 Biwako	2,738	3,168	2,871	2,945	2,968	2,947	3,021	3,046	2,930	2,965	2,942	3,200	3,244
33 Tango-Amanohashidate-Oeyama												※※	165
34 Meiji Memorial Forest Minoo	223	215	215	231	237	255	257	252	262	257	259	256	254
35 Kongo-Ikoma-Kisen	1,812	1,906	1,824	1,826	1,800	1,902	1,915	1,867	1,878	1,900	1,907	1,873	1,880
36 Hyonosen-Ushiroyama-Nagisan	398	347	332	336	343	331	337	340	326	330	330	313	330
37 Yamato-Aogaki	507	545	532	767	727	757	740	675	683	680	726	728	731
38 Koya-Ryujin	287	293	281	260	253	253	253	240	255	294	270	367	263
39 Hiba-Dogo-Taishaku	110	105	90	88	83	120	89	84	85	82	80	79	76
40 Nishichugokusanchi	136	144	120	103	101	74	117	112	121	96	102	98	83
41 Kitanagatokaigan	231	245	238	241	230	230	260	253	258	233	236	244	249
42 Akiyoshidai	187	189	165	150	148	135	146	143	125	126	118	119	131
43 Tsurugisan	175	188	184	243	190	207	207	182	179	165	168	159	159
44 Muroto-Anankaigan	245	237	232	257	228	235	227	107	96	96	88	90	103
45 Ishizuchi	125	132	110	105	88	110	81	83	71	56	61	57	58
46 Kitakyusyu	372	411	392	413	345	341	363	331	452	421	412	435	448
47 Genkai	2,028	2,135	2,168	2,208	2,143	2,172	2,193	2,257	2,470	2,465	2,473	2,453	2,498
48 Yaba-Hita-Hikosan	753	776	835	858	883	921	920	1,037	1,034	1,045	1,039	1,074	1,099
49 Iki-Tsushima	181	167	151	157	133	137	125	136	129	126	128	123	152
50 Kyushuchuosanchi	52	64	55	62	57	60	61	59	60	54	49	49	52
51 Nippokaigan	173	171	178	198	190	183	161	164	153	182	234	241	243
52 Sobo-Katamuki	133	138	127	133	125	130	143	154	150	144	144	145	161
53 Nichinankaigan	371	428	374	350	332	310	299	328	304	292	271	261	287
54 Amamigunto	130	74	94	89	88	90	76	59	68	65	68	56	55
55 Okinawakaigan	575	589	622	642	677	674	667	699	719	725	750	763	782
56 Okinawasenseki	498	512	545	565	600	597	590	622	642	648	673	686	705
(% vs. the previous year)	(99)	(102)	(97)	(100)	(98)	(100)	(100)	(100)	(99)	(99)	(101)	(98)	(102)
Total	30,561	31,188	30,240	30,103	29,616	29,677	29,697	29,625	29,308	29,065	29,396	28,892	29,480

Note:
Data for "33 Tango-Amanohashidate-Oeyama" show the number of visitors to it after it was designated as a quasi-national park in August, 2007.

3.10 Annual number of visitors to each quasi-national park

(Unit: ten thousand persons)

park \ year	2010	2011	2012	2013	% vs. previous year ※
1 Shokanbetsu-Teuri-Yagishiri	22	22	22	22	100
2 Abashiri	185	152	177	167	94
3 Niseko-Shakotan-Otarukaigan	402	394	394	435	111
4 Hidakasanmyaku-Erimo	43	38	38	39	103
5 Onuma	132	110	124	140	113
6 Shimokitahanto	76	60	62	67	108
7 Tsugaru	278	229	237	229	96
8 Hayachine	5	3	4	4	88
9 Kurikoma	133	76	81	78	97
10 Minamisanriku-Kinkazan	227	73	110	105	96
11 Zao	569	456	523	530	101
12 Oga	189	161	189	197	104
13 Chokai	210	191	196	181	92
14 Echigosanzan-Tadami	55	36	44	49	110
15 Suigo-Tsukuba	1,790	1,522	1,722	1,711	99
16 Myougi-Arafune-Sakukogen	148	126	122	126	103
17 Minamiboso	1,311	1,011	1,020	1,151	113
18 Meiji Memorial Forest Takao	387	495	272	222	82
19 Tanzawa-Oyama	225	191	212	273	129
20 Sado-Yahiko-Yoneyama	659	666	672	646	96
21 Notohanto	522	552	522	512	98
22 Echizen-Kagakaigan	643	477	468	444	95
23 Wakasawan	816	761	772	815	106
24 Yatsugatake-Chushinkogen	1,688	1,666	1,749	1,819	104
25 Tenryu-Okumikawa	555	468	513	516	101
26 Ibi-Sekigahara-Yoro	184	196	178	169	95
27 Hida-Kisogawa	767	686	703	678	96
28 Aichikogen	507	510	536	451	84
29 Mikawawan	1,005	915	945	960	102
30 Suzuka	373	361	355	440	124
31 Muroo-Akame-Aoyama	204	190	205	202	98
32 Biwako	3,011	3,415	3,178	3,129	98
33 Tango-Amanohashidate-Oeyama	430	414	399	427	107
34 Meiji Memorial Forest Minoo	182	173	170	171	101
35 Kongo-Ikoma-Kisen	1,814	1,710	1,680	1,680	100
36 Hyonosen-Ushiroyama-Nagisan	336	337	356	363	102
37 Yamato-Aogaki	749	732	730	736	101
38 Koya-Ryujin	271	217	236	251	106
39 Hiba-Dogo-Taishaku	68	66	60	68	113
40 Nishichugokusanchi	86	84	84	84	100
41 Kitanagatokaigan	216	214	203	205	101
42 Akiyoshidai	118	112	111	104	94
43 Tsurugisan	164	139	137	153	112
44 Muroto-Anankaigan	160	153	145	161	111
45 Ishizuchi	56	57	62	55	89
46 Kitakyusyu	434	468	468	479	102
47 Genkai	2,483	2,563	2,610	2,605	100
48 Yaba-Hita-Hikosan	1,040	930	943	1,003	106
49 Iki-Tsushima	137	133	188	214	114
50 Kyushuchuosanchi	50	47	59	60	102
51 Nippokaigan	270	307	299	329	110
52 Sobo-Katamuki	178	157	160	167	104
53 Nichinankaigan	372	323	356	380	107
54 Amamigunto	45	44	48	50	104
55 Okinawakaigan	781	746	780	826	106
56 Okinawasenseki	704	669	738	784	106
(% vs. the previous year)	(97)	(95)	(101)	(102)	
Total	28,465	27,004	27,367	27,862	

Note:

※Year-over-year rate is calculated by dividing the number of visitors in 2013 by that in 2012.

Source: "Survey on the number of visitors to the natural parks 2013,"
Office of Communication with Nature, Policy Planning Administration Division, Nature Conservation Bureau, MOE, the Government of Japan

3.11 Number of Applications for Permission for Activities in National Parks (Numbers of Approvals by the Ministry of the Environment)

(Unit: number of cases)

	Constructing, renovating and extending structures		Felling trees and bamboos		Mining of minerals, extracting soil and stones		Reclaiming the surface of water		Causing changes in water volume/level		Collecting alpine plants		Capturing animals		Others		Total	
FY1994	511	(60)	21	(10)	261	(56)	13	(0)	1	(0)	65	(59)	24	(24)	41	(20)	937	(229)
1995	519	(62)	24	(12)	253	(54)	2	(0)	1	(0)	74	(62)	34	(34)	35	(22)	942	(246)
1996	534	(73)	25	(14)	185	(65)	12	(0)	2	(0)	76	(69)	32	(32)	26	(18)	892	(271)
1997	494	(70)	19	(10)	226	(53)	5	(0)	2	(0)	61	(60)	35	(35)	37	(23)	879	(251)
1998	505	(75)	24	(11)	186	(45)	7	(0)	5	(2)	51	(45)	36	(36)	44	(36)	858	(250)
1999	556	(92)	53	(32)	213	(57)	2	(0)	10	(1)	59	(48)	34	(34)	34	(24)	961	(288)
2000	1,188	(78)	50	(14)	261	(51)	4	(0)	7	(0)	103	(84)	47	(47)	219	(41)	1,879	(315)
2001	1,246	(107)	64	(26)	252	(54)	1	(0)	2	(1)	61	(51)	43	(43)	253	(69)	1,922	(351)
2002	1,107	(146)	61	(15)	240	(47)	1	(0)	3	(1)	96	(76)	46	(46)	253	(76)	1,807	(407)
2003	1,185	(130)	92	(27)	239	(51)	1	(0)	4	(1)	120	(90)	51	(51)	310	(95)	2,002	(445)
2004	1,287	(134)	150	(94)	262	(52)	1	(0)	7	(2)	115	(96)	52	(51)	259	(35)	2,133	(464)
2005	1,468	(168)	82	(28)	283	(65)	4	(0)	3	(2)	154	(128)	71	(69)	345	(113)	2,410	(573)
2006	1,429	(157)	118	(13)	282	(64)	3	(0)	3	(1)	101	(73)	64	(64)	327	(102)	2,327	(474)
2007	1,411	(131)	78	(21)	313	(67)	0	(0)	1	(0)	109	(79)	41	(36)	280	(84)	2,233	(418)
2008	1,595	(193)	110	(37)	337	(96)	3	(0)	4	(1)	144	(120)	58	(51)	354	(113)	2,605	(611)
2009	1,746	(235)	113	(31)	323	(75)	0	(0)	4	(1)	158	(120)	78	(64)	374	(145)	2,796	(671)
2010	1,850	(226)	128	(36)	280	(81)	0	(0)	3	(1)	172	(139)	71	(64)	408	(114)	2,912	(661)
2011	1,803	(195)	126	(26)	273	(69)	0	(0)	11	(1)	139	(112)	58	(52)	392	(116)	2,802	(571)
2012	1,903	(191)	154	(30)	303	(76)	1	(0)	5	(1)	165	(124)	70	(67)	454	(132)	3,055	(621)
2013	1,825	(164)	150	(35)	338	(58)	0	(0)	6	(1)	137	(100)	56	(50)	372	(111)	2,884	(519)
2014	1,936	(194)	160	(31)	335	(67)	0	(0)	7	(4)	135	(98)	68	(59)	418	(113)	3,059	(566)

Notes:
1) "Others" includes "Changing the feature of land" etc.
2) The figures in ( ) are the number of cases related to the Special Protection Zones, and included in the total.
3) The figures also include cases for the national agencies to be involved.

Source: materials of National Park Division, Nature Conservation Bureau, MOE, the Government of Japan

3.12 Area of Natural Parks by Prefecture

(Unit: ha)

Prefecture	Total land area (A)	Area of natural parks (B)								Percentage of total land area of prefecture (B) / (A)
		National parks		Quasi-national parks		Prefectural natural parks		Total		
		Number	Areas	Number	Areas	Number	Areas	Number	Areas	
Hokkaido	8,342,420	6	508,308	5	212,359	12	146,873	23	867,540	10.40
Aomori	964,540	2	43,170	2	44,607	7	26,308	11	114,085	11.83
Iwate	1,527,500	2	29,206	2	20,038	7	22,817	11	72,061	4.72
Miyagi	728,214	1	14,882	2	50,273	8	106,044	11	171,199	23.51
Akita	1,163,750	1	26,813	3	46,765	8	50,223	12	123,801	10.64
Yamagata	932,315	1	71,115	3	42,255	6	42,139	10	155,509	16.68
Fukushima	1,378,380	3	90,108	1	33,665	11	55,323	15	179,096	12.99
Ibaraki	609,693		0	1	31,801	9	59,095	10	90,896	14.91
Tochigi	640,809	2	104,781		0	8	28,662	10	133,443	20.82
Gunma	636,228	3	80,801	1	8,063	0	0	4	88,864	13.97
Saitama	379,775	1	34,411		0	10	90,171	11	124,582	32.80
Chiba	515,764		0	2	8,845	8	19,692	10	28,537	5.53
Tokyo	219,090	3	69,426	1	777	6	9,686	10	79,889	36.46
Kanagawa	241,581	1	10,356	1	27,572	4	17,210	6	55,138	22.82
Niigata	1,258,410	4	106,383	2	81,928	13	128,580	19	316,891	25.18
Toyama	424,761	2	79,173	1	1,005	6	45,376	9	125,554	29.56
Ishikawa	418,615	1	25,735	2	10,453	5	16,376	8	52,564	12.56
Fukui	419,043	1	7,406	2	23,465	1	31,039	4	61,910	14.77
Yamanashi	446,499	3	101,862	1	4,088	2	15,203	6	121,153	27.13
Nagano	1,356,160	4	170,743	3	46,755	6	61,050	13	278,548	20.54
Gifu	1,062,130	2	38,236	2	34,632	15	122,225	19	195,093	18.37
Shizuoka	777,870	2	50,080	1	4,835	4	29,126	7	84,041	10.80
Aichi	517,240		0	4	49,817	7	39,064	11	88,881	17.18
Mie	577,439	2	72,526	2	26,272	5	103,098	9	201,896	34.96
Shiga	401,738		0	2	113,071	3	36,886	5	149,957	37.33
Kyoto	461,220	1	1,206	4	93,255	3	128	8	94,589	20.51
Osaka	190,499		0	2	16,498	2	3,541	4	20,039	10.52
Hyogo	840,090	2	19,458	1	25,200	11	121,357	14	166,015	19.76
Nara	369,094	1	31,313	4	28,522	3	3,493	8	63,328	17.16
Wakayama	472,468	2	13,111	2	16,746	11	19,695	15	49,552	10.49
Tottori	350,705	2	17,299	2	10,016	3	21,746	7	49,061	13.99
Shimane	670,823	1	13,036	2	10,848	11	16,612	14	40,496	6.04
Okayama	711,462	2	11,497	1	15,024	7	54,143	10	80,664	11.34
Hiroshima	847,938	1	10,681	2	20,731	6	6,441	9	37,853	4.46
Yamaguchi	611,230	1	5,910	3	20,839	4	15,918	8	42,667	6.98
Tokushima	414,693	1	1,538	2	21,921	6	15,247	9	38,706	9.33
Kagawa	187,673	1	18,171		0	1	2,363	2	20,534	10.94
Ehime	567,610	2	14,117	1	7,820	7	19,184	10	41,121	7.24
Kochi	710,391	1	6,041	3	8,133	18	33,330	22	47,504	6.69
Fukuoka	498,640	1	46	3	22,246	5	65,809	9	88,101	17.67
Saga	244,064		0	1	3,924	6	22,960	7	26,884	11.02
Nagasaki	413,232	2	37,504	2	12,304	6	24,283	10	74,091	17.93
Kumamoto	740,932	2	68,342	2	16,597	7	70,697	11	155,636	21.01
Oita	634,061	2	21,243	3	89,307	5	63,841	10	174,391	27.50
Miyazaki	773,531	1	13,006	4	31,968	6	46,945	11	91,919	11.88
Kagoshima	918,810	3	49,593	3	14,347	8	25,189	14	89,129	9.70
Okinawa	228,100	2	25,748	2	9,955	4	12,034	8	47,737	20.93
Total by prefecture	37,797,201	78	2,114,381	95	1,419,542	311	1,967,222	484	5,501,145	14.55
Total by park	37,797,201	32	2,114,998	57	1,419,542	311	1,967,222	400	5,501,762	14.55

Notes:

・Area of Natural Parks by prefecture constitutes a resurveyed value and may not match the total area by parks.

・The prefectural areas are based on the approximate values, listed on "Municipalities Area Statistics of Japan, 2014" by Geospatial Information Authority of Japan.

・Due to rounding off, the sum of prefectural land areas, and "total by prefecture" or "Total by park" may not foot.

Source: materials of National Park Division, Nature Conservation Bureau (as of March 31, 2016), MOE, the Government of Japan.

3.13 Area of Natural Parks by Region

Type	Number of parks	Area of parks (ha)	Percentage of total land area of Japan (%)	Breakdown					
				Special Zones				Ordinary Zones	
				Area (ha)	Ratio (%)	Special Protection Zones Area (ha)	Special Protection Zones Ratio (%)	Area (ha)	Ratio (%)
National park	32	2,114,998	5.6	1,529,868	72.3	279,064	13.2	585,130	27.7
Quasi-national park	57	1,419,542	3.8	1,317,130	92.8	65,858	4.6	102,412	7.2
Prefectural natural park	311	1,967,222	5.2	713,679	36.3	—	0.0	1,253,543	63.7
Total	400	5,501,762	14.6	3,560,677	64.7	344,922	6.3	1,941,085	35.3

Note:

The total land area of Japan is 37,797,201 ha ("Municipalities Area Statistics of Japan, 2014" by Geospatial Information Authority of Japan).

Source: Materials of National Park Division, Nature Conservation Bureau (As of March 31, 2016), MOE, the Government of Japan.

3.14 Marine Park Areas located in the National Parks and the Quasi-National Parks

As of March 31, 2016

National park	Marine park areas	Location	Designated on	Number of parks	Area (ha)
Sanriku Fukko (reconstruction)	Kesennuma	Kesennuma, Miyagi	Jan22, 1971	3	23.4
Ogasawara	Hyotanjima	Ogasawara-mura, Tokyo	Nov12, 2009	1	24.0
	Hitomarujima	Ogasawara-mura, Tokyo	Nov12, 2009	1	16.7
	Anijima	Ogasawara-mura, Tokyo	Nov12, 2009	1	26.9
	Chichijima Miyanohama, Tsurihama	Ogasawara-mura, Tokyo	Nov12, 2009	1	38.9
	Chichijima Seihyokaigan	Ogasawara-mura, Tokyo	Nov12, 2009	1	2.9
	Chichijima Tatsumiwan (Chukaigan)	Ogasawara-mura, Tokyo	Nov12, 2009	1	2.0
	Chichijima Tatsumiwan (Kujirazaki)	Ogasawara-mura, Tokyo	Nov12, 2009	1	6.1
	Chichijima Tatsumiwan (Nishikaigan)	Ogasawara-mura, Tokyo	Nov12, 2009	1	6.3
	Minamijima	Ogasawara-mura, Tokyo	Nov12, 2009	1	245.3
	Hahajima Yashihama	Ogasawara-mura, Tokyo	Nov12, 2009	1	85.2
	Hahajima Uentoro	Ogasawara-mura, Tokyo	Nov12, 2009	1	157.1
	Hahajima Miyukinohama	Ogasawara-mura, Tokyo	Nov12, 2009	1	41.3
	Mukoujima Higashikaigan	Ogasawara-mura, Tokyo	Nov12, 2009	1	47.5
	Hirashima	Ogasawara-mura, Tokyo	Nov12, 2009	1	79.2
Fuji-Hakone-Izu	Miyakejima	Miyake-mura, Tokyo	Nov07, 1994	2	51.6
Yoshino-Kumano	Kumanonada Nigishima	Kumano, Mie	Dec19, 1975	2	14.4
	Kushimoto Undersea Park	Kushimoto-cho, Higashimuro-gun, Wakayama	Jul01, 1970	5	50.4
	Minabe	Minabe-cho, Hidaka-gun, Wakayama	Sep24, 2015	1	663.8
	Shogase	Minabe-cho, Hidaka-gun, Wakayama	Sep24, 2015	1	28.2
	Tanabe-Shirahama	Tanabe-shi & Shirahama-cho, Nishimuro-gun, Wakayama	Sep24, 2015	1	1,676.7
	Karekinada-Shirahama/Hiki	Shirahama-cho, Nishimuro-gun, Wakayama	Sep24, 2015	1	1,422.1
	Karekinada-Susami	Shirahama-cho & Susami-cho, Nishimuro-gun, Wakayama	Sep24, 2015	1	1,072.3
	Kushimoto	Kushimoto-cho, Higashimuro-gun, Wakayama	Sep24, 2015	1	2,683.8
	Myogashima	Kushimoto-cho, Higashimuro-gun, Wakayama	Sep24, 2015	1	5.9
	Kumanonada-Koza/Arafune	Kushimoto-cho & Nachi Katsuura-cho, Higashimuro-gun, Wakayama	Sep24, 2015	1	1,195.5
	Kumanonada-Urakami/Tamanoura	Nachi Katsuura-cho, Higashimuro-gun, Wakayama	Sep24, 2015	1	259.7
	Kumanonada-Katsuura/Taiji	Nachi Katsuura-cho & Taiji-cho, Higashimuro-gun, Wakayama	Sep24, 2015	1	1,390.5
	Kumanonada-Ohjigahama/Miwasaki	Shingu-Shi, Wakayama	Sep24, 2015	1	600.5
San'inkaigan	Goshikihama	Kyotango, Kyoto	Apr06, 1990	1	31.3
	Toyooka	Toyooka, Hyogo	Jan22, 1971	1	17.8
	Takeno	Toyooka, Hyogo	Jan22, 1971	1	18.8
	Hamasaka	Shinonsen-cho, Mikata-gun, Hyogo	Jan22, 1971	2	37.6
	Uradomekaigan	Iwami-cho, Iwami-gun, Shimane	Jan22, 1971	1	40.8
	San'inkaigan (the eastern part)	Kyotango, Kyoto	Mar05, 2014	1	5,005.8
		Toyooka, Hyogo			
		Kami-cho, Mikata-gun, Hyogo			
	San'inkaigan (the central part)	Kami-cho, Mikata-gun, Hyogo	Mar31, 2014	1	3,872.9
		Shinonsen-cho, Mikata-gun, Hyogo			
		Iwami-cho, Iwami-gun, Shimane			
	San'inkaigan (the western part)	Tottori, Tottori	Mar31, 2014	1	1,078.4
		Iwami-cho, Iwami-gun, Shimane			
Setonaikai	Ushigakubi	Suouooshima-cho, Ooshima-gun, Yamaguchi	Feb28, 2013	1	20.3
	Jikamuro	Suouooshima-cho, Ooshima-gun, Yamaguchi	Feb28, 2013	1	13.0
	Isaki	Suouooshima-cho, Ooshima-gun, Yamaguchi	Feb28, 2013	1	18.6
	Okikamuro	Suouooshima-cho, Ooshima-gun, Yamaguchi	Feb28, 2013	1	4.5
Daisen-Oki	Shimanehanto	Izumo, Shimane	Oct16, 1972	1	7.0
	Jodogaura	Okinoshima-cho, Oki-gun, Shimane	Dec11, 1975	2	20.8
	Shiro	Okinoshima-cho, Oki-gun, Shimane	Dec11, 1975	1	14.8
	Kuniga	Nishinoshima-cho, Oki-gun, Shimane	Dec11, 1975	1	7.3
	Ama	Ama-cho, Oki-gun, Shimane	Sep18, 1997	1	7.6
Ashizuri-Uwakai	Uwakai	Ainan-cho, Minamiuwa-gun, Ehime	Nov10, 1972	9	58.2
	Okinoshima	Sukumo, Kochi	Nov10, 1972	5	36.3
	Tatsukushi	Tosashimizu, Kochi	Nov10, 1972	4	49.1
	Kashinishi	Ootsuki-cho, Hata-gun, Kochi	Nov10, 1972	2	16.8
	Tsutomezaki	Ootsuki-cho, Hata-gun, Kochi	Aug21, 1995	1	8.3
	Shirigai	Ootsuki-cho, Hata-gun, Kochi	Aug21, 1995	1	10.4
Saikai	Fukue	Goto, Nagasaki	Oct16, 1972	2	11.2
	Wakamatsu	Shinkamigotou-cho, Minamimatsuura-gun, Nagasaki	Oct16, 1972	3	19.2
Unzen-Amakusa	Tomioka	Reihoku-cho, Amakusa-gun, Kumamoto	Jul01, 1970	2	16.2
	Amakusa	Amakusa, Kumamoto	Jul01, 1970	1	5.1
	Ushibukashi	Amakusa, Kumamoto	Jul01, 1970	9	94.4

3.14 Marine Park Areas located in the National Parks and the Quasi-National Parks

As of March 31, 2016

National park	Marine park areas	Location	Designated on	Number of parks	Area (ha)
Kirishima-Kinkowan	Sakurajima	Kagoshima, Kagoshima	Jul01, 1970	2	60.7
	Satamisaki	Minamioosumi, Kimotsuki-gun, Kagoshima	Jul01, 1970	2	11.8
	Kanze	Kagoshima, Kagoshima	Mar16, 2012	1	83.0
	Kamitsukurishima	Kirishima, Kagoshima	Mar16, 2012	1	103.6
	Wakamikonohana	Kirishima, Kagoshima	Mar16, 2012	1	19.7
	Wakamikokaizan	Kirishima, Kagoshima	Mar16, 2012	1	170.7
	Shigetomi Higata	Aira, Kagoshima-ken	Mar16, 2012	1	38.2
Yakushima	Kurio	Yaku-cho, Kumage-gun, Kagoshima	Mar16, 2012	3	114.4
	Megasaki	Yaku-cho, Kumage-gun, Kagoshima	Mar16, 2012	1	56.5
Keramashoto	Keramashoto	Tokashiki-son, Shimajiri-gun, Okinawa Zamami-son, Shimajiri-gun, Okinawa	Mar05, 2014	1	8,290.0
Iriomote-Ishigaki	Hirano	Ishigaki, Okinawa	Mar27, 2012	1	938.0
	Hirakubo	Ishigaki, Okinawa	Aug01, 2007	1	176.9
	Akashi	Ishigaki, Okinawa	Mar27, 2012	1	861.6
	Tamatori-zaki	Ishigaki, Okinawa	Mar27, 2012	1	903.0
	Kabira Ishizaki	Ishigaki, Okinawa	Aug01, 2007	1	274.8
	Yonehara Pukabii	Ishigaki, Okinawa	Mar27, 2012	1	147.4
	Yonehara	Ishigaki, Okinawa	Aug01, 2007	1	129.7
	Uganzaki	Ishigaki, Okinawa	Mar27, 2012	1	291.9
	Shiraho	Ishigaki, Okinawa	Aug01, 2007	1	311.6
	Hatomajima Barasu	Taketomi-cho, Yaeyama-gun, Okinawa	Mar27, 2012	1	667.4
	Taketomi Takidonguchi Sekiseishoko Hokusho	Taketomi-cho, Yaeyama-gun, Okinawa	Jul01, 1977	1	2,434.5
	Iriomotejima Shiiragawa kakou	Taketomi-cho, Yaeyama-gun, Okinawa	Mar27, 2012	1	369.0
	Taketomi Shimobishi	Taketomi-cho, Yaeyama-gun, Okinawa	Jul01, 1977	1	221.0
	Taketomijima Minamiokishou	Taketomi-cho, Yaeyama-gun, Okinawa	Mar27, 2012	1	424.2
	Iriomotejima Kanokawa Nakase	Taketomi-cho, Yaeyama-gun, Okinawa	Mar27, 2012	1	380.6
	Iriomotejima Nakamazaki	Taketomi-cho, Yaeyama-gun, Okinawa	Mar27, 2012	1	193.6
	Kuroshima Urabishi Kyanguchi Nakamoto-kaigan	Taketomi-cho, Yaeyama-gun, Okinawa	Jul01, 1977	1	2,403.2
	Aragusukujima Maibishi	Taketomi-cho, Yaeyama-gun, Okinawa	Jul01, 1977	1	179.7
	Haterumajima Nuubizakioki	Taketomi-cho, Yaeyama-gun, Okinawa	Mar27, 2012	1	1,721.7
	Haterumajima Hamazakioki	Taketomi-cho, Yaeyama-gun, Okinawa	Mar27, 2012	1	712.9
Total 14 National Parks	Total 87 marine park areas			129	45,152.0

Quasi-national park	Marine park areas	Location	Designated on	Number of parks	Area (ha)
Niseko-Shakotan-Otarukaigan	Shakotan Hanto	Shakotan-cho, Shakotan-gun, Hokkaidou	Oct16, 1972	3	28.9
	Otarukaigan	Otaru, Hokkaido	Oct16, 1972	3	14.7
Shimokitahanto	Hotokegaura	Sai-mura, Shimokita-gun, Aomori	Dec11, 1975	1	5.7
	Taijima	Mutsu, Aomori	Dec11, 1975	1	3.6
Minamiboso	Katsuura	Katsuura-shi, Chiba	Jun07, 1974	1	14.5
Sado-Yahiko-Yoneyama	Sotokaifu	Sado, Niigata	Jan22, 1971	2	10.0
	Aikawa	Sado, Niigata	Jan22, 1971	2	6.0
	Ogi	Sado, Niigata	Jan22, 1971	1	5.0
Notohanto	Kinoura	Suzu, Ishikawa	Jan22, 1971	2	6.3
	Uchiura	Noto-cho, Housu-gun, Ishikawa	Jan22, 1971	3	32.0
Echizen-kagakaigan	Kagakaigan (hashitate kurosaki and katano)	Kaga, Ishikawa	Mar27, 2012	1	613.0
Wakasawan	Mikata	Wakasa-cho, Mikata kaminaka-gun, Fukui	Jan22, 1971	4	30.2
KitaNagatokaigan	Susawan	Hagi, Yamaguchi	Sep18, 1997	1	33.0
Muroto-Anankaigan	Awa Oshima	Mugi-cho, Kaifu-gun, Tokushima	Jan22, 1971	3	15.5
	Awa Takegashima	Kaiyo-cho, Kaifu-gun, Tokushima	Oct16, 1972	2	9.9
Genkai	Genkai	Karatsu, Saga	Jul01, 1970	5	45.5
Iki-Tsushima	Iki Tatsunoshima	Iki, Nagasaki	Jun16, 1978	1	8.6
	Iki Tanagashima	Iki, Nagasaki	Jun16, 1978	1	9.7
	Iki Tsumagashima	Iki, Nagasaki	Jun16, 1978	1	9.3
	Tsushima Asowan	Tsushima, Nagasaki	Jun16, 1978	1	9.5
	Tsushima Kanzaki	Tsushima, Nagasaki	Jun16, 1978	1	10.4
Nippokaigan	Kamae	Saiki, Oita	Feb15, 1974	4	33.5
	Minami kitaura	Nobeoka, Miyazaki	Feb15, 1974	6	48.7
Nichinankaigan	Nichinan	Nango-cho, Minaminaka-gun /Nichinan /Kushima, Miyazaki	Jul01, 1970	6	55.9
Koshikishima	West Coast of Kamikoshikishima and Nagame Beach	Satsumasendai, Kagoshima	Mar16, 2015	1	1,668.6
	attached islands (Nojima, Chikajima, etc)	Satsumasendai, Kagoshima	Mar16, 2015	1	1,608.8
	Kashima cliff	Satsumasendai, Kagoshima	Mar16, 2015	1	917.6
	West Coast of Shimokoshikishima	Satsumasendai, Kagoshima	Mar16, 2015	1	2,564.7
Amamigunto	Kasarihanto Higashikaigan	Amami, Kagoshima	Feb15, 1974	1	93.0
	Surikozaki	Amami, Kagoshima	Feb15, 1974	1	70.0
	Setouchikai	Setouchi-cho, Oshima-gun, Kagoshima	Feb15, 1974	3	58.0
	Kametoku	Tokunoshima-cho, Oshima-gun, Kagoshima	Feb15, 1974	1	70.0
	Yoronto	Yoron-cho, Oshima-gun, Kagoshima	Feb15, 1974	3	155.0
Okinawakaigan	Okinawakaigan	Onna-son, Kunigami-gun, Nago, Okinawa	May15, 1972	1	126.0
Total 16 parks	Total 34 marine park areas			70	8,391.1

Source: Materials of National Park Division, Nature Conservation Bureau, Ministry of the Environment.

3.15 Area of Wilderness Areas, Nature Conservation Areas

Summary Table of designated nature conservation areas

Type	Designated areas		Special zones		Wildlife Protection Zones		Marine special zones		Remarks
	Number	Area (ha)	Number	Area (ha)	Number	Area (ha)	Number	Area (ha)	
Wilderness Area	5	5,631.00							Designated by the state Only the entire Minami-Ioto Island is a restricted area
Nature Conservation Area	10	22,542.00	9	17,266.00	7	14,868.00	1	1077.00	Designated by the state
Prefectural Nature Conservation Area*	545	77,408.78	336	25,476.92	115	2,820.70			
Total	560	105,581.78	345	42,742.92	122	17,688.70	1	1077.00	

Note:
*Based on reports from prefectures as of March 31, 2016.

Wilderness areas

Region	Locations	Area (ha)	Land ownership	Designated date	Features of the natural environment	Remarks
Onnebetsudake	Shari-cho, Shari-gun, Hokkaido Rausu-cho, Menashi-gun, Hokkaido	1,895	National land (national forest)	February 4, 1980	Alpine vegetation mainly comprising stone pine	No restricted area
Tokachigawa Genryubu	Shintoku-cho, Kamikawa-gun, Hokkaido	1,035	〃	December 28, 1977	Subarctic coniferous forest mainly comprising Picea and Abies.	No restricted area
Minami Ioto	Ogasawara-mura, Tokyo	367	〃	May 17, 1975	Tropical, subtropical vegetation mainly comprising hemlock	Entirely restricted areas (Designated on June 2, 1958)
Oigawa Genryu	Kawanehonmachi-cho, Haibara-gun, Shizuoka	1,115	〃	March 22, 1976	emperate coniferous forest, subarctic coniferous forest mainly comprising cedar	No restricted area
Yakushima	Yakushima-cho, Kumage-gun, Kagoshima	1,219	〃	May 17, 1975	emperate coniferous forest, subarctic coniferous forest mainly comprising cedar	No restricted access area
Total	Five regions	5,631				

Nature conservation areas

Region	Locations	Area (ha)	Land ownership	Designated date	Features of the natural environment	Remarks
Ohirayama	Shimamaki-mura, Shimamaki-gun, Hokkaido	674	National land (national forest)	December 28, 1977	Beech natural forest near the northern limit Limestone vegetation	The entire area consists of Special Zone and Wildlife Protection Zone
Shirakami Sanchi	Nishimeya-mura, Nakatsugaru-gun, Fukaura -cho, Ajigasawa-cho, Nishitsugaru-gun, Aomori Fujisato-cho, Yamamoto-gun, Akita	14,043	〃	July 10, 1992	The biggest beech natural forest in Japan, rare flora and fauna including dryocopus martius etc.	Partially, Special Zones (9,844ha) partially, Wildlife Protection Zones (9,844ha)
Wagadake	Nishiowaga-cho, Waga-gun, Iwate	1,451	〃	May 21, 1981	Natural forest comprising beech and oak, pumila vegetation, snowbed vegetation	The entire area consists of Special Zone and Wildlife Protection Zone
Hayachine	Miyako-shi, Iwate	1,370	〃	May 17, 1975	Alpine, subalpine vegetation, serpentine vegetation, natural forest comprising red spruce	Entire special zone Entire wildlife Protection Zone (322ha)
Osabiyama	Nasu Shiobara-shi, Tochigi	545	〃	March 16, 1981	Beech, maries firnatural forest	Entirely Special Zone
Tonegawa Genryubu	Minakami -cho, Tone-gun, Gunma	2,318	〃	December 28, 1977	Alpine wind blow scrub forest, beech, oak natural forest, snowbed vegetation	The entire area consists of Special Zone and Wildlife Protection Zone
Sasagamine	Niihama, Saijo , Ehime Ino-cho, Agawa-gun, Kochi	537	National land (national forest) Private lands	March 31, 1982	Beech・ abies veitchii var.sikokiana natural forest	Aichi (National land 31ha, Private land 2ha) Kochi (National land 504ha) Special zone in the entire Some wildlife Protection Zone (259ha)
Shiragadake	Asagiri-cho, Kuma-gun, Kumamoto	150	National land (National forest)	March 21, 1980	Beech natural forest near the southern limit	Entirely Special Zone
Inaodake	Minami Ookuma-cho, Kinko-cho, Kimotsuki-cho, Kimotsuki-gun, Kagoshima	377	〃	May 17, 1975	Laurel forest mainly consisted of Distylium racemosum and Quercus salicina	Entirely Special Zone
Sakiyamawan	Taketomi-cho, Yaeyama-gun, Okinawa	1,077	Sea surface	June 28, 1983	Hordes of forest of thistle coral, coral reef	Entirely Marine Special Zone
Total	10 regions	22,542				

Source: materials of National Park Division, Nature Conservation Bureau, MOE, the Government of Japan (as of the end of March 2015)

3.15 Area of Wilderness Areas, Nature Conservation Areas

Summary Table of area of prefectural nature conservation area in each prefecture (Unit: ha)

Prefectures	Prefectural land areas (A)	Number		Nature conservation areas		Area by land ownership						(B) / (A) (%)
		Conservation areas				National lands		Public lands		Private lands		
			Special zones	Conservation areas (B)	Special zones	Conservation areas	Special zones	Conservation areas	Special zones	Conservation areas	Special zones	
Hokkaido	8,342,422	7	7	5,957.83	3,033.47	260.74	82.92	5,247.31	2,889.12	449.78	61.43	0.071
Aomori	964,540	9	9	1,230.17	1,083.09	1,190.99	1,054.27	22.10	22.10	17.08	6.72	0.128
Iwate	1,527,501	12	8	2,135.45	434.26	465.35	242.36	429.00	100.55	1,241.10	91.35	0.140
Miyagi	728,214	16	8	8,574.17	764.89	2,679.34	340.59	2,170.29	163.62	3,724.54	260.68	1.177
Akita	1,163,754	17	13	818.59	405.61	280.79	279.99	333.72	95.04	204.08	30.58	0.070
Yamagata	932,315	5	5	5,105.96	2,181.75	4,372.74	2,172.12	0.73	0.73	732.49	8.90	0.548
Fukushima	1,378,375	47	31	4,867.41	1,693.42	2,189.97	1,239.16	1,225.89	204.09	1,451.55	250.17	0.353
Ibaraki	609,693	34	15	645.21	82.19	133.10	63.23	69.37		442.74	18.96	0.106
Tochigi	640,828	29	10	4,736.61	539.54	370.68	360.42	1,531.68	179.12	2,834.25		0.739
Gunma	636,228	26	17	5,327.21	3,349.69	3,829.00	2,814.57	363.29	1.80	1,134.92	533.32	0.837
Saitama	379,775	16	7	518.24	150.87	0.17		11.50	6.00	506.57	144.87	0.136
Chiba	515,764	9	6	1,773.75	291.54	291.15	143.63	912.88	125.57	569.72	22.34	0.344
Tokyo	219,090	1	1	405.30	350.23			380.22	325.15	25.08	25.08	0.185
Kanagawa	241,581	70	1	11,236.40	33.47	645.30		5,356.10	16.87	5,235.00	16.60	4.651
Niigata	1,258,410	23	16	2,008.42	1,204.36	1,055.88	961.49	677.28	90.72	275.26	152.15	0.160
Toyama	424,761	11	9	623.78	101.04	15.99	9.14	94.37	40.49	513.42	51.41	0.147
Ishikawa	418,615	7	4	1,050.50	938.00	811.50	811.50	201.20	91.70	37.80	34.80	0.251
Fukui	419,043	2	2	273.12	169.92	162.12	162.12			111.00	7.80	0.065
Yamanashi	446,499	13	0	2,144.33	0.00	3.23		2,071.06		70.04		0.480
Nagano	1,356,156	8	8	790.42	755.22	713.56	713.56	50.13	34.90	26.73	6.76	0.058
Gifu	1,062,129	16	15	2,956.87	1,918.56	1,760.56	1,578.68	21.95	4.92	1,174.36	334.96	0.278
Shizuoka	777,870	7	7	5,186.47	1,982.02	1,459.00	976.00	1,058.58	712.95	2,668.89	293.07	0.667
Aichi	517,240	15	18	292.11	108.18	0.09	0.09	214.75	86.39	77.27	21.70	0.056
Mie	577,439	5	4	463.40	241.80	14.90	11.80	350.30	228.80	98.20	1.20	0.080
Shiga	401,738	0	0	0.00	0.00							0.000
Kyoto	461,220	2	2	221.87	102.75			163.92	102.75	57.95		0.048
Osaka	190,499	5	5	38.33	29.90	0.15				38.18	29.90	0.020
Hyogo	840,090	16	7	398.30	78.90	40.00	40.00			358.30	38.90	0.047
Nara	369,094	1	1	92.10	92.10			88.46	88.46	3.64	3.64	0.025
Wakayama	472,468	7	7	329.39	297.47	314.71	282.79	0.59	0.59	14.09	14.09	0.070
Tottori	350,705	15	15	153.70	102.15	20.40	18.80	29.20	19.55	104.10	63.80	0.044
Shimane	670,823	6	6	178.74	109.30	4.40	4.40	75.62	47.53	98.72	57.37	0.027
Okayama	711,462	3	2	101.33	38.49	3.20	2.81	94.50	35.68	3.63		0.014
Hiroshima	847,938	27	26	2,054.12	1,248.39	316.02	284.09	207.73	144.63	1,530.37	819.67	0.242
Yamaguchi	611,230	0	0	0.00	0.00							0.000
Tokushima	414,693	2	2	39.00	22.50	2.00	2.00			37.00	20.50	0.009
Kagawa	187,673	4	4	88.02	83.53			0.56	0.05	87.46	83.48	0.047
Ehime	567,610	2	2	1,914.37	453.03	211.34	50.74	652.93	126.45	1,050.10	275.84	0.337
Kochi	710,391	1	1	4.70	4.70					4.70	4.70	0.001
Fukuoka	498,640	4	4	134.11	125.21			41.41	32.71	92.70	92.50	0.027
Saga	244,064	2	2	243.93	130.93			139.82	126.82	104.11	4.11	0.100
Nagasaki	413,232	15	6	733.12	130.70	26.10	0.50	374.57	130.20	332.45		0.177
Kumamoto	740,932	7	7	182.01	149.25	48.65	48.65	120.18	91.35	13.18	9.25	0.025
Oita	634,061	6	6	16.16	12.92			3.90	3.90	12.26	9.02	0.003
Miyazaki	773,531	2	2	183.97	183.97	183.97	183.97					0.024
Kagoshima	918,810	2	1	229.00	113.00	113.00	113.00	116.00				0.025
Okinawa	228,100	11	7	950.79	154.61	2.30	2.30	948.49	152.31			0.417
Area of which boundaries are not fixed	1,283,332											0.000
Total	39,080,578	545	336	77,408.78	25,476.92	23,992.39	15,051.69	25,851.58	6,523.61	27,564.81	3,901.62	0.198

Note:
The prefectural land area is based on the survey by Geospatial Information Authority of Japan (as of October, 2014).

Source: materials of National Park Division, Natural Environment Bureau, MOE, the Government of Japan (as of the March 31st, 2016) .

3.16 Area of World Natural Heritages

Area	Area (ha)
Yakushima	10,747
Shirakami-Sanchi	16,971
Shiretoko	71,103
Ogasawara islands	7,939

Source: materials of Natural Environment Planning Division, Nature Conservation Bureau, MOE, the Government of Japan (as of January 2014).

3.17 Annual Survey on the Administrative Measures based on Hot Springs Law

	New excavations																Additional drillings														
	New excavations			License Renewals	Corporate merger, divestiture			Inheritance			Changing facilities, etc.			Protection measures for disasters	Revocation of Licenses	Measures for the public interest	Orders of emergency measures	Restitution order	Additional Drillings			License Renewals	Corporate merger, divestiture			Inheritance			Changing facilities, etc.			Protection measures for disasters	Revocation of Licenses	Measures for the public interest	Orders of emergency measures	Restitution order
	Applied	Permitted	Declined		Applied	Permitted	Declined	Applied	Permitted	Declined	Applied	Permitted	Declined						Applied	Permitted	Declined		Applied	Permitted	Declined	Applied	Permitted	Declined	Applied	Permitted	Declined					
FY2003	601	583	1	0	-	-	-	-	-	-	-	-	-	-	0	0	-	0	17	17	0	※	-	-	-	-	-	-	-	-	-	-	※	-	-	※
2004	624	611	6	9	-	-	-	-	-	-	-	-	-	-	1	0	-	0	24	23	0	※	-	-	-	-	-	-	-	-	-	-	※	-	-	※
2005	535	512	10	4	-	-	-	-	-	-	-	-	-	-	1	0	-	0	24	22	2	※	-	-	-	-	-	-	-	-	-	-	※	-	-	※
2006	544	534	5	9	-	-	-	-	-	-	-	-	-	-	1	0	-	0	37	37	0	※	-	-	-	-	-	-	-	-	-	-	※	-	-	※
2007	420	415	0	4	0	0	0	1	1	0	-	-	-	-	0	0	-	0	35	33	0	0	0	0	0	0	0	0	-	-	-	-	0	0	-	0
2008	332	325	3	4	0	0	0	0	0	0	1	1	0	0	0	0	0	0	29	28	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2009	242	233	1	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	23	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2010	229	231	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2011	200	196	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2012	197	193	0	0	0	0	0	4	1	1	1	1	0	0	0	0	0	0	9	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2013	219	214	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	24	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2014	219	207	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	21	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Power equipment											Restriction order on extracting hot springs	Drilling for other purposes	Extraction of hot springs																			
	Power equipment			License Renewals	Corporate merger, divestiture			Inheritance			Revocation of Licenses	Order of the necessary measures for the public interest	Restitution order			Approval for extraction																	
																Permits			Corporate merger, divestiture			Inheritance			Changing facilities, etc.			Revocation of Licenses	Order of Emergency measures	Confirmation of the flammable natural gas concentration			Revocation of confirmation	Protection measures for disasters after abandon	Order of Emergency measures
	Applied	Permitted	Declined		Applied	Permitted	Declined	Applied	Permitted	Declined						Applied	Permitted	Declined	Applied	Permitted	Declined	Applied	Permitted	Declined	Applied	Permitted	Declined			Confirmation of the flammable natural gas concentration					
																														Applied	Permitted	Declined			
FY2003	402	396	0	※	-	-	-	-	-	-	※	※	※	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2004	483	482	0	※	-	-	-	-	-	-	※	※	※	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2005	454	448	0	※	-	-	-	-	-	-	※	※	※	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2006	427	427	1	※	-	-	-	-	-	-	※	※	※	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2007	378	376	1	1	1	1	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2008	320	313	1	1	0	0	0	0	0	0	0	0	0	0	0	1,549	563	0	0	0	0	0	0	0	2	2	0	0	0	13,894	13,637	5	0	0	0
2009	261	272	0	0	0	0	0	0	0	0	0	0	0	0	0	388	1,012	0	14	15	0	2	2	0	701	672	0	0	0	1,159	1,389	0	0	0	0
2010	227	225	0	0	0	0	0	0	0	0	0	0	0	0	0	85	96	0	6	6	0	3	3	0	89	121	0	0	0	640	648	0	0	0	0
2011	220	219	0	0	0	0	0	0	0	0	0	0	0	0	0	68	63	0	11	11	0	2	2	0	18	17	0	0	0	236	234	0	0	1	0
2012	181	182	0	0	0	0	0	0	0	0	0	0	0	0	0	56	60	0	11	11	0	0	0	0	11	11	0	0	0	204	204	0	1	2	0
2013	184	185	0	0	0	0	0	0	0	0	0	0	0	0	0	57	56	0	6	6	0	0	0	0	12	12	0	0	0	166	165	0	0	0	0
2014	170	167	0	0	0	0	0	0	0	0	0	0	0	0	0	57	58	0	8	7	0	2	2	0	12	12	0	0	0	164	163	0	0	0	0

	Utilization of hot springs																		Institutions of registry					Gross number of the task-force meetings to be held
	For bathing									For drinking														
	Bathing			Corporate merger, divestiture			Inheritance			Drinking			Corporate merger, divestiture			Inheritance			Correction order of publicly posted information	Revocation of Licenses	Order of limited use	Registration			Revocation of registrations	Accusation of violating laws	
	Applied	Permitted	Declined	Applied	Permitted	Declined	Applied	Permitted	Declined	Applied	Permitted	Declined	Applied	Permitted	Declined	Applied	Permitted	Declined				Applied	Permitted	Declined			
FY2003	2,588	2,572	0	-	-	-	-	-	-	87	88	0	-	-	-	-	-	-	-	0	0	-	-	-	-	0	124
2004	4,561	4,495	0	-	-	-	-	-	-	120	122	0	-	-	-	-	-	-	-	0	0	-	-	-	-	0	124
2005	4,486	4,518	0	-	-	-	-	-	-	126	124	0	-	-	-	-	-	-	-	0	0	-	-	-	-	0	119
2006	3,590	3,585	0	-	-	-	-	-	-	97	98	0	-	-	-	-	-	-	-	0	0	-	-	-	-	0	118
2007	3,224	3,218	0	45	43	0	19	19	0	93	93	0	1	1	0	2	2	0	0	0	0	15	15	0	0	0	0	118
2008	2,584	2,598	0	97	99	0	46	45	0	73	71	0	1	1	0	2	2	0	0	0	0	20	20	0	0	0	0	116
2009	2,433	2,427	0	326	329	0	43	43	0	69	69	0	2	2	0	3	3	0	55	0	0	6	6	0	1	0	0	102
2010	2,021	2,064	0	159	159	0	52	52	0	65	64	0	2	2	0	3	3	0	5	0	0	3	3	0	0	0	0	108
2011	1,752	1,755	0	161	161	0	38	38	0	50	50	0	4	4	0	3	3	0	0	2	0	3	3	0	0	0	0	104
2012	1,547	1,547	0	150	150	0	47	47	0	27	27	0	1	1	0	1	1	0	1	1	0	4	4	0	0	0	0	101
2013	1,701	1,667	0	125	125	0	54	56	0	28	28	0	3	3	0	3	3	0	0	0	0	1	1	0	0	0	0	100
2014	1,741	1,728	0	174	174	0	74	74	0	24	24	0	9	9	0	3	3	0	0	0	0	1	1	0	0	0	0	92

Note:
※Up to 2006, "Number of Renewals," "Revocation of Permission (only New excavations, Drilling and Power equipment)," "Measures for the public interest" and "Restitution order" were not classified and were recorded in the column under "New excavations" solely for the statistical use purpose.

Source: materials of Counselor Office, Charge of Maintenance natural environment, Nature Conservation Bureau, MOE, the Government of Japan

3.18 Survey on the Administrative Measures based on Hot Springs Law in 2014 (by prefecture)

	New excavations																		Additional drillings																
	New excavations			License Renewals	Corporate merger, divestiture			Inheritance			Changing facilities.			Protection measures for disasters	Revocation of Licenses	Measures on the public interest	Orders of emergency measures	Restitution order	Increasing number of Drillings			License Renewals	Corporate merger, divestiture			Inheritance			Changing facilities.			Protection measures for disasters	Revocation of Licenses	Measures on the public interest	Orders of emergency measures	Restitution order
	Applied	Permitted	Declined		Applied	Permitted	Declined	Applied	Permitted	Declined	Applied	Permitted	Declined						Applied	Permitted	Declined		Applied	Permitted	Declined	Applied	Permitted	Declined	Applied	Permitted	Declined					
Hokkaido	17	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aomori	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Iwate	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Miyagi	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Akita	7	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yamagata	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fukushima	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ibaraki	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tochigi	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gunma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Saitama	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chiba	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tokyo	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kanagawa	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Niigata	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Toyama	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ishikawa	2	2	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fukui	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yamanashi	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nagano	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gifu	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shizuoka	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aichi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mie	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shiga	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kyoto	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Osaka	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hyogo	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nara	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wakayama	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tottori	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shimane	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Okayama	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hiroshima	1	1	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yamaguchi	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tokushima	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kagawa	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ehime	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kochi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fukuoka	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Saga	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nagasaki	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kumamoto	16	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oita	79	71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Miyazaki	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kagoshima	26	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Okinawa	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total of FY2014	219	207	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	21	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total of FY2013	219	214	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	24	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net change	0	-7	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% vs. the previous year	100.0	96.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	87.5	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: "Survey on the Administrative Measures based on Hot Springs Law for 2014," Counselor Office, Charge of conservation and development of hot springs, Nature Conservation Bureau, MOE, the Government of Japan

3.18 Survey on the Administrative Measures based on Hot Springs Law in 2014 (by prefecture)

	Power equipment															Extraction of hot springs																				
	Power unit			License Renewals	Corporate merger, divestiture			Inheritance			Revocation of Licenses	Order of the necessary measures for the public interest	Restitution order	Restriction order on extracting hot springs	Drilling for other purposes	New excavations														Confirmation the concentration of flammable gas				Protection measures for disasters after abandon	Order of Emergency measures
																New excavations			Corporate merger, divestiture			Inheritance			Changing facilities.			Revocation of Licenses	Protection measures for disasters	Confirmation the concentration of flammable gas			Revocation of confirmation		
	Applied	Permitted	Declined		Applied	Permitted	Declined	Applied	Permitted	Declined						Applied	Permitted	Declined	Applied	Permitted	Declined	Applied	Permitted	Declined	Applied	Permitted	Declined			Applied	Permitted	Declined			
Hokkaido	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8	0	0	0	0	0	0	0	2	2	0	0	0	17	17	0	0	0	0
Aomori	7	7	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	10	10	0	0	0	0
Iwate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0
Miyagi	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Akita	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0
Yamagata	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0
Fukushima	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0
Ibaraki	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tochigi	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	1	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Gunma	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0
Saitama	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chiba	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tokyo	7	6	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kanagawa	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	12	12	0	0	0	0
Niigata	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Toyama	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ishikawa	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	0	0	0	1	1	0	2	2	0	0	0	2	2	0	0	0	0
Fukui	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Yamanashi	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0
Nagano	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0
Gifu	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0
Shizuoka	8	9	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	8	7	0	0	0	0
Aichi	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0
Mie	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shiga	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
Kyoto	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Osaka	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hyogo	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Nara	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wakayama	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tottori	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0
Shimane	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Okayama	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0
Hiroshima	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yamaguchi	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	0	0	0
Tokushima	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kagawa	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ehime	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Kochi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fukuoka	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	6	6	0	0	0	0
Saga	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Nagasaki	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Kumamoto	15	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	8	8	0	0	0	0
Oita	38	38	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	38	38	0	0	0	0
Miyazaki	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Kagoshima	18	18	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	27	27	0	0	0	0
Okinawa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Total of FY2014	170	167	0	0	0	0	0	0	0	0	0	0	0	0	0	57	58	0	8	7	0	2	2	0	12	12	0	0	0	164	163	0	0	0	0
Total of FY2013	184	185	0	0	0	0	0	0	0	0	0	0	0	0	0	57	56	0	6	6	0	0	0	0	12	12	0	0	0	166	165	0	0	0	0
Net change	-14	-18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	1	0	2	2	0	0	0	0	0	0	-2	-2	0	0	0	0
% vs. the previous year	92.4	90.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	103.6	0.0	133.3	116.7	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	98.8	98.8	0.0	0.0	0.0	0.0

3.18 Survey on the Administrative Measures based on Hot Springs Law in 2014 (by prefecture)

	Utilization of hot springs																					Institutions of registry data analyses				Accusation of violating laws	Total number of the task-force meetings to be held
	For bathing									For drinking									Correction order of publicly-posted information	Revocation of Licenses	Order of limited use	Registration			Revocation of registrations		
	Bath			Corporate merger, divestiture			Inheritance			Beverage			Corporate merger, divestiture			Inheritance											
	Applied	Permitted	Declined	Applied	Permitted	Declined	Applied	Permitted	Declined	Applied	Permitted	Declined	Applied	Permitted	Declined	Applied	Permitted	Declined				Applied	Permitted	Declined			
Hokkaido	197	197	0	33	33	0	16	16	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	4
Aomori	61	61	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Iwate	64	64	0	0	0	0	4	4	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Miyagi	23	23	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Akita	16	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Yamagata	18	18	0	2	2	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Fukushima	101	101	0	17	17	0	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Ibaraki	10	10	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Tochigi	83	83	0	11	11	0	2	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Gunma	136	132	0	20	20	0	4	4	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Saitama	49	49	0	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Chiba	19	21	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Tokyo	44	44	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Kanagawa	57	57	0	13	13	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Niigata	50	46	0	2	2	0	3	3	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Toyama	35	35	0	0	0	0	7	7	0	2	2	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	1
Ishikawa	16	16	0	13	13	0	2	2	0	2	2	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0	2
Fukui	14	14	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Yamanashi	22	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Nagano	46	46	0	4	4	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Gifu	13	13	0	2	2	0	2	2	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
Shizuoka	70	70	0	19	19	0	4	4	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Aichi	35	32	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Mie	32	32	0	7	7	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Shiga	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kyoto	15	15	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Osaka	28	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Hyogo	48	50	0	0	0	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Nara	11	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Wakayama	16	16	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tottori	6	6	0	2	2	0	2	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Shimane	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Okayama	14	15	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Hiroshima	21	20	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Yamaguchi	28	28	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Tokushima	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Kagawa	8	8	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Ehime	11	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Kochi	3	4	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fukuoka	60	60	0	1	1	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	3
Saga	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nagasaki	4	4	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Kumamoto	41	41	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Oita	95	90	0	0	0	0	1	1	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Miyazaki	25	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Kagoshima	77	75	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Okinawa	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total of FY2014	1,741	1,728	0	174	174	0	74	74	0	24	24	0	9	9	0	3	3	0	0	0	0	1	1	0	0	0	92
Total of FY2013	1,701	1,667	0	125	125	0	54	56	0	28	28	0	3	3	0	3	3	0	0	0	0	1	1	0	0	0	100
Net change	40	61	0	49	49	0	20	18	0	-4	-4	0	6	6	0	0	0	0	0	0	0	0	0	0	0	0	-8
% vs. the previous year	102.4	103.7	0.0	139.2	139.2	0.0	137.0	132.1	0.0	85.7	85.7	0.0	300.0	300.0	0.0	100.0	100.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	92.0

3.19 Changes in Utilization of Hot Springs (1)

	Number of public health centers under the jurisdiction	Number of municipalities	Number of Hot Spring areas	(A) + (B)	(A) Number of used hot springs		(B) Number of unused hot springs		Number of hot spring by temperature (X)			
					Self-gushing hot springs	Pump-up hot springs	Self-gushing hot springs	Pump-up hot springs	X < 25℃	25℃ ≦X < 42℃	42℃≦X	Steam gas
1957	–	–	–	–	–	–	–	–	–	–	–	–
1958	–	–	–	–	–	–	–	–	–	–	–	–
1959	–	–	–	–	–	–	–	–	–	–	–	–
1960	–	–	–	–	–	–	–	–	–	–	–	–
1961	–	–	–	–	–	–	–	–	–	–	–	–
1962	446	916	1,518	13,079	–	–	–	–	–	–	–	–
1963	447	898	1,207	10,395	5,757	4,638	–	–	–	–	–	–
1964	469	950	1,667	11,398	5,485	4,541	–	–	1,165	1,660	7,639	–
1965	489	980	1,331	11,913	5,953	5,875	85		–	–	–	–
1966	520	1,003	1,390	12,180	6,060	5,826	86		–	–	–	–
1967	518	1,080	1,479	13,563	5,521	6,087	1,955		1,555	2,235	8,350	738
1968	532	1,110	1,590	14,221	5,409	6,525	2,287		1,694	2,429	8,703	693
1969	535	1,162	1,609	14,827	5,427	6,844	2,556		1,765	2,411	9,044	771
1970	552	1,207	1,748	15,436	5,354	7,028	1,309	1,745	1,889	2,634	9,274	807
1971	552	1,236	1,802	16,002	5,474	7,288	1,308	1,932	2,007	2,801	9,442	870
1972	562	1,283	1,845	16,308	5,242	7,554	1,398	2,114	2,062	3,053	9,491	794
1973	568	1,313	1,901	16,681	5,146	7,893	1,380	2,262	2,267	3,132	9,681	813
1974	569	1,320	1,916	17,160	5,117	8,086	1,546	2,411	2,165	3,338	9,969	717
1975	570	1,361	1,939	17,491	5,181	8,297	1,455	2,558	2,267	3,346	10,102	752
1976	580	1,386	1,988	17,733	5,218	8,362	1,501	2,652	2,242	3,274	10,049	775
1977	585	1,423	1,990	18,183	5,102	8,552	1,673	2,856	2,273	3,437	10,264	747
1978	575	1,440	2,012	18,678	5,129	8,652	1,751	3,146	2,324	3,736	10,185	815
1979	578	1,473	2,033	19,052	4,996	8,721	1,844	3,491	2,320	3,898	10,003	845
1980	566	1,451	2,053	19,506	5,019	8,824	1,886	3,777	2,434	3,955	10,215	884
1981	564	1,470	2,106	19,470	5,001	8,854	2,001	3,614	2,513	4,002	10,235	888
1982	567	1,477	2,118	19,768	5,112	9,055	1,972	3,629	2,525	4,107	10,491	954
1983	572	1,497	2,116	20,103	5,069	9,217	2,047	3,770	2,566	4,272	10,437	964
1984	576	1,522	2,127	20,151	5,035	9,293	2,030	3,793	2,628	4,277	10,509	945
1985	575	1,548	2,145	20,396	5,005	9,384	2,125	3,882	2,696	4,334	10,757	941
1986	582	1,574	2,155	20,759	5,098	9,497	2,106	4,058	2,713	4,359	10,842	961
1987	584	1,593	2,189	21,095	5,095	9,597	2,210	4,193	2,815	4,544	10,940	963
1988	594	1,635	2,254	21,336	5,002	9,759	2,258	4,317	2,870	4,612	10,918	948
1989	603	1,685	2,302	21,758	5,012	9,983	2,392	4,371	2,926	4,787	11,136	893
1990	608	1,732	2,360	22,353	5,040	10,277	2,409	4,627	3,105	5,088	11,401	934
1991	630	1,798	2,382	23,097	5,091	10,639	2,463	4,904	3,092	5,244	11,485	1,006
1992	645	1,875	2,357	23,568	5,134	10,931	2,463	5,039	3,216	5,371	11,513	993
1993	637	1,918	2,383	24,061	5,084	11,291	2,534	5,152	3,274	5,451	11,752	1,041
1994	648	1,963	2,431	24,679	5,062	11,633	2,661	5,323	3,267	5,692	12,213	1,096
1995	658	2,015	2,508	25,129	5,053	11,908	2,759	5,409	3,319	5,771	12,368	1,091
1996	646	2,074	2,565	25,455	5,031	12,131	2,894	5,399	3,405	5,917	12,545	1,101
1997	606	2,132	2,615	25,822	5,048	12,342	2,814	5,618	3,466	6,049	12,677	1,097
1998	562	2,184	2,839	26,077	5,080	12,606	2,865	5,526	3,391	6,172	12,916	1,119
1999	559	2,213	2,893	26,270	5,143	12,714	2,794	5,622	3,484	6,294	12,957	1,057
2000	541	2,238	2,988	26,505	5,164	12,873	2,868	5,604	3,505	6,443	13,070	1,057
2001	525	2,280	3,023	26,796	5,186	13,063	3,000	5,552	3,590	6,486	13,226	1,077
2002	518	2,292	3,102	27,043	5,180	13,328	2,956	5,579	3,626	6,543	13,144	1,084
2003	511	2,280	3,127	27,347	5,189	13,559	2,969	5,629	3,690	6,573	13,093	1,156
2004	495	1,939	3,114	27,644	5,120	13,805	2,989	5,730	3,759	6,753	13,209	1,166
2005	511	1,492	3,162	27,866	5,149	13,975	2,966	5,776	3,841	6,857	13,294	1,162
2006	505	1,489	3,157	28,154	5,122	14,115	3,055	5,862	3,885	6,952	13,275	1,147
2007	498	1,480	3,139	28,090	5,097	14,108	3,028	5,857	4,098	6,803	13,274	1,168
2008	502	1,470	3,133	28,033	4,874	13,997	3,149	6,013	4,062	6,741	13,226	1,155
2009	489	1,445	3,170	27,825	4,711	13,930	3,225	5,959	4,022	6,731	13,146	1,180
2010	489	1,440	3,185	27,671	4,460	13,476	3,325	6,410	4,044	6,842	12,921	1,069
2011	468	1,436	3,108	27,532	4,413	13,396	3,296	6,426	3,983	6,855	12,800	1,060
2012	467	1,436	3,085	27,221	4,286	13,354	3,232	6,346	3,920	6,886	12,707	936
2013	466	1,439	3,098	27,405	4,260	13,394	3,348	6,403	3,989	6,891	12,637	1,064
2014	462	1,434	3,088	27,367	4,142	13,181	3,484	6,560	4,021	6,859	12,574	1,082

Notes:

"Number of Hot Spring areas" show the number of hot spring spots that have lodging facility.

Source: "Survey on Hot Springs use for 2014" by Counselor Office, Charge of Conservation and Development of Hot Springs, Nature Conservation Bureau, MOE, the Government of Japan

3.19 Changes in Utilization of Hot Springs (2)

	Gush amount		Number of lodging facilities	Max. accommodation (# of guests)	Gross # of overnight stays in FY	Number of public bathhouses using hot springs	Gross # of overnight stays in FY in the public hot spa resorts
	Self-gushing hot springs required	Pump-up hot springs					
1957	–	–	7,556	302,041	40,701,812	–	–
1958	–	–	7,738	329,699	47,519,270	–	–
1959	–	–	7,913	358,005	49,471,913	–	–
1960	–	–	8,276	383,608	55,251,803	–	–
1961	–	–	8,744	456,226	77,551,499	–	–
1962	–	–	9,244	500,445	86,743,797	–	–
1963	930,110		10,319	562,516	85,675,621	1,588	–
1964	991,831		10,427	581,025	87,371,026	1,620	–
1965	1,109,633		10,904	649,439	93,311,028	1,629	–
1966	1,143,788		11,411	764,670	89,634,687	1,686	–
1967	1,207,194		12,586	751,138	96,050,339	1,594	–
1968	1,258,138		13,553	774,360	100,551,422	1,588	–
1969	1,334,612		13,252	805,118	101,261,143	1,780	–
1970	651,265	696,092	13,219	827,239	104,051,002	1,815	–
1971	624,190	659,394	13,004	856,731	109,616,365	1,746	–
1972	631,202	701,082	13,508	875,050	117,915,449	1,749	–
1973	613,776	734,778	14,006	939,972	121,463,272	1,815	–
1974	652,580	770,967	14,688	1,033,456	117,257,335	1,798	–
1975	668,199	799,772	14,598	993,994	110,228,798	1,992	–
1976	675,856	834,294	14,593	988,247	108,743,832	2,038	9,656,668
1977	688,448	838,147	14,758	1,001,543	108,582,166	2,096	9,410,245
1978	690,879	866,424	15,200	1,022,690	107,269,376	2,082	9,175,961
1979	681,099	923,859	15,619	1,056,043	111,295,210	2,065	9,370,058
1980	741,216	948,911	15,112	1,062,827	107,079,659	2,155	9,111,438
1981	757,276	984,030	15,141	1,079,357	108,757,430	2,257	9,326,813
1982	805,494	1,035,799	15,124	1,073,806	109,382,651	2,311	9,902,248
1983	790,207	1,055,883	15,014	1,074,788	107,813,584	2,358	9,982,442
1984	807,829	1,064,701	14,882	1,086,620	111,090,010	2,460	10,399,800
1985	784,585	1,089,414	15,002	1,096,035	113,898,046	2,594	11,319,002
1986	763,119	1,138,158	15,413	1,105,928	121,788,044	2,743	12,264,373
1987	816,773	1,252,447	15,383	1,120,849	125,507,775	2,884	12,601,237
1988	818,360	1,218,941	14,977	1,146,275	130,865,438	2,991	12,942,803
1989	831,159	1,256,338	15,085	1,168,157	134,870,936	3,112	13,964,049
1990	870,367	1,354,205	15,119	1,202,382	140,138,479	3,283	14,623,747
1991	888,410	1,427,296	15,082	1,210,747	142,853,123	3,576	14,149,655
1992	871,678	1,440,965	15,154	1,227,095	143,246,266	3,867	14,330,507
1993	880,058	1,495,445	15,227	1,245,672	139,728,475	4,038	14,031,097
1994	886,498	1,538,907	15,356	1,254,429	138,779,626	4,164	13,987,987
1995	876,108	1,628,592	15,714	1,288,594	140,572,876	4,375	13,791,341
1996	860,542	1,676,017	15,504	1,298,283	143,164,495	4,738	13,712,586
1997	868,832	1,735,812	15,643	1,332,588	140,301,952	5,080	13,301,386
1998	888,930	1,750,050	15,638	1,371,708	139,711,747	5,525	12,999,348
1999	894,295	1,772,844	15,548	1,357,089	135,377,318	5,835	14,716,682
2000	827,918	1,809,162	15,512	1,363,017	137,525,810	6,034	15,594,906
2001	819,328	1,791,219	15,558	1,373,318	137,097,634	6,433	15,121,005
2002	813,023	1,856,497	15,389	1,384,302	137,935,709	6,738	14,953,458
2003	800,891	1,880,287	15,390	1,387,981	136,285,534	7,006	15,320,428
2004	775,642	1,936,498	15,332	1,408,683	135,867,119	7,294	15,098,986
2005	831,640	1,929,660	15,024	1,413,088	136,613,954	7,431	14,725,041
2006	822,755	1,955,139	15,024	1,431,504	137,088,966	7,748	14,415,086
2007	821,438	1,977,980	14,907	1,410,100	135,872,728	7,859	11,699,874
2008	800,338	1,971,684	14,787	1,415,597	132,677,295	7,913	10,498,930
2009	793,482	1,958,776	14,294	1,407,164	127,929,516	7,913	10,479,554
2010	760,024	1,926,535	14,052	1,411,884	124,925,272	7,902	9,563,332
2011	738,111	1,943,562	13,754	1,394,107	120,061,329	7,717	8,976,989
2012	677,432	1,910,763	13,521	1,373,508	124,695,579	7,771	8,823,770
2013	726,357	1,916,348	13,358	1,377,387	126,422,229	7,816	8,951,999
2014	733,740	1,896,687	13,278	1,377,591	127,974,837	7,883	8,726,377

Note:
The numbers of people who used accommodation facilities are for reference.

Source: "Survey on Hot Springs use for 2014" by Counselor Office, Charge of Conservation and Development of Hot Springs, Nature Conservation Bureau, MOE, the Government of Japan

3.20 Utilization of Hot Springs by prefecture in 2014 (1)

As of the end of March, 2015

	Number of public health centers under the jurisdictions	Number of municipalities	Number of Hot Spring areas	Number of sources of hot springs								
				(A) + (B)	(A) Number of used sources		(B) Number of unused sources		Number of sources of hot springs by temperature			
					Self-gushing	Pump-up	Self-gushing	Pump-up	X < 25℃	25℃ ≦X < 42℃	42℃≦X	Steam gas
Hokkaido	28	163	246	2,222	433	908	472	409	213	533	1,174	33 a)
Aomori	6	39	132	1,089	96	494	201	298	36	230	658	0
Iwate	9	26	75	394	83	141	63	107	28	107	219	36
Miyagi	10	34	82	749	209	220	190	130	47	140	315	148
Akita	9	23	125	613	201	199	131	82	55	136	297	76
Yamagata	4	35	88	422	127	173	50	72	76	129	217	0
Fukushima	8	52	134	775	154	302	116	203	88	157	260	32
Ibaraki	12	32	36	147	20	76	15	36	79	56	12	0
Tochigi	6	22	69	630	163	265	114	88	46	145	271	4
Gunma	11	27	103	455	165	203	59	28	77	123	196	0
Saitama	15	43	25	108	9	87	0	12	27	70	11	0
Chiba	16	38	94	160	27	129	3	1	126	31	2	0
Tokyo	31	47	26	163	5	123	3	32	72	55	32	4
Kanagawa	16	25	34	597	78	370	55	94	90	140	265	25
Niigata	13	30	151	533	145	237	86	65	158	189	186	0
Toyama	9	15	73	178	54	84	16	24	39	69	70	0
Ishikawa	5	19	53	336	18	187	11	120	37	93	75	0
Fukui	6	16	40	159	4	93	7	55	21	46	30	0
Yamanashi	4	27	28	432	108	168	117	39	123	225	84	0
Nagano	11	70	221	984	277	440	125	142	207	269	416	2
Gifu	8	31	67	509	57	230	106	116	154	168	170	7
Shizuoka	9	32	119	2,274	98	1,107	45	1,024	89	308	771	5
Aichi	15	36	33	134	10	90	11	23	44	72	18	0
Mie	9	25	68	197	16	146	9	26	80	70	48	0
Shiga	7	14	22	86	6	47	9	24	39	45	2	0
Kyoto	8	17	39	133	12	78	15	28	50	70	13	0
Osaka	18	34	39	173	6	110	6	51	40	99	34	0
Hyogo	17	37	76	432	33	223	54	122	155	200	77	0
Nara	5	27	32	72	8	59	2	3	21	40	11	0
Wakayama	8	28	51	501	50	198	100	153	69	302	130	0
Tottori	3	15	15	365	32	158	34	141	16	47	128	0
Shimane	7	18	44	254	64	83	70	37	106	94	54	0
Okayama	7	23	38	222	36	76	52	58	132	83	7	0
Hiroshima	7	21	63	355	17	190	11	137	315	33	2	0
Yamaguchi	8	18	51	398	28	186	42	142	269	111	18	0
Tokushima	6	19	30	85	21	39	15	10	63	22	0	0
Kagawa	5	16	27	194	0	92	3	99	182	12	0	0
Ehime	7	18	35	201	27	99	42	33	106	63	20	0
Kochi	6	25	35	96	3	54	16	23	78	17	1	0
Fukuoka	16	45	52	436	7	240	4	185	82	213	116	0
Saga	5	18	24	184	4	109	8	63	49	77	58	0
Nagasaki	10	19	32	198	69	91	15	23	20	63	115	0
Kumamoto	11	41	54	1,354	134	613	170	437	36	443	766	25
Oita	10	16	63	4,381	659	2,872	262	588	81	598	3,312	386
Miyazaki	9	22	36	205	23	122	16	44	39	66	91	0
Kagoshima	8	28	100	2,771	342	963	533	933	60	595	1,817	299
Okinawa	4	8	8	11	4	7	0	0	1	5	5	0
Total FY2014	**462**	**1,434**	**3,088**	**27,367**	**4,142**	**13,181**	**3,484**	**6,560**	**4,021**	**6,859**	**12,574**	**1,082**
Total FY2013	466	1,439	3,098	27,405	4,260	13,394	3,348	6,403	3,989	6,891	12,637	1,064
Diff.	-4	-5	-10	-38	-118	-213	136	157	32	-32	-63	18
% vs. the previous year	99.1	99.7	99.7	99.9	97.2	98.4	104.1	102.5	100.8	99.5	99.5	101.7

Notes:

a) Excluding 269 whose types are unknown.

1. "Number of Hot Spring areas" show the number of hot spring spots that have lodging facility nearby.
2. Numbers of people who used accommodation facilities are only on a reference basis.
3. "Total of gushing amounts" is added this year..

Source: “Survey on Hot Springs use for 2014” by Counselor Office, Charge of Conservation and Development of Hot Springs, Nature Conservation Bureau, MOE, the Government of Japan

3.20 Utilization of Hot Springs by prefecture in 2014 (2)

As of the end of March, 2015

	Gush amount			Number of lodging facilities	Max. accommodation (# of guests)	Gross # of overnight stays in FY	Number of public bathhouses using hot springs	Gross # of overnight stays in FY in the public hot spa resorts
	Total	Self-gushing hot springs	Pump-up hot springs					
Hokkaido	255,624	92,018	163,606	689	118,127	12,738,378	476	812,178
Aomori	137,554	12,352	125,202	265	23,167	1,463,282	284	76,179
Iwate	109,326	58,598	50,728	202	26,253	2,138,552	67	31,216
Miyagi	33,670	9,807	23,863	229	34,135	2,499,304	153	105,200
Akita	88,355	38,551	49,804	242	21,595	1,584,790	222	415,237
Yamagata	52,882	21,769	31,113	334	32,046	2,370,542	153	617,175
Fukushima	85,567	31,913	53,654	560	59,895	4,360,158	210	465,794
Ibaraki	20,720	5,257	15,463	78	7,058	616,548	74	—
Tochigi	65,307	21,323	43,984	424	53,605	4,991,854	237	260,086
Gunma	55,847	27,323	28,524	613	56,059	5,572,576	285	496,072
Saitama	19,468	1,726	17,742	37	4,726	571,424	76	—
Chiba	14,508	2,374	12,134	165	43,349	3,081,500	153	—
Tokyo	29,050	376 b)	28,674	39	2,562	271,367	132	—
Kanagawa	35,680	6,463	29,216	604	49,231	5,843,742	199	—
Niigata	68,978	19,954	49,024	565	63,055	3,608,540	185	307,159
Toyama	31,189	18,675	12,514	137	15,995	1,212,237	88	—
Ishikawa	32,735	1,048	31,687	198	29,770	3,756,467	95	25,941
Fukui	8,047	692	7,355	146	21,330	1,314,363	48	—
Yamanashi	46,782	18,090	28,693	238	27,736	3,963,630	150	250,672
Nagano	119,949	47,585	72,364	1,240	99,810	7,620,014	671	779,744
Gifu	73,683	15,478	58,205	340	29,310	2,838,412	73	382,062
Shizuoka	121,835	12,584	109,251	1,882	145,239	10,995,566	486	5,000
Aichi	19,360	57	19,303	92	15,620	1,681,745	80	—
Mie	45,597	2,403	43,194	285	41,581	3,585,387	119	7,131
Shiga	10,114	1,580	8,534	43	8,323	1,086,714	25	—
Kyoto	17,690	1,376	16,314	170	14,537	1,504,056	67	58,554
Osaka	35,276	338	34,939	43	11,351	2,232,078	94	—
Hyogo	49,166	5,146	44,020	390	38,799	4,638,607	225	34,109
Nara	7,025	1,046	5,978	71	7,110	618,703	57	35,620
Wakayama	58,106	16,510	41,596	219	31,649	4,528,465	150	154,219
Tottori	20,424	531	19,893	114	14,803	1,229,745	52	72,829
Shimane	26,070	12,489	13,581	117	10,778	1,105,972	97	44,082
Okayama	22,598	5,008	17,591	89	8,793	833,995	93	153,601
Hiroshima	33,107	3,196	29,911	77	7,775	735,892	119	4,658
Yamaguchi	26,366	3,290	23,076	156	13,968	1,704,893	137	140,545
Tokushima	7,074	1,313	5,761	37	3,313	377,916	45	—
Kagawa	11,657	309	11,348	51	9,891	1,048,665	73	56,421
Ehime	19,322	5,359	13,963	97	11,728	1,574,413	120	30,747
Kochi	4,091	60	4,031	50	6,069	450,712	46	—
Fukuoka	60,229	1,058	59,171	95	10,664	1,151,962	140	73,664
Saga	20,649	1,171	19,479	108	8,952	808,780	132	58,914
Nagasaki	26,962	7,205	19,757	95	13,259	1,549,538	123	537,671
Kumamoto	139,453	25,186	114,267	411	34,356	3,015,183	332	392,671
Oita	278,934	115,077	163,857	782	45,749	5,240,465	371	1,213,694
Miyazaki	24,558	3,556	21,002	66	7,185	768,313	102	—
Kagoshima	156,539	55,134	101,405	385	32,724	2,414,792	553	627,532
Okinawa	3,306	1,387	1,919	8	4,561	674,600	14	—
Total FY2014	**2,630,428**	**733,740**	**1,896,687**	**13,278**	**1,377,591**	**127,974,837**	**7,883**	**8,726,377**
Total FY2013	2,642,705	726,357	1,916,348	13,358	1,377,387	126,422,229	7,816	8,951,999
Diff.	-12,278	7,383	-19,661	-80	204	1,552,608	67	-225,622
% vs. the previous year	99.5	101.0	99.0	99.4	100.0	101.2	100.9	97.5

Note:
b) Excluding the ones situated in Hachijojima Island Geothermal Power Plant.

Source: “Survey on Hot Springs use for 2014” by Counselor Office, Charge of Conservation and Development of Hot Springs, Nature Conservation Bureau, MOE, the Government of Japan

3.21 Status of city parks (by prefecture) (1)

(As of the end of March, 2015)

Prefecture and major city names	Residential-area key park						City key park				Large-area park			
	Block parks		Neighborhood parks		Community parks		General parks		Sport parks		Wide-area parks		Recreational urban parks	
	Numbe of parks	Area(ha)	Numbe of parks	Area(ha)	Numbe of parks	Area(ha)	Numbe of parks	Area(ha)	Numbe of parks	Area(ha)	Numbe of parks	Area(ha)	Numbe of parks	Area(ha)
Hokkaido	3,537	718.15	357	764.30	97	522.94	104	2,977.34	68	1,690.51	11	908.44	0	0.00
Aomori	570	120.60	58	99.81	25	170.29	17	566.34	15	309.73	3	378.50	0	0.00
Iwate	1,050	150.82	57	101.06	12	82.42	20	452.49	10	184.35	2	185.71	0	0.00
Miyagi	962	162.83	64	124.07	28	153.73	12	239.63	9	127.99	4	155.19	0	0.00
Akita	415	104.22	29	64.53	36	146.36	25	581.95	7	119.08	3	289.90	0	0.00
Yamagata	621	143.11	63	90.94	13	80.78	25	492.14	10	123.41	1	56.10	2	186.90
Fukushima	743	184.46	87	166.01	21	96.68	27	524.46	15	248.31	5	299.21	0	0.00
Ibaraki	1,504	317.37	147	310.88	32	188.41	23	388.35	34	429.54	6	224.50	0	0.00
Tochigi	1,709	245.20	128	209.40	68	346.66	27	372.63	35	757.26	4	374.40	0	0.00
Gunma	1,087	237.22	137	244.18	40	204.03	30	573.04	18	275.52	1	60.30	0	0.00
Saitama	3,147	534.47	246	447.32	37	167.90	53	782.62	22	310.59	10	598.10	0	0.00
Chiba	4,393	604.72	222	420.75	56	288.45	29	425.67	22	255.31	4	153.09	1	38.33
Tokyo	2,893	418.49	184	339.89	25	181.11	28	351.38	22	150.20	8	402.36	0	0.00
Kanagawa	2,539	374.50	106	165.57	19	116.20	17	246.39	19	203.41	8	291.88	0	0.00
Niigata	701	151.81	65	99.79	29	160.43	38	712.87	26	240.69	2	130.43	1	58.02
Toyama	1,705	183.90	49	81.06	40	152.27	25	473.61	14	287.05	1	95.90	0	0.00
Ishikawa	820	176.13	54	87.23	17	71.56	23	432.69	19	279.67	6	145.57	0	0.00
Fukui	782	134.74	54	86.96	11	46.02	20	521.64	9	147.75	0	0.00	0	0.00
Yamanashi	121	33.66	28	63.69	14	68.18	9	129.67	7	118.87	5	217.40	0	0.00
Nagano	614	144.07	109	189.28	52	295.55	38	757.59	9	189.91	3	255.77	0	0.00
Gifu	1,103	233.00	79	129.88	41	185.47	18	318.15	27	230.52	4	343.15	0	0.00
Shizuoka	1,076	227.88	95	145.66	20	85.11	33	516.55	17	235.80	2	364.20	0	0.00
Aichi	2,358	596.65	218	378.77	58	270.68	33	575.09	23	373.24	6	518.54	0	0.00
Mie	2,396	288.78	88	143.61	24	148.42	25	433.31	14	174.01	1	36.79	1	59.91
Shiga	400	85.48	75	122.87	25	145.66	19	314.17	9	129.34	1	157.48	0	0.00
Kyoto	1,185	142.53	48	87.79	19	91.35	18	261.40	12	120.89	3	288.49	0	0.00
Osaka	3,458	494.53	216	358.05	35	154.93	20	332.71	1	23.60	15	820.10	0	0.00
Hyogo	3,471	499.44	175	315.23	57	270.76	49	619.32	15	190.13	9	1,025.70	0	0.00
Nara	1,674	233.79	78	142.26	24	126.74	13	180.40	6	84.37	2	559.00	0	0.00
Wakayama	182	50.79	30	53.24	9	38.14	10	125.92	7	93.08	0	0.00	0	0.00
Tottori	240	53.50	16	24.64	5	38.29	8	185.89	4	70.56	2	115.80	0	0.00
Shimane	237	53.17	19	49.36	9	69.11	19	258.43	9	154.62	3	251.00	0	0.00
Okayama	925	149.77	47	86.90	14	96.94	12	155.33	19	271.90	0	0.00	0	0.00
Hiroshima	1,697	236.89	62	114.60	15	86.61	20	244.93	15	196.33	3	165.70	0	0.00
Yamaguchi	941	160.21	49	103.74	28	168.76	26	612.08	12	163.41	5	420.33	0	0.00
Tokushima	179	29.19	27	37.30	7	24.74	9	123.95	4	53.04	1	65.75	0	0.00
Kagawa	346	53.59	28	46.33	15	83.94	9	137.28	8	111.22	1	67.87	0	0.00
Ehime	335	72.92	43	51.57	23	121.82	21	409.00	8	157.81	1	69.51	3	218.10
Kochi	738	76.62	29	44.83	8	43.04	7	156.95	4	20.61	4	225.25	0	0.00
Fukuoka	2,134	t	161	275.61	32	143.92	31	612.07	8	137.20	2	111.10	0	0.00
Saga	149	34.82	32	60.90	18	103.36	11	238.68	6	120.96	2	75.40	0	0.00
Nagasaki	976	170.37	71	136.04	25	154.61	25	523.66	4	94.28	1	39.89	0	0.00
Kumamoto	549	78.27	48	94.99	9	44.46	12	207.60	5	108.10	2	49.39	0	0.00
Oita	806	145.42	51	81.99	17	81.20	21	204.02	8	146.88	3	199.33	0	0.00
Miyazaki	777	147.67	63	117.29	18	84.05	19	374.98	22	344.01	3	282.35	0	0.00
Kagoshima	1,010	209.32	97	178.12	38	179.85	28	544.07	20	362.44	3	164.20	0	0.00
Okinawa	564	113.00	79	153.53	24	112.56	25	270.17	11	199.58	5	381.37	0	0.00
Total of prefectures	59,819	10,088.80	4,268	7,691.82	1,289	6,694.49	1,131	20,938.61	688	10,817.08	171	12,020	8	561
Sapporo	2,393	310.32	144	243.31	26	142.34	10	445.53	4	53.58	1	84.70	0	0.00
Sendai	1,407	170.76	54	104.38	10	74.31	5	85.93	1	15.42	1	94.85	0	0.00
Saitama	803	101.77	32	61.91	4	17.76	11	84.37	6	89.15	2	82.00	0	0.00
Chiba	878	130.57	64	100.60	9	40.86	6	221.47	2	71.62	2	122.11	0	0.00
District of Tokyo	3,417	557.00	122	228.92	29	155.70	52	620.69	22	191.83	3	117.38	0	0.00
Yokohama	2,287	383.19	194	322.38	45	203.14	17	287.90	7	167.08	4	189.42	0	0.00
Kawasaki	934	115.15	32	56.73	6	27.28	4	176.72	1	77.43	0	0.00	0	0.00
Sagamihara	547	46.51	12	18.72	3	12.19	5	69.77	2	29.20	1	47.47	0	0.00
Niigata	1,259	120.39	29	44.22	9	45.14	9	312.20	4	46.57	1	86.18	0	0.00
Shizuoka	381	63.30	22	37.32	2	12.54	5	94.10	2	40.18	0	0.00	0	0.00
Hamamatsu	395	59.52	22	33.40	5	19.26	14	245.41	6	59.28	1	34.60	0	0.00
Nagoya	1,216	269.64	102	170.08	27	154.10	7	232.00	25	208.10	3	304.52	0	0.00
Kyoto	819	110.74	33	57.87	7	38.60	4	48.37	10	83.86	2	100.01	0	0.00
Osaka	853	214.26	75	107.90	27	106.89	7	100.22	1	65.71	4	147.17	0	0.00
Sakai	1,062	84.43	37	97.55	8	36.15	6	94.02	2	25.12	2	140.30	0	0.00
Kobe	1,290	233.59	131	263.12	25	164.47	13	468.66	1	55.89	3	403.30	0	0.00
Okayama	318	82.12	30	56.16	15	217.57	5	90.62	3	47.75	0	0.00	0	0.00
Hiroshima	965	158.41	45	97.61	11	49.53	8	181.30	5	94.02	2	125.45	0	0.00
Kitakyushu	1,474	204.89	71	114.32	13	76.83	6	108.65	5	65.62	5	346.81	0	0.00
Fukuoka	1,334	177.69	74	123.01	9	46.12	9	261.03	7	95.32	0	0.00	0	0.00
Kumamoto	848	93.91	29	42.63	7	32.03	5	102.49	3	115.32	1	125.44	0	0.00
Total of major cities	24,880	3,688.16	1,354	2,382.14	297	1,672.81	208	4,331.45	119	1,698.05	38	2,551.71	0	0.00
Nation wide total	84,699	13,776.96	5,622	10,073.96	1,586	8,367.30	1,339	25,270.06	807	12,515.13	209	14,572.15	8	561.26

Note:

For part of Iwate, Miyagi, and Fukushima Prefectures, affected severely by the Great East Japan Earthquake, data as of the end of FY2009 are used.

Source: "Report of City Park Development Status by Prefecture" Parks and Green Spaces Division, City and Regional Development Bureau, Ministry of Land, Infrastructure,Transport and Tourism, the Government of Japan

3.21 Status of city parks (by prefecture) (2)

(As of the end of March, 2015)

Prefecture and major city names	Special Park								National Parks		Green buffer zones		City green zones	
	Scenic parks		Animal and plant Parks		Historical Parks		Cemetery parks							
	Numbe of parks	Area(ha)	Numbe of parks	Area(ha)	Numbe of parks	Area(ha)	Numbe of parks	Area(ha)	Numbe of parks	Area(ha)	Numbe of parks	Area(ha)	Numbe of parks	Area(ha)
Hokkaido	44	1,179.36	0	0.00	11	45.10	29	211.90	0	0.00	10	10.85	534	2,285.58
Aomori	4	42.57	0	0.00	0	0.00	12	172.93	0	0.00	0	0.00	124	134.32
Iwate	5	83.94	0	0.00	0	0.00	3	59.70	0	0.00	0	0.00	43	104.40
Miyagi	6	384.60	0	0.00	2	1.15	3	64.50	1	647.40	5	33.82	58	202.10
Akita	0	0.00	0	0.00	2	2.84	11	62.15	0	0.00	0	0.00	38	172.04
Yamagata	7	128.96	0	0.00	3	24.86	0	0.00	0	0.00	4	181.27	66	327.37
Fukushima	31	400.10	0	0.00	3	7.61	10	128.08	0	0.00	0	0.00	170	164.15
Ibaraki	17	165.05	1	8.00	9	12.53	3	9.63	1	199.50	7	132.21	159	249.46
Tochigi	4	30.33	0	0.00	3	4.46	7	51.06	0	0.00	14	42.40	102	254.23
Gunma	8	534.03	2	7.78	8	16.73	4	83.15	0	0.00	0	0.00	101	211.16
Saitama	7	42.87	1	0.63	16	35.08	1	14.00	1	304.00	48	45.28	379	919.56
Chiba	14	33.08	1	1.00	10	35.90	3	26.09	0	0.00	25	184.07	825	607.69
Tokyo	12	84.41	5	156.97	9	6.15	0	0.00	1	169.40	2	2.67	619	756.42
Kanagawa	21	182.04	4	12.90	11	38.56	2	27.63	0	0.00	1	0.19	161	295.83
Niigata	3	16.66	2	1.00	9	45.16	4	43.88	1	298.40	7	22.66	50	167.14
Toyama	9	60.00	1	0.40	8	12.44	4	30.59	0	0.00	3	44.20	95	172.09
Ishikawa	7	60.79	2	46.24	9	73.58	6	44.76	0	0.00	0	0.00	131	77.07
Fukui	4	29.39	0	0.00	2	1.10	3	12.76	0	0.00	1	134.37	19	45.86
Yamanashi	3	45.62	0	0.00	2	1.10	1	3.98	0	0.00	0	0.00	10	96.23
Nagano	13	181.30	3	48.30	4	23.66	1	47.00	1	148.00	1	0.33	98	226.91
Gifu	33	79.41	0	0.00	10	12.92	5	58.71	1	164.53	6	8.82	65	159.22
Shizuoka	29	159.12	1	11.94	12	12.74	3	7.04	0	0.00	0	0.00	102	224.59
Aichi	18	303.13	4	33.77	19	33.36	11	122.61	0	107.58	9	63.69	248	532.48
Mie	6	14.45	0	0.00	12	21.83	4	59.09	0	14.18	7	69.25	82	169.85
Shiga	8	136.54	1	0.23	2	4.28	3	17.10	0	0.00	0	0.00	49	129.70
Kyoto	18	118.84	0	0.00	6	9.66	0	0.00	0	20.40	2	33.70	96	71.61
Osaka	6	74.94	0	0.00	4	7.78	7	83.60	0	166.30	15	37.53	307	397.37
Hyogo	15	103.40	0	0.00	1	3.88	10	137.44	1	39.50	4	122.43	363	773.27
Nara	4	29.55	0	0.00	6	4.14	1	8.53	1	46.10	0	0.00	459	307.66
Wakayama	5	71.35	0	0.00	2	21.37	2	30.99	0	0.00	5	52.43	22	127.12
Tottori	1	4.60	0	0.00	4	20.28	3	20.47	0	0.00	1	0.61	21	81.07
Shimane	1	0.60	1	3.46	7	129.48	2	14.50	0	0.00	0	0.00	71	5.81
Okayama	10	252.91	1	4.85	3	10.30	3	38.56	0	0.00	4	135.25	37	71.70
Hiroshima	14	517.71	0	0.00	1	32.90	3	11.44	1	338.80	2	4.14	85	79.06
Yamaguchi	6	14.02	0	0.00	9	15.86	10	51.92	0	0.00	6	115.73	32	35.39
Tokushima	4	35.57	1	58.90	2	20.03	0	0.00	0	0.00	1	1.01	23	78.54
Kagawa	12	441.45	0	0.00	5	104.66	6	31.43	1	350.00	3	22.22	38	87.01
Ehime	12	204.98	1	8.64	7	20.00	3	21.54	0	0.00	1	0.40	120	132.83
Kochi	11	62.55	0	0.00	2	10.76	2	2.76	0	0.00	0	0.00	25	38.19
Fukuoka	22	197.46	1	5.12	10	10.59	3	18.47	0	0.00	7	5.20	87	226.01
Saga	5	52.44	0	0.00	3	2.64	0	0.00	1	51.30	3	22.20	26	53.89
Nagasaki	15	202.15	4	12.08	3	21.65	2	27.99	0	0.00	1	0.30	35	7.54
Kumamoto	9	65.28	0	0.00	5	24.15	1	3.74	0	0.00	1	5.25	44	47.24
Oita	8	21.91	1	8.58	6	51.06	0	0.00	0	0.00	5	111.14	149	116.94
Miyazaki	9	152.54	2	15.40	8	116.97	6	66.88	0	0.00	0	0.00	50	279.52
Kagoshima	15	100.51	1	29.34	4	15.85	19	40.36	0	0.00	2	1.44	18	21.81
Okinawa	4	38.52	1	12.32	3	3.47	3	15.52	1	74.70	0	0.00	52	75.23
Total of prefectures	519	7,141.03	42	488	277	1,130.62	219	1,984.48	13	3,140	213	1,647.06	6,488	11,800
Sapporo	13	154.44	0	0.00	0	0.00	0	0.00	1	395.70	1	15.48	125	574.77
Sendai	14	210.13	1	12.15	4	21.10	0	0.00	0	0.00	0	0.00	162	521.68
Saitama	0	0.00	0	0.00	1	1.74	1	27.14	0	0.00	1	0.25	33	160.00
Chiba	5	55.29	2	37.39	4	11.14	0	0.00	0	0.00	0	0.00	70	94.80
District of Tokyo	33	268.43	4	2.47	16	117.74	0	0.00	1	6.70	0	0.00	426	440.75
Yokohama	13	104.95	1	2.58	6	10.39	0	0.00	0	0.00	1	15.23	51	74.48
Kawasaki	1	11.70	1	1.24	0	0.00	2	16.14	0	0.00	0	0.00	89	42.12
Sagamihara	2	12.43	0	0.00	3	9.52	1	15.00	0	0.00	0	0.00	22	24.45
Niigata	0	0.00	2	3.33	1	0.60	0	0.00	0	0.00	1	16.10	47	127.94
Shizuoka	11	25.73	0	0.00	1	5.80	0	0.00	0	0.00	2	1.05	63	140.78
Hamamatsu	2	7.98	0	0.00	0	0.00	1	8.37	0	0.00	0	0.00	106	169.47
Nagoya	2	27.69	1	120.07	2	0.85	1	40.77	0	0.00	1	11.50	47	25.30
Kyoto	4	20.78	0	0.00	0	0.00	1	3.11	0	0.00	0	0.00	15	18.00
Osaka	2	11.49	1	26.01	2	106.67	0	0.00	1	53.50	0	0.00	2	1.44
Sakai	3	28.10	0	0.00	1	0.91	1	14.74	0	0.00	1	6.43	32	97.88
Kobe	16	194.28	1	126.00	3	4.48	3	276.90	0	0.00	0	0.00	108	430.09
Okayama	5	302.02	1	11.01	5	39.55	1	30.00	0	0.00	0	0.00	73	250.51
Hiroshima	7	59.44	1	16.20	1	4.68	2	16.60	0	0.00	0	0.00	65	63.30
Kitakyushu	20	130.22	2	10.82	0	0.00	0	0.00	0	0.00	2	25.41	74	72.58
Fukuoka	12	92.07	1	14.68	3	2.93	3	57.54	1	293.50	0	0.00	187	96.68
Kumamoto	7	42.15	0	0.00	16	30.35	3	17.80	0	0.00	0	0.00	51	82.02
Total of major cities	172	1,759.32	19	383.95	69	368.45	20	524.11	4	749.40	10	91.45	1,848	3,509.04
Nation wide total	691	8,900.35	61	871.80	346	1,499.07	239	2,508.59	17	3,889.49	223	1,738.51	8,336	15,309.30

Source: "Report of City Park Development Status by Prefecture" Parks and Green Spaces Division, City and Regional Development Bureau, Ministry of Land, Infrastructure,Transport and Tourism, the Government of Japan

3.21 Status of city parks (by prefecture) (3)

(As of the end of March, 2015)

Prefecture and major city names	Urban forests		Square parks		Green Roads		Total of city parks		Urban planning population (1,000 people)	Park area per person (㎡ / person)
	Locations	Area(ha)	Locations	Area(ha)	Locations	Area(ha)	Locations	Area(ha)		
Hokkaido	5	26.67	18	5.07	12	39.52	4,837	11,385.73	2,956	38.52
Aomori	0	0.00	16	2.61	7	21.47	851	2,019.17	1,137	17.76
Iwate	0	0.00	0	0.00	1	2.19	1,203	1,407.08	1,016	13.85
Miyagi	1	0.60	0	0.00	15	6.66	1,170	2,304.27	1,009	22.84
Akita	0	0.00	11	4.85	3	3.22	580	1,551.15	790	19.63
Yamagata	0	0.00	19	1.47	1	0.81	835	1,838.12	938	19.60
Fukushima	0	0.00	0	0.00	21	11.34	1,133	2,230.41	1,744	12.79
Ibaraki	0	0.00	8	4.10	13	6.81	1,964	2,646.34	2,846	9.30
Tochigi	0	0.00	7	1.13	9	1.58	2,117	2,690.74	1,930	13.94
Gunma	0	0.00	0	0.00	7	9.38	1,443	2,456.52	1,817	13.52
Saitama	3	58.83	2	0.31	159	44.00	4,132	4,305.56	5,972	7.22
Chiba	0	0.00	3	0.49	71	76.34	5,679	3,150.98	5,075	6.21
Tokyo	3	0.94	14	25.12	30	24.02	3,855	3,069.53	4,181	7.34
Kanagawa	90	148.62	3	0.29	23	18.02	3,024	2,122.03	3,195	6.64
Niigata	0	0.00	3	0.80	7	8.53	948	2,158.27	1,305	16.54
Toyama	0	0.00	2	0.16	5	5.04	1,961	1,598.71	1,061	15.07
Ishikawa	0	0.00	6	0.66	7	7.58	1,107	1,503.54	1,040	14.46
Fukui	0	0.00	4	0.24	1	2.50	910	1,163.33	717	16.22
Yamanashi	0	0.00	1	0.48	0	0.00	201	778.88	733	10.63
Nagano	0	0.00	3	0.34	0	0.00	949	2,508.01	1,869	13.42
Gifu	1	5.94	4	0.66	1	0.82	1,398	1,931.20	1,879	10.33
Shizuoka	0	0.00	2	0.12	17	13.30	1,409	2,004.05	2,164	9.26
Aichi	3	5.79	28	3.41	49	135.57	3,085	4,054.36	5,113	7.92
Mie	0	0.00	1	0.11	5	2.57	2,666	1,636.16	1,655	9.89
Shiga	0	0.00	0	0.00	4	0.89	596	1,243.74	1,387	8.97
Kyoto	0	0.00	4	1.95	10	3.33	1,421	1,251.94	1,049	11.93
Osaka	0	0.00	2	0.07	11	13.54	4,097	2,965.05	5,323	5.57
Hyogo	1	0.25	6	6.99	24	23.33	4,201	4,131.07	3,858	10.71
Nara	0	0.00	1	0.39	67	3.91	2,336	1,726.84	1,355	13.08
Wakayama	0	0.00	3	1.97	0	0.00	277	666.40	844	7.90
Tottori	1	28.77	4	1.19	1	1.24	311	646.91	469	13.79
Shimane	1	38.96	17	15.76	3	4.15	399	1,048.41	543	19.31
Okayama	0	0.00	6	31.09	14	11.02	1,095	1,316.52	996	13.22
Hiroshima	0	0.00	1	0.35	2	0.60	1,921	2,030.06	1,456	13.94
Yamaguchi	0	0.00	3	0.98	2	2.55	1,129	1,864.98	1,301	14.33
Tokushima	0	0.00	0	0.00	0	0.00	258	528.02	578	9.14
Kagawa	0	0.00	8	1.74	6	3.54	486	1,542.28	855	18.04
Ehime	0	0.00	9	2.68	1	1.37	588	1,493.17	1,242	12.02
Kochi	0	0.00	0	0.00	0	0.00	830	681.56	605	11.27
Fukuoka	1	2.21	1	0.14	43	29.00	2,543	2,084.83	2,377	8.77
Saga	0	0.00	0	0.00	2	1.08	258	817.67	719	11.37
Nagasaki	1	15.22	0	0.00	2	1.37	1,165	1,407.15	1,104	12.75
Kumamoto	0	0.00	6	2.33	0	0.00	691	730.80	670	10.91
Oita	0	0.00	2	1.34	18	22.80	1,095	1,192.61	959	12.44
Miyazaki	0	0.00	0	0.00	6	7.52	983	1,989.18	940	21.16
Kagoshima	0	0.00	3	16.50	3	15.70	1,261	1,879.51	1,386	13.56
Okinawa	0	0.00	2	1.39	1	1.69	775	1,453.05	1,357	10.71
Total of prefectures	111	333	233	139	684	590	76,173	97,206	83,522	11.65
Sapporo	0	0.00	0	0.00	7	17.98	2,725	2,438.15	1,948	12.52
Sendai	0	0.00	0	0.00	6	4.65	1,665	1,315.36	1,040	12.65
Saitama	0	0.00	4	1.32	29	13.52	927	640.93	1,263	5.07
Chiba	0	0.00	16	4.36	2	0.59	1,060	890.80	963	9.26
District of Tokyo	4	0.38	7	0.98	45	39.15	4,181	2,748.12	9,118	3.01
Yokohama	0	0.00	5	0.79	21	45.05	2,652	1,806.58	3,689	4.90
Kawasaki	19	31.11	1	0.11	19	7.55	1,109	563.28	1,466	3.84
Sagamihara	0	0.00	1	0.25	5	12.46	604	297.97	714	4.17
Niigata	0	0.00	0	0.00	7	1.87	1,369	804.54	801	10.04
Shizuoka	0	0.00	0	0.00	1	0.27	490	421.07	694	6.07
Hamamatsu	0	0.00	0	0.00	5	1.26	557	638.55	784	8.15
Nagoya	0	0.00	2	0.17	13	20.30	1,449	1,585.09	2,275	6.97
Kyoto	1	133.98	1	0.18	11	23.68	908	639.18	1,460	4.38
Osaka	0	0.00	0	0.00	13	9.63	988	950.85	2,687	3.54
Sakai	1	17.19	0	0.00	11	55.44	1,167	698.26	839	8.32
Kobe	0	0.00	19	4.49	6	10.56	1,619	2,635.83	1,536	17.16
Okayama	0	0.00	0	0.00	9	15.91	465	1,143.22	690	16.57
Hiroshima	0	0.00	0	0.00	7	19.06	1,119	885.60	1,145	7.73
Kitakyushu	1	0.47	17	3.09	12	10.57	1,702	1,170.28	977	11.98
Fukuoka	0	0.00	0	0.00	25	22.03	1,665	1,282.60	1,463	8.77
Kumamoto	0	0.00	0	0.00	1	0.24	971	684.38	732	9.35
Total of major cities	26	183.13	73	15.74	255	331.77	29,392	24,240.64	36,283	6.68
Nationwide total	137	515.93	306	155.02	939	921.67	105,565	121,446.53	119,805	10.14

Source: "Report of City Park Development Status by Prefecture" Parks and Green Spaces Division, City and Regional Development Bureau, Ministry of Land, Infrastructure,Transport and Tourism, the Government of Japan

3.22 Changes in the total length of nationwide Coastline

(Unit: km)

Survey	Natural	Semi-natural	Man-made	Estuary	Total
1996 ※ (5th Survey)	17,660.33	4,385.07	11,212.22	316.19	33,573.81
1993 (4th survey)	18,105.65	4,467.49	9,941.78	263.96	32,778.88
1984 (3rd survey)	18,402.08	4,511.44	9,294.54	263.79	32,471.85
1978 (2nd survey)	18,967.17	4,340.36	8,598.95	263.73	32,170.21

Note:

In 1996, the survey for Hyogo pref. was not conducted, therefore, the data for 1993 were shown instead.

Source: "Basic Survey of the Natural Environment 5th [coastal area survey]," Center for Biological Diversity, Nature Conservation Bureau, MOE, the Government of Japan

3.23 Alteration of Lake Shorelines

Actual number : Lake shoreline (km)
( ) : Composition ratio (%)

Survey	# of lakes	All	Natural	Semi-natural	Artificial	Water surface
1979 (Part 2)	476	3,142.0 (100.0)	1,879.9 (59.8)	322.2 (10.3)	918.8 (29.2)	21.1 (0.7)
1985 (Part 3)	476	3,168.4 (100.0)	1,862.9 (58.8)	375.0 (11.8)	909.6 (28.7)	20.9 (0.7)
1991 (Part 4)	476	3,183.4 (100.0)	1,803.0 (56.6)	393.7 (12.4)	965.2 (30.3)	21.5 (0.7)
Changes between 1979 ~ 1985		*26.4	▼17.0	52.8	▼9.2	▼0.2
Changes between 1985 ~ 1991		*15.0	▼59.9	18.7	55.6	0.6

Notes:

・The shoreline difference for each fiscal year (*) were caused by the topographical changes of the shoreline.

・ The composition ratios are rounded off to the first decimal digit; the sum may not match 100.

・" ▼" means a decrease.

3.24 Total length of the coast by prefecture

As of the end of March, 2014 (Unit : m)

	Total length of Coastline	Length of coastline required conservation	Extension of required coastal conservation area	Other coastline								Total
				Protected forest	Shore protected for railway	Shore protected for road	Airport	Estuary	Natural coast	Others		
										Public facilities	Private facilities	
Total	35,641,419	15,304,563	14,524,546	797,345	49,404	346,218	27,741	99,409	2,335,882	139,987	101,704	3,897,690
Hokkaido	4,457,322	1,910,940	1,768,086	456	11,757	54,637	0	25,758	0	1,153	1,550	95,311
Aomori	796,477	456,202	412,277	3,109	2,214	1,500	0	3,388	60,864	0	745	71,820
Iwate	710,780	127,674	112,929	231,822	0	765	0	804	108,690	150	290	342,521
Miyagi	828,142	289,298	273,053	166,087	2,370	6,450	0	1,305	0	0	0	176,212
Akita	264,220	188,878	177,725	0	0	0	0	862	25,459	0	0	26,321
Yamagata	134,596	72,242	71,982	0	210	6,816	0	535	0	0	0	7,561
Fukushima	166,550	112,110	110,560	2,994	0	0	0	2,654	3,684	0	10,629	19,961
Ibaraki	195,142	122,983	118,713	0	0	0	0	309	0	0	0	309
Chiba	534,422	311,051	304,697	0	0	0	0	681	0	0	0	681
Tokyo	762,931	180,249	170,199	0	0	0	0	1,048	0	0	0	1,048
Kanagawa	431,059	130,473	127,480	0	0	1,910	0	1,881	0	2,140	2,475	8,406
Niigata	634,959	368,405	365,716	335	1,135	12,603	0	2,217	4,361	769	2,242	23,662
Toyama	147,394	91,947	85,904	0	0	0	0	1,429	0	0	0	1,429
Ishikawa	583,684	417,384	373,036	0	0	8,663	0	430	0	1,512	0	10,605
Shizuoka	518,312	296,160	282,804	0	0	0	0	7,441	1,610	5,321	4,610	18,982
Aichi	667,615	503,724	503,724	0	0	0	7,992	516	2,933	296	0	11,737
Mie	1,140,087	575,596	575,317	0	0	0	0	5,319	0	0	0	5,319
Fukui	415,078	150,660	136,158	0	0	0	0	1,208	0	0	0	1,208
Kyoto	315,235	109,704	108,954	0	0	0	0	400	0	0	0	400
Osaka	240,878	149,566	121,358	0	0	0	4,880	1,005	3,762	1,255	53,877	64,779
Hyogo	850,499	464,646	427,084	38,360	0	0	0	804	148,234	2,015	0	189,413
Wakayama	651,430	243,940	231,442	29,150	6,762	26,816	0	820	0	19,290	0	82,838
Tottori	133,318	96,752	92,053	0	0	0	0	1,660	0	0	0	1,660
Shimane	1,026,906	157,878	157,878	0	1,115	1,447	0	1,401	0	843	0	4,806
Okayama	541,955	253,483	219,858	0	0	2,677	0	86	52,481	19,038	6,347	80,629
Hiroshima	1,128,401	729,926	577,067	0	0	2,170	0	0	6,177	375	400	9,122
Yamaguchi	1,580,185	690,010	678,701	124,846	4,160	29,403	0	39	0	1,855	0	160,303
Tokushima	392,562	158,460	158,460	0	0	824	990	1,560	0	0	0	3,374
Kagawa	736,400	322,282	275,414	62,685	140	4,551	0	3,977	28,207	11,249	92	110,901
Ehime	1,715,583	1,231,392	1,200,089	0	0	6,171	0	0	0	1,195	131	7,497
Kochi	718,239	290,555	290,555	0	0	0	0	2,263	0	0	0	2,263
Fukuoka	692,300	325,231	314,365	2,455	417	670	1,398	82	87	1,100	0	6,209
Saga	383,527	214,718	199,812	0	7,311	0	0	3,568	0	0	2,012	12,891
Nagasaki	4,183,348	1,382,276	1,380,566	31,609	6,890	6,125	0	1,165	1,889,333	43,373	4,000	1,982,495
Kumamoto	1,078,464	612,246	603,293	0	1,270	16,900	0	9,891	0	0	0	28,061
Oita	774,877	341,526	328,671	77,837	253	13,020	0	237	0	11,999	390	103,736
Miyazaki	405,955	121,269	105,543	0	0	9,050	0	5,010	0	0	0	14,060
Kagoshima	2,665,179	645,475	640,984	25,600	3,400	97,608	2,200	4,128	0	0	0	132,936
Okinawa	2,037,408	457,252	442,039	0	0	35,442	10,281	3,528	0	15,059	11,914	76,224

Note:
"Total length of coastline" includes 212,291 m of Estuary, and the breakdown of "1,369,350 m of Others" is as follows: 1,347,800 m of the Northern Territories; and 21,550 m of the Senkaku Islands.

Source: "Statistics of Coastline 2015," Seacoast Office, Water and Disaster Management Bureau, Erosion and Sediment Control Department, Land Conservation Division, Ministry of Land, Infrastructure, Transport and Tourism, the Government of Japan

3.25 Distribution of Extant Tidal flats (by sea area)

(Unit: ha)

Code / Sea area	Extant tidal flats										Total (A)
	Foreshore		Estuary		Seashore lake		Man-made tidal flat		Others (including combined)		
	Area	Ratio for (A)	Area	Ratio for (A)	Area	Ratio for (A)	Area	Ratio for (A)	Area	Ratio for (A)	Area
101 Soya	26.5	100.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	26.5
102 Abashiri	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
103 Nemuro	459.0	43.76%	84.0	8.01%	497.0	47.38%	9.0	0.86%	0.0	0.00%	1,049.0
104 Kushiro	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
105 Tokachi	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
106 Hidaka	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
107 Iburi	0.0	0.00%	12.4	100.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	12.4
108 Oshima	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
109 Hiyama	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
110 Shiribe	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
111 Ishikari	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
112 Rumoi	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
201 Aomori	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
202 Akita	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
203 Yamagata	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
204 Niigata	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
205 Sado	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
206 Toyama Bay	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
207 Noto Peninsula	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
301 Mutsu Bay	36.4	39.35%	56.1	60.65%	0.0	0.00%	0.0	0.00%	0.0	0.00%	92.5
302 Tsugaru Channel	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
303 Shimokita Peninsula East	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
304 Sanriku Coast	2.7	13.11%	17.9	86.89%	0.0	0.00%	0.0	0.00%	0.0	0.00%	20.6
305 Miyagi Sanriku Coast	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
306 Sendai Bay	0.0	0.00%	28.8	100.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	28.8
307 Fukushima	0.0	0.00%	0.0	0.00%	700.0	100.00%	0.0	0.00%	0.0	0.00%	700.0
308 Kashimanada	567.0	99.65%	2.0	0.35%	0.0	0.00%	0.0	0.00%	0.0	0.00%	569.0
401 Wakasa Bay	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
403 Tottori	10.0	25.00%	0.0	0.00%	0.0	0.00%	30.0	75.00%	0.0	0.00%	40.0
404 Shimane	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
405 Kita Nagato	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
406 Oki	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
501 Boso	70.1	57.13%	29.5	24.04%	8.1	6.60%	0.0	0.00%	15.0	12.22%	122.7
502 Tokyo Bay	1,644.1	94.84%	31.2	1.80%	0.0	0.00%	16.0	0.92%	42.2	2.43%	1,733.5
503 Sagami Bay	15.0	62.50%	9.0	37.50%	0.0	0.00%	0.0	0.00%	0.0	0.00%	24.0
504 Izu	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
505 Suruga Bay	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
506 Enshunada	0.0	0.00%	12.0	100.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	12.0
507 Ise Bay	396.6	28.84%	878.2	63.86%	22.0	1.60%	40.0	2.91%	38.5	2.80%	1,375.3
508 Mikawa Bay	740.6	48.54%	725.6	47.56%	0.0	0.00%	59.4	3.89%	0.0	0.00%	1,525.6
509 Kumanonada	30.8	29.39%	74.0	70.61%	0.0	0.00%	0.0	0.00%	0.0	0.00%	104.8
510 Izu Seven Islands North	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
511 Izu Seven Islands South	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
530 Ogasawara Islands	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
550 Volcano Islands	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
601 Wakayama	0.0	0.00%	0.0	0.00%	27.0	100.00%	0.0	0.00%	0.0	0.00%	27.0
603 Tosa Bay	20.5	23.46%	66.9	76.54%	0.0	0.00%	0.0	0.00%	0.0	0.00%	87.4
604 Hyuganada	11.5	1.88%	586.0	95.77%	14.4	2.35%	0.0	0.00%	0.0	0.00%	611.9
701 Suonada West	4,679.8	71.64%	1,471.8	22.53%	0.0	0.00%	0.0	0.00%	380.8	5.83%	6,532.4
702 Suonada East	686.2	81.64%	154.3	18.36%	0.0	0.00%	0.0	0.00%	0.0	0.00%	840.5
703 Iyonada West	92.1	100.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	92.1
704 Beppu Bay	381.4	87.00%	57.0	13.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	438.4
705 Bungo Channel	0.0	0.00%	93.7	100.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	93.7
706 Iyonada West	22.7	32.76%	46.6	67.24%	0.0	0.00%	0.0	0.00%	0.0	0.00%	69.3
707 Hiroshima Bay	271.4	61.35%	171.0	38.65%	0.0	0.00%	0.0	0.00%	0.0	0.00%	442.4
708 Aki Bay	157.5	58.31%	112.6	41.69%	0.0	0.00%	0.0	0.00%	0.0	0.00%	270.1
709 Bingonada	669.7	76.39%	204.0	23.27%	0.0	0.00%	3.0	0.34%	0.0	0.00%	876.7
710 Hiuchinada	367.8	37.68%	608.4	62.32%	0.0	0.00%	0.0	0.00%	0.0	0.00%	976.2
711 Bisan Seto West	212.1	44.86%	201.4	42.60%	0.0	0.00%	0.0	0.00%	59.3	12.54%	472.8
712 Bisan Seto East	229.7	61.55%	143.5	38.45%	0.0	0.00%	0.0	0.00%	0.0	0.00%	373.2
713 Harimanada North	77.0	95.30%	3.8	4.70%	0.0	0.00%	0.0	0.00%	0.0	0.00%	80.8
714 Harimanada South	5.0	31.85%	10.7	68.15%	0.0	0.00%	0.0	0.00%	0.0	0.00%	15.7
715 Osaka Bay North	0.0	0.00%	57.4	100.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	57.4
716 Osaka Bay South	8.7	40.47%	12.8	59.53%	0.0	0.00%	0.0	0.00%	0.0	0.00%	21.5
718 Kii Channel East	22.0	38.60%	0.0	0.00%	35.0	61.40%	0.0	0.00%	0.0	0.00%	57.0
801 Hibikinada	33.6	43.02%	44.5	56.98%	0.0	0.00%	0.0	0.00%	0.0	0.00%	78.1
802 Hakata Bay	32.4	12.66%	142.4	55.65%	0.0	0.00%	0.0	0.00%	81.1	31.69%	255.9
803 Karatsu Imari	529.6	80.05%	132.0	19.95%	0.0	0.00%	0.0	0.00%	0.0	0.00%	661.6
804 Omura Bay	271.4	58.99%	180.3	39.19%	0.0	0.00%	0.0	0.00%	8.4	1.83%	460.1
805 Nagasaki	161.8	72.88%	59.7	26.89%	0.5	0.23%	0.0	0.00%	0.0	0.00%	222.0
806 Amakusanada	390.6	90.77%	38.7	8.99%	1.0	0.23%	0.0	0.00%	0.0	0.00%	430.3
807 The Sea of Ariake	12,934.8	63.43%	7,208.6	35.35%	0.0	0.00%	0.0	0.00%	247.3	1.21%	20,390.7
808 Yatsushirokai Sea	3,631.0	88.94%	451.5	11.06%	0.0	0.00%	0.0	0.00%	0.0	0.00%	4,082.5

3.25 Distribution of Extant Tidal flats (by sea area)

(Unit: ha)

Code / Sea area	Extant tidal flats										Total (A)
	Foreshore		Estuary		Seashore lake		Man-made tidal flat		Others (including combined)		
	Area	Ratio for (A)	Area	Ratio for (A)	Area	Ratio for (A)	Area	Ratio for (A)	Area	Ratio for (A)	Area
809 Satsuma	72.0	93.26%	5.2	6.74%	0.0	0.00%	0.0	0.00%	0.0	0.00%	77.2
810 Kagoshima Bay	91.6	47.66%	100.6	52.34%	0.0	0.00%	0.0	0.00%	0.0	0.00%	192.2
811 Okuma	0.0	0.00%	34.1	100.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	34.1
812 Tsushima	2.9	8.12%	32.8	91.88%	0.0	0.00%	0.0	0.00%	0.0	0.00%	35.7
813 Goto	76.4	60.54%	49.8	39.46%	0.0	0.00%	0.0	0.00%	0.0	0.00%	126.2
814 Osumi islands	22.2	100.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	0.0	0.00%	22.2
820 Tokara Islands	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
830 Amami Islands	110.1	81.98%	24.2	18.02%	0.0	0.00%	0.0	0.00%	0.0	0.00%	134.3
850 Okinawa Island	909.5	75.60%	293.5	24.40%	0.0	0.00%	0.0	0.00%	0.0	0.00%	1,203.0
870 Miyako Islands	173.0	67.32%	84.0	32.68%	0.0	0.00%	0.0	0.00%	0.0	0.00%	257.0
880 Yaeyama Islands	143.0	16.94%	671.0	79.50%	30.0	3.55%	0.0	0.00%	0.0	0.00%	844.0
890 Senkaku Isalnds	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
895 Daito Islands	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
Total	31,499.8	63.79%	15,515.5	31.42%	1,335.0	2.70%	157.4	0.32	872.6	1.77%	49,380.3

Notes:

・As of March, 1998.

・For Hyogo and Tokushima, the survey has not been conducted yet. In addition, “0.0 ha” means “0 ha”.

Source: "National Survey on the Natural Environment 5th [coastal area survey]," Center for Biological Diversity, Nature Conservation Bureau, MOE, the Government of Japan.

3.26 Change in Nationwide tidal flats area

	Before 1945	1978	1994	1998
Area (ha)	82,621	53,856	51,443	49,573

Note:
For Hyogo and Tokushima prefectures, the 5th survey were not conducted in 1998, thus the data for 1994 are used.

Source : "National Survey on the Natural Environment 5th [environmental survey of marine organisms]," "National Survey on the Natural Environment 5th [coastal area survey]," Center for Biological Diversity, Nature Conservation Bureau, MOE, the Government of Japan.

3.27 Distribution of Extant Sea Grass Beds (by sea area)

(Unit: ha)

Code / Sea area	Extant sea grass bed																		Total
	Sea grass beds		Sargassum beds		Kombu beds		Arame, Kajime beds		Wakame beds		Ceylon moss beds		Sea lettuce, Green Laver beds		Others (including combined)		Unknown		
	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	
101 Soya	1,304.9	25.1%	60.7	1.2%	3,828.5	73.7%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	5,194.1
102 Abashiri	575.0	29.3%	0.0	0.0%	1,385.7	70.7%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	1,960.7
103 Nemuro	5,606.3	67.4%	315.6	3.8%	2,229.1	26.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	165.2	2.0%	0.0	0.0%	8,316.2
104 Kushiro	0.0	0.0%	0.0	0.0%	3,565.4	100.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	3,565.4
105 Tokachi	0.0	0.0%	0.0	0.0%	216.0	100.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	216.0
106 Hidaka	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	2,750.2	100.0%	0.0	0.0%	2,750.2
107 Iburi	0.0	0.0%	0.0	0.0%	450.2	84.6%	0.0	0.0%	81.9	15.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	532.1
108 Oshima	194.0	7.2%	99.0	3.7%	1,182.0	44.1%	0.0	0.0%	207.0	7.7%	7.0	0.3%	0.0	0.0%	990.0	37.0%	0.0	0.0%	2,679.0
109 Hiyama	0.0	0.0%	0.0	0.0%	3,248.0	91.2%	0.0	0.0%	313.0	8.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	3,561.0
110 Shiribeshi	75.0	6.5%	47.0	4.1%	152.0	13.3%	0.0	0.0%	834.9	72.9%	0.0	0.0%	30.0	2.6%	7.0	0.6%	0.0	0.0%	1,145.9
111 Ishikari	0.0	0.0%	0.0	0.0%	154.0	26.3%	0.0	0.0%	0.0	0.0%	0.0	0.0%	320.0	54.7%	111.0	19.0%	0.0	0.0%	585.0
112 Rumoi	0.0	0.0%	27.0	2.0%	1,289.0	94.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	54.0	3.9%	0.0	0.0%	1,370.0
201 Aomori	0.0	0.0%	14.8	0.7%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	2,075.6	99.3%	0.0	0.0%	2,090.4
202 Akita	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	3,114.0	100.0%	0.0	0.0%	3,114.0
203 Yamagata	0.0	0.0%	194.5	61.5%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	121.6	38.5%	0.0	0.0%	316.1
204 Niigata	0.0	0.0%	2,195.1	87.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	122.8	4.9%	206.3	8.2%	0.0	0.0%	2,524.2
205 Sado	972.1	19.8%	3,079.7	62.8%	0.0	0.0%	339.3	6.9%	0.0	0.0%	0.0	0.0%	0.0	0.0%	514.7	10.5%	0.0	0.0%	4,905.8
206 Toyama Bay	0.0	0.0%	5.0	0.6%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	819.0	99.4%	0.0	0.0%	824.0
207 Noto Peninsula	2,803.6	29.8%	5,576.2	59.2%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	1,043.7	11.1%	0.0	0.0%	9,423.5
301 Mutsu Bay	1,815.5	68.1%	134.8	5.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	716.1	26.9%	0.0	0.0%	2,666.4
302 Tsugaru Channel	344.6	13.2%	391.1	15.0%	1,274.3	48.9%	388.7	14.9%	92.0	3.5%	0.0	0.0%	0.0	0.0%	117.4	4.5%	0.0	0.0%	2,608.1
303 Shimokita Peninsula East	0.0	0.0%	0.0	0.0%	256.2	48.9%	0.0	0.0%	27.6	5.3%	0.0	0.0%	0.0	0.0%	239.8	45.8%	0.0	0.0%	523.6
304 Sanriku Coast	297.8	10.8%	41.6	1.5%	959.0	34.7%	64.1	2.3%	1,401.3	50.7%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	2,763.8
305 Miyagi Sanriku Coast	40.8	2.1%	91.1	4.6%	166.0	8.4%	258.0	13.1%	48.9	2.5%	9.5	0.5%	5.1	0.3%	1,353.3	68.6%	0.0	0.0%	1,972.7
306 Sendai Bay	878.4	45.1%	124.5	6.4%	0.0	0.0%	65.5	3.4%	82.6	4.2%	0.0	0.0%	0.0	0.0%	783.0	40.2%	12.0	0.6%	1,946.0
307 Fukushima	0.0	0.0%	0.0	0.0%	0.0	0.0%	298.0	100.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	298.0
308 Kashimanada	0.0	0.0%	49.0	22.6%	0.0	0.0%	41.0	18.9%	0.0	0.0%	0.0	0.0%	0.0	0.0%	127.0	58.5%	0.0	0.0%	217.0
401 Wakasa Bay	132.0	5.6%	114.0	4.9%	0.0	0.0%	0.0	0.0%	8.0	0.3%	3.0	0.1%	0.0	0.0%	2,091.2	89.1%	0.0	0.0%	2,348.2
403 Tottori	0.0	0.0%	1,761.0	100.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	1,761.0
404 Shimane	55.0	2.0%	2,756.7	98.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	2,811.7
405 Kita Nagato	1.3	0.1%	33.5	1.6%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	2,022.0	98.3%	0.0	0.0%	2,056.8
406 Oki	203.2	13.6%	1,283.8	85.9%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	8.2	0.5%	0.0	0.0%	1,495.2
501 Boso	0.0	0.0%	181.5	20.4%	0.0	0.0%	295.0	33.2%	0.0	0.0%	0.0	0.0%	0.0	0.0%	412.2	46.4%	0.0	0.0%	888.7
502 Tokyo Bay	264.0	18.5%	58.0	4.1%	0.0	0.0%	1,014.0	71.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	91.6	6.4%	0.0	0.0%	1,427.6
503 Sagami Bay	45.0	1.6%	18.0	0.6%	0.0	0.0%	2,717.0	94.8%	0.0	0.0%	85.0	3.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	2,865.0
504 Izu	3.0	0.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	662.0	13.7%	0.0	0.0%	4,178.0	86.3%	0.0	0.0%	4,843.0
505 Suruga Bay	0.0	0.0%	0.0	0.0%	0.0	0.0%	80.0	2.6%	0.0	0.0%	0.0	0.0%	0.0	0.0%	2,983.0	97.4%	0.0	0.0%	3,063.0
506 Enshunada	0.0	0.0%	0.0	0.0%	0.0	0.0%	82.8	100.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	82.8
507 Ise Bay	203.2	11.9%	131.8	7.7%	0.0	0.0%	133.1	7.8%	438.0	25.6%	4.5	0.3%	0.0	0.0%	798.0	46.7%	0.0	0.0%	1,708.6
508 Mikawa Bay	340.6	59.8%	221.5	38.9%	0.0	0.0%	7.5	1.3%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	569.6
509 Kumanonada	84.0	1.5%	501.8	9.0%	0.0	0.0%	186.9	3.3%	22.6	0.4%	155.2	2.8%	0.0	0.0%	4,633.9	83.0%	0.0	0.0%	5,584.4
510 Izu Seven Islands North	0.0	0.0%	36.0	12.7%	0.0	0.0%	0.0	0.0%	0.0	0.0%	179.5	63.4%	0.0	0.0%	67.5	23.9%	0.0	0.0%	283.0
511 Izu Seven Islands South	0.0	0.0%	247.0	48.3%	0.0	0.0%	0.0	0.0%	0.0	0.0%	205.0	40.1%	0.0	0.0%	59.0	11.5%	0.0	0.0%	511.0
530 Ogasawara Islands	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
550 Volcano Islands	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
601 Wakayama	6.0	1.2%	166.7	34.3%	0.0	0.0%	31.0	6.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%	282.0	58.1%	0.0	0.0%	485.7
603 Tosa Bay	4.0	0.4%	233.2	23.5%	0.0	0.0%	360.0	36.3%	0.0	0.0%	217.2	21.9%	5.0	0.5%	172.7	17.4%	0.0	0.0%	992.1
604 Hyuganada	5.0	0.4%	434.6	30.7%	0.0	0.0%	58.2	4.1%	59.1	4.2%	148.9	10.5%	73.0	5.2%	634.8	44.9%	0.0	0.0%	1,413.6
701 Suonada West	88.0	3.6%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	1,392.0	57.7%	933.3	38.7%	0.0	0.0%	2,413.3
702 Suonada East	27.0	2.8%	28.0	2.9%	2.0	0.2%	0.0	0.0%	1.0	0.1%	0.0	0.0%	5.0	0.5%	894.9	92.9%	5.0	0.5%	962.9
703 Iyonada West	0.0	0.0%	0.0	0.0%	0.0	0.0%	48.0	10.7%	0.0	0.0%	0.0	0.0%	4.0	0.9%	398.6	88.5%	0.0	0.0%	450.6
704 Beppu Bay	15.0	6.6%	11.0	4.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	2.0	0.9%	0.0	0.0%	199.0	87.7%	0.0	0.0%	227.0
705 Bungo Channel	0.0	0.0%	72.0	6.1%	0.0	0.0%	18.3	1.6%	0.0	0.0%	1.7	0.1%	1.2	0.1%	1,084.9	92.1%	0.0	0.0%	1,178.1
706 Iyonada West	19.0	4.7%	11.7	2.9%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	369.7	92.3%	0.0	0.0%	400.4
707 Hiroshima Bay	134.8	30.3%	77.7	17.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	1.2	0.3%	231.9	52.0%	0.0	0.0%	445.6
708 Aki Bay	213.6	15.5%	150.9	11.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	45.0	3.3%	968.5	70.3%	0.0	0.0%	1,378.0
709 Bingonada	255.6	29.2%	101.9	11.7%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	2.2	0.3%	502.5	57.5%	12.0	1.4%	874.2
710 Hiuchinada	50.0	35.0%	44.2	30.9%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	48.8	34.1%	0.0	0.0%	143.0
711 Bisan Seto West	778.6	76.3%	97.5	9.5%	0.0	0.0%	0.0	0.0%	1.0	0.1%	0.0	0.0%	0.0	0.0%	144.0	14.1%	0.0	0.0%	1,021.1
712 Bisan Seto East	404.5	56.3%	119.2	16.6%	0.0	0.0%	0.0	0.0%	22.1	3.1%	0.0	0.0%	1.0	0.1%	172.2	23.9%	0.0	0.0%	719.0
713 Harimanada North	27.0	16.9%	65.4	40.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	14.0	8.7%	53.8	33.6%	0.0	0.0%	160.2
714 Harimanada South	31.7	33.6%	62.6	66.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	94.3
715 Osaka Bay North	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
716 Osaka Bay South	3.0	2.7%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	106.5	97.3%	0.0	0.0%	109.5
717 Kii Channel East	22.0	7.1%	16.0	5.2%	0.0	0.0%	4.0	1.3%	0.0	0.0%	0.0	0.0%	4.0	1.3%	262.3	85.1%	0.0	0.0%	308.3

3.27 Distribution of Extant Sea Grass Beds (by sea area)

(Unit: ha)

Code / Sea area	Extant sea grass bed																		Total
	Sea grass beds		Sargassum beds		Kombu beds		Arame, Kajime beds		Wakame beds		Ceylon moss beds		Sea lettuce, Green Laver beds		Others (including combined)		Unknown		
	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	
801 Hibikinada	16.3	0.3%	880.7	17.5%	56.1	1.1%	1,802.4	35.7%	0.0	0.0%	0.0	0.0%	1.0	0.0%	2,287.5	45.4%	0.0	0.0%	5,044.0
802 Hakata Bay	0.0	0.0%	62.6	15.4%	0.0	0.0%	344.7	84.6%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	407.3
803 Karatsu Imari	247.2	7.2%	578.1	16.8%	0.0	0.0%	316.1	9.2%	0.0	0.0%	70.3	2.0%	0.0	0.0%	2,239.2	64.9%	0.0	0.0%	3,450.9
804 Omura Bay	143.7	12.1%	504.7	42.6%	0.0	0.0%	48.7	4.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	487.9	41.2%	0.0	0.0%	1,185.0
805 Nagasaki	0.0	0.0%	209.1	45.3%	0.0	0.0%	49.4	10.7%	0.0	0.0%	0.0	0.0%	0.0	0.0%	203.4	44.0%	0.0	0.0%	461.9
806 Amakusanada	0.0	0.0%	251.8	10.6%	0.0	0.0%	62.9	2.6%	0.0	0.0%	0.0	0.0%	6.8	0.3%	2,054.6	86.5%	0.0	0.0%	2,376.1
807 The Sea of Ariake	83.0	5.2%	191.0	11.9%	0.0	0.0%	t	#VALUE!	0.0	0.0%	0.0	0.0%	1.4	0.1%	1,323.7	82.8%	0.0	0.0%	1,599.1
808 Yatsushirokai Sea	108.5	9.5%	114.1	10.0%	0.0	0.0%	46.4	4.1%	51.1	4.5%	0.0	0.0%	256.1	22.4%	564.9	49.5%	0.0	0.0%	1,141.1
809 Satsuma	22.1	2.0%	158.7	14.6%	0.0	0.0%	25.3	2.3%	50.9	4.7%	26.3	2.4%	0.0	0.0%	802.7	73.9%	0.0	0.0%	1,086.0
810 Kagoshima Bay	22.9	8.1%	130.9	46.5%	0.0	0.0%	0.0	0.0%	21.8	7.7%	0.0	0.0%	16.0	5.7%	89.9	31.9%	0.0	0.0%	281.5
811 Okuma	0.0	0.0%	112.8	38.2%	0.0	0.0%	0.0	0.0%	8.2	2.8%	34.3	11.6%	9.8	3.3%	130.1	44.1%	0.0	0.0%	295.2
812 Tsushima	0.0	0.0%	261.2	21.1%	0.0	0.0%	265.4	21.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%	711.9	57.5%	0.0	0.0%	1,238.5
813 Goto	0.0	0.0%	638.2	22.2%	0.0	0.0%	749.6	26.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	1,484.1	51.7%	0.0	0.0%	2,871.9
814 Osumi islands	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
820 Tokara Islands	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
830 Amami Islands	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
850 Okinawa Island	1,261.8	100.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	1,261.8
870 Miyako Islands	1,508.0	100.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	1,508.0
880 Yaeyama Islands	4,105.0	100.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	4,105.0
890 Senkaku Isalnds	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
895 Daito Islands	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
Total	25,842.6	18.1%	25,577.8	18.0%	20,413.5	14.3%	10,201.3	7.2%	3,773.0	2.6%	1,811.4	1.3%	2,316.6	1.6%	52,493.8	36.8%	29.0	0.0%	142,459.0

Note:

The data are as of March, 1998. The above values volume is are observed in shallow water (ranging which range is from 10m deep of the lower limit minimum and to a high-water line of the upper maximum limit). For Hyogo and Tokushima, the survey was not conducted. In addition, “0.0 ha” shows “0 ha.”

Source: "National Survey on the Natural Environment 5th [coastal area survey]," Center for Biological Diversity, Nature Conservation Bureau, MOE, the Government of Japan.

3.28 Area of Hermatypic Coral by Prefecture

(As of March, 1998) (Unit Upper : ha / Lower : %)

	Hermatype							
	Branching	Tabular	Massive	Cover	Foliate	Others (incl. combined)	Unknown	Total
Hokkaido	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Aomori	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Iwate	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Miyagi	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Akita	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Yamagata	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Fukushima	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Ibaraki	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Chiba	0.0 (0.0)	0.0 (0.0)	3.2 (18.9)	0.0 (0.0)	0.0 (0.0)	13.7 (81.1)	0.0 (0.0)	16.9 (100.0)
Tokyo	8.5 (1.6)	66.2 (12.6)	91.5 (17.4)	16.3 (3.1)	0.0 (0.0)	344.5 (65.4)	0.0 (0.0)	527.0 (100.0)
Kanagawa	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Niigata	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Toyama	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Ishikawa	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Fukui	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Shizuoka	0.5 (100.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.5 (100.0)
Aichi	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Mie	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	2.8 (100.0)	0.0 (0.0)	2.8 (100.0)
Kyoto	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Osaka	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Wakayama	0.4 (0.4)	79.1 (69.4)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	34.4 (30.2)	0.0 (0.0)	113.9 (100.0)
Tottori	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Shimane	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Okayama	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Hiroshima	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Yamaguchi	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Kagawa	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Ehime	0.0 (0.0)	116.3 (98.1)	0.0 (0.0)	0.8 (0.7)	0.0 (0.0)	1.4 (1.2)	0.0 (0.0)	118.5 (100.0)
Kochi	0.0 (0.0)	41.3 (100.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	41.3 (100.0)
Fukuoka	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Saga	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Nagasaki	0.0 (0.0)	0.0 (0.0)	7.2 (21.5)	3.4 (10.1)	0.0 (0.0)	19.1 (57.0)	3.8 (11.3)	33.5 (100.0)
Kumamoto	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	153.2 (100.0)	0.0 (0.0)	153.2 (100.0)
Oita	0.0 (0.0)	1.2 (0.9)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	131.8 (99.1)	0.0 (0.0)	133.0 (100.0)
Miyazaki	21.6 (5.7)	187.3 (49.4)	70.4 (18.6)	0.0 (0.0)	0.0 (0.0)	99.5 (26.3)	0.0 (0.0)	378.8 (100.0)
Kagoshima	595.2 (10.6)	1,459.6 (26.1)	544.6 (9.7)	23.5 (0.4)	1.8 (0.0)	2,915.7 (52.2)	50.5 (0.9)	5,590.9 (100.0)
Okinawa	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	28,235.0 (100.0)	28,235.0 (100.0)
Total	626.2 (1.8)	1,951.0 (5.5)	716.9 (2.0)	44.0 (0.1)	1.8 (0.0)	3,716.1 (10.5)	28,289.3 (80.0)	35,345.3 (100.0)

Note:
The data are as of March, 1998. The above values are observed in shallow water (ranging from 10m deep of the lower limit and to a high-water line of the upper limit). For Hyogo and Tokushima, the survey was not conducted. In addition, “0.0 ha” shows “0 ha.”

Source: "National Survey on the Natural Environment 5th [coastal area survey]," Center for Biological Diversity, Nature Conservation Bureau, MOE, the Government of Japan.

3.29 Designated Ramsar sites in Japan

(As of March 31, 2016)

	Number of sites	Area (ha)
Ramsar sites	50	148,002

Source: materials of Wildlife Division, Nature Conservation Bureau, MOE, the Government of Japan.

3.30 Threatened Wildlife Species in Japan (the species red-listed by the Ministry of the Environment)

(As of March 31st, 2016)

Taxonomical group			Species for the survey	Extinct	Extinct in the Wild	Threatened			Near Threatened	Data Deficient	Total number of Red-listed	Threatened Local Population
						Category I		Category II				
						IA	IB					
				EX	EW	CR	EN	VU	NT	DD		LP
Animals		Mammals	160 (160)	7 (7)	0 (0)	33 (34)		9 (10)	18 (17)	5 (5)	63 (63)	23 (22)
						24 (24)						
						12 (12)	12 (12)					
		Birds	approx.700 (approx.700)	14 (14)	1 (1)	97 (97)		43 (43)	21 (21)	17 (17)	150 (150)	2 (2)
						54 (54)						
						23 (23)	31 (31)					
		Reptiles	98 (98)	0 (0)	0 (0)	36 (36)		23 (23)	17 (17)	3 (3)	56 (56)	5 (5)
						13 (13)						
						4 (4)	9 (9)					
		Amphibians	66 (66)	0 (0)	0 (0)	22 (22)		11 (11)	20 (20)	1 (1)	43 (43)	0 (0)
						11 (11)						
						1 (1)	10 (10)					
		Brackish water and freshwater fishes	approx.400 (approx.400)	3 (3)	1 (1)	167 (167)		44 (44)	34 (34)	33 (33)	238 (238)	15 (15)
						123 (123)						
						69 (69)	54 (54)					
		Insects	approx.32,000 (approx.32,000)	4 (4)	0 (0)	358 (358)		187 (187)	353 (353)	153 (153)	868 (868)	2 (2)
						171 (171)						
						65 (65)	106 (106)					
		Mollusks	approx.3,200 (approx.3,200)	19 (19)	0 (0)	563 (563)		319 (319)	451 (451)	93 (93)	1126 (1126)	13 (13)
						244 (244)						
		Other invertebrate	approx.5,300 (approx.5,300)	0 (0)	1 (1)	61 (61)		41 (41)	42 (42)	42 (42)	146 (146)	0 (0)
						20 (20)						
		Subtotal		47 (47)	3 (3)	1,337 (1,338)		677 (678)	956 (955)	347 (347)	2690 (2690)	60 (59)
						660 (660)						
Plants, etc.	I	Vascular Plants	approx.7,000 (approx.7,000)	32 (32)	10 (10)	1,779 (1,779)		741 (741)	297 (297)	37 (37)	2155 (2155)	0 (0)
						1,038 (1,038)						
						519 (519)	519 (519)					
	II	Bryophytes	approx.1,800 (approx.1,800)	0 (0)	0 (0)	241 (241)		103 (103)	21 (21)	21 (21)	283 (283)	0 (0)
						138 (138)						
		Algae	approx.3,000 1) (approx.3,000)	4 (4)	1 (1)	116 (116)		21 (21)	41 (41)	40 (40)	202 (202)	0 (0)
						95 (95)						
		Lichens	approx.1,600 (approx.1,600)	4 (4)	0 (0)	61 (61)		20 (20)	42 (42)	46 (46)	153 (153)	0 (0)
						41 (41)						
		Fungi	approx.3,000 1) (approx.3,000)	26 (26)	1 (1)	62 (62)		23 (23)	21 (21)	50 (50)	160 (160)	0 (0)
						39 (39)						
		Subtotal		66 (66)	12 (12)	2,259 (2,259)		908 (908)	422 (422)	194 (194)	2953 (2953)	0 (0)
						1,351 (1,351)						
Total of the 10 taxonomical groups				113 (113)	15 (15)	3,596 (3,597)		1,585 (1,586)	1378 (1377)	541 (541)	5643 (5643)	60 (59)
						2,011 (2,011)						

* Figures in parentheses indicate the species (including subspecies, and, in the case of Plants etc., variants (in part varieties)) for the 4th Red List, published in 2012 and 2013.
LP shows the number of local populations surveyed.

Note:
1) The species exclude the ones that are visibly unable to be identified.

Source: Documents related to "Red List 2015 by Ministry of the Environment" (the list of endangered species of wildlife) released to the public. Wildlife Division, Nature Conservation Bureau, MOE Government of Japan.

3.31 Number of Nationally Endangered Species of Wild fauna and flora and Programs for Rehabilitation of Natural Habitats and Maintenance of Viable Population in Japan

(As of May 31, 2016)

Number of national endangered species of wild flora and fauna	175
Number of protection and recovery program	50（63 species）

Source: materials of Wildlife Division, Nature Conservation Bureau, MOE, the Government of Japan.

3.32 Designation of Natural Habitat Protection Area

(As of March 31, 2016)

	Number of Locations	Area (ha)
Natural habitat protection area	9	885.5
Management Zone (located in the natural habitat protection area)	9	385.4

Source: materials of Wildlife Division, Nature Conservation Bureau, MOE, the Government of Japan.

3.33 Designation of Wildlife Protection Areas and Areas for Paid Game Hunting

Current status of wildlife protection area, etc.

(National Wildlife Protection Area: as of November 1, 2015; Prefectural Wildlife Protection Area: as of December 31, 2015)

	National		Prefectural		Total	
	Number of locations	Area (thousand ha)	Number of locations	Area (thousand ha)	Number of locations	Area (thousand ha)
Wildlife Protection Area	85	586	3,698	2,976	3,783	3,562
Special Protection Zone	70	160	540	142	610	302
Special Protection Designated	2	1	3	6	5	7

Source: materials of Wildlife Division, Natural Conservation Bureau, MOE, the Government of Japan.

Designation for Paid Game Hunting

(Unit : ha)

	Number of locations	Area
FY2004	34	143,209
2005	56	138,266
2006	30	132,170
2007	23	121,941
2008	26	128,216
2009	24	116,457
2010	22	103,635
2011	18	84,629
2012	17	92,061
2013	16	71,247

Source: "Statistics on Wildlife," Wildlife Protection and Control Group, Wildlife Division, Nature Conservation Bureau, MOE, the Government of Japan.

3.34 Number of Hunting Licenses and Captured Wildlife by Hunting

	The number of issued licenses					The number captured by hunting (in thousands)		
	Net	trap	I	II	Total	Birds	Animals	Total
FY2004	43,656	-	151,205	3,469	198,330	1,271	344	1,614
2005	47,552	-	152,780	3,290	203,622	865	316	1,180
2006	48,493	-	135,333	2,754	186,580	950	312	1,262
2007	38,717	51,597	135,960	2,631	228,905	842	300	1,141
2008	30,113	53,571	135,352	2,497	221,533	884	345	1,229
2009	8,366	57,818	117,497	2,194	185,875	747	354	1,101
2010	7,268	64,321	116,506	2,119	190,214	761	428	1,188
2011	7,324	72,892	116,122	2,080	198,418	496	377	873
2012	6,510	76,042	96,242	1,875	180,669	610	381	991
2013	6,470	80,630	96,351	1,893	185,344	438	354	792

* Until 2006, the licenses for "net" hunting was issued under the name of "net and trap".

Source: "Statistics on Wildlife," Office for Wildlife Management, Wildlife Division, Nature Conservation Bureau, MOE, the Government of Japan.

3.35 The number of Invasive Alien Species and of Confirmed/Approved Cases of their Mitigation based on Invasive Alien Species Act

	Invasive alien species (# of species)	Announcement on mitigation (# of species)	Confirmed by the local governments		Private companies (Obtained approvals)	Total Confirmed / Approved
			Prefectures	Municipalities		
Mammals	25	25	20	756	18	794
Birds	5	5	0	0	1	1
Reptiles	16	9	1	6	10	17
Amphibians	11	7	0	0	12	12
Fishes	14	14	4	3	19	26
Arachnid and scorpions	7	7	0	0	0	0
Crustaceans	5	5	2	10	24	36
Insects	9	9	3	6	1	10
Mollusk	5	5	0	0	1	1
Plants	13	13	85	111	55	251
Total	110	99	115	892	141	1,148

Notes:

*1 Whoever removes invasive alien species, except the competent Minister, he or she can get a confirmation or an approval for the removal and its practice and procedures from the competent Minister.

*2 The number of confirmed and approved cases of mitigation is that of the ones valid as of November 1, 2015.

*3 In case one application includes multiple groups of species, each of relevant groups included is counted.

Source: materials of Office for Alien Species Management, Wildlife Division, Nature Conservation Bureau, MOE, the Government of Japan.

3.36 Registration Status of the Animal Handling Business Operators

	Prefecture	Number of Type I business sites	Type I (Classified by business registration)									Total
			Sales	Among "Sales", dealing with cats and dogs	Among Sales, dealing with cats and dogs, also breeder	keeping	Lending	Training	Exhibition	Auction, etc.	Animal shelter, etc.	
Prefectures	Hokkaido	1,165	567	466	369	606	17	73	171	0	2	1,436
	Aomori	343	171	135	88	173	5	39	48	0	3	439
	Iwate	315	154	120	89	183	6	26	34	0	0	403
	Miyagi	300	175	141	118	159	7	28	25	1	1	396
	Akita	315	180	143	115	177	33	27	54	0	1	472
	Yamagata	280	154	131	84	163	10	24	31	0	0	382
	Fukushima	485	228	174	124	262	12	50	36	0	2	590
	Ibaraki	948	572	420	393	441	35	89	74	0	2	1,213
	Tochigi	718	412	337	266	364	18	52	60	1	1	908
	Gunma	923	613	533	444	419	14	57	50	0	0	1,153
	Saitama	1,896	1,094	848	643	1,044	66	233	89	4	2	2,532
	Chiba	1,948	964	749	565	1,189	74	244	118	0	1	2,590
	Tokyo	4,333	1,713	1,046	665	3,127	182	666	239	2	9	5,938
	Kanagawa	1,296	515	364	321	866	36	166	62	2	0	1,647
	Niigata	401	156	124	87	218	16	38	32	0	0	460
	Toyama	214	134	121	78	127	5	13	16	0	1	296
	Ishikawa	235	131	106	69	156	2	29	19	0	0	337
	Fukui	184	96	79	41	117	2	9	17	0	0	241
	Yamanashi	281	139	88	71	178	14	32	38	0	2	403
	Nagano	671	336	292	215	420	29	81	85	0	3	954
	Gifu	621	384	328	263	308	18	44	45	0	1	800
	Shizuoka	1,122	562	424	359	563	40	104	80	0	1	1,350
	Aichi	1,450	909	710	569	720	24	109	66	1	1	1,830
	Mie	671	406	344	274	337	19	54	39	0	1	856
	Shiga	454	226	187	169	263	5	40	25	0	0	559
	Kyoto	393	205	113	67	211	6	46	24	0	2	494
	Osaka	1,747	916	723	455	1,086	45	221	71	2	1	2,342
	Hyogo	1,272	621	474	387	731	16	153	62	1	4	1,588
	Nara	448	226	173	142	275	7	53	32	0	1	594
	Wakayama	349	200	149	118	223	4	34	23	0	1	485
	Tottori	146	59	43	30	87	3	24	23	0	0	196
	Shimane	169	90	77	55	99	2	13	18	0	0	222
	Okayama	450	309	270	219	184	3	18	29	0	1	544
	Hiroshima	565	328	281	234	330	10	45	32	0	1	746
	Yamaguchi	389	189	162	124	231	2	24	29	0	0	475
	Tokushima	254	156	121	100	118	0	17	10	0	1	302
	Kagawa	408	279	233	210	181	6	23	24	0	1	514
	Ehime	449	237	199	176	244	4	27	25	0	0	537
	Kochi	252	112	89	65	111	3	18	19	0	0	263
	Fukuoka	967	637	566	459	458	6	64	47	1	1	1,214
	Saga	266	192	169	151	87	3	17	14	0	0	313
	Nagasaki	340	176	145	114	180	4	21	33	0	0	414
	Kumamoto	379	244	187	172	168	9	20	34	0	1	476
	Oita	347	188	99	86	181	6	15	35	0	0	425
	Miyazaki	400	235	213	190	204	3	26	19	0	1	488
	Kagoshima	455	239	213	183	252	5	28	29	0	0	553
	Okinawa	443	227	173	147	206	10	22	85	0	0	550
Cities designated by cabinet order	Sapporo	632	330	275	194	364	9	58	34	2	2	799
	Sendai	267	116	105	61	190	7	29	24	0	1	367
	Saitama	385	168	110	76	257	16	43	12	1	0	497
	Chiba	300	128	92	73	198	15	44	19	0	0	404
	Yokohama	1,169	387	235	118	857	36	177	36	0	2	1,495
	Kawasaki	379	131	87	58	263	10	71	13	0	0	488
	Sagamihara	247	114	94	80	157	9	25	13	0	0	318
	Niigata	221	105	93	69	132	14	28	15	0	0	294
	Shizuoka	290	152	113	93	172	11	32	18	0	1	386
	Hamamatsu	404	257	205	161	199	9	38	18	1	1	523
	Nagoya	665	323	225	153	417	24	68	59	0	1	892
	Kyoto	415	174	131	98	270	14	59	22	0	1	540
	Osaka	768	317	228	136	540	14	62	61	0	1	995
	Sakai	300	161	126	95	171	7	26	9	2	0	376
	Kobe	494	226	150	89	293	5	59	36	0	1	620
	Okayama	265	167	126	106	139	4	20	18	1	0	349
	Hiroshima	323	164	145	97	205	5	21	16	0	1	412
	Kitakyushu	288	154	120	95	173	6	19	22	0	0	374
	Fukuoka	402	173	125	90	263	8	37	28	0	2	511
	Kumamoto	250	141	104	87	147	2	13	7	0	0	310
	Total	40,921	20,944	16,171	12,392	23,834	1,071	4,185	2,750	22	64	52,870

Note: The figures for major urban areas are included in the "Prefectures".

3.36 Registration Status of the Animal Handling Business Operators

(As of April 1, 2015)

	Prefecture	Number of Type II Operators	Type II (Classified by business registration)					Total
			Sales	keeping	Lending	Training	Exhibition	
Prefectures	Hokkaido	13	6	0	0	0	7	13
	Aomori	6	0	0	0	0	6	6
	Iwate	6	3	0	0	0	4	7
	Miyagi	5	3	0	1	0	2	6
	Akita	2	1	0	0	0	1	2
	Yamagata	2	0	0	1	0	2	3
	Fukushima	16	12	6	0	0	5	23
	Ibaraki	16	13	4	0	0	2	19
	Tochigi	4	3	0	1	0	2	6
	Gunma	5	3	1	0	0	2	6
	Saitama	20	15	2	1	1	6	25
	Chiba	18	10	4	0	1	8	23
	Tokyo	33	30	10	3	1	8	52
	Kanagawa	10	4	1	0	0	5	10
	Niigata	4	1	0	0	0	3	4
	Toyama	5	2	1	0	0	5	8
	Ishikawa	3	1	1	0	0	1	3
	Fukui	5	2	0	0	0	3	5
	Yamanashi	10	9	0	0	0	1	10
	Nagano	13	6	2	2	1	6	17
	Gifu	6	4	2	0	0	3	9
	Shizuoka	4	5	2	2	0	1	10
	Aichi	8	3	0	0	1	7	11
	Mie	9	7	2	0	0	2	11
	Shiga	10	6	5	0	0	3	14
	Kyoto	7	5	1	0	1	1	8
	Osaka	8	7	2	1	0	2	12
	Hyogo	34	21	1	6	5	20	53
	Nara	2	1	0	1	0	2	4
	Wakayama	6	3	0	1	0	2	6
	Tottori	3	1	1	0	1	2	5
	Shimane	10	2	2	1	0	7	12
	Okayama	8	1	0	1	0	8	10
	Hiroshima	7	6	0	0	0	1	7
	Yamaguchi	2	2	0	1	0	1	4
	Tokushima	3	3	0	0	0	0	3
	Kagawa	5	4	1	0	0	1	6
	Ehime	9	1	0	0	0	8	9
	Kochi	3	3	2	0	0	0	5
	Fukuoka	10	9	0	0	0	1	10
	Saga	10	9	4	1	1	2	17
	Nagasaki	7	2	0	0	0	5	7
	Kumamoto	4	1	2	0	0	3	6
	Oita	1	0	0	0	0	1	1
	Miyazaki	5	4	1	0	0	1	6
	Kagoshima	2	1	0	0	0	1	2
	Okinawa	1	1	0	0	0	0	1
Cities designated by cabinet order	Sapporo	4	4	1	2	1	3	11
	Sendai	9	9	1	1	0	0	11
	Saitama	7	4	0	0	0	3	7
	Chiba	0	0	0	0	0	0	0
	Yokohama	10	6	3	3	1	4	17
	Kawasaki	8	6	3	2	0	2	13
	Sagamihara	8	7	0	0	0	1	8
	Niigata	5	2	1	0	0	4	7
	Shizuoka	1	1	1	0	0	0	2
	Hamamatsu	2	2	1	0	0	0	3
	Nagoya	12	11	4	1	1	1	18
	Kyoto	4	3	0	0	0	1	4
	Osaka	9	9	0	0	0	0	9
	Sakai	2	0	0	0	0	2	2
	Kobe	8	5	0	2	0	2	9
	Okayama	3	2	0	0	0	1	3
	Hiroshima	3	3	0	0	0	0	3
	Kitakyushu	1	0	0	0	0	1	1
	Fukuoka	1	1	1	0	1	1	4
	Kumamoto	3	3	0	0	0	0	3
	Total	480	314	76	35	17	190	632

Source: "Summary of Civil Service of Animal protection and management," Animal Welfare and Management Office, Nature Conservation Bureau, MOE, the Government of Japan (FY 2015)

3.37 Change in the Number of Dogs and Cats Adopted, Reunited with Owners, and Put to Sleep

(Unit: thousands)

	Brought in prefectural facilities			Adopted / Reunited			Put to sleep		
	Dogs	Cats	Total	Dogs	Cats	Total	Dogs	Cats	Total
FY1974	1,187	63	1,250	28.5	0.03	28.6	1,159	63	1,221
1979	993	122	1,115	17.8	0.1	17.9	975	118	1,093
1984	890	260	1,150	20.5	0.7	21.3	869	244	1,114
1989	707	341	1,048	20.1	1.1	21.1	687	328	1,015
1994	493	301	795	23.9	1.5	25.5	469	297	765
1995	458	304	761	24.8	1.5	26.3	433	299	732
1996	425	307	732	25.8	1.8	27.6	399	303	702
1997	398	292	690	25.7	1.7	27.3	372	288	661
1998	362	298	659	26.9	1.5	28.4	335	295	630
1999	312	276	588	24.6	1.5	26.1	287	275	562
2000	281	276	557	25.2	1.8	27.1	256	274	530
2001	244	273	517	26.6	2.2	28.8	217	273	490
2002	219	268	486	25.7	2.9	28.7	193	267	460
2003	199	266	466	26.9	3.5	29.4	174	267	441
2004	181	237	418	25.3	4.0	29.3	156	239	395
2005	164	229	392	25.0	3.9	28.9	139	227	365
2006	142	232	374	28.9	4.4	33.4	113	228	341
2007	130	206	336	29.9	6.2	36.1	99	201	299
2008	113	202	315	32.8	8.3	41.1	82	194	276
2009	94	178	272	32.9	10.6	43.6	64	166	230
2010	85	164	250	33.5	11.9	45.3	52	153	205
2011	78	143	221	34.3	12.7	47.0	44	131	175
2012	72	138	209	33.3	14.9	48.1	38	123	162
2013	61	115	176	32.1	16.3	48.4	29	100	128
2014	53	98	151	31.6	18.6	50.2	22	80	101

Notes:
・Before 2000 the data were reported by General Administrative Agency of the Cabinet. After 2001, they were reported by Animal Welfare and Management Office, Nature Conservation Bureau, Ministry of the Environment.
・Total number may not foot because of rounding.

Sources: materials of Animal Welfare and Management Office (FY2015), Nature Conservation Bureau, MOE, the Government of Japan.

4.01 Material Flow in Japan

(Unit: million t)

	Entrance				Exit								Recycling
	Import volume		Domestic resource amount	Hydrate, etc. (※)	Export volume	Amount of net addition to stocks	Emission of energy consumption and industrial process	Amount food consumption	Amount of fertilizer	Generated amount of waste			Recycled and reused amount
	Products	Resources								To utilize for farming	To reduce volume to dispose	Final disposal	
1990	0.41	6.61	14.79	3.01	0.77	14.16	4.55	1.04	0.17	0.96	2.07	1.09	1.75
1991	0.44	6.67	14.29	2.99	0.85	13.51	4.68	1.02	0.17	0.95	2.13	1.09	1.71
1992	0.37	6.62	13.36	3.05	0.95	12.41	4.66	1.05	0.17	0.95	2.14	1.07	1.77
1993	0.39	6.63	12.90	3.05	1.05	12.00	4.61	0.98	0.17	0.95	2.19	1.02	1.70
1994	0.43	6.96	12.79	3.13	1.09	11.98	4.81	1.07	0.17	0.95	2.28	0.96	1.80
1995	0.49	7.09	12.53	3.10	1.10	12.00	4.88	1.03	0.17	0.92	2.30	0.82	1.93
1996	0.47	7.12	12.65	3.16	1.06	12.14	4.93	1.00	0.16	0.91	2.39	0.81	1.96
1997	0.48	7.29	11.90	3.13	1.17	11.37	4.93	1.02	0.16	0.88	2.44	0.81	1.92
1998	0.42	6.91	10.89	3.04	1.18	10.26	4.73	0.96	0.16	0.86	2.40	0.70	1.88
1999	0.43	7.08	10.78	2.99	1.22	10.25	4.80	0.97	0.15	0.86	2.40	0.62	1.95
2000	0.48	7.52	11.25	2.99	1.20	11.10	5.00	0.97	0.16	0.85	2.41	0.56	2.13
2001	0.46	7.22	11.71	2.96	1.24	11.33	4.94	0.94	0.15	0.85	2.39	0.52	2.07
2002	0.46	7.34	10.90	2.92	1.38	10.53	4.90	0.93	0.15	0.86	2.37	0.48	2.12
2003	0.49	7.48	9.67	2.92	1.39	9.52	4.96	0.93	0.15	0.80	2.42	0.38	2.23
2004	0.53	7.65	8.91	2.91	1.50	8.77	5.04	0.94	0.15	0.82	2.43	0.34	2.28
2005	0.56	7.59	8.31	2.89	1.59	8.15	4.98	0.95	0.16	0.83	2.38	0.31	2.29
2006	0.57	7.56	7.78	2.90	1.70	7.57	4.94	0.92	0.17	0.83	2.41	0.28	2.33
2007	0.57	7.68	7.33	2.89	1.78	7.06	5.10	0.91	0.18	0.83	2.37	0.27	2.44
2008	0.57	7.52	6.83	2.77	1.81	6.59	4.87	0.91	0.18	0.86	2.25	0.22	2.45
2009	0.45	6.58	6.04	2.73	1.67	5.37	4.43	0.87	0.15	0.89	2.23	0.19	2.29
2010	0.55	7.27	5.82	2.67	1.84	5.43	4.8	0.88	0.14	0.83	2.19	0.19	2.46
2011	0.60	7.21	5.52	2.62	1.75	5.11	4.86	0.88	0.14	0.82	2.20	0.17	2.38
2012	0.60	7.41	5.61	2.60	1.79	5.29	5.04	0.86	0.14	0.82	2.09	0.18	2.44
2013	0.59	7.57	5.88	2.58	1.82	5.15	5.53	0.85	0.13	0.81	2.18	0.16	2.69

※ It is the collective input (mining, construction, sludge from a water supply industry and mining slag) with waste and hydrous (sludge, livestock manure, sewage, waste acid, waste alkali) and sand due to economic activity.

Source: Compiled from materials of Waste Management and Recycling Department, Minister's Secretariat, MOE, Government of Japan

4.02 Changes in Material Flow Indicators in Japan

Indicators	Positioning of indicators under The Basic Environment Plan																																	
	Main indicators for setting goals			Sub-indicators for setting goals		Various indicators for a monitoring purpose																													
	Resource productivity	Recycling rate	Final disposal volume	Resource productivity without non-metallic mineral waste input	Greenhouse gas emissions from the waste sector	Resource productivity that underwent temporary equivalent transformation	Resource productivity of fossil resources	Biomass resource input rate	Resource productivity of manufacturing	Resource productivity by industrial sector (※)	Agriculture, forestry and fisheries	Mining	Food, beverage, feed, fertilizer, and tobacco	Textile products	Timber and furniture	Paper, printing and publishing	Chemical products	Petroleum and coal products	Ceramic, stone and clay	Metal	Machinery	Other manufacturing	Public construction	Other construction	Electricity, gas and water supply	Transportation	Medical service, health, social security and nursing care	Other	Export volume of recyclable resources	Import volume of recyclable resources	Total Material Requirements (TMR) related to the import volume of metallic resources	Greenhouse gas emissions from the waste sector
Unit	10,000 JPY / t	%	million (t)	10,000 JPY / t	%	10,000 JPY / t	10,000 JPY / t	%	10,000 JPY / t		10,000 JPY / t	10,000 JPY / t	10,000 JPY / t	10,000 JPY / t	10,000 JPY / t	10,000 JPY / t	10,000 JPY / t	10,000 JPY / t	10,000 JPY / t	10,000 JPY / t	10,000 JPY / t	10,000 JPY / t	10,000 JPY / t	10,000 JPY / t	10,000 JPY / t	10,000 JPY / t	10,000 JPY / t	10,000 JPY / t	million (t)	million (t)	%	million (tCO2)
1990		7.4	109.0		29.9		-	5.8	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	4.9	-	37.9
~																																		
1995	22.8	8.7	82.0	54.3	32.3	17.3	97.7	5.6	44.7		27.1	196.6	19.7	74.8	25.8	24.6	21.0	7.3	1.6	10.5	31.8	21.4	4.6	11.1	13.8	54.2	64.8	111.0	2.6	5.2	-	42.7
1996	23.3	8.8	81.0	55.9	32.3	-	99.0	5.4	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.3	4.2	-	43.2
1997	24.0	8.9	81.0	54.9	31.7	-	98.0	5.6	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3	4.1	-	44.4
1998	25.5	9.4	70.0	57.1	32.1	-	100.8	5.8	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.5	3.9	-	44.4
1999	25.6	9.6	62.0	56.4	33.5		98.8	5.7	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.9	3.7	-	44.2
2000	24.8	10.0	56.0	54.9	35.8	18.3	96.5	5.4	45.4		29.6	-29.4	21.9	83.5	24.9	25.5	20.9	7.3	1.6	10.8	34.2	26.5	4.3	12.0	14.8	63.9	68.2	112.4	7.2	3.7	-	45.0
2001	24.5	9.6	52.0	56.5	35.5	-	98.8	5.2	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.1	3.4	-	44.2
2002	25.7	10.2	48.0	56.5	36.4		97.8	5.3	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.8	3.5	-	43.9
2003	27.8	11.2	38.0	57.0	38.3		97.7	5.4	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.9	3.3	-	44.4
2004	29.1	11.8	34.0	56.3	38.8	-	96.6	5.7	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19.0	3.3	-	43.3
2005	30.8	12.2	31.0	57.6	39.5	21.5	98.8	5.9	47.5		29.8	-38.7	22.1	104.3	31.5	33.3	22.2	7.4	2.1	9.8	40.6	38.7	4.8	13.2	12.6	70.3	77.9	122.9	21.6	3.9	35.0	42.0
2006	32.4	12.8	28.0	58.9	39.8	-	101.1	6.0	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23.9	3.9	36.6	39.8
2007	33.7	13.5	27.0	58.8	41.4	-	100.4	6.2	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23.2	4.4	36.1	39.8
2008	33.9	14.1	22.0	57.6	42.4	21.1	99.2	6.5	41.0		32.0	74.0	22.2	123.4	33.9	35.2	26.0	7.3	2.4	9.7	44.5	47.0	5.4	14.3	12.7	67.3	85.3	123.5	22.5	4.9	36.9	40.8
2009	37.9	14.9	18.8	64.0	40.9	24.4	106.8	7.1	50.4		32.2	226.3	22.8	133.8	30.6	41.6	26.7	7.7	2.1	9.5	44.4	44.3	5.9	14.9	12.0	74.9	86.9	129.5	25.3	4.4	36.2	36.5
2010	37.6	15.3	19.2	60.4	43.4	23.8	102.9	6.6	46.6		32.1	73.3	22.9	138.8	33.2	37.5	29.7	7.4	2.4	9.0	47.3	48.6	5.8	14.5	11.5	69.2	88.4	128.9	24.9	5.0	35.4	36.5
2011	38.6	15.2	17.4	60.8	42.7	23.6	102.9	6.7	46.5		30.6	51.5	23.1	135.6	34.8	34.8	26.5	7.7	2.4	9.1	47.0	47.2	6.2	16.3	10.7	72.4	83.0	123.7	25.2	5.1	36.1	36.1
2012	38.2	15.2	17.9	60.2	44.1	23.7	100.8	6.5	46.5		34.6	10.1	23.8	146.7	34.2	35.5	27.5	7.6	2.4	9.0	47.4	45.3	6.8	15.8	10.1	70.6	82.7	122.2	29.9	4.7	37.0	37.7
2013	37.8	16.1	16.3	60.4	46.1		100.5	6.2																					29.5	4.6	37.3	37.0

Notes:

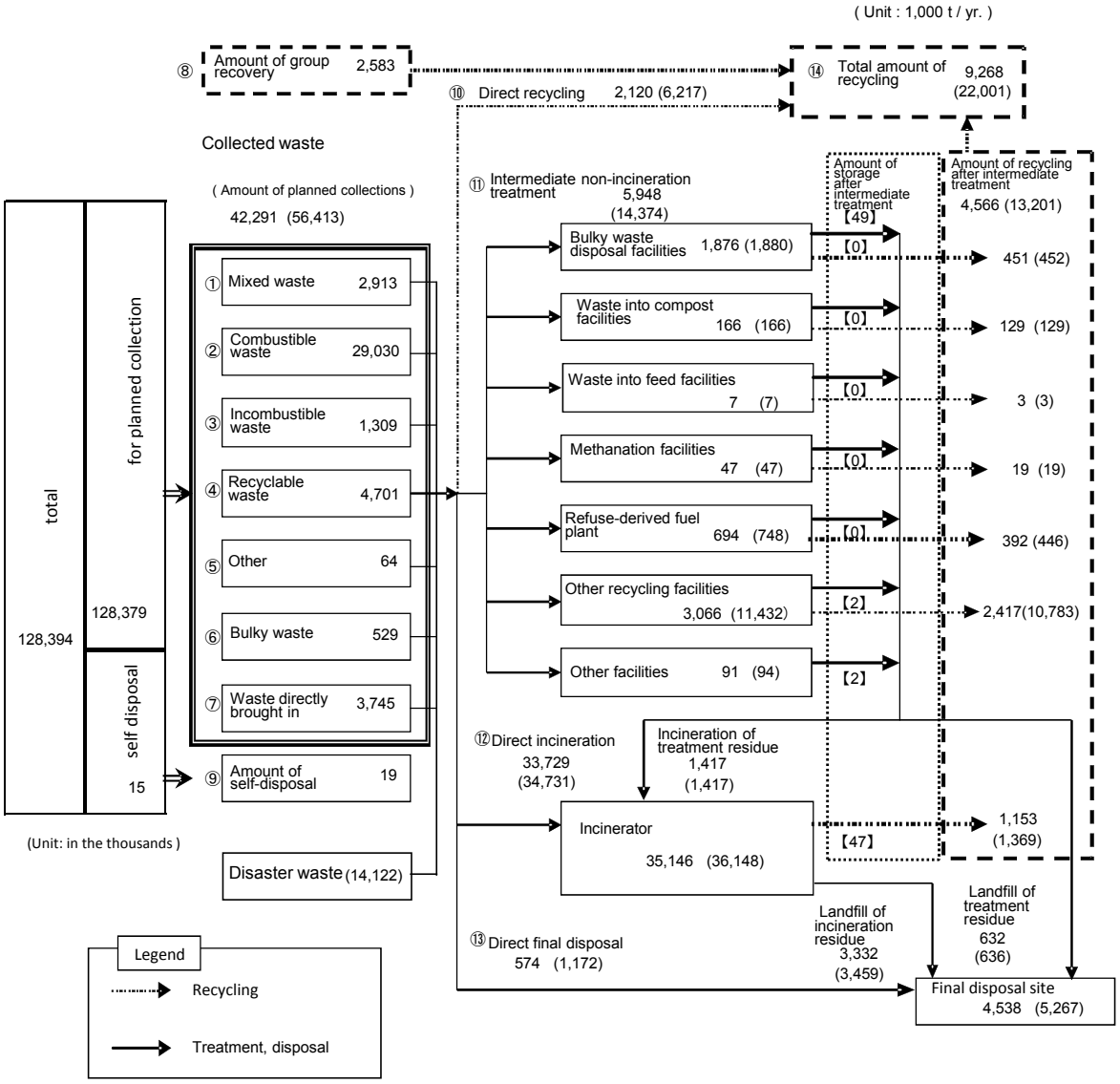
・Indicators are the same as the material flow indicators in the Third Fundamental Plan for Establishing a Sound Material-Cycle Society .

・To estimate resource productivity by industrial sector, 1995-2000-2005 linked input-output table compiled by Ministry of Internal Affairs and Communications and extended input-output table and simple extended input-output table compiled by Ministry of Economy, Trade and Industry were used. Each table adopts the 2005 standard. Also, note that the estimation gives an effective overview of trends, but cannot do so for inter-sectorial comparison.

・ 1990 data and 2000 data remain as those years were used for comparison when indicators in the First Fundamental Plan for establishing a sound material-recycle society were set.

Source: Article of Waste Management and Recycling Department, Minister's Secretariat, Ministry of the Environment

4.03 Waste Disposal Flow Sheet (Actual FY2013)



※ Figures in ( ) indicate actual in the previous year.

- Collected waste = ① + ② + ③ + ④ + ⑤ + ⑥ = 38,546 thousand tons
- Collected waste + Waste directly brought in = ① + ② + ③ + ④ + ⑤ + ⑥ + ⑦ = 42,291 thousand tons
- Total emissions of waste = ① + ② + ③ + ④ + ⑤ + ⑥ + ⑦ + ⑧ = 44,874 thousand tons
- Generation per person per day = (① + ② + ③ + ④ + ⑤ + ⑥ + ⑦ + ⑧) / total population / 365 = 958 g/person/day
- Total amount of waste disposal = ⑩ + ⑪ + ⑫ + ⑬ = 42,372 thousand tons
- Total amount of recycling = ⑭ = 9,268 thousand tons
- Recycling rate = ⑭ / (⑧ + ⑩ + ⑪ + ⑫ + ⑬) = 20.6%
- Reduction amount of intermediate treatment = (⑪ + ⑫) - amount of recycling after intermediate treatment - Landfill residue = 31,148 thousand tons

Source : Compiled from “Disposal of Waste in Japan” (FY2013 version) by Waste Management Division, Waste and Recycling Department, Minister's Secretariat, MOE, Government of Japan

4.04 Trends in total amount of waste generated

(Unit : 1,000 t / year)

	Household waste	Business-related waste	Total amount of waste generated	Scheduled pickup	Carried-in by individual	Collected in groups	Total amount of waste generated
1971	—	—	—	24,569	8,333	(5,929)	38,831
1972	—	—	—	27,574	9,098	(5,918)	42,590
1973	—	—	—	28,852	9,923	(5,842)	44,617
1974	—	—	—	26,526	9,330	(4,209)	40,065
1975	—	—	—	27,916	10,262	(3,987)	42,165
1976	—	—	—	28,347	8,728	(3,556)	40,631
1977	—	—	—	30,077	8,574	(2,877)	41,528
1978	—	—	—	31,322	9,207	(2,663)	43,192
1979	—	—	—	32,574	9,574	(2,469)	44,617
1980	—	—	—	32,015	9,496	(2,425)	43,936
1981	—	—	—	33,145	7,081	(2,412)	42,638
1982	—	—	—	34,029	8,039	(2,409)	44,477
1983	—	—	—	33,866	6,752	(2,155)	42,773
1984	—	—	—	34,580	6,515	(1,944)	43,039
1985	—	—	—	35,383	6,147	564	42,094
1986	—	—	—	36,288	6,670	438	43,396
1987	—	—	—	38,164	6,767	568	45,499
1988	—	—	—	39,723	7,221	552	47,496
1989	—	—	—	41,602	7,054	693	49,348
1990	—	—	—	42,495	6,776	986	50,257
1991	—	—	—	42,074	7,646	1,412	51,132
1992	—	—	—	42,134	6,973	1,796	50,903
1993	—	—	—	42,997	6,350	1,920	51,267
1994	36,560	15,239	51,800	43,816	5,849	2,135	51,800
1995	36,984	15,240	52,224	44,100	5,806	2,318	52,224
1996	37,153	15,756	52,908	44,516	5,922	2,470	52,908
1997	37,126	15,972	53,098	44,872	5,711	2,515	53,098
1998	35,994	17,612	53,606	44,771	6,313	2,521	53,606
1999	36,220	17,478	53,698	45,736	5,359	2,604	53,698
2000	36,844	17,990	54,834	46,695	5,373	2,765	54,834
2001	37,381	17,300	54,681	46,528	5,316	2,837	54,681
2002	37,118	17,081	54,199	46,202	5,190	2,807	54,199
2003	37,321	16,950	54,271	46,044	5,398	2,829	54,271
2004	36,838	16,538	53,376	45,114	5,343	2,919	53,376
2005	36,471	16,249	52,720	44,633	5,090	2,996	52,720
2006	36,220	15,804	52,024	44,155	4,810	3,058	52,024
2007	35,724	15,092	50,816	42,629	5,138	3,049	50,816
2008	34,104	14,003	48,106	40,946	4,234	2,926	48,106
2009	32,974	13,278	46,252	39,616	3,845	2,792	46,252
2010	32,385	12,974	45,359	38,327	3,803	2,729	45,359
2011	32,385	13,045	45,430	39,025	3,724	2,682	45,430
2012	32,137	13,097	45,234	38,890	3,697	2,646	45,234
2013	31,757	13,117	44,874	38,546	3,745	2,583	44,874

Notes:

・"Total waste generated " = "Scheduled pickup" + "Carried-in by individual" + "Collected in groups"

・A generated amount of general waste has been defined “Scheduled pickup” + "Carried-in by individuals” + " Collected in groups” under "The basic strategy of comprehensive and deliberate promotion on reduction of waste and other appropriate measures" based on "Waste Disposal Law".

・"Household Waste" includes "Waste collected in groups."

・The figures in parentheses in "Waste collected in groups" column show "self-treated waste ."

・The amount of "self-treated waste" is the estimates by municipalities.

Source: Compiled from “Waste Treatment in Japan” (an annual report) by Waste Management Division, Waste and Recycling Department, Minister's Secretariat, MOE Government of Japan

4.05 Changes in generation of waste per person per day

(Unit: g per person / day)

	Total population (Unit: 1,000)	Household waste	Business-related waste	Total amount of waste generated	Scheduled pickup	Carried-in by individuals	Collected in groups	Total amount of waste generated
FY1971	10,454	–	–	–	644	218	155	1,018
1972	10,585	–	–	–	714	236	153	1,102
1973	10,820	–	–	–	731	251	148	1,130
1974	11,057	–	–	–	657	231	104	993
1975	11,238	–	–	–	681	250	97	1,028
1976	11,379	–	–	–	683	210	86	978
1977	11,428	–	–	–	721	206	69	996
1978	11,529	–	–	–	744	219	63	1,026
1979	11,664	–	–	–	765	225	58	1,048
1980	11,743	–	–	–	747	222	57	1,025
1981	11,814	–	–	–	769	164	56	989
1982	11,896	–	–	–	784	185	56	1,024
1983	11,973	–	–	–	775	155	49	979
1984	12,044	–	–	–	787	148	44	979
1985	12,127	–	–	–	799	139	13	951
1986	12,200	–	–	–	815	150	10	975
1987	12,219	–	–	–	853	151	13	1,017
1988	12,265	–	–	–	887	161	12	1,061
1989	12,314	–	–	–	926	157	15	1,098
1990	12,353	–	–	–	943	150	22	1,115
1991	12,415	–	–	–	926	168	31	1,125
1992	12,459	–	–	–	927	153	40	1,119
1993	12,496	–	–	–	943	139	42	1,124
1994	12,519	800	334	1,134	959	128	47	1,134
1995	12,535	806	332	1,138	961	127	51	1,138
1996	12,580	809	343	1,152	970	129	54	1,152
1997	12,614	806	347	1,153	975	124	55	1,153
1998	12,643	780	382	1,162	970	137	55	1,162
1999	12,654	782	377	1,159	988	116	56	1,159
2000	12,673	797	389	1,185	1,010	116	60	1,185
2001	12,701	806	373	1,180	1,004	115	61	1,180
2002	12,730	799	368	1,167	994	112	60	1,167
2003	12,751	800	363	1,163	987	116	61	1,163
2004	12,761	791	355	1,146	969	115	63	1,146
2005	12,771	782	349	1,131	958	109	64	1,131
2006	12,778	777	339	1,115	947	103	66	1,115
2007	12,749	766	323	1,089	914	110	65	1,089
2008	12,753	733	301	1,033	880	91	63	1,033
2009	12,743	709	285	994	852	83	60	994
2010	12,730	697	279	976	836	82	59	976
2011	12,715	696	280	976	839	80	58	977
2012	12,862	685	279	964	828	79	56	964
2013	12,839	678	280	958	823	80	55	958

Notes:

・As for the population, the data are based on Basic Resident Register as of October 1st of each year, while some of them are the ones as of March 31.

・"Collected waste in groups" refers to "Self-treated Waste" until 1984.

・Waste generation per person per day = (Scheduled pickup + Carried-in by individuals + Collected in groups) / total population /365 (or 366)

・Waste generation per person per day = (Waste from life activities + Waste from business activities) /total population /365 (or 366)

Source: Compiled from “Waste Treatment in Japan” (an annual report) by Waste Management Division, Waste and Recycling Department, Minister's Secretariat, MOE Government of Japan

4.06 Waste Treatment by Prefecture

(Actual 2013)

	Total population thousand people	Population covered with scheduled waste pickup thousand people	Total waste generation						Waste generation per person / day (g/person/day)	Self-treatment thousand ton
			Scheduled pickup thousand tons	Carried-in by individuals thousand tons	Collected in groups thousand tons	Total thousand tons	Household waste (A) thousand tons	Business-related waste (B) thousand tons		
Hokkaido	5,460	5,454	1,605	265	149	2,019	1,408	611	1,013	1
Aomori	1,370	1,370	473	48	14	535	364	171	1,069	0
Iwate	1,312	1,312	391	38	23	453	309	143	945	0
Miyagi	2,327	2,327	762	65	38	865	600	265	1,018	0
Akita	1,072	1,072	353	34	5	392	264	128	1,002	1
Yamagata	1,151	1,151	322	32	32	387	277	111	921	1
Fukushima	1,964	1,964	658	89	29	777	564	214	1,084	0
Ibaraki	2,984	2,984	956	90	49	1,095	801	293	1,005	0
Tochigi	2,011	2,011	600	62	28	690	513	177	940	2
Gunma	2,022	2,022	640	91	43	775	579	196	1,050	0
Saitama	7,287	7,287	2,141	140	133	2,414	1,871	543	908	0
Chiba	6,249	6,249	1,906	133	141	2,180	1,589	591	956	0
Tokyo	13,195	13,195	4,137	145	291	4,572	3,464	1,108	949	0
Kanagawa	9,100	9,100	2,555	131	323	3,008	2,304	705	906	0
Niigata	2,357	2,357	777	78	38	894	616	278	1,039	0
Toyama	1,092	1,092	341	32	32	405	280	125	1,017	0
Ishikawa	1,164	1,164	370	42	10	422	272	150	994	0
Fukui	809	809	230	37	18	286	210	76	967	0
Yamanashi	862	862	271	28	12	310	224	86	987	0
Nagano	2,157	2,157	589	52	26	667	474	193	847	6
Gifu	2,055	2,055	574	66	56	696	505	191	928	2
Shizuoka	3,808	3,807	1,098	114	63	1,274	923	351	917	0
Aichi	7,494	7,494	2,179	204	189	2,572	1,951	621	940	0
Mie	1,833	1,833	569	65	23	657	475	181	982	0
Shiga	1,421	1,421	396	36	25	457	334	123	880	0
Kyoto	2,636	2,632	715	109	60	884	543	341	919	1
Osaka	8,877	8,877	2,905	165	230	3,300	1,944	1,356	1,018	0
Hyogo	5,652	5,652	1,668	165	177	2,011	1,367	643	975	0
Nara	1,404	1,404	398	48	24	471	325	145	918	0
Wakayama	1,013	1,013	283	89	11	383	268	115	1,035	0
Tottori	587	587	195	15	7	217	130	87	1,011	0
Shimane	712	712	213	31	2	247	173	73	949	0
Okayama	1,946	1,945	556	86	47	689	458	231	970	0
Hiroshima	2,877	2,877	849	74	24	947	609	338	902	0
Yamaguchi	1,444	1,444	441	98	15	554	377	177	1,051	0
Tokushima	783	783	253	12	9	274	207	67	959	1
Kagawa	1,011	1,011	314	12	4	330	232	98	895	0
Ehime	1,438	1,438	395	71	11	478	360	118	911	0
Kochi	755	755	231	27	1	260	190	69	943	0
Fukuoka	5,116	5,113	1,427	319	108	1,853	1,220	634	993	1
Saga	853	853	243	26	6	275	196	79	884	0
Nagasaki	1,420	1,420	404	73	21	498	339	158	960	0
Kumamoto	1,826	1,826	504	39	22	565	397	169	848	1
Oita	1,199	1,199	371	38	7	416	288	128	951	1
Miyazaki	1,143	1,143	352	49	2	404	271	133	969	0
Kagoshima	1,701	1,701	517	60	4	581	408	174	936	0
Okinawa	1,441	1,441	418	18	0	436	282	154	829	0
total	128,394	128,379	38,546	3,745	2,583	44,874	31,757	13,117	958	19

Notes:

・Processing rate of reduction = (direct incineration+ bulk-waste treatment facilities+ waste composting facilities+feedstuff-production facilities + methanation facilities + fuel-production plant + other recycling facilities + other facilities + direct recycling) ÷ amount of waste treatment × 100

・Household waste includes the amount of group recovery.

Source: Compiled from “Waste Treatment in Japan” (an annual report) by Waste Management Division, Waste and Recycling Department, Minister's Secretariat, MOE Government of Japan

4.06 Waste Treatment by Prefecture

(Actual 2013)

	Amount of Waste disposal														Amount of Final disposal			
				Intermediate non-incineration reprocesses														
	Direct incineration thousand tons	Direct final disposal thousand tons	thousand tons	Bulkwaste disposal facility thousand tons	Recycling facilities thousand tons	Feedstuff-production facilities thousand tons	Methanation facilities thousand tons	Fuel-production plants thousand tons	Recycling facilities thousand tons	Other facilities thousand tons	Direct recycling thousand tons	Total thousand tons	ate of weight-reduction treatment (%)	Amount recycled after intermediate reprocesses thousand tons	Recycling rate (%)	Direct final disposal thousand tons	Incineration residue thousand tons	Non-incineration reprocesses residue thousand tons	Total thousand tons
Hokkaido	1,137	199	502	134	27	0	19	28	270	24	31	1,870	89.3	305	24.0	199	129	81	409
Aomori	420	28	63	22	0	0	0	0	40	0	10	521	94.7	49	13.7	28	46	10	83
Iwate	357	2	52	18	4	0	0	0	29	0	19	429	99.5	42	18.5	2	41	7	50
Miyagi	661	7	151	57	1	0	0	0	93	0	8	826	99.2	100	16.8	7	100	9	116
Akita	317	4	44	16	3	0	0	0	25	0	21	386	98.9	40	16.9	4	27	7	38
Yamagata	305	2	40	15	3	0	0	0	21	1	8	355	99.4	23	16.2	2	34	9	45
Fukushima	640	4	75	40	0	0	0	0	35	0	31	750	99.5	48	13.8	4	63	16	83
Ibaraki	793	1	169	67	1	0	0	42	58	1	84	1,046	99.9	108	22.0	1	84	12	96
Tochigi	538	0	90	34	2	0	0	3	51	0	32	659	100.0	61	17.5	0	45	15	60
Gunma	625	2	77	48	1	0	0	7	21	0	28	732	99.7	50	15.6	2	73	14	89
Saitama	1,828	1	286	92	1	0	0	2	186	5	163	2,278	99.9	305	24.9	1	105	25	131
Chiba	1,622	5	279	120	8	0	0	0	143	8	136	2,042	99.8	237	23.5	5	132	26	163
Tokyo	3,427	7	411	191	3	0	0	0	216	2	457	4,301	99.8	320	23.2	7	272	79	359
Kanagawa	2,191	10	362	83	18	0	0	3	253	6	122	2,685	99.6	317	25.3	10	245	11	265
Niigata	635	10	136	30	6	0	20	0	79	0	74	855	98.8	95	23.2	10	61	16	88
Toyama	302	3	56	23	11	2	1	7	11	0	13	374	99.2	45	22.2	3	29	5	37
Ishikawa	249	14	128	2	1	0	0	74	48	3	21	413	96.6	29	14.3	14	34	10	58
Fukui	213	1	47	30	0	0	0	0	17	0	7	269	99.6	23	17.0	1	24	4	29
Yamanashi	249	0	41	20	1	0	0	0	19	1	11	301	99.8	29	16.6	0	25	6	31
Nagano	485	7	65	16	3	0	0	0	44	2	84	641	99.0	55	24.7	7	43	9	58
Gifu	525	12	78	25	0	0	0	15	37	1	25	640	98.2	56	19.7	12	42	5	58
Shizuoka	1,005	9	145	43	2	0	0	30	67	3	54	1,213	99.3	151	21.0	9	60	10	80
Aichi	1,927	20	310	116	11	0	0	1	181	2	126	2,383	99.2	269	22.7	20	182	13	215
Mie	413	27	153	21	1	0	0	88	42	1	41	634	95.7	134	30.1	27	10	13	50
Shiga	338	8	61	28	2	0	0	10	21	0	25	431	98.2	37	19.1	8	37	6	50
Kyoto	674	16	114	53	0	4	0	10	46	0	20	823	98.1	47	14.4	16	97	14	127
Osaka	2,773	2	263	115	0	0	0	0	148	0	31	3,069	99.9	176	13.2	2	413	8	423
Hyogo	1,550	29	205	96	10	0	0	12	85	2	49	1,832	98.4	110	16.7	29	204	26	258
Nara	379	2	53	23	0	0	0	7	21	2	16	450	99.6	22	13.1	2	51	7	60
Wakayama	313	4	47	7	0	0	0	1	34	4	5	369	98.8	35	13.6	4	41	6	52
Tottori	153	0	34	1	6	0	0	2	24	0	23	210	99.9	27	26.1	0	14	5	18
Shimane	177	5	53	12	2	0	0	11	27	0	10	244	98.1	50	25.0	5	10	6	21
Okayama	558	13	49	15	0	0	0	0	31	3	22	642	98.0	118	27.1	13	22	7	42
Hiroshima	607	29	272	47	1	0	0	133	92	0	15	922	96.9	170	22.1	29	69	21	119
Yamaguchi	410	9	84	21	0	0	0	15	48	0	36	538	98.3	113	29.5	9	27	10	46
Tokushima	211	1	37	18	0	0	0	1	19	0	16	265	99.8	21	16.8	1	22	11	33
Kagawa	244	8	59	12	0	0	0	2	45	0	15	325	97.7	47	20.1	8	23	6	36
Ehime	355	11	82	26	1	0	0	6	46	3	18	467	97.6	59	18.4	11	28	11	51
Kochi	211	4	35	3	0	0	0	10	22	0	8	259	98.5	49	22.4	4	6	2	12
Fukuoka	1,420	19	276	63	4	0	1	127	81	0	91	1,805	99.0	209	21.3	19	150	24	193
Saga	224	0	38	8	2	0	0	0	28	0	6	269	100.0	39	18.6	0	13	4	17
Nagasaki	406	15	50	5	1	0	0	1	42	0	6	477	96.9	53	16.0	15	30	3	48
Kumamoto	420	3	108	13	4	0	0	39	51	0	14	545	99.5	75	19.7	3	46	9	57
Oita	328	4	66	9	1	0	4	5	46	1	12	410	99.1	65	20.3	4	21	11	36
Miyazaki	289	2	73	4	5	0	0	1	50	14	39	403	99.4	36	19.0	2	33	15	51
Kagoshima	452	15	79	24	14	0	0	0	39	0	31	576	97.4	59	16.2	15	46	9	70
Okinawa	375	3	49	10	3	0	0	0	35	1	8	436	99.3	58	15.3	3	21	3	26
total	33,729	574	5,948	1,876	166	7	47	694	3,066	91	2,120	42,372	98.6	4,566	20.6	574	3,332	632	4,538

Source: Compiled from "Waste Treatment in Japan" (an annual report) by Waste Management Division, Waste and Recycling Department, Minister's Secretariat, MOE Government of Japan

4.07 Development of Waste Incineration Plants

Changes in the number of waste incineration plants by furnace type and the operating capacities

Type	Full continuous		Semi-continuous		Mechanized batch		Fixed batch		Total	
	# of Facilities	Operating capacity (t / day)	# of Facilities	Operating capacity (t / day)	# of Facilities	Operating capacity (t / day)	# of Facilities	Operating capacity (t / day)	# of Facilities	Operating capacity (t / day)
FY1977	326	85,354	51	4,270	1,088	31,636	537	7,916	2,002	129,176
1978	344	94,964	79	5,700	1,086	31,050	516	7,053	2,025	138,767
1979	341	96,396	113	8,862	1,063	32,504	497	6,811	1,984	144,573
1980	357	98,914	142	10,492	1,085	31,379	415	6,109	1,999	146,894
1981	370	101,399	157	11,423	1,059	30,048	397	5,510	1,983	148,380
1982	360	103,479	171	13,538	1,043	29,579	368	4,757	1,942	151,353
1983	361	105,152	183	14,346	1,035	29,601	336	4,204	1,915	153,303
1984	388	110,073	198	15,448	1,014	28,716	288	3,236	1,888	157,473
1985	403	113,453	207	15,747	1,000	28,260	290	3,393	1,900	160,853
1986	406	114,346	220	16,937	978	27,041	295	3,075	1,899	161,399
1987	409	116,201	230	17,577	970	27,133	284	2,737	1,893	163,648
1988	397	115,756	246	19,102	959	27,251	268	2,630	1,870	164,739
1989	425	120,130	281	21,010	963	24,804	272	2,540	1,941	168,484
1990	426	123,616	293	22,680	905	24,330	249	2,281	1,873	172,907
1991	435	127,512	324	25,188	875	22,748	207	2,129	1,841	177,577
1992	438	133,294	335	26,329	877	22,889	214	1,549	1,864	184,061
1993	433	128,911	324	25,344	866	22,418	231	1,434	1,854	178,106
1994	440	134,402	365	28,674	844	21,503	238	1,538	1,887	186,117
1995	445	137,072	379	30,438	813	20,009	243	1,326	1,880	188,844
1996	449	140,134	383	30,664	783	19,172	257	1,269	1,872	191,239
1997	460	142,011	377	30,630	759	18,423	247	1,180	1,843	192,243
1998	474	144,184	378	30,297	753	16,935	164	1,202	1,769	192,618
1999	498	149,327	365	28,794	705	15,799	149	1,204	1,717	195,125
2000	534	156,934	362	28,337	672	15,006	147	1,280	1,715	201,557
2001	549	159,252	359	28,167	629	14,137	143	1,177	1,680	202,733
2002	579	160,591	321	25,262	513	11,731	77	1,291	1,490	198,874
2003	588	159,537	300	23,573	447	10,289	61	458	1,396	193,856
2004	612	163,615	286	22,123	422	9,806	54	408	1,374	195,952
2005	618	160,186	269	19,961	380	8,899	51	412	1,318	189,458
2006	627	162,149	256	18,849	370	8,606	48	412	1,301	190,015
2007	642	162,733	245	17,931	353	8,151	45	329	1,285	189,144
2008	642	161,305	245	17,533	337	8,145	45	320	1,269	187,303
2009	644	162,024	235	16,824	317	7,035	47	323	1,243	186,205
2010	648	161,832	228	16,501	305	6,728	40	312	1,221	185,372
2011	658	163,574	221	15,889	296	6,574	36	219	1,211	186,255
2012	655	162,334	218	15,556	281	6,316	35	220	1,189	184,426
2013	652	161,044	220	15,518	267	5,919	33	202	1,172	182,683

Notes:

・ The figures in the table above include facilities of which construction started in the indicated fiscal year and of which operations are suspended temporarily, but abolished facilities

・ Figures for mechanized batch is calculated by an equation ("Batch" - "Fixed batch").

Source: Compiled from "Waste Treatment in Japan" (an annual report) by Waste Management Division, Waste and Recycling Department, Minister's Secretariat, MOE

Power generation by waste incineration plants

Classification	# of Generation plants	Total Generation capacity (MW)	Generation efficiency (%)	Total generation amount (GWh)
FY2001	236	1,246	10.43	5,538
2002	263	1,365	10.06	6,366
2003	271	1,441	10.23	7,100
2004	281	1,491	10.50	7,129
2005	286	1,512	10.70	7,090
2006	293	1,590	10.93	7,190
2007	298	1,604	11.14	7,132
2008	300	1,615	11.19	6,935
2009	304	1,673	11.29	6,876
2010	306	1,700	11.61	7,210
2011	314	1,740	11.73	7,487
2012	318	1,754	11.92	7,747
2013	328	1,770	12.03	7,966

Notes:

・ The figures in the table above include facilities of which construction started in the indicated fiscal year and of which operations are suspended temporarily, but abolished facilities are excluded.

・ Generation efficiency is calculated by the following equation.

Generation efficiency [%] = 860[kcal/kWh] × total generation amount [kWh/year] / 1,000[kg/t]× amount of Waste incineration [t / year] × amount of Waste heat generation [kcal / kg]

・ In this survey, the specifications and the publicized values for the standard quality of waste have been inquired about. However, it is calculated by actual values in the case there are no specifications, etc.

Source: Compiled from "Waste Treatment in Japan" (an annual report) by Waste Management Division, Waste and Recycling Department, Minister's Secretariat, MOE Government of Japan

4.08 Development of Waste Incineration Plants by Prefecture

(Actual 2013)

type	Full continuous		Semi-continuous		Mechanized batch		Fixed batch		Total	
	# of Facilities	Operating capacity (t / day)	# of Facilities	Operating capacity (t / day)	# of Facilities	Operating capacity (t / day)	# of Facilities	Operating capacity (t / day)	# of Facilities	Operating capacity (t / day)
Hokkaido	24	5,551	11	433	25	344	6	41	66	6,369
Aomori	12	2,243	5	251	0	0	0	0	17	2,494
Iwate	13	2,136	1	40	4	113	1	15	19	2,304
Miyagi	11	2,897	6	481	2	60	0	0	19	3,438
Akita	7	1,088	8	508	1	20	0	0	16	1,616
Yamagata	9	1,391	0	0	0	0	0	0	9	1,391
Fukushima	12	2,249	9	700	3	95	2	11	26	3,055
Ibaraki	15	3,201	11	1,180	4	140	0	0	30	4,521
Tochigi	12	2,273	7	572	0	0	0	0	19	2,845
Gunma	15	2,960	2	120	7	230	0	0	24	3,310
Saitama	44	9,262	8	812	2	70	0	0	54	10,144
Chiba	35	7,781	12	952	1	48	0	0	48	8,780
Tokyo	41	17,091	0	0	9	92	2	7	52	17,190
Kanagawa	27	12,792	6	329	2	50	0	0	35	13,171
Niigata	17	2,503	16	1,208	2	41	0	0	35	3,752
Toyama	4	1,473	3	294	0	0	0	0	7	1,767
Ishikawa	5	1,150	2	200	3	89	0	0	10	1,439
Fukui	5	823	4	306	2	44	0	0	11	1,173
Yamanashi	5	1,064	0	0	6	215	0	0	11	1,279
Nagano	9	1,627	6	560	9	278	1	2	25	2,467
Gifu	17	2,487	3	125	9	139	1	3	30	2,753
Shizuoka	24	5,413	7	347	5	124	2	21	38	5,905
Aichi	38	10,575	2	150	2	25	0	0	42	10,750
Mie	10	1,865	0	0	15	388	1	16	26	2,269
Shiga	9	1,105	3	400	2	118	0	0	14	1,623
Kyoto	13	3,331	5	291	4	105	0	0	22	3,727
Osaka	43	14,565	1	50	1	46	0	0	45	14,661
Hyogo	28	8,355	10	682	6	157	0	0	44	9,194
Nara	9	1,859	6	308	11	233	0	0	26	2,400
Wakayama	8	1,413	4	254	9	165	0	0	21	1,832
Tottori	4	774	1	60	9	103	0	0	14	937
Shimane	5	731	1	52	5	66	1	10	12	858
Okayama	9	2,190	4	389	15	359	0	0	28	2,938
Hiroshima	10	2,520	7	544	7	164	0	0	24	3,228
Yamaguchi	8	1,693	3	200	1	22	1	3	13	1,918
Tokushima	6	776	4	222	6	178	3	21	19	1,197
Kagawa	5	1,200	2	110	0	0	0	0	7	1,310
Ehime	9	1,765	3	139	10	171	3	3	25	2,078
Kochi	5	1,100	0	0	4	89	2	34	11	1,223
Fukuoka	17	6,610	5	374	3	134	1	0	26	7,118
Saga	5	877	3	242	3	61	1	1	12	1,181
Nagasaki	11	1,735	6	421	13	183	0	0	30	2,339
Kumamoto	8	1,571	4	306	8	293	1	2	21	2,172
Oita	4	1,170	5	348	5	102	0	0	14	1,620
Miyazaki	5	928	1	40	5	140	1	8	12	1,116
Kagoshima	13	1,592	8	303	12	221	3	3	36	2,118
Okinawa	7	1,293	5	216	15	206	0	0	27	1,715
Total	652	161,044	220	15,518	267	5,919	33	202	1,172	182,683

Notes:

- There excludes the shutdown facilities but includes the ones whose construction started in 2013 and the ones temporarily closed just for the current year.
- Figures for mechanized batch is calculated by an equation ("batch" - "Fixed batch").

Source : Compiled from "Waste Treatment in Japan (an annual report 2013)" by Waste Management Division, Waste and Recycling Department, Minister's Secretariat, Ministry of the Environment

4.09 Development of Recycling Facilities

Changes in the number of recycling facilities and reprocessing capacities

type	Recycling facilities														Refuse-derived fuel plants		Other facilities		Total	
	Separation		Compress & Pack		Into compost		Into feed		Methanation		Others		Total							
	# of Facilities	Reprocessing capacity (t / day)	# of Facilities	Reprocessing capacity (t / day)	# of Facilities	Reprocessing capacity (t / day)	# of Facilities	Reprocessing capacity (t / day)	# of Facilities	Reprocessing capacity (t / day)	# of Facilities	Reprocessing capacity (t / day)	# of Facilities	Reprocessing capacity (t / day)	# of Facilities	Reprocessing capacity (t / day)	# of Facilities	Reprocessing capacity (t / day)	# of Facilities	Reprocessing capacity (t / day)
FY1981	–	–	–	–	(15)	(412)	–	–	–	–	–	–	15	412	–	–	–	–	15	412
1982	–	–	–	–	(20)	(424)	–	–	–	–	–	–	20	424	–	–	–	–	20	424
1983	–	–	–	–	(23)	(389)	–	–	–	–	–	–	23	389	–	–	–	–	23	389
1984	–	–	–	–	(28)	(598)	–	–	–	–	–	–	28	598	–	–	–	–	28	598
1985	–	–	–	–	(36)	(868)	–	–	–	–	–	–	36	868	–	–	–	–	36	868
1986	–	–	–	–	(39)	(866)	–	–	–	–	–	–	39	866	–	–	–	–	39	866
1987	–	–	–	–	(29)	(632)	–	–	–	–	–	–	29	632	–	–	–	–	29	632
1988	–	–	–	–	(29)	(583)	–	–	–	–	–	–	29	583	–	–	–	–	29	583
1989	–	–	–	–	(29)	(599)	–	–	–	–	–	–	29	599	–	–	–	–	29	599
1990	–	–	–	–	(26)	(549)	–	–	–	–	–	–	26	549	–	–	–	–	26	549
1991	–	–	–	–	(29)	(566)	–	–	–	–	–	–	29	566	–	–	–	–	29	566
1992	–	–	–	–	(28)	(531)	–	–	–	–	–	–	28	531	–	–	–	–	28	531
1993	–	–	–	–	(32)	(597)	–	–	–	–	–	–	490	597	5	246	27	327	554	9,741
1994	–	–	–	–	(31)	(568)	–	–	–	–	–	–	553	568	5	246	30	515	619	10,825
1995	–	–	–	–	(32)	(573)	–	–	–	–	–	–	565	573	8	307	49	697	654	11,502
1996	–	–	–	–	(34)	(596)	–	–	–	–	–	–	544	596	11	363	73	1711	662	13,355
1997	–	–	–	–	(32)	(615)	–	–	–	–	–	–	592	11,439	14	576	94	2,164	700	14,179
1998	–	–	–	–	(33)	(599)	–	–	–	–	–	–	753	14,526	23	936	17	293	793	15,755
1999	–	–	–	–	(38)	(603)	–	–	–	–	–	–	813	15,379	30	1,310	29	558	872	17,248
2000	–	–	–	–	(40)	(628)	–	–	–	–	–	–	882	16,488	32	1,513	35	685	949	18,686
2001	–	–	–	–	(45)	(682)	–	–	–	–	–	–	938	17,139	38	1,768	46	1,036	1,022	19,943
2002	–	–	–	–	(56)	(744)	–	–	–	–	–	–	1,005	18,209	47	2,764	60	1,591	1,112	22,564
2003	–	–	–	–	(59)	(759)	–	–	–	–	–	–	1,044	19,603	54	3,058	61	1,716	1,159	24,377
2004	–	–	–	–	(65)	(763)	–	–	–	–	–	–	1,081	19,646	57	3,532	67	1,714	1,205	24,892
2005	804	17,650	799	17,040	86	1,347	4	83	6	184	126	2,771	1,044	21,266	60	3,424	63	2,111	1,167	26,801
2006	841	20,226	828	17,214	94	1,335	2	37	8	233	135	3,038	1,085	23,652	65	3,466	68	2,258	1,218	29,375
2007	859	18,689	850	17,869	92	3,359	3	62	–	–	138	3,618	1,088	24,155	67	3,577	56	2,236	1,211	29,969
2008	873	19,097	862	18,252	98	3,447	3	214	–	–	140	3,463	1,106	24,699	67	3,425	57	2,313	1,230	30,437
2009	880	18,521	860	17,461	101	3,440	1	33	–	–	145	3,675	1,100	23,866	70	3,662	56	2,311	1,226	29,839
2010	877	18,463	855	17,338	102	3,511	1	33	–	–	140	3,477	1,088	23,613	69	3,617	56	2,434	1,213	29,664
2011	895	18,878	872	17,753	102	3,487	1	33	–	–	144	3,582	1,111	24,095	71	3,578	56	1,911	1,238	29,584
2012	865	18,557	847	17,562	97	3,455	1	33	–	–	138	3,477	1,077	23,804	72	3,668	54	1,823	1,203	29,295
2013	863	18,584	844	17,607	96	3,428	1	33	–	–	141	3,686	1,070	23,837	71	3,731	54	1,811	1,195	29,379

Notes:

・The facilities in this chart are the ones that were built by the municipalities and the consortiums. It excludes the shutdown facilities but include the ones whose constructions started in indicated each fiscal years and the ones temporarily closed just for the indicated current year.

・"Recycling facilities" are facilities for sorting non-combustible waste, for compressing and packing waste (including the preconditioning facilities and the facilities located in the final disposal sites), for turning combustible waste and garbage into compost, and for processing into feedstuff, and the methanation facilities. "Bulk waste disposal facilities" and "Refuse-derived fuel plants" are not included in them.

・Before 1997, ①the facilities other than for sorting or recycling recyclable waste, ②the facilities not categorized as "Refuse-derived fuel plants" and the facilities categorized as both ① and ② were classified as "Others", but from the field survey in FY1998, the facilities to crush and reduce volume for landfill have been classified as "Others" regardless of the purpose whether or not to recycle waste.

・From FY2005, "Recycling facilities" have been classified as "Separation", "Compression & Packing", "Into compost", "Into feed", "Methanation" and "Others", and the "High speed composting facilities" is included in "Recycling facilities". The number in the parentheses under "Waste into compost" is solely the number of "High-speed composting facilities" and is included in the total facilities.

・The methanation facilities have been included in "Refuse-derived fuel plants" since FY2007.

Source: "Waste Treatment in Japan (an annual report)," Waste Management Division, Waste and Recycling Department, Minister's Secretariat, MOE, the Government of Japan

4.09 Development of Recycling Facilities

Changes in number of bulky waste facility and operating capacities

type	Combination		Crushing		Compression		Total	
	# of Facilities	Operating capacities (t / day)	# of Facilities	Operating capacities (t / day)	# of Facilities	Operating capacities (t / day)	# of Facilities	Operating capacities (t / day)
FY1981							417	17,385
1982							440	17,279
1983							471	19,472
1984							494	20,291
1985							538	21,162
1986							541	22,693
1987							556	23,279
1988							594	24,041
1989							612	24,814
1990							638	25,724
1991							588	23,674
1992							610	24,462
1993							597	23,445
1994							632	25,050
1995							654	25,717
1996							670	26,281
1997	412	16,839	210	8,339	58	1,276	680	26,454
1998	429	17,201	203	8,728	54	1,071	686	27,000
1999	429	16,928	200	8,375	51	1,149	680	26,452
2000	441	17,181	201	8,201	53	1,226	695	26,608
2001	439	17,038	202	8,702	57	1,611	698	27,350
2002	436	16,695	210	8,804	50	1,331	696	26,830
2003	434	16,644	210	8,413	44	1,388	688	26,445
2004	426	16,435	225	9,023	42	1,045	693	26,503
2005	413	16,247	226	8,885	41	954	680	26,087
2006	391	15,410	251	9,303	39	1,076	681	25,789
2007	390	14,852	247	9,294	39	1,074	676	25,219
2008	376	13,918	245	9,746	41	1,118	662	24,782
2009	368	13,261	250	10,217	43	1,170	661	24,648
2010	368	13,694	247	9,781	38	1,025	653	24,500
2011	365	13,365	253	9,958	38	929	656	24,252
2012	354	12,985	270	10,543	36	867	660	24,395
2013	347	12,725	265	10,195	37	865	649	23,785

Notes:

・ "Bulky waste disposal facilities" are the ones to crush and compress into small pieces and also to look for the valuables out of the bulky waste.

・ The facilities in this chart are the ones that were built by the municipalities and the consortiums. It excludes the shutdown facilities but include the ones whose constructions started in the indicated fiscal years and the ones temporarily closed just for the indicated year.

・ "Crushing": The facilities to crush combustible bulky waste into small pieces for incineration

・ "Compression": The facilities to crush and compress incombustible bulk waste into small pieces

・ "Combination": The facilities to crush both combustible and non-combustible bulky waste

Source: "Waste Treatment in Japan (an annual report)," Waste Management Division, Waste and Recycling Department, Minister's Secretariat, Ministry of the Environment

4.10 Development of Recycling Facilities by Prefecture (FY2013)

(Actual FY2013)

	Recycling facilities		Refuse-derived fuel plants		Other facilities		Total		Storage facilities	
	# of Facilities	Reprocessing capacity (t / day)	# of Facilities	Reprocessing capacity (t / day)	# of Facilities	Reprocessing capacity (t / day)	# of Facilities	Reprocessing capacity (t / day)	# of Facilities	Area (㎡)
Hokkaido	112	1,277	8	347	10	314	130	1,938	101	62,720
Aomori	7	360	0	0	0	0	7	360	17	9,135
Iwate	20	247	0	0	1	42	21	289	24	7,193
Miyagi	19	334	0	0	0	0	19	334	19	5,367
Akita	16	265	0	0	0	0	16	265	10	6,671
Yamagata	11	2,380	1	0	1	52	13	2,432	9	3,932
Fukushima	29	358	1	6	1	5	31	370	24	16,045
Ibaraki	25	518	2	277	1	3	28	798	37	17,587
Tochigi	16	319	1	0	1	58	18	377	10	5,138
Gunma	16	222	4	81	0	0	20	303	17	5,015
Saitama	44	1,110	0	0	1	4	45	1,114	42	13,357
Chiba	20	706	0	0	2	40	22	746	31	33,820
Tokyo	36	3,598	0	0	2	35	38	3,633	12	7,015
Kanagawa	25	988	0	0	1	150	26	1,138	25	18,489
Niigata	11	398	1	65	0	0	12	463	12	3,824
Toyama	5	81	1	28	0	0	6	109	9	3,506
Ishikawa	11	279	5	367	2	10	18	656	12	19,082
Fukui	9	168	0	0	0	0	9	168	14	6,760
Yamanashi	5	75	0	0	0	0	5	75	3	1,759
Nagano	30	610	0	0	1	20	31	630	32	34,226
Gifu	27	301	1	90	1	4	29	395	25	43,610
Shizuoka	26	285	1	150	0	0	27	435	29	27,055
Aichi	39	737	3	21	1	68	43	826	32	27,786
Mie	37	640	7	485	5	80	49	1,205	29	42,821
Shiga	21	179	1	22	1	8	23	209	17	7,075
Kyoto	14	395	2	55	2	23	18	473	20	5,245
Osaka	20	445	0	0	0	0	20	445	27	11,523
Hyogo	41	474	2	63	1	10	44	547	30	11,619
Nara	18	130	1	35	1	2	20	167	21	8,806
Wakayama	15	181	2	36	1	5	18	222	11	6,199
Tottori	4	145	0	0	0	0	4	145	4	1,663
Shimane	18	229	1	30	2	60	21	319	16	3,081
Okayama	26	232	0	0	0	0	26	232	32	8,707
Hiroshima	29	615	7	550	1	30	37	1,195	40	18,444
Yamaguchi	30	497	4	76	1	3	35	576	28	14,190
Tokushima	13	106	0	0	1	30	14	136	20	7,675
Kagawa	14	216	0	0	0	0	14	216	8	7,297
Ehime	35	1,014	2	34	1	8	38	1,056	18	7,546
Kochi	18	166	2	59	0	0	20	225	29	14,027
Fukuoka	29	662	6	608	4	576	39	1,846	13	4,916
Saga	18	126	1	1	1	5	20	132	14	10,377
Nagasaki	17	216	0	0	2	27	19	243	20	5,689
Kumamoto	27	359	2	133	0	0	29	492	19	14,655
Oita	13	340	2	112	1	32	16	484	13	5,919
Miyazaki	12	261	0	0	2	103	14	364	15	6,292
Kagoshima	27	304	0	0	1	5	28	309	21	8,452
Okinawa	15	290	0	0	0	0	15	290	20	10,914
Total	1,070	23,837	71	3,731	54	1,811	1,195	29,379	1,031	622,223

Note:

・ The data in the above table includes the facilities that have started construction and the ones temporarily closed for FY2013, excluding the shutdowns.

Source: Compiled from “Waste Treatment in Japan” (an annual report, FY2013) by Waste Management Division, Waste and Recycling Department, Minister's Secretariat, MOE Government of Japan

4.11 Development of Bulky Waste Disposal Facilities

(t / day)

	Combination		Crushing		Compression		Total	
	# of Facilities	Capacity (t/day)	# of Facilities	Capacity (t/day)	# of Facilities	Capacity (t/day)	# of Facilities	Capacity (t/day)
FY1978	127	6,386	142	6,948	82	1,892	351	15,226
1979	106	5,885	165	8,468	52	1,836	323	16,189
1980	141	7,529	206	7,716	57	1,540	404	16,785
1981	149	7,827	211	8,159	57	1,399	417	17,385
1982	165	8,011	222	8,247	53	1,021	440	17,279
1983	175	8,413	239	9,907	57	1,152	471	19,472
1984	170	8,125	258	10,833	66	1,333	494	20,291
1985	187	8,712	285	11,107	66	1,343	538	21,162
1986	230	10,865	241	10,372	70	1,456	541	22,693
1987	259	11,953	227	9,853	70	1,473	556	23,279
1988	282	12,485	233	9,875	79	1,681	594	24,041
1989	292	12,952	247	10,167	73	1,695	612	24,814
1990	333	14,413	241	9,802	64	1,509	638	25,724
1991	295	12,653	240	9,778	53	1,243	588	23,674
1992	337	14,529	217	8,674	56	1,259	610	24,462
1993	314	12,977	233	9,355	50	1,113	597	23,445
1994	354	14,518	228	9,436	50	1,096	632	25,050
1995	372	15,541	228	9,020	54	1,156	654	25,717
1996	397	16,350	218	8,773	55	1,159	670	26,281
1997	412	16,839	210	8,339	58	1,276	680	26,454
1998	429	17,201	203	8,728	54	1,071	686	27,000
1999	429	16,928	200	8,375	51	1,149	680	26,452
2000	441	17,181	201	8,201	53	1,226	695	26,608
2001	439	17,038	202	8,702	57	1,611	698	27,350
2002	436	16,695	210	8,804	50	1,331	696	26,830
2003	434	16,644	210	8,413	44	1,388	688	26,445
2004	426	16,435	225	9,023	42	1,045	693	26,503
2005	413	16,247	228	8,900	41	954	682	26,101
2006	391	15,410	251	9,303	39	1,076	681	25,789
2007	390	14,852	247	9,294	39	1,074	676	25,219
2008	376	13,918	245	9,746	41	1,118	662	24,782
2009	368	13,261	250	10,217	43	1,170	661	24,648
2010	368	13,694	247	9,781	38	1,025	653	24,500
2011	365	13,365	253	9,958	38	929	656	24,252
2012	354	12,985	270	10,543	36	867	660	24,395
2013	347	12,725	265	10,195	37	865	649	23,785

Notes:
- "Bulky waste disposal facility" is defined as a facility to crush and compress into small pieces and also to look for the valuables out of the bulky waste.
- The facilities in the above table are the ones built by the municipalities and the consortiums. There includes the ones whose constructions have started and the ones temporarily closed just for the current year.
- "Crushing": The facilities to crush combustible bulky waste into small pieces for incineration
  "Compression": The facilities to crush and compress incombustible bulk waste into small pieces
  "Combination": The facilities to crush both combustible and non-combustible bulky waste

Source: "Waste Treatment in Japan (an annual report)," Waste Management Division, Waste and Recycling Department, Minister's Secretariat, MOE, the Government of Japan

4.12 Development of Bulky Waste Facilities by Prefecture

(Actual FY2013)

	Combination		Crushing		Compression		Total	
	Number of Facilities	Operating capacities (t / day)	Number of Facilities	Operating capacities (t / day)	Number of Facilities	Operating capacities (t / day)	Number of Facilities	Operating capacities (t / day)
Hokkaido	27	1,155	23	381	2	19	52	1,555
Aomori	5	260	1	20	0	0	6	280
Iwate	8	223	5	80	1	50	14	353
Miyagi	10	438	3	200	0	0	13	638
Akita	7	167	5	108	0	0	12	275
Yamagata	4	177	2	25	0	0	6	202
Fukushima	10	346	5	150	0	0	15	496
Ibaraki	17	588	4	112	3	95	24	795
Tochigi	9	290	3	57	0	0	12	348
Gunma	13	535	0	0	1	20	14	555
Saitama	18	773	13	471	2	60	33	1,304
Chiba	17	983	7	293	3	208	27	1,483
Tokyo	15	617	9	825	2	42	26	1,484
Kanagawa	13	528	15	643	3	32	31	1,202
Niigata	15	384	6	116	1	30	22	530
Toyama	1	9	3	90	1	80	5	179
Ishikawa	2	14	1	5	0	0	3	19
Fukui	2	55	4	160	0	0	6	215
Yamanashi	4	135	1	40	0	0	5	175
Nagano	6	163	1	3	0	0	7	166
Gifu	5	200	3	139	1	3	9	342
Shizuoka	8	498	11	338	1	8	20	845
Aichi	12	571	9	634	1	20	22	1,225
Mie	3	44	11	484	0	0	14	528
Shiga	6	232	8	189	1	8	15	429
Kyoto	3	125	5	580	0	0	8	705
Osaka	11	589	16	841	1	22	28	1,452
Hyogo	13	560	13	866	0	0	26	1,426
Nara	9	235	4	123	1	9	14	367
Wakayama	0	0	2	105	2	11	4	116
Tottori	0	0	1	45	0	0	1	45
Shimane	4	91	5	122	4	36	13	249
Okayama	5	156	7	194	0	0	12	350
Hiroshima	7	230	7	169	1	50	15	449
Yamaguchi	3	60	8	270	0	0	11	330
Tokushima	4	51	3	46	0	0	7	97
Kagawa	1	100	0	0	0	0	1	100
Ehime	5	212	5	70	0	0	10	282
Kochi	4	36	1	5	1	3	6	44
Fukuoka	8	197	13	854	2	53	23	1,104
Saga	5	153	0	0	0	0	5	153
Nagasaki	3	180	0	0	0	0	3	180
Kumamoto	5	78	9	143	0	0	14	221
Oita	3	49	1	15	0	0	4	64
Miyazaki	2	45	1	10	0	0	3	55
Kagoshima	12	170	5	63	0	0	17	233
Okinawa	3	24	6	112	2	6	11	142
Total	347	12,725	265	10,195	37	865	649	23,785

Note:

・ The facilities in the above table include the ones whose construction started in 2013 and the ones temporarily closed just for the current year, but exclude the shutdowns.

Source: "Waste Treatment in Japan (FY2013)," Waste Management Division, Waste and Recycling Department, Minister's Secretariat, MOE, the Government of Japan

4.13 Changes in Total Volume of Final Disposal

	Mountains		Sea surface		Water surface		Flatlands		Total		Final disposal amount (1,000 t/yr.)	Final disposal site remaining volume (billion m³)	Number of remaining years (yr.)
	# of Facilities	Total capacities (1,000 m³)	# of Facilities	Total capacities (1,000 m³)	# of Facilities	Total capacities (1,000 m³)	# of Facilities	Total capacities (1,000 m³)	# of Facilities	Total capacities (1,000 m³)			
FY1978	1,707		39		59		872		2,677	392,565	19,900	2.39	9.8
1979	1,583		39		54		799		2,475	425,761	20,352	2.14	8.6
1980	1,600		36		50		796		2,482	356,109	19,715	1.92	7.9
1981	1,619		40		48		779		2,486	403,156	17,250	1.82	8.6
1982	1,612		36		46		778		2,472	377,583	18,188	1.76	7.9
1983	1,638		34		41		766		2,479	382,728	16,763	1.71	8.3
1984	1,633		37		38		731		2,439	403,062	16,196	1.74	8.8
1985	1,630		38		42		721		2,431	410,096	16,048	1.96	10.0
1986	1,629		36		39		707		2,411	429,895	16,020	2.07	10.6
1987	1,637		31		35		692		2,395	423,858	16,486	1.95	9.7
1988	1,628		35		34		676		2,373	414,278	16,897	1.71	8.3
1989	1,601		34		31		668		2,334	424,535	17,008	1.67	8.0
1990	1,617		33		33		653		2,336	415,622	16,809	1.57	7.6
1991	1,567		31		29		623		2,250	420,219	16,379	1.57	7.8
1992	1,639	269,679	33	101,103	29	2,880	662	62,044	2,363	435,705	15,296	1.54	8.2
1993	1,621	273,033	32	101,818	26	2,560	642	59,862	2,321	437,273	14,959	1.49	8.1
1994	1,675	289,180	31	101,808	26	3,672	660	63,372	2,392	458,032	14,142	1.51	8.7
1995	1,683	293,194	30	100,956	22	3,573	626	64,913	2,361	462,636	13,602	1.42	8.5
1996	1,692	301,166	31	99,679	24	3,548	641	72,624	2,388	477,017	13,093	1.59	9.9
1997	1,620	297,908	33	119,069	24	3,548	589	71,816	2,266	492,341	12,008	1.72	11.7
1998	1,546	300,340	32	119,094	21	3,460	529	70,607	2,128	493,501	11,350	1.78	12.8
1999	1,503	293,985	30	138,303	19	3,438	513	65,442	2,065	501,168	10,869	1.72	12.9
2000	1,520	289,326	30	108,903	18	3,048	509	70,442	2,077	471,719	10,514	1.65	12.8
2001	1,504	287,137	29	110,668	17	2,844	509	68,054	2,059	468,702	9,949	1.60	13.2
2002	1,499	287,712	28	110,637	19	2,924	501	68,127	2,047	469,400	9,030	1.53	13.8
2003	1,491	290,460	27	109,820	17	2,848	504	68,815	2,039	471,943	8,452	1.45	14.0
2004	1,464	286,843	25	92,076	16	2,937	504	67,638	2,009	449,493	8,093	1.38	14.0
2005	1,343	271,340	24	110,787	15	3,061	465	64,423	1,847	449,611	7,328	1.33	14.8
2006	1,346	273,094	25	117,340	13	3,016	469	63,766	1,853	457,217	6,809	1.30	15.6
2007	1,333	272,375	23	100,008	14	13,308	462	63,815	1,832	449,507	6,349	1.22	15.7
2008	1,321	278,832	26	100,264	11	11,177	465	65,515	1,823	455,788	5,531	1.22	18.0
2009	1,298	275,148	28	117,743	9	873	465	67,330	1,800	461,095	5,072	1.16	18.7
2010	1,281	274,539	26	117,479	10	1,119	458	67,473	1,775	460,610	4,837	1.14	19.3
2011	1,274	274,253	26	117,479	9	1,104	463	68,249	1,772	461,086	4,821	1.14	19.4
2012	1,262	272,313	26	117,479	9	1,106	445	68,098	1,742	458,996	4,648	1.12	19.7
2013	1,243	268,486	25	127,112	9	1,106	446	68,124	1,723	464,829	4,538	1.07	19.3

Notes:

・ Facility is defined as final disposal site built by a municipality or a consortium including a one established by Tokyo Metropolitan government, and also including a one of which construction started in an indicated year.

・The number of remaining years represents the period (yrs.) of the site capacity available until it gets filled with landfill waste, without newly developing final disposal sites. It is calculated by the equation of (the residual volume at the end of the fiscal year) ÷ (the final disposal volume of the fiscal year ÷ weight of landfill waste). (Landfill waste density: 0.8163)

・In FY2005, residual volume and remaining years were recalculated retro-respectively; an incremental residual volume in the amount of 7,737,000 m3 reflecting aerial survey results, and so forth, was added up to that in each year prior to 2005. Accordingly, remaining years for each year were recalculated.

・The facilities in the above table include the ones whose construction started in an indicated fiscal year and the ones temporarily closed just for that year, but exclude the shutdowns.

Source: "Waste Treatment in Japan (an annual report)," Waste Management Division, Waste and Recycling Department, Minister's Secretariat, MOE, the Government of Japan

4.14 Development of Final Disposal Sites by Prefecture

(Actual FY2013)

	Mountains				Sea surface				Water surface			
	# of Sites	Landfill area (1,000 ㎡)	Total capacity (1,000 ㎥)	Remaining capacity (1,000 ㎥)	# of Sites	Landfill area (1,000 ㎡)	Total capacity (1,000 ㎥)	Remaining capacity (1,000 ㎥)	# of Sites	Landfill area (1,000 ㎡)	Total capacity (1,000 ㎥)	Remaining capacity (1,000 ㎥)
Hokkaido	129	4,297	36,408	5,267	0	0	0	0	0	0	0	0
Aomori	43	1,121	9,503	1,758	0	0	0	0	0	0	0	0
Iwate	34	614	4,126	956	0	0	0	0	0	0	0	0
Miyagi	34	873	9,939	5,367	0	0	0	0	0	0	0	0
Akita	48	923	7,193	1,183	0	0	0	0	0	0	0	0
Yamagata	8	392	1,948	436	0	0	0	0	0	0	0	0
Fukushima	39	708	6,289	928	0	0	0	0	0	0	0	0
Ibaraki	10	247	1,709	231	0	0	0	0	0	0	0	0
Tochigi	7	162	1,498	391	0	0	0	0	0	0	0	0
Gunma	21	407	3,507	945	0	0	0	0	0	0	0	0
Saitama	8	117	965	250	0	0	0	0	0	0	0	0
Chiba	35	803	6,532	1,347	2	194	1,660	4	0	0	0	0
Tokyo	19	466	7,926	1,562	2	3,600	93,150	22,206	0	0	0	0
Kanagawa	21	256	2,592	546	3	632	9,857	1,913	0	0	0	0
Niigata	28	518	5,716	458	0	0	0	0	0	0	0	0
Toyama	13	211	2,276	631	0	0	0	0	0	0	0	0
Ishikawa	21	636	7,351	2,036	0	0	0	0	0	0	0	0
Fukui	15	176	1,108	467	1	10	56	23	0	0	0	0
Yamanashi	1	12	48	0	0	0	0	0	0	0	0	0
Nagano	47	513	3,370	804	0	0	0	0	0	0	0	0
Gifu	43	746	7,724	1,712	0	0	0	0	2	23	78	55
Shizuoka	50	688	5,922	1,126	0	0	0	0	1	20	246	29
Aichi	39	1,021	10,864	1,948	2	14	116	96	0	0	0	0
Mie	35	749	7,418	1,267	0	0	0	0	0	0	0	0
Shiga	17	254	2,033	212	0	0	0	0	3	132	443	6
Kyoto	33	761	8,951	4,160	0	0	0	0	0	0	0	0
Osaka	6	223	2,088	339	1	731	11,690	2,333	0	0	0	0
Hyogo	33	1,886	34,146	11,758	1	14	43	14	0	0	0	0
Nara	10	242	2,147	866	0	0	0	0	0	0	0	0
Wakayama	17	268	1,599	372	0	0	0	0	0	0	0	0
Tottori	2	78	937	210	0	0	0	0	0	0	0	0
Shimane	28	286	2,191	391	0	0	0	0	0	0	0	0
Okayama	38	623	4,767	926	0	0	0	0	0	0	0	0
Hiroshima	24	507	5,973	2,030	1	184	1,003	0	0	0	0	0
Yamaguchi	35	304	2,540	492	6	257	1,785	537	3	74	340	75
Tokushima	10	57	298	88	1	20	87	14	0	0	0	0
Kagawa	20	398	3,345	646	0	0	0	0	0	0	0	0
Ehime	28	473	3,785	997	1	24	363	356	0	0	0	0
Kochi	22	227	1,857	606	0	0	0	0	0	0	0	0
Fukuoka	24	747	9,380	3,535	1	573	7,150	1,772	0	0	0	0
Saga	12	126	674	193	0	0	0	0	0	0	0	0
Nagasaki	26	547	6,145	2,012	1	17	40	8	0	0	0	0
Kumamoto	17	343	4,254	1,344	1	2	6	0	0	0	0	0
Oita	13	535	5,458	1,026	0	0	0	0	0	0	0	0
Miyazaki	18	452	4,228	850	0	0	0	0	0	0	0	0
Kagoshima	56	752	9,314	1,449	0	0	0	0	0	0	0	0
Okinawa	6	58	444	188	1	13	107	67	0	0	0	0
Total	1,243	26,798	268,486	66,309	25	6,285	127,112	29,345	9	249	1,106	165

Note:

・'The facilities in the above table include the ones whose construction started in 2013 and the ones temporarily closed just for the current year, but excludes the shutdowns.

Source: Compiled from “Waste Treatment in Japan” (for FY2013) by Waste Management Division, Waste and Recycling Department, Minister's Secretariat, MOE Government of Japan

4.14 Development of Final Disposal Sites by Prefecture

(Actual FY2013)

	Flatlands				Total			
	# of Sites	Landfill area (1,000 ㎡)	Total capacity (1,000 ㎥)	Remaining capacity (1,000 ㎥)	# of Sites	Landfill area (1,000 ㎡)	Total capacity (1,000 ㎥)	Remaining capacity (1,000 ㎥)
Hokkaido	56	3,084	22,020	3,449	185	7,380	58,428	8,715
Aomori	8	141	704	164	51	1,263	10,207	1,923
Iwate	1	11	69	9	35	625	4,196	965
Miyagi	0	0	0	0	34	873	9,939	5,367
Akita	17	365	1,254	368	65	1,288	8,447	1,551
Yamagata	4	136	787	234	12	527	2,735	670
Fukushima	8	151	875	257	47	859	7,164	1,186
Ibaraki	7	108	779	282	17	355	2,488	513
Tochigi	6	85	430	98	13	246	1,928	490
Gunma	11	189	1,032	321	32	595	4,539	1,266
Saitama	37	513	2,563	672	45	630	3,527	921
Chiba	22	359	2,082	258	59	1,355	10,274	1,610
Tokyo	1	65	639	72	22	4,132	101,715	23,840
Kanagawa	8	605	8,533	402	32	1,493	20,982	2,861
Niigata	21	424	2,094	855	49	942	7,810	1,313
Toyama	0	0	0	0	13	211	2,276	631
Ishikawa	0	0	0	0	21	636	7,351	2,036
Fukui	1	9	37	1	17	195	1,201	492
Yamanashi	3	41	197	0	4	53	245	0
Nagano	23	184	1,088	255	70	697	4,458	1,059
Gifu	26	252	1,176	170	71	1,021	8,977	1,937
Shizuoka	16	208	807	201	67	915	6,975	1,356
Aichi	43	1,026	8,128	858	84	2,060	19,107	2,902
Mie	5	104	401	61	40	852	7,819	1,328
Shiga	12	303	1,422	208	32	689	3,898	426
Kyoto	1	38	318	71	34	798	9,269	4,231
Osaka	4	72	352	113	11	1,026	14,129	2,786
Hyogo	10	214	1,926	538	44	2,114	36,114	12,309
Nara	1	27	264	0	11	269	2,411	866
Wakayama	0	0	0	0	17	268	1,599	372
Tottori	1	18	56	22	3	96	993	232
Shimane	6	53	228	106	34	339	2,419	497
Okayama	9	243	818	6	47	866	5,585	932
Hiroshima	5	294	2,289	387	30	984	9,265	2,417
Yamaguchi	6	183	768	98	50	819	5,433	1,201
Tokushima	8	82	538	0	19	159	922	102
Kagawa	2	110	320	17	22	508	3,665	663
Ehime	1	2	5	0	30	499	4,153	1,354
Kochi	5	14	45	10	27	240	1,902	616
Fukuoka	9	75	365	88	34	1,395	16,895	5,395
Saga	3	161	493	128	15	286	1,167	321
Nagasaki	11	62	206	120	38	626	6,390	2,140
Kumamoto	3	54	221	57	21	399	4,481	1,401
Oita	2	65	280	49	15	601	5,739	1,075
Miyazaki	5	49	230	70	23	501	4,458	920
Kagoshima	5	481	317	56	61	1,234	9,631	1,506
Okinawa	13	132	969	462	20	202	1,520	717
Total	446	10,793	68,124	11,592	1,723	44,125	464,829	107,410

4.15 Changes in Annual Expenses for the Waste Management

(Unit: JPY million)

				FY2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Population (Unit: 1,000)				127,507	127,606	127,712	127,781	127,487	127,530	127,429	127,302	127,147	128,622	128,394
Revenue (for municipalities)	Total			1,750,387	1,709,195	1,683,421	1,862,654	1,859,902	1,823,476	1,832,022	1,838,976	1,790,511	1,789,097	1,851,007
	General budget			1,411,268	1,353,531	1,357,926	1,350,754	1,345,236	1,343,986	1,340,785	1,352,056	1,293,130	1,288,579	1,284,848
	Specific revenue sources	National treasury disbursement		37,276	50,178	31,033	56,650	46,752	37,099	47,880	50,662	38,467	50,324	70,529
		Prefectural treasury disbursement		6,072	8,448	5,462	5,406	5,370	5,068	6,651	8,632	9,167	6,593	9,198
		Usage fees, charges		144,119	152,860	166,229	231,113	234,965	235,077	230,928	231,863	234,256	239,669	249,149
		Municipal bonds		91,539	76,539	61,551	125,949	107,184	85,012	99,293	82,206	94,109	82,502	99,042
		Other		60,113	67,640	61,220	92,781	120,395	117,234	106,484	113,558	121,381	121,430	138,241
		Subtotal		339,119	355,665	325,495	511,900	514,666	479,490	491,236	486,920	497,381	500,518	566,159
Expenses (the sum of municipalities and cooperatives)	Waste management expenses			1,960,037	1,934,330	1,902,500	1,862,654	1,859,902	1,816,944	1,825,588	1,838,976	1,790,372	1,788,541	1,851,007
	Construction improvement costs	Construction costs	Collection and transportation facilities	–	–	–	26,182	3,130	1,873	3,037	1,539	1,176	2,718	3,308
			Intermediate processing	260,994	214,516	207,294	164,470	177,530	153,068	173,406	151,144	157,111	172,961	217,052
			Final disposal sites	62,110	71,692	62,040	42,114	23,966	17,096	19,356	24,031	23,323	23,799	23,482
			Others	12,844	12,117	10,276	7,302	4,777	4,230	5,071	8,483	5,158	5,085	8,754
		Inspection fees		6,104	3,450	2,796	4,277	3,188	3,430	3,356	3,769	4,782	4,237	4,874
		Subtotal		342,052	301,774	279,610	244,344	212,591	179,696	204,227	188,965	191,549	208,801	257,470
		*Note) Allotted charges to partial-affairs-association		37,009	38,136	31,318	24,852	24,967	27,357	24,848	20,810	20,230	31,044	42,175
	Processing, Maintenance and Operation costs	Personnel cost		561,777	550,043	534,988	522,187	519,282	495,676	473,014	488,464	438,448	416,013	398,352
		Processing costs	Collection and transportation facilities	77,212	78,861	75,538	67,048	71,687	65,967	63,975	64,792	61,618	60,437	57,187
			Intermediate processing	277,061	283,153	277,656	277,683	284,230	285,512	273,069	268,864	271,938	262,107	266,012
			Final disposal sites	36,770	36,140	28,825	29,817	31,756	34,624	33,288	36,714	34,693	32,751	34,490
		Purchases cost of vehicles and other supplies		10,105	7,702	8,016	7,329	5,933	6,792	7,959	4,855	8,066	7,518	5,478
		Outsourcing fees	Collection and transportation facilities	–	–	268,980	277,128	279,929	292,206	300,504	300,959	305,142	310,861	322,076
			Intermediate processing	–	–	238,779	254,516	264,068	279,650	287,098	294,342	298,755	307,319	315,982
			Final disposal sites	–	–	47,949	48,543	52,948	46,911	44,140	43,036	42,675	45,968	52,514
			Others	–	–	29,053	22,999	25,167	21,386	21,393	22,766	22,168	21,262	20,716
			Outsourcing expenses	529,341	545,482	584,761	603,186	622,112	640,152	653,134	661,102	668,739	685,411	711,287
		Others		43,950	43,210	–	–	–	–	–	–	–	–	–
		Survey and Research costs		–	–	3,918	1,575	1,222	1,426	1,167	1,173	1,277	961	997
		Subtotal		1,536,216	1,544,591	1,513,702	1,508,825	1,536,223	1,530,149	1,505,606	1,525,964	1,484,779	1,465,199	1,473,803
		*Note) Allotted charges to partial-affairs-association		285,904	272,923	250,682	241,279	243,117	247,728	249,676	234,946	236,950	239,549	241,806
	Other			81,769	87,964	106,392	109,485	111,088	107,100	115,756	124,047	114,043	114,542	119,734
Annual expenses for Waste Management Project (on a per capita basis)				15,400	15,200	14,900	14,600	14,600	14,200	14,300	14,400	14,100	13,900	14,400

Note:

・ "Allotted charges to partial-affairs-association" is an allotment to municipalities that the partial-affairs-association are comprised of and payable to it. As the charges are used for the expenses for waste management by the association, the charges are not included in total.

Source: "Waste Treatment in Japan (an annual report) ," Waste Management Division, Waste and Recycling Department, Minister's Secretariat, MOE, the Government of Japan

4.16 Changes in Annual Expenditures for Waste Management Program

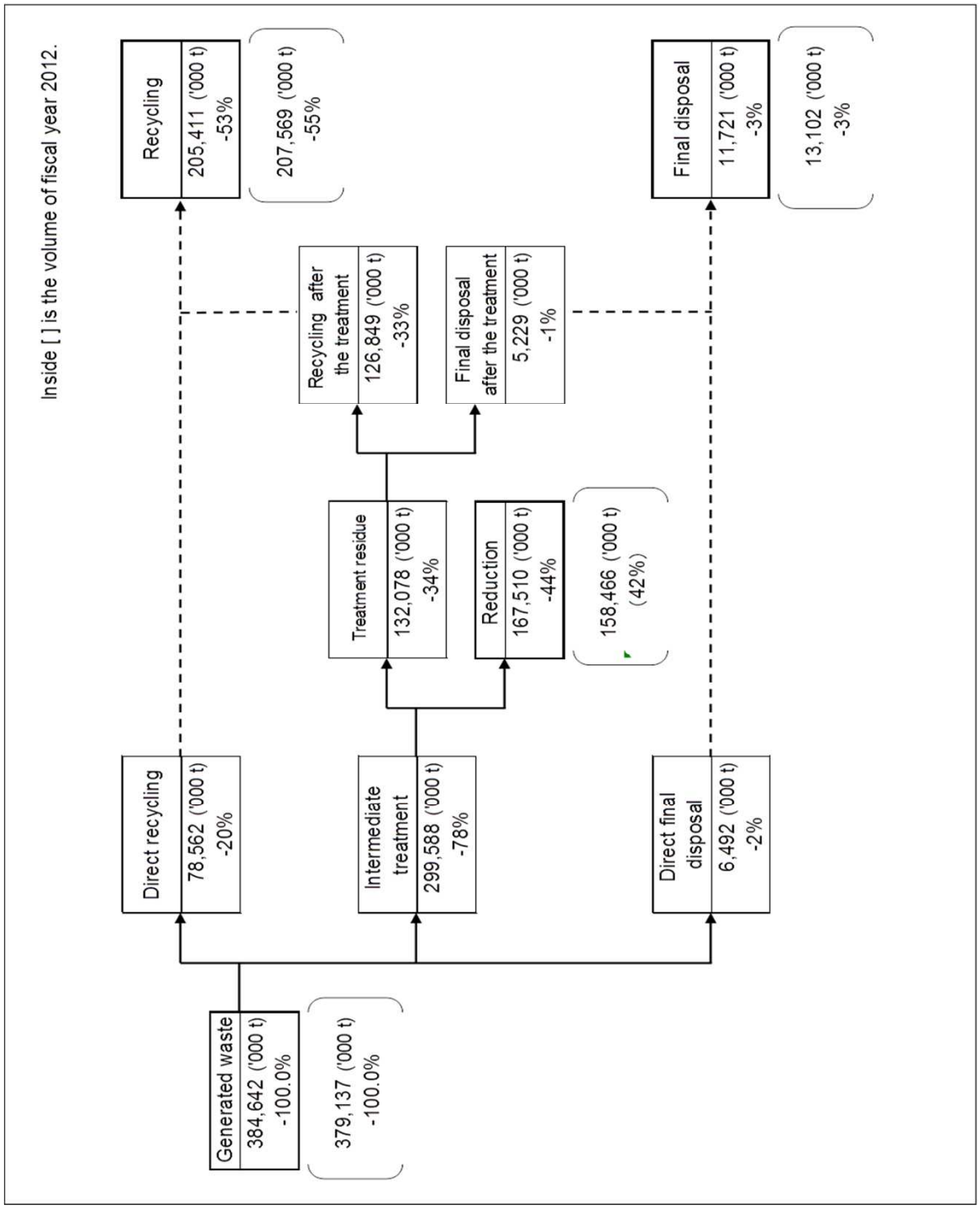
(Unit: 100 million yen)

FY1982	12,697
1983	13,075
1984	13,213
1985	13,545
1986	13,926
1987	14,427
1988	14,493
1989	16,190
1990	17,563
1991	19,986
1992	22,663
1993	27,404
1994	26,269
1995	26,542
1996	26,990
1997	26,654
1998	26,694
1999	26,519
2000	27,381
2001	29,464
2002	27,309
2003	22,746
2004	22,450
2005	22,161
2006	21,344
2007	21,060
2008	20,557
2009	20,572
2010	20,605
2011	20,167
2012	20,052
2013	20,715

Note:
Expenditure of waste management program = Waste management expenses + night-soil disposal expenses

Source: "Waste Treatment in Japan （an annual report）," Waste Management Division, Waste and Recycling Department, Minister's Secretariat, MOE, the Government of Japan

4.17 Flow of treatment for industrial waste (in FY2013)



Note:
* Figures for each item are rounded off; therefore, the total may not equal the sum of breakdown.

Source: "An field survey of the industrial waste disposals & Research of recycling processes （for 2013）," Waste Management Division, Waste and Recycling Department, Minister's Secretariat, MOE, the Government of Japan

4.18 Generation of Industrial Waste by Industrial Sector

Industrial sector	FY1975		1980		1985		1990		1991		1992	
	Generated volume (1,000 t)	Percentage (%)	Generated volume (1,000 t)	Percentage (%)	Generated volume (1,000 t)	Percentage (%)	Generated volume (1,000 t)	Percentage (%)	Generated volume (1,000 t)	Percentage (%)	Generated volume (1,000 t)	Percentage (%)
Agriculture	41,319	17.5	49,913	17.1	62,690	20.1	77,390	19.6	77,495	19.5	76,642	19.0
Forestry	-	-	-	-	0	0.0	0	0.0	0	0.0	0	0.0
Fishery	-	-	-	-	12	0.0	61	0.0	234	0.1	64	0.0
Mining	12,527	5.3	37,006	12.7	26,017	8.3	34,000	8.6	34,802	8.7	26,541	6.6
Construction	33,871	14.3	30,416	10.4	57,481	18.4	71,139	18.0	77,105	19.4	85,715	21.2
Manufacturing	135,707	57.4	159,773	54.7	132,324	42.4	150,388	38.1	143,711	36.1	141,000	34.9
Food	8,962	3.8	13,697	4.7	12,093	3.9	11,862	3.0	11,500	2.9	12,027	3.0
Beverages, tobacco and feedstuff							4,621	1.2	4,828	1.2	5,514	1.4
Textile industry (garment and other textile products --- classified separately before 2007)	6,435	2.7	4,658	1.6	2,629	0.8	1,907	0.5	2,202	0.6	2,084	0.5
Garment and other textile products (*consolidated into "Textile industry" after 2008)	-	-	76	0.0	115	0.0	137	0.0	181	0.0	225	0.1
Lumber and wood products	4,879	2.1	4,919	1.7	4,034	1.3	3,439	0.9	3,460	0.9	3,665	0.9
Furniture and fixture	825	0.3	886	0.3	425	0.1	477	0.1	497	0.1	604	0.1
Pulp, paper, and paper products	9,947	4.2	13,628	4.7	12,800	4.1	27,502	7.0	21,213	5.3	27,208	6.7
Printing and related business	620	0.3	1,033	0.4	870	0.3	745	0.2	483	0.1	722	0.2
Chemical industry	6,875	2.9	10,594	3.6	10,364	3.3	12,624	3.2	11,949	3.0	11,414	2.8
Petroleum and coal products	4,396	1.9	1,014	0.3	2,482	0.8	1,017	0.3	1,158	0.3	1,096	0.3
Plastic products	-	-	-	-	-	-	629	0.2	767	0.2	829	0.2
Rubber products	162	0.1	195	0.1	290	0.1	271	0.1	318	0.1	336	0.1
Leather-tanning, leather products and fur skins	-	-	195	0.1	263	0.1	153	0.0	174	0.0	151	0.0
Cement and ceramic industry	12,660	5.4	18,452	6.3	17,941	5.7	17,492	4.4	17,566	4.4	17,025	4.2
Iron and steel industry	64,142	27.1	65,284	22.3	50,098	16.0	48,561	12.3	48,346	12.1	38,443	9.5
Non-ferrous metals	4,550	1.9	9,635	3.3	2,150	0.7	4,196	1.1	4,249	1.1	4,131	1.0
Metal products	2,506	1.1	4,407	1.5	4,452	1.4	4,835	1.2	4,841	1.2	4,547	1.1
General machinery and equipment	2,155	0.9	2,571	0.9	2,152	0.7	1,750	0.4	1,781	0.4	1,579	0.4
Electrical machinery and equipment Telecommunications machinery and equipment Electronic, components and devices	1,089	0.5	3,115	1.1	3,811	1.2	3,737	0.9	3,870	1.0	4,282	1.1
Machinery and equipment for transportation	4,284	1.8	4,573	1.6	4,450	1.4	3,848	1.0	3,746	0.9	4,537	1.1
Precision machinery and equipment	139	0.1	217	0.1	177	0.1	230	0.1	239	0.1	199	0.0
Arms	-	-	26	0.0	-	-	35	0.0	-	-	-	-
Others	1,081	0.5	599	0.2	729	0.2	320	0.1	343	0.1	382	0.1
Electric, gas, heat supply, and water supply industries	5,189	2.2	8,301	2.8	27,748	8.9	54,983	13.9	57,789	14.5	65,456	16.2
Information and telecommunications industry, transport industry	457	0.2	1,252	0.4	582	0.2	512	0.1	946	0.2	1,562	0.4
Wholesaler, retailer, accommodations, drinking and eating services	5,959	2.5	3,830	1.3	3,441	1.1	4,054	1.0	3,882	1.0	3,534	0.9
Medical care and welfare	-	-	-	-	-	-	-	-	-	-	-	-
Education, learning support, complex services, and service industry	1,413	0.6	1,820	0.6	1,476	0.5	2,198	0.6	1,894	0.5	2,143	0.5
Public service	-	-	-	-	500	0.2	12	0.0	89	0.0	820	0.0
Total	236,442	100.0	292,311	100.0	312,271	100.0	394,736	100.0	397,949	100.0	403,480	100.0

Industrial sector	FY1993		1994		1995		1996		1997		1998	
	Generated volume (1,000 t)	Percentage (%)	Generated volume (1,000 t)	Percentage (%)	Generated volume (1,000 t)	Percentage (%)	Generated volume (1,000 t)	Percentage (%)	Generated volume (1,000 t)	Percentage (%)	Generated volume (1,000 t)	Percentage (%)
Agriculture	75,761	19.1	74,878	18.5	73,336	18.6	72,517	17.9	93,995	22.7	92,973	22.8
Forestry	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Fishery	40	0.0	71	0.0	68	0.0	58	0.0	43	0.0	42	0.0
Mining	29,173	7.4	30,793	7.6	27,717	7.0	27,999	6.9	23,515	5.7	20,334	5.0
Construction	81,605	20.6	76,931	19.0	75,201	19.1	77,138	19.1	77,142	18.6	79,071	19.4
Manufacturing	134,657	33.9	139,033	34.3	130,910	33.2	136,563	33.8	126,028	30.4	125,045	30.6
Food	10,847	2.7	11,856	2.9	10,514	2.7	11,696	2.9	10,626	2.6	10,940	2.7
Beverages, tobacco and feedstuff	5,215	1.3	7,377	1.8	6,253	1.6	5,331	1.3	3,972	1.0	4,608	1.1
Textile industry (garment and other textile products --- classified separately before 2007)	1,879	0.5	1,457	0.4	1,483	0.4	2,550	0.6	2,440	0.6	2,337	0.6
Garment and other textile products (*consolidated into "Textile industry" after 2008)	196	0.0	179	0.0	190	0.0	198	0.0	165	0.0	132	0.0
Lumber and wood products	3,312	0.8	4,377	1.1	3,989	1.0	4,071	1.0	3,346	0.8	1,998	0.5
Furniture and fixture	466	0.1	468	0.1	468	0.1	464	0.1	381	0.1	392	0.1
Pulp, paper, and paper products	29,373	7.4	24,917	6.1	25,879	6.6	28,296	7.0	27,080	6.5	26,054	6.4
Printing and related business	784	0.2	846	0.2	953	0.2	1,083	0.3	1,028	0.2	1,217	0.3
Chemical industry	14,986	3.8	17,928	4.4	18,807	4.8	17,840	4.4	16,487	4.0	14,630	3.6
Petroleum and coal products	801	0.2	812	0.2	730	0.2	808	0.2	755	0.2	994	0.2
Plastic products	1,246	0.3	1,321	0.3	1,276	0.3	1,421	0.4	1,269	0.3	923	0.2
Rubber products	294	0.1	282	0.1	303	0.1	314	0.1	306	0.1	364	0.1
Leather-tanning, leather products and fur skins	147	0.0	156	0.0	138	0.0	157	0.0	104	0.0	78	0.0
Cement and ceramic industry	17,250	4.3	19,425	4.8	15,738	4.0	15,791	3.9	15,373	3.7	13,118	3.2
Iron and steel industry	30,934	7.8	30,081	7.4	27,051	6.9	28,033	6.9	24,056	5.8	29,527	7.2
Non-ferrous metals	2,742	0.7	3,416	0.8	3,578	0.9	3,794	0.9	4,488	1.1	4,086	1.0
Metal products	3,941	1.0	3,771	0.9	3,103	0.8	3,470	0.9	3,204	0.8	3,762	0.9
General machinery and equipment	1,590	0.4	1,576	0.4	1,834	0.5	1,721	0.4	1,610	0.4	1,699	0.4
Electrical machinery and equipment Telecommunications machinery and equipment Electronic, components and devices	3,768	0.9	3,741	0.9	3,621	0.9	4,092	1.0	4,082	1.0	3,835	0.9
Machinery and equipment for transportation	4,003	1.0	3,992	1.0	4,018	1.0	4,163	1.0	4,413	1.1	3,787	0.9
Precision machinery and equipment	178	0.0	179	0.0	221	0.0	228	0.1	216	0.1	246	0.1
Arms	-	-	-	-	-	-	-	-	-	-	-	-
Others	705	0.2	876	0.2	762	0.2	1,043	0.3	626	0.2	317	0.1
Electric, gas, heat supply, and water supply industries	67,488	17.0	74,610	18.4	77,635	19.7	79,970	19.8	86,371	20.8	87,458	21.4
Information and telecommunications industry, transport industry	656	0.2	1,054	0.3	971	0.2	1,102	0.3	705	0.2	509	0.1
Wholesaler, retailer, accommodations, drinking and eating services	4,386	1.1	5,454	1.3	5,716	1.5	5,689	1.4	5,227	1.3	1,476	0.4
Medical care and welfare	-	-	-	-	-	-	-	-	-	-	-	-
Education, learning support, complex services, and service industry	2,669	0.7	2,200	0.5	2,245	0.6	3,546	0.9	1,793	0.4	1,544	0.4
Public service	433	0.1	429	0.1	12	0.0	21	0.0	34	0.0	39	0.0
Total	396,869	100.0	405,455	100.0	393,812	100.0	404,602	100.0	414,854	100.0	408,490	100.0

4.18 Generation of Industrial Waste by Industrial Sector

Industrial sector	FY1999		2000		2001		2002		2003		2004	
	Generated volume (1,000 t)	Percentage (%)	Generated volume (1,000 t)	Percentage (%)	Generated volume (1,000 t)	Percentage (%)	Generated volume (1,000 t)	Percentage (%)	Generated volume (1,000 t)	Percentage (%)	Generated volume (1,000 t)	Percentage (%)
Agriculture	91,855	23.0	90,804	22.4	90,430	22.6	90,147	22.9	90,589	22.0	89,285	21.4
Forestry	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Fishery	28	0.0	24	0.0	29	0.0	14	0.0	13	0.0	16	0.0
Mining	17,655	4.4	16,751	4.1	13,772	3.4	12,409	3.2	13,945	3.4	13,393	3.2
Construction	76,236	19.1	79,011	19.5	76,151	19.0	73,510	18.7	75,006	18.2	79,055	19.0
Manufacturing	120,046	30.0	123,730	30.5	122,883	30.7	122,551	31.2	135,090	32.8	137,422	32.9
Food	10,999	2.8	10,639	2.6	10,829	2.7	10,104	2.6	10,201	2.5	9,789	2.3
Beverages, tobacco and feedstuff	4,566	1.1	4,692	1.2	4,682	1.2	4,743	1.2	4,098	1.0	4,339	1.0
Textile industry (garment ~~Clothing~~ and other textile products --- classified separately before 2007)	2,070	0.5	1,219	0.3	1,127	0.3	1,046	0.3	916	0.2	952	0.2
Garment ~~Clothing~~ and other textile products (*consolidated into "Textile industry" after 2008)	119	0.0	124	0.0	109	0.0	100	0.0	104	0.0	108	0.0
Lumber and wood products	1,879	0.5	1,627	0.4	1,634	0.4	1,439	0.4	1,864	0.5	1,661	0.4
Furniture and fixture	368	0.1	345	0.1	332	0.1	303	0.1	325	0.1	307	0.1
Pulp, paper, and paper products	26,284	6.6	27,058	6.7	27,138	6.8	30,402	7.7	36,601	8.9	36,776	8.8
Printing and related business	1,216	0.3	1,198	0.3	1,239	0.3	1,175	0.3	1,114	0.3	910	0.2
Chemical industry	16,440	4.1	16,863	4.2	16,887	4.2	16,792	4.3	19,398	4.7	16,887	4.0
Petroleum and coal products	1,020	0.3	1,231	0.3	1,259	0.3	1,428	0.4	1,457	0.4	1,425	0.3
Plastic products	959	0.2	964	0.2	928	0.2	964	0.2	1,050	0.3	1,198	0.3
Rubber products	372	0.1	387	0.1	361	0.1	362	0.1	310	0.1	334	0.1
Leather-tanning, leather products and fur skins ~~Su~~	100	0.0	91	0.0	90	0.0	96	0.0	141	0.0	80	0.0
Cement and ceramic industry	11,564	2.9	12,532	3.1	12,174	3.0	10,862	2.8	10,464	2.5	9,561	2.3
Iron and steel industry	25,389	6.4	26,598	6.6	26,450	6.6	26,503	6.7	30,724	7.5	37,300	8.9
Non-ferrous metals	3,353	0.8	4,114	1.0	3,994	1.0	3,732	0.9	3,768	0.9	3,507	0.8
Metal products	3,573	0.9	3,506	0.9	3,479	0.9	3,266	0.8	2,406	0.6	2,484	0.6
General machinery and equipment	1,602	0.4	1,812	0.4	1,743	0.4	1,418	0.4	1,551	0.4	1,700	0.4
Electrical machinery and equipment Telecommunications machinery and equipment Electronic, components and devices	3,932	1.0	4,729	1.2	4,251	1.1	3,617	0.9	4,094	1.0	3,726	0.9
Machinery and equipment for transportation	3,873	1.0	3,582	0.9	3,791	0.9	3,862	1.0	4,132	1.0	3,486	0.8
Precision machinery and equipment	149	0.0	168	0.0	169	0.0	155	0.0	182	0.0	165	0.0
Arms	-	-	-	-	-	-	-	-	-	-	-	-
Others	219	0.1	206	0.1	215	0.1	182	0.0	190	0.0	727	0.2
Electric, gas, heat supply, and water supply industries	90,220	22.6	91,504	22.5	93,145	23.3	89,743	22.8	92,248	22.4	92,362	22.1
Information and telecommunications industry, transport industry	498	0.1	888	0.2	804	0.2	1,152	0.3	1,084	0.3	1,362	0.3
Wholesaler, retailer, accommodations, drinking and eating services	1,664	0.4	1,790	0.4	1,478	0.4	1,526	0.4	1,551	0.4	2,193	0.5
Medical care and welfare	-	-	-	-	-	-	260	0.1	268	0.1	253	0.1
Education, learning support, complex services, and service industry	1,566	0.4	1,512	0.4	1,530	0.4	1,900	0.5	1,814	0.4	1,644	0.4
Public service	31	0.0	22	0.0	21	0.0	23	0.0	15	0.0	171	0.0
Total	399,799	100.0	406,037	100.0	400,243	100.0	393,234	100.0	411,623	100.0	417,156	100.0

Industrial sector	FY2005		2006		2007	
	Generated volume (1,000 t)	Percentage (%)	Generated volume (1,000 t)	Percentage (%)	Generated volume (1,000 t)	Percentage (%)
Agriculture	87,543	20.8	87,924	21.0	87,811	20.9
Forestry	0	0.0	0	0.0	0	0.0
Fishery	40	0.0	21	0.0	25	0.0
Mining	14,039	3.3	13,947	3.3	12,509	3.0
Construction	76,466	18.1	77,534	18.5	77,253	18.4
Manufacturing	141,628	33.6	137,338	32.8	141,613	33.8
Food	9,805	2.3	9,720	2.3	9,812	2.3
Beverages, tobacco and feedstuff	3,219	0.8	3,147	0.8	3,168	0.8
Textile industry (garment and other textile products --- classified separately before 2007)	934	0.2	823	0.2	766	0.2
Garment and other textile products (*consolidated into "Textile industry" after 2008)	124	0.0	111	0.0	115	0.0
Lumber and wood products	1,550	0.4	1,458	0.3	1,405	0.3
Furniture and fixture	269	0.1	252	0.1	320	0.1
Pulp, paper, and paper products	35,493	8.4	33,872	8.1	35,479	8.5
Printing and related business	1,069	0.3	980	0.2	960	0.2
Chemical industry	16,796	4.0	17,209	4.1	17,578	4.2
Petroleum and coal products	1,764	0.4	1,802	0.4	1,572	0.4
Plastic products	1,150	0.3	1,277	0.3	1,297	0.3
Rubber products	316	0.1	329	0.1	394	0.1
Leather-tanning, leather products and fur skins	66	0.0	63	0.0	58	0.0
Cement and ceramic industry	9,949	2.4	9,594	2.3	10,097	2.4
Iron and steel industry	43,176	10.2	38,375	9.2	38,266	9.1
Non-ferrous metals	3,556	0.8	4,124	1.0	4,891	1.2
Metal products	2,323	0.6	3,487	0.8	3,576	0.9
General machinery and equipment	1,739	0.4	1,848	0.4	2,172	0.5
Electrical machinery and equipment Telecommunications machinery and equipment Electronic, components and devices	3,856	0.9	4,768	1.1	5,149	1.2
Machinery and equipment for transportation	3,615	0.9	3,506	0.8	3,911	0.9
Precision machinery and equipment	221	0.1	194	0.0	263	0.1
Arms	-	-	-	-	-	-
Others	640	0.2	397	0.1	366	0.1
Electric, gas, heat supply, and water supply industries	97,068	23.0	97,080	23.2	95,810	22.8
Information and telecommunications industry, transport industry	834	0.2	889	0.2	697	0.2
Wholesaler, retailer accommodations, drinking and eating services	2,010	0.5	1,671	0.4	1,683	0.4
Medical care and welfare	329	0.1	237	0.1	249	0.1
Education, learning support, complex services, and service industry	1,637	0.4	1,739	0.4	1,744	0.4
Public service	83	0.0	29	0.0	30	0.0
Total	421,677	100.0	418,497	100.0	419,425	100.0

4.18 Generation of Industrial Waste by Industrial Sector

Industrial sector	FY2008		2009		2010		2011		2012		2013	
	Generated volume (1,000 t)	Percentage (%)	Generated volume (1,000 t)	Percentage (%)	Generated volume (1,000 t)	Percentage (%)	Generated volume (1,000 t)	Percentage (%)	Generated volume (1,000 t)	Percentage (%)	Generated volume (1,000 t)	Percentage (%)
Agriculture & Forestry	87,974	21.8	88,410	22.7	85,090	22.0	84,710	22.2	85,721	22.6	82,963	21.6
Fishery	17	0.0	36	0.0	18	0.0	15	0.0	7	0.0	9	0.0
Mining	12,866	3.2	13,865	3.6	11,577	3.0	10,466	2.7	9,481	2.5	8,785	2.3
Construction	76,465	18.9	73,640	18.9	73,211	19.0	75,395	19.8	74,124	19.6	80,348	20.9
Manufacturing	124,899	30.9	113,205	29.0	115,813	30.0	110,898	29.1	108,970	28.7	109,470	28.5
Food	9,041	2.2	9,135	2.3	8,524	2.2	8,626	2.3	8,484	2.2	8,650	2.2
Beverages, tobacco and feedstuff	3,280	0.8	3,458	0.9	3,140	0.8	2,970	0.8	2,864	0.8	2,649	0.7
Textile industry (garment and other textile products --- classified separately before 2007)	812	0.2	986	0.3	634	0.2	625	0.2	604	0.2	768	0.2
Garment and other textile products (*consolidated into "Textile industry" after 2008)	-	-	-	-					-	-		
Lumber and wood products	1,096	0.3	913	0.2	691	0.2	648	0.2	626	0.2	846	0.2
Furniture and fixture	247	0.1	228	0.1	214	0.1	217	0.1	329	0.1	194	0.1
Pulp, paper, and paper products	33,583	8.3	34,170	8.8	33,405	8.7	29,895	7.8	28,996	7.6	30,441	7.9
Printing and related business	727	0.2	653	0.2	624	0.2	558	0.1	1,272	0.3	522	0.1
Chemical industry	14,216	3.5	13,253	3.4	13,890	3.6	13,373	3.5	12,913	3.2	12,807	3.3
Petroleum and coal products	1,356	0.3	975	0.3	924	0.2	1,003	0.3	2,166	0.6	1,133	0.3
Plastic products	1,061	0.3	982	0.3	1,117	0.3	1,091	0.3	992	0.3	1,019	0.3
Rubber products	262	0.1	279	0.1	300	0.1	301	0.1	330	0.1	254	0.1
Leather-tanning, leather products and fur skins	105	0.0	189	0.0	64	0.0	57	0.0	84	0.0	42	0.0
Cement and ceramic industry	8,529	2.1	8,510	2.2	8,987	2.3	8,779	2.3	7,129	1.9	7,603	2.0
Iron and steel industry	31,955	7.9	24,898	6.4	28,634	7.4	28,249	7.4	28,655	7.6	30,755	8.0
Non-ferrous metals	3,848	1.0	2,382	0.6	2,567	0.7	2,494	0.7	3,352	0.9	1,479	0.4
Metal products	2,354	0.6	2,950	0.8	2,054	0.5	1,951	0.5	2,309	0.6	2,042	0.5
General machinery and equipment, Others	4,128	1.0	2,243	0.6	2,577	0.7	2,871	0.8	2,681	0.7	2,287	0.6
Electrical machinery and equipment Telecommunications machinery and equipment Electronic, components and devices	4,823	1.2	4,067	1.0	4,339	1.1	4,106	1.1	3,625	1.0	3,341	0.9
Machinery and equipment for transportation	3,475	0.9	2,935	0.8	3,128	0.8	3,083	0.8	2,277	0.6	2,639	0.7
Electric, gas, heat supply, and water supply industries	96,283	23.9	96,371	24.7	95,572	24.8	95,576	25.1	96,473	25.4	97,936	25.5
Information and telecommunications industry, transport industry	762	0.2	823	0.2	759	0.2	691	0.1	810	0.2	1,005	0.3
Wholesaler, retailer, accommodations, drinking and eating services	1,892	0.5	1,671	0.4	1,833	0.5	1,762	0.5	1,715	0.5	1,890	0.5
Medical care and welfare	534	0.1	465	0.1	447	0.1	138	0.0	384	0.1	515	0.1
Education, learning support, complex services, and service industry	1,795	0.4	1,184	0.3	1,542	0.4	1,138	0.3	1,385	0.3	1,594	0.4
Public service	174	0.0	77	0.0	127	0.0	96	0.0	67	0.0	128	0.0
Total	403,661	100.0	389,746	100.0	385,988	100.0	381,206	100.0	379,137	100.0	384,642	100.0

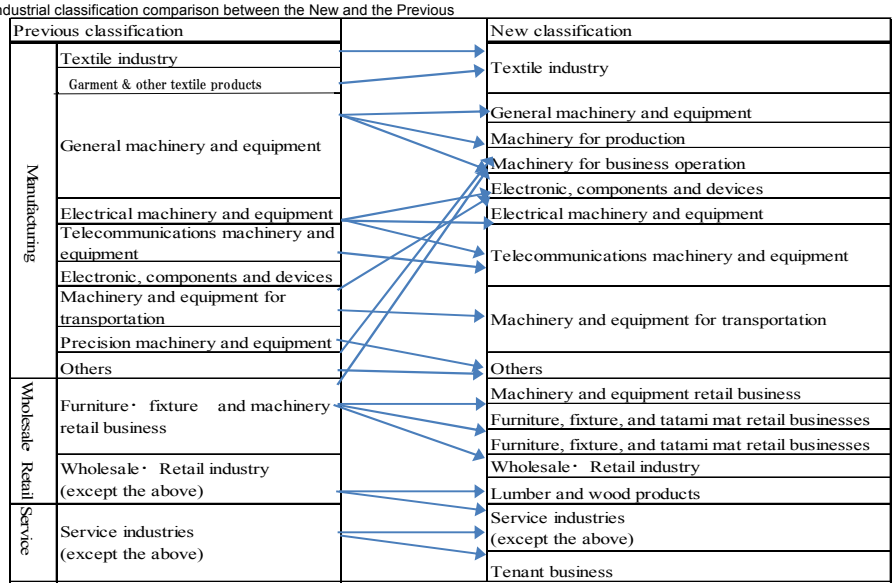
Notes:

* The sum of the industrial waste to each industry may not be exactly the same as that of the total figures due to rounding.

* Because of the revision of Japan Standard Industrial Classification, the new industrial classification has been used since 2008.

Source: Compiled from "An field survey of the industrial waste disposals & Research of recycling processes " (for 2013) by Waste Management Division, Waste and Recycling Department, Minister's Secretariat, MOE Government

Industrial classification comparison between the New and the Previous



4.19 Generation of Industrial Waste by Type

Type	FY1975		1980		1985		1990		1995		FY2000	
	Volume (1,000 t)	Percentage (%)	Volume (1,000 t)	Percentage (%)	Volume (1,000 t)	Percentage (%)	Volume (1,000 t)	Percentage (%)	Volume (1,000 t)	Percentage (%)	Volume (1,000 t)	Percentage (%)
Cinder	1,203	0.5	1,797	0.6	2,409	0.8	2,678	0.7	3,258	0.8	1,892	0.5
Sludge	37,660	15.9	88,190	30.2	112,821	36.1	171,450	43.4	185,508	47.1	189,181	46.6
Waste oil	2,289	1.0	2,419	0.8	3,672	1.2	3,471	0.9	3,173	0.8	3,248	0.8
Waste acid	9,872	4.2	10,219	3.5	4,320	1.4	2,674	0.7	4,441	1.1	2,938	0.7
Waste alkali	14,435	6.1	6,090	2.1	923	0.3	1,547	0.4	2,020	0.5	1,563	0.4
Waste plastics	1,480	0.6	2,232	0.8	2,816	0.9	4,334	1.1	6,253	1.6	5,790	1.4
Waste paper	991	0.4	1,624	0.6	1,472	0.5	1,193	0.3	1,897	0.5	2,156	0.5
Wood waste	7,890	3.3	6,628	2.3	8,058	2.6	6,573	1.7	7,161	1.8	5,511	1.4
Waste fiber	204	0.1	101	0.0	98	0.0	99	0.0	84	0.0	76	0.0
Animal and plant residue	2,596	1.1	4,323	1.5	2,207	0.7	3,543	0.9	3,961	1.0	4,052	1.0
Animal offal												
Waste rubber	597	0.3	92	0.0	78	0.0	94	0.0	87	0.0		
Scrap metal	9,985	4.2	13,111	4.5	8,877	2.8	8,533	2.2	6,482	1.6	44	0.0
Waste glass and ceramics	2,870	1.2	2,297	0.8	3,910	1.3	5,295	1.3	6,067	1.5	8,096	2.0
Slag	60,950	25.8	60,561	20.7	41,649	13.3	42,507	10.8	24,242	6.2	4,797	1.2
Debris	34,144	14.4	30,007	10.3	48,948	15.7	54,798	13.9	58,460	14.8	16,448	4.1
Animal excreta	41,184	17.4	49,629	17.0	62,462	20.0	77,208	19.5	72,996	18.5	58,829	14.5
Animal corpse	38	0.0	62	0.0	96	0.0	28	0.0	145	0.0	90,489	22.3
Soot and dust	8,101	3.4	11,731	4.0	6,224	2.0	7,491	1.9	7,578	1.9	163	0.0
Total	236,489	100.0	292,312	100.0	312,271	100.0	394,736	100.0	393,812	100.0	406,037	100.0

Type	2001		2002		2003		2004		2005		FY2006	
	Volume (1,000 t)	Percentage (%)	Volume (1,000 t)	Percentage (%)	Volume (1,000 t)	Percentage (%)	Volume (1,000 t)	Percentage (%)	Volume (1,000 t)	Percentage (%)	Volume (1,000 t)	Percentage (%)
Cinder	1,941	0.5	1,782	0.5	1,949	0.5	1,935	0.5	1,857	0.4	1,969	0.5
Sludge	186,895	46.7	182,438	46.4	190,379	46.3	188,306	45.1	187,688	44.5	185,327	44.2
Waste oil	3,089	0.8	3,185	0.8	3,817	0.9	3,310	0.8	3,471	0.8	3,406	0.8
Waste acid	2,822	0.7	2,681	0.7	2,662	0.6	2,738	0.7	2,477	0.6	5,405	1.3
Waste alkali	1,528	0.4	1,492	0.4	1,942	0.5	2,039	0.5	2,079	0.5	2,561	0.6
Waste plastics	5,473	1.4	5,552	1.4	5,462	1.3	5,939	1.4	6,052	1.4	6,094	1.5
Waste paper	2,159	0.5	2,096	0.5	1,923	0.5	1,756	0.4	1,748	0.4	1,664	0.4
Wood waste	5,357	1.3	4,963	1.3	5,915	1.4	5,959	1.4	5,951	1.4	5,852	1.4
Waste fiber	78	0.0	70	0.0	72	0.0	75	0.0	93	0.0	80	0.0
Animal and plant residue	4,110	1.0	4,477	1.1	3,393	0.8	3,393	0.8	3,117	0.7	3,008	0.7
Animal offal												
Waste rubber			203	0.1	99	0.0	119	0.0	97	0.0	104	0.0
Scrap metal	38	0.0	37	0.0	43	0.0	47	0.0	55	0.0	48	0.0
Waste glass and ceramics	8,233	2.1	7,684	2.0	9,044	2.2	10,039	2.4	10,947	2.6	11,004	2.6
Slag	4,605	1.2	4,545	1.2	4,273	1.0	5,473	1.3	4,555	1.1	4,922	1.2
Debris	16,350	4.1	16,249	4.1	17,037	4.1	21,192	5.1	26,186	6.2	21,288	5.1
Animal excreta	57,096	14.3	55,365	14.1	59,246	14.4	62,497	15.0	60,562	14.4	60,823	14.5
Animal corpse	90,094	22.5	89,799	22.8	88,977	21.6	87,686	21.0	87,204	20.7	87,573	20.9
Soot and dust	191	0.0	211	0.1	200	0.0	186	0.0	196	0.0	234	0.1
Total	400,243	100.0	393,234	100.0	411,623	100.0	417,156	100.0	421,677	100.0	418,497	99.8

4.19 Generation of Industrial Waste by Type

Type	2008		2009		2010		2011		FY2012		FY2013	
	Volume (1,000 t)	Percentage (%)	Volume (1,000 t)	Percentage (%)	Volume (1,000 t)	Percentage (%)	Volume (1,000 t)	Percentage (%)	Volume (1,000 t)	Percentage (%)	Volume (1,000 t)	Percentage (%)
Cinder	2,053	0.5	1,821	0.5	1,835	0.5	1,836	0.5	1,869	0.5	1,833	0.5
Sludge	176,114	43.6	173,629	44.5	169,885	44.0	166,132	43.6	164,638	43.4	164,115	42.7
Waste oil	3,617	0.9	3,048	0.8	3,251	0.8	3,118	0.8	3,212	0.8	2,912	0.8
Waste acid	2,721	0.7	2,542	0.7	2,483	0.6	2,752	0.7	2,595	0.7	2,778	0.7
Waste alkali	2,648	0.7	1,867	0.5	2,563	0.7	1,889	0.5	1,778	0.5	2,243	0.6
Waste plastics	6,445	1.6	5,665	1.5	6,185	1.6	5,710	1.5	5,691	1.5	6,120	1.6
Waste paper	1,383	0.3	1,265	0.3	1,153	0.3	1,118	0.3	1,020	0.3	896	0.2
Wood waste	6,262	1.6	6,294	1.6	6,121	1.6	6,233	1.6	6,229	1.6	6,991	1.8
Waste fiber	74	0.0	69	0.0	79	0.0	79	0.0	68	0.0	89	0.0
Animal and plant residue	3,194	0.8	2,888	0.7	2,902	0.8	2,754	0.7	2,572	0.7	2,603	0.7
Animal offal									70	0.0	97	0.0
Waste rubber	124	0.0	113	0.0	126	0.0	84	0.0	34	0.0	26	0.0
Scrap metal	41	0.0	27	0.0	32	0.0	32	0.0	7,267	1.9	7,815	2.0
Waste glass and ceramics	8,766	2.2	7,830	2.0	7,246	1.9	7,242	1.9	6,083	1.6	6,468	1.7
Slag	6,174	1.5	5,411	1.4	6,031	1.6	6,361	1.7	16,398	4.3	16,761	4.4
Debris	18,440	4.6	14,109	3.6	16,006	4.1	15,493	4.1	58,887	15.5	63,233	16.4
Animal excreta	61,189	15.2	58,921	15.1	58,264	15.1	59,839	15.7	85,434	22.5	82,626	21.5
Animal corpse	87,698	21.7	88,162	22.6	84,847	22.0	84,459	22.2	153	0.0	125	0.0
Soot and dust	168	0.0	161	0.0	156	0.0	172	0.0	15,138	4.0	16,911	4.4
Total	403,661	100.0	389,746	100.0	385,988	100.0	381,206	100.0	379,137	100.0	384,642	100.0

Note: The sum of each type of industrial waste may be deffernt from the total value because of rounding.

Source: "Survey of the industrial waste disposals & of recycling processes (for 2013)," Waste Management Division, Waste and Recycling, Department, Minister's Secretariat, MOE, the Government of Japan

4.20 Changes in Disposal/Treatment of Industrial Waste

(Unit : 100 million t)

	Recycling	Reduction	Final disposal
FY1980	1.24	1.00	0.68
1985	1.29	0.92	0.91
1990	1.51	1.55	0.89
1991	1.58	1.49	0.91
1992	1.61	1.53	0.89
1993	1.56	1.57	0.84
1994	1.56	1.70	0.80
1995	1.47	1.78	0.69
1996	1.50	1.87	0.68
1997	1.69	1.79	0.67
1998	1.72	1.79	0.58
1999	1.71	1.79	0.50
2000	1.84	1.77	0.45
2001	1.83	1.75	0.42
2002	1.82	1.72	0.40
2003	2.01	1.80	0.30
2004	2.14	1.77	0.26
2005	2.19	1.79	0.24
2006	2.15	1.82	0.22
2007	2.19	1.80	0.20
2008	2.17	1.70	0.17
2009	2.07	1.69	0.14
2010	2.05	1.67	0.14
2011	2.00	1.69	0.12
2012	2.08	1.58	0.13
2013	2.05	1.68	0.12

Source: "Survey of industrial waste generation and treatment 2013," Industrial Waste Section, Waste and Recycling Division, Minister's Secretariat, MOE, the Government of Japan

4.21 Changes in the Number of Permissions for the Industrial Waste and the Remaining Periods of the Capacity of Final Disposal Sites

	Number of Intermediate waste processing facilities	Landfill site (Isolated-Type)		Landfill site (Non-Leachate-Controlled Type)		Landfill site (Leachate-Controlled Type)		Total		Final disposal volume (10,000 t)	Remaining years
		Number of Facilities	Remaining capacity (10,000 ㎥)	Number of Facilities	Remaining capacity (10,000 ㎥)	Number of Facilities	Remaining capacity (10,000 ㎥)	Number of Facilities	Remaining capacity (10,000 ㎥)		
FY1990	9,912	39	1.68	1,464	5,615	1,096	9,867	2,599	15,484	8,900	1.7
1991	10,440	37	3.05	1,490	6,257	1,003	11,312	2,530	17,572	9,100	1.9
1992	10,579	37	2.03	1,609	7,194	990	12,869	2,636	20,065	8,900	2.3
1993	11,018	37	1.37	1,639	8,020	1,011	13,050	2,687	21,071	8,400	2.5
1994	11,226	40	2.08	1,676	7,955	1,004	13,272	2,720	21,229	8,000	2.7
1995	11,683	44	3.86	1,688	8,403	1,072	12,577	2,804	20,984	6,900	3.0
1996	11,976	44	4.34	1,776	8,665	1,100	12,098	2,920	20,767	6,800	3.1
1997	14,625	45	3.95	1,805	8,355	1,101	12,747	2,951	21,106	6,700	3.2
1998	14,007	43	3.50	1,834	8,412	1,095	10,616	2,972	19,031	5,800	3.3
1999	13,854	41	3.37	1,669	8,205	1,039	10,186	2,749	18,394	5,000	3.7
2000	17,381	41	2.78	1,674	8,088	1,035	9,518	2,750	17,609	4,500	3.9
2001	19,540	41	2.95	1,651	7,610	1,019	10,328	2,711	17,941	4,200	4.3
2002	19,284	39	2.88	1,632	7,309	970	10,866	2,641	18,178	4,000	4.5
2003	19,916	35	3.12	1,554	6,910	958	11,504	2,547	18,418	3,000	6.1
2004	20,613	33	2.32	1,484	7,289	961	11,192	2,478	18,483	2,600	7.2
2005	19,164	33	1.98	1,413	7,649	889	10,974	2,335	18,625	2,400	7.7
2006	19,076	33	1.91	1,382	7,722	880	10,126	2,295	17,850	2,200	8.2
2007	19,444	32	1.84	1,361	7,567	860	9,646	2,253	17,215	2,000	8.5
2008	19,345	32	1.61	1,326	7,544	841	10,093	2,199	17,639	1,700	10.6
2009	19,320	32	1.25	1,283	7,542	842	10,459	2,157	18,003	1,400	13.2
2010	19,147	25	1.18	1,244	6,933	778	12,517	2,047	19,452	1,400	13.6
2011	18,880	25	1.06	1,201	6,868	764	11,736	1,990	18,603	1,200	14.9
2012	18,829	25	0.99	1,164	7,063	753	11,206	1,942	18,271	1,300	13.9
2013	18,691	24	0.99	1,120	6,710	736	10,470	1,880	17,181	1,200	14.7

Note:
The remaining years = the remaining capacity / the final disposal volume (conversion factor: 1m3/t)

Source: "Administrative organization of industrial waste," "Survey of industrial waste generation and treatment," Industrial Waste Section, Waste and Recycling Division, Minister's Secretariat, MOE, the Government of Japan

4.22 Number of illegal-dumping cases of Industrial Waste and volume dumped by Prefecture (Newly-reported cases) (1)

	2001		2002		2003		2004		2005		2006		2007	
	Number of Cases	Volume dumped (t)	Number of Cases	Volume dumped (t)	Number of Cases	Volume dumped (t)	Number of Cases	Volume dumped (t)	Number of Cases	Volume dumped (t)	Number of Cases	Volume dumped (t)	Number of Cases	Volume dumped (t)
Hokkaido	31	3,345	25	28,961	19	2,363	17	1,341	23	14,344	25	10,590	20	7,739
Aomori	39	3,732	40	7,618	42	5,564	30	3,921	16	2,957	17	9,295	24	1,971
Iwate	7	36,481	5	1,724	10	11,701	27	4,837	17	8,155	13	3,479	11	2,116
Miyagi	16	2,892	9	11,316	16	58,134	9	3,002	5	1,358	2	181	2	58
Akita	5	494	4	323	3	388	2	45	0	0	0	0	0	0
Yamagata	7	826	4	261	5	320	1	150	2	134	0	0	2	27,706
Fukushima	14	7,178	17	3,612	33	2,441	25	1,390	15	796	24	3,796	3	123
Ibaraki	165	25,501	159	21,568	126	11,218	123	72,022	101	15,564	59	10,924	39	15,260
Tochigi	29	3,008	53	6,159	27	7,545	40	17,567	25	6,794	39	4,393	21	7,967
Gunma	51	8,499	40	4,277	45	6,850	26	13,766	37	1,108	20	491	4	201
Saitama	12	454	13	1,040	1	13	1	800	1	27	1	66	0	0
Chiba	270	47,731	150	36,007	191	11,712	92	9,725	73	26,294	79	23,861	40	13,853
Tokyo	0	0	2	30	0	0	0	0	0	0	0	0	0	0
Kanagawa	1	170	2	120	1	10	0	0	5	418	2	4,791	0	0
Niigata	28	2,429	26	1,434	26	3,613	17	3,526	5	1,341	18	4,191	8	825
Toyama	2	106	1	150	3	130	0	0	4	160	0	0	1	11
Ishikawa	14	4,878	6	644	6	7,187	3	1,090	10	1,924	11	2,152	2	64
Fukui	3	926	5	1,098	8	225	9	414	3	218	3	2,184	4	473
Yamanashi	8	398	2	192	6	3,098	4	778	2	20	2	140	0	0
Nagano	12	2,025	8	3,111	1	41	1	25	1	20	2	85	0	0
Gifu	3	75	2	752	10	567,272	2	70	3	33,500	1	238	1	40
Shizuoka	12	2,163	12	1,651	10	389	4	204,533	6	1,961	10	1,989	13	796
Aichi	8	2,585	7	20,201	11	687	4	10,613	1	60	4	7,770	5	476
Mie	15	977	24	6,124	27	6,766	20	2,608	11	808	6	130	14	507
Shiga	9	590	4	174	12	455	7	4,722	8	282	11	600	10	1,860
Kyoto	52	24,773	22	8,895	21	5,367	5	2,201	5	1,261	3	354	2	3,055
Osaka	8	8,257	7	3,169	0	0	3	45	1	700	1	1,000	0	0
Hyogo	17	19,759	14	9,953	11	3,677	7	443	12	14,607	18	5,073	11	5,995
Nara	5	515	3	40	9	1,183	24	10,333	10	1,160	14	5,845	7	1,270
Wakayama	11	4,360	14	7,202	2	36	8	853	10	418	5	846	1	88
Tottori	13	888	2	194	8	258	3	57	2	23	7	956	7	1,225
Shimane	11	953	11	4,236	5	647	1	0	2	87	4	100	2	122
Okayama	10	1,819	20	3,830	21	972	21	992	10	625	12	1,069	1	20
Hiroshima	7	625	5	584	8	1,839	1	12	8	1,598	5	959	6	506
Yamaguchi	3	838	4	21,641	6	309	1	13	1	2,140	0	0	1	18
Tokushima	3	1,458	6	1,123	3	43	2	147	5	580	2	200	4	80
Kagawa	8	679	4	123	10	886	8	505	6	207	1	211	0	0
Ehime	14	224	10	1,064	5	1,137	5	30,865	10	17,844	14	991	10	434
Kochi	11	1,771	17	507	19	1,102	13	252	5	167	5	513	0	0
Fukuoka	24	4,748	15	1,646	8	826	4	412	5	887	4	265	5	103
Saga	8	2,382	6	496	0	0	2	54	2	1,037	3	760	1	70
Nagasaki	56	3,465	37	2,358	30	2,931	29	1,713	22	1,244	16	634	43	1,731
Kumamoto	19	1,899	29	25,511	44	7,332	17	1,755	9	1,500	18	2,035	9	530
Oita	21	782	33	4,184	3	122	4	139	5	1,434	3	50	7	807
Miyazaki	27	1,583	11	446	7	117	28	1,886	38	2,652	43	16,616	27	3,072
Kagoshima	52	1,950	29	1,153	27	3,314	22	1,627	11	1,019	21	1,011	14	549
Okinawa	9	496	15	61,283	8	4,759	1	24	5	2,745	6	401	0	0
Total	1,150	241,676	934	318,181	894	744,978	673	410,824	558	172,179	554	131,233	382	101,718

Notes:
1) A figures is the number of illegal dumping cases that were identified and reported in an indicated year.
2) The aggregated amount of illegal dumping in each column does not match the total value because of rounding.
3) The number of cases in a government-decreed cities is included in the prefecture in which the city is situated.

Source: "Status of Illegal Dumping of Industrial Waste (2014)," Office for Waste Disposal Management, Waste Management and Recycling Department, Minister's Secretariat, Ministry of the Environment, the Government of Japan

4.22 Number of illegal-dumping cases of Industrial Waste and volume dumped by Prefecture (including Newly-reported cases) (2)

	2008		2009		2010		2011		2012		2013		2014	
	Number of Cases	Volume dumped (t)	Number of Cases	Volume dumped (t)	Number of Cases	Volume dumped (t)	Number of Cases	Volume dumped (t)	Number of Cases	Volume dumped (t)	Number of Cases	Volume dumped (t)	Number of Cases	Volume dumped (t)
Hokkaido	10	1,850	6	263	6	1,030	5	5,935	4	2,566	7	2,630	4	377
Aomori	7	829	5	2,521	3	102	1	86	13	1,383	10	540	8	2,283
Iwate	15	5,285	11	3,229	3	4,333	9	291	4	440	2	76	0	0
Miyagi	5	454	6	2,712	0	0	0	0	0	0	1	21	1	176
Akita	1	45	1	110	0	0	0	0	0	0	0	0	0	0
Yamagata	0	0	3	176	0	0	1	55	0	0	0	0	1	17
Fukushima	4	44,018	9	3,957	2	812	3	1,398	0	0	2	173	7	473
Ibaraki	59	35,873	36	5,848	28	3,486	34	8,310	41	3,713	28	4,684	34	2,932
Tochigi	13	4,678	7	653	12	5,289	4	8,098	7	3,926	12	610	5	2,458
Gunma	5	178	5	550	8	565	8	449	5	3,365	6	707	6	463
Saitama	0	0	0	0	1	20	0	0	0	0	0	0	0	0
Chiba	16	2,287	39	3,220	35	5,830	34	8,380	16	4,502	13	2,281	7	385
Tokyo	0	0	0	0	0	0	0	0	0	0	0	0	1	30
Kanagawa	0	0	0	0	0	0	0	0	1	22	0	0	0	0
Niigata	7	854	14	726	4	676	3	665	5	229	2	192	7	751
Toyama	2	40	0	0	0	0	0	0	0	0	0	0	0	0
Ishikawa	5	773	4	88	3	89	5	113	2	230	0	0	6	160
Fukui	7	361	8	357	3	126	2	917	2	531	2	73	1	200
Yamanashi	2	315	5	234	5	163	2	44	2	834	2	160	3	1,816
Nagano	0	0	1	9,220	0	0	1	119	0	0	0	0	0	0
Gifu	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shizuoka	18	5,649	8	540	5	399	4	84	2	4,058	0	0	5	135
Aichi	5	998	5	540	1	150	0	0	0	0	1	30	0	0
Mie	8	68,005	5	393	4	311	3	390	5	205	3	601	3	6,390
Shiga	4	250	2	125	2	26,000	2	4,300	2	24	7	2,633	2	10
Kyoto	5	2,495	7	2,248	2	827	0	0	1	60	4	1,209	4	299
Osaka	0	0	0	0	2	190	0	0	0	0	0	0	0	0
Hyogo	3	3,591	7	2,716	5	1,358	6	322	5	747	5	454	1	15
Nara	15	3,765	10	10,781	12	600	2	160	8	527	3	2,630	0	0
Wakayama	5	2,859	0	0	1	573	1	1,065	1	1,065	4	1,616	0	0
Tottori	0	0	10	355	0	0	1	182	3	1,241	1	15	0	0
Shimane	2	67	2	372	1	20	0	0	2	44	1	15	3	120
Okayama	2	55	3	60	3	103	0	0	3	1,142	1	61	2	693
Hiroshima	5	725	8	1,350	8	233	9	1,957	4	440	2	36	2	55
Yamaguchi	2	161	0	0	1	1,000	0	0	0	0	1	82	0	0
Tokushima	2	20	0	0	1	59	0	0	1	13	0	0	4	129
Kagawa	4	5,241	2	602	1	47	0	0	0	0	1	60	1	29
Ehime	7	342	7	233	1	22	2	237	1	19	0	0	1	11
Kochi	1	2,500	0	0	2	150	2	325	3	438	1	108	1	63
Fukuoka	3	2,182	1	62	1	18	0	0	0	0	3	3,848	3	1,309
Saga	2	704	4	235	9	3,903	5	1,228	5	563	4	227	1	23
Nagasaki	14	515	4	279	10	376	11	409	9	257	7	1,443	8	597
Kumamoto	0	0	0	0	1	30	2	108	0	0	3	61	8	550
Oita	0	0	0	0	1	30	1	15	0	0	1	34	0	0
Miyazaki	23	2,329	10	1,226	8	135	14	969	16	10,463	11	1,099	11	2,197
Kagoshima	17	2,078	15	551	15	1,438	12	1,565	10	754	7	406	12	3,585
Okinawa	3	358	9	743	6	1,451	3	5,136	4	75	1	27	2	43
Total	308	202,730	279	57,274	216	61,944	192	53,311	187	43,875	159	28,840	165	28,773

Source: "Status of Illegal Dumping of Industrial Waste (2014)," Office for Waste Disposal Management,
Waste Management and Recycling Department, Minister's Secretariat, Ministry of the Environment, the Government of Japan

4.22 Number of illegal-dumping cases of Industrial Waste and volume dumped by Prefecture (Newly-reported cases) (3)

	Illegal dumping (case)	Amount (10,000 t)
FY1993	274	34.2
1994	353	38.2
1995	679	44.4
1996	719	21.9
1997	855	40.8
1998	1,197	42.4
1999	1,049	43.3
2000	1,027	40.3
2001	1,150	24.2
2002	934	31.8
2003	894	74.5
2004	673	41.1
2005	558	17.2
2006	554	13.1
2007	382	10.2
2008	308	20.3
2009	279	5.7
2010	216	6.2
2011	192	5.3
2012	187	4.4
2013	159	2.9
2014	165	2.9

Note:

Figures show the cases in which a dumped volume per case is 10t or more among those cases grasped by prefectures and government-creed cities.

Source: "Status of Illegal Dumping of Industrial Waste (2014)," Office for Waste Disposal Management, Waste Management and Recycling Department, Minister's Secretariat, Ministry of the Environment, the Government of Japan

4.23 Survey on Environmental impacts by Illegal dumping and measures by prefectures (the unsolved cases)

(As of the end of FY2014)

			Number of unsolved cases	Percentage (%)	Remaining volume (t)	Percentage (%)
Have already been detrimental to environment			7	0.3%	2,050,933	12.9%
	Measure/order - issued		5	0.2%	2,050,701	12.9%
		Administrative subrogation - Already taken	3	0.1%	1,914,456	12.0%
		Not yet	2	0.1%	136,245	0.9%
	Measure/order - Not issued yet		2	0.1%	232	0.0%
		Administrative advice etc.	2	0.1%	232	0.0%
		Offender not identified yet	0	0.0%	0	0.0%
More likely to be detrimental to environment			83	3.2%	5,566,016	34.9%
	Measure/order - issued		45	1.7%	4,846,092	30.4%
		Administrative subrogation - Already taken	13	0.5%	3,932,326	24.7%
		Not yet	32	1.2%	913,766	5.7%
	Measure/order - Not issued yet		38	1.5%	719,924	4.5%
		Administrative advice etc.	37	1.4%	719,902	4.5%
		Offender not identified yet	1	0.0%	22	0.0%
Not detrimental currently			2,474	95.8%	7,921,431	49.7%
	Measure/order - issued		71	2.7%	1,161,826	7.3%
		Administrative subrogation - Already taken	4	0.2%	64,268	0.4%
		Not yet	67	2.6%	1,097,558	6.9%
	Measure/order - Not issued yet		2,403	93.0%	6,759,604	42.4%
		Administrative advice etc.	1,903	73.7%	5,075,876	31.8%
		Offender not identified yet	334	12.9%	505,099	3.2%
		No response	166	6.4%	1,178,629	7.4%
Under investigatic			19	0.7%	403,199	2.5%
	Measure/order - issued		0	0.0%	0	0.0%
		Administrative subrogation - Already taken	0	0.0%	0	0.0%
		Not yet	0	0.0%	0	0.0%
	Measure/order - Not issued yet		19	0.7%	403,199	2.5%
		Administrative advice etc.	19	0.7%	403,199	2.5%
		Offender not identified yet	0	0.0%	0	0.0%
Total			2,583	100.0%	15,941,579	100.0%

Notes:

* "Administrative advice, etc." means such governmental action as an administrative advice, collection of reports, a site inspection, an order for improvement, accusation, order of business suspension, nullification of business licenses, nullification of facility construction permits, etc.

* The aggregated amount of the remaining volume and the rates in each column doesn't match the total value because of rounding.

Source: "Status of Illegal Dumping of Industrial Waste in FY 2014," Office of Waste Disposal Management, Waste Management and Recycling Department, Minister's Secretariat, Ministry of the Environment, the Government of Japan

4.24 Offenders of illegal dumping

	Waste-discharging business		Non-licensed business		Licensed business		Other		Multiple businesses		Unknown		Total	
	Number (case)	Weight (t)	Number (case)	Weight (t)	Number (case)	Weight (t)	Number (case)	Weight (t)	Number (case)	Weight (t)	Number (case)	Weight (t)	Number (case)	Weight (t)
FY1998	694	141,548	77	148,418	74	46,218			19	7,708	333	80,408	1,197	424,300
1999	619	96,509	108	105,894	87	53,725			14	17,700	221	159,465	1,049	433,293
2000	571	119,982	95	76,299	75	53,760			15	55,534	271	97,700	1,027	403,274
2001	498	122,789	174	46,448	67	18,148			17	7,290	394	47,001	1,150	241,676
2002	444	48,471	137	83,455	64	143,395			18	23,247	271	19,613	934	318,181
2003	368	73,796	93	49,089	55	592,467			28	5,004	350	24,623	894	744,978
2004	290	32,289	65	86,727	43	244,887			13	5,620	262	41,302	673	410,824
2005	228	26,635	85	82,833	52	29,017			7	9,180	186	24,514	558	172,179
2006	271	47,810	63	10,499	58	34,869			14	26,109	148	11,947	554	131,233
2007	193	24,113	57	22,804	21	31,114			11	3,502	100	20,186	382	101,718
2008	149	97,894	30	19,859	23	5,709	7	6,419	28	54,945	71	17,905	308	202,730
2009	150	24,780	18	3,301	12	2,523	6	300	22	12,658	71	13,711	279	57,274
2010	122	22,585	8	14,361	6	12,740	14	5,707	21	2,545	45	4,006	216	61,944
2011	119	19,487	8	4,238	9	18,912	2	179	10	5,849	44	4,646	192	53,311
2012	105	22,489	5	5,438	11	10,229	13	836	10	2,427	43	2,457	187	43,875
2013	90	13,313	2	76	6	1,615	6	549	15	9,256	40	4,031	159	28,840
2014	71	11,895	9	4,740	8	1,283	15	1,089	17	8,005	45	1,761	165	28,773

Notes:

・ "Other" has been added in the survey since FY 2009. It includes waste-discharging businesses such as secondhand-goods dealers, landowners, and also non-licensed businesses or other than licensed businesses.

・ The aggregated amount in the column of "Weight" may not match the total value because of rounding.

Source: "Status of Illegal Dumping of Industrial Waste in FY 2014," Office of Waste Disposal Management, Waste Management and Recycling Department, Minister's Secretariat, Ministry of the Environment, the Government of Japan

4.25 Number of Unsolved Cases of Illegal Dumping and Remaining Amount

(as of the end of FY2014)

		Less than 500 t	500 t ~ 1,000 t	1,000 t ~ 5,000 t	5,000 t ~	5,000 t ~ 10,000 t	10,000 t ~ 50,000 t	50,000 t ~ 100,000 t	100,000 t ~	Total
Number of cases		1,562	228	462	331	120	149	36	26	2,583
	%	60.5%	8.8%	17.9%	12.8%	4.6%	5.8%	1.4%	1.0%	100.0%
Amount (t)		164,873	150,967	1,053,229	14,572,509	835,764	2,906,659	2,242,455	8,587,632	15,941,579
	&	1.0%	0.9%	6.6%	91.4%	5.2%	18.2%	14.1%	53.9%	100.0%

Source: "Illegal Dumping of Industrial Waste in FY 2014," Office of Waste Disposal Management, Waste Management and Recycling Department, Minister's Secretariat, Ministry of the Environment, the Government of Japan

4.26 Number of the Unsolved Cases of Illegal Dumping and Remaining Amount by Prefecture

(As of the end of FY2014)

Prefecture	Number of cases	Amount (t)
Hokkaido	49	183,181
Aomori	108	172,123
Iwate	34	55,047
Miyagi	21	1,127,925
Akita	6	1,017,517
Yamagata	6	59,766
Fukushima	60	76,992
Ibaraki	383	526,977
Tochigi	100	298,744
Gunma	119	97,705
Saitama	95	925,539
Chiba	779	3,945,879
Tokyo	26	81,080
Kanagawa	34	126,697
Niigata	48	71,096
Toyama	3	2,505
Ishikawa	48	98,749
Fukui	9	900,093
Yamanashi	31	27,339
Nagano	20	52,838
Gifu	31	90,146
Shizuoka	23	42,344
Aichi	37	663,686
Mie	44	1,944,501
Shiga	37	737,238
Kyoto	44	123,548
Osaka	36	127,285
Hyogo	46	85,974
Nara	28	250,633
Wakayama	10	30,990
Tottori	16	2,672
Shimane	8	225
Okayama	16	6,627
Hiroshima	23	56,784
Yamaguchi	2	2,836
Tokushima	3	76,499
Kagawa	14	150,003
Ehime	16	452,918
Kochi	2	715
Fukuoka	27	527,951
Saga	16	12,607
Nagasaki	27	205,211
Kumamoto	11	6,750
Oita	5	1,338
Miyazaki	18	10,646
Kagoshima	42	39,241
Okinawa	22	444,417
Total	2,583	15,941,579

Source: "Illegal Dumping of Industrial Waste in FY 2014," Office of Waste Disposal Management, Waste Management and Recycling Department, Minister's Secretariat, Ministry of the Environment, the Government of Japan

4.27 Improper Disposal of Sulfate Pitch

(As of the end of FY2014)

FY		Improper disposal case		Treated		Not-treated		
		Number of cases	Volume of Improper disposal (drums)	Number of cases	Treated (drums)	Number of cases	Not-treated (drums)	Partially-treated (drums)
1999		8	1,639	8	1,639	0	0	0
2000		5	822	5	822	0	0	0
2001		34	5,626	33	5,577	1	49	0
	1st half	11	1,644	11	1,644	0	0	0
	2nd half	23	3,982	22	3,933	1	49	0
2002		38	17,613	36	17,168	2	345	100
	1st half	17	7,616	17	7,616	0	0	0
	2nd half	21	9,997	19	9,552	2	345	100
2003		81	28,462	78	28,067	3	260	135
	1st half	39	21,371	37	21,036	2	200	135
	2nd half	42	7,091	41	7,031	1	60	0
2004		62	9,829	60	8,954	2	204	671
	1st half	42	8,252	40	7,377	2	204	671
	2nd half	20	1,577	20	1,577	0	0	0
2005		31	4,322	31	4,322	0	0	0
	1st half	15	1,522	15	1,522	0	0	0
	2nd half	16	2,800	16	2,800	0	0	0
2006		14	2,170	14	2,170	0	0	0
	1st half	13	1,375	13	1,375	0	0	0
	2nd half	1	795	1	795	0	0	0
2007		4	277	4	277	0	0	0
2008		0	0	0	0	0	0	0
2009		1	7	1	7	0	0	0
2010		0	0	0	0	0	0	0
2011		0	0	0	0	0	0	0
2012		0	0	0	0	0	0	0
2013		0	0	0	0	0	0	0
2014		0	0	0	0	0	0	0
Total		278	70,767	270	69,003	8	858	906

Note:

Volume was converted in terms of the number of drums.

Source: "Status of Improper Disposal of Sulfate Pitch (2014),"Office for Waste Disposal Management, Waste Management and Recycling Department, Minister's Secretariat, Ministry of the Environment, the Government of Japan

4.28 Wide-area movement of municipal waste

(Unit : 10 thousand t / yr.)　(FY2013)

Region	Final disposal amount	Transported out of Prefectures 1)		Transported out of the Region 2)	
Hokkaido / Tohoku	158.5	1.4	(0.9%)	0.3	(0.2%)
		4.5%		1.9%	
Tokyo Metropolitan area	118.0	19.5	(16.5%)	9.1	(7.7%)
		62.1%		57.2%	
Hokuriku / Chubu	61.6	7.3	(11.9%)	5.5	(8.9%)
		23.2%		34.6%	
Kinki	100.2	2.1	(2.1%)	0.4	(0.4%)
		6.7%		2.5%	
Chugoku / Shikoku	38.7	0.7	(1.8%)	0.4	(1.0%)
		2.2%		2.5%	
Kyushu / Okinawa	49.9	0.4	(0.8%)	0.1	(0.1%)
		1.3%		0.4%	
Total	526.8	31.4	(6.0%)	15.9	(3.0%)
		100.0%		100.0%	

Notes:

1: A simple regional aggregation of the municipal wastes of which final disposal was outsourced to public corporations/businesses outside the prefecture by a municipality. However, the amount outsourced to Osaka Bay Regional Offshore Environmental Improvement Center is not included.

2: The amount of municipal wastes of which final disposal was outsourced to public corporations/businesses outside the region by municipalities.

・The sum may not exactly match the total value because the unit is rounded off.

・The percentage in the parentheses (%) shows that of the final disposal amount.

・The figures in the lower row for each region show the regional rate of the final disposal amount transported out of the prefecture and the region respectively.

Source: "Report of further study on regional waste management (cf. "Current status of Regional waste disposal") and the amount of waste recycling," Planning Division, Minister's Secretariat, Waste Management and Recycling Department, MOE, the Government of Japan

4.29 Wide-area movement of industrial waste

(Unit : 10 thousand t / yr.) (FY2013)

	Amount transported out of prefectures where waste was discharged			
			Inside the region	Outside the region
Hokkaido / Tohoku	234.7	(6.0%)	136.4	98.2
Tokyo Metropolitan area	1,734.6	(44.2%)	1,440.0	294.6
Chubu	688.8	(17.5%)	357.9	330.8
Kinki	651.4	(16.6%)	399.2	252.2
Chugoku	250.3	(6.4%)	114.8	135.6
Shikoku	105.8	(2.7%)	30.5	75.3
Kyushu / Okinawa	260.4	(6.6%)	206.1	54.3
Total	3,926.0	(100.0%)	2,685.0	1,241.1

Note:

The sum value may not exactly match the total because the unit less than 1,000 tons are rounded.

Source: "Report of further study on regional waste management (cf. "Current status of Regional waste disposal") and the amount of waste recycling," Planning Division, Minister's Secretariat, Waste Management and Recycling Department, MOE, the Government of Japan

4.30 Percentage of Containers and Packaging in Household Waste

(Ratio by volume) (Unit : %)

		2009	2010	2011	2012	2013	2014	2015
Packaging	Papers	11.8	9.6	14.5	13.1	13.1	13.9	10.3
	Plastic	36.6	34.8	33.9	36.5	35.9	43.2	39.8
	Glass	1.6	1.4	1.2	1.3	1.0	1.0	1.4
	Metal	3.5	4.1	2.5	2.9	3.0	2.9	3.5
	Other	0.2	0.1	0.4	0.1	0.2	0.1	0.0
	Subtotal	53.7	50.0	52.5	53.8	53.0	61.0	55.1
Non-packaging	Papers	16.8	16.1	20.3	17.8	18.1	17.5	19.4
	Plastic	4.2	5.6	7.1	5.0	4.9	5.9	5.4
	Glass	0.1	0.1	0.1	0.2	0.1	0.0	0.1
	Metal	0.6	0.5	0.4	0.9	0.8	0.6	0.9
	Other	24.6	27.6	19.7	22.4	23.1	14.9	19.0
	Subtotal	46.3	49.9	47.5	46.2	47.0	39.0	44.9
Total		100.0	99.9	100.0	100.0	100.0	100.0	100.0

(Ratio by wet weight) (Unit : %)

		2009	2010	2011	2012	2013	2014	2015
Packaging	Papers	7.8	6.0	10.3	9.1	7.4	8.2	6.6
	Plastic	8.4	6.7	8.8	8.9	8.6	9.9	8.7
	Glass	4.9	3.5	3.7	4.0	3.6	3.9	4.6
	Metal	1.9	1.5	1.3	2.1	1.5	1.7	2.0
	Other	0.3	0.1	0.1	0.2	0.2	0.1	0.0
	Subtotal	23.3	17.8	24.1	24.1	21.3	23.8	22.0
Non-packaging	Papers	24.8	24.2	27.6	26.7	25.3	26.4	26.3
	Plastic	2.8	2.0	1.9	2.4	1.6	1.7	2.0
	Glass	0.3	0.2	0.2	0.3	0.2	0.3	0.2
	Metal	1.2	0.6	0.7	1.5	1.3	1.5	1.7
	Other	47.6	55.2	45.5	45.0	50.3	46.5	47.8
	Subtotal	76.7	82.2	75.9	75.9	78.7	76.4	78.0
Total		100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: "Report on Using and Discarding Containers and Packaging," Office for Recycling Promotion, Policy Planning Division, Waste and Recycling Department, Minister's Secretariat, Ministry of the Environment, the Government of Japan

4.31 Changes in shipping volume of glass bottles

By use

(Unit : 1,000 t / year)

	Pharmaceuticals and beverages	Cosmetics	Food, seasoning	Milk	Sake 1.8L	Sake (small and medium)	Beer	Western liquor and other Japanese liquor	Soft drinks	Others	Export	Total
1995	304.9	37.6	455.8	26.8	116.5	155.4	94.8	263.0	743.3	3.4	0.9	2,202.4
1996	312.9	37.1	461.5	28.2	112.1	162.9	123.3	260.9	665.3	2.7	2.6	2,169.5
1997	310.5	37.1	437.2	29.6	97.9	161.7	126.7	280.1	593.2	2.8	2.7	2,079.5
1998	282.9	32.1	432.5	30.7	84.6	151.8	156.9	280.2	478.9	2.0	1.5	1,934.1
1999	331.2	33.3	429.4	32.8	79.2	144.7	120.4	243.4	419.9	1.7	0.9	1,836.9
2000	347.1	33.7	428.3	33.7	75.5	145.8	98.8	227.0	376.6	1.3	1.5	1,769.3
2001	352.4	32.4	416.7	29.4	67.3	143.8	84.5	209.3	361.3	1.1	0.7	1,698.9
2002	362.2	30.5	411.8	28.4	63.7	141.9	70.8	187.1	334.6	1.3	0.0	1,632.3
2003	358.8	31.3	395.3	29.0	62.9	144.5	42.5	176.9	305.3	0.9	0.0	1,547.4
2004	327.4	34.2	391.6	28.0	65.6	152.9	50.5	175.0	303.4	1.2	0.0	1,529.8
2005	324.9	34.1	383.7	26.6	62.9	140.4	46.7	168.5	281.0	0.1	0.0	1,468.9
2006	300.2	29.7	373.7	23.0	62.4	144.2	55.2	165.5	276.1	0.0	0.0	1,430.0
2007	291.6	32.2	356.9	22.8	63.7	138.1	48.2	159.4	276.4	0.1	0.0	1,389.4
2008	298.7	29.4	354.1	18.7	65.2	133.9	47.1	153.5	263.3	0.0	0.0	1,363.9
2009	291.7	24.9	348.2	18.3	61.5	129.0	46.0	146.4	256.0	0.0	0.0	1,322.0
2010	296.9	22.3	356.3	16.8	60.0	122.8	43.7	146.4	260.8	0.1	–	1,326.1
2011	295.7	20.5	336.2	15.6	60.8	121.3	43.5	136.3	265.9	0.1	–	1,295.9
2012	287.3	19.0	330.4	14.7	59.7	124.8	42.3	136.9	249.8	0.1	–	1,265.0
2013	276.9	17.5	325.4	14.0	59.8	122.8	40.5	140.6	257.8	0.1	–	1,255.4
2014	265.2	17.5	313.0	12.9	58.2	123.9	41.9	141.4	244.0	0.2	–	1,218.2

Source: Compiled from materials of Japan Glass Bottle Association, Glass Bottle Forum Japan, and Glass Bottle Recycle Promotion Association.

4.32 Production and disposal of plastics

(Unit : 1,000 t / year)

	Production of resin	Domestic consumption of resin products 1)	Total disposal of plastic waste	General Waste	Industrial waste
1975	5,170	3,150	2,610	1,470	1,140
1980	7,520	5,520	3,250	1,780	1,470
1985	9,230	6,990	4,190	2,320	1,870
1986	9,370	7,300	4,530	2,500	2,030
1987	10,030	7,920	4,650	2,600	2,050
1988	11,020	8,610	4,880	2,760	2,120
1989	11,910	9,570	5,060	2,910	2,150
1990	12,630	9,990	5,570	3,130	2,440
1991	12,800	10,070	6,220	3,450	2,770
1992	12,580	9,280	6,920	3,910	3,010
1993	12,250	9,020	7,560	4,190	3,370
1994	13,040	9,660	8,460	4,230	* 4,230
1995	14,030	9,790	8,840	4,430	* 4,410
1996	14,660	10,810	9,090	4,550	* 4,540
1997	15,210	11,360	9,490	4,780	* 4,710
1998	13,910	10,200	9,840	4,990	* 4,850
1999	14,570	10,810	9,760	4,860	* 4,900
2000	14,740	10,980	9,970	5,080	* 4,890
2001	13,880	10,960	10,160	5,280	* 4,890
2002	13,850	10,570	9,900	5,080	* 4,820
2003	13,979	11,005	10,010	5,131	* 4,879
2004	14,460	11,360	10,130	5,190	* 4,940
2005	14,510	11,590	10,060	5,200	* 4,860
2006	14,450	11,200	10,050	5,080	* 4,980
2007	14,650	11,030	9,940	5,020	* 4,920
2008	13,450	10,890	9,980	5,020	* 4,960
2009	11,210	8,430	9,120	4,440	* 4,680
2010	12,700	9,700	9,450	4,590	* 4,860
2011	11,590	9,870	9,520	4,650	* 4,860
2012	10,540	9,600	9,290	4,460	* 4,820
2013	10,600	9,660	9,400	4,540	* 4,860
2014	10,610	9,700	9,260	4,420	* 4,830

Note:

・ Domestic consumption of resin products = (Production of resin) - (export volume of resin) + (import volume of resin) – (amount of liquid resin) - (amount of processing losses) + (recycled resin input) - (export volume of product) + (import amount of product)

・ * Since 1994, the unused volume of production/process and loss volume during processing have been added to the volume of industrial waste.

Source: Compiled from information of Plastic Waste Management Institute web page.

4.33 Changes in sales amounts of aluminum cans and recycling ratio

	Total weight sold (1,000 t / year)	Weight recycled (1,000 t / year)	Recycling rate (%)
1984	54	22	40.6
1994	248	151	61.1
2001	283	235	82.8
2002	292	243	83.1
2003	297	243	81.8
2004	303	261	86.1
2005	302	276	91.7
2006	299	271	90.9
2007	301	279	92.7
2008	299	261	87.3
2009	293	274	93.4
2010	296	274	92.6
2011	298	276	92.5
2012	301	285	94.7
2013	304	255	83.8
2014	313	273	87.4

Note:
Recycling rate refers to percentage of aluminum can scrap that was recycled to aluminum can materials, car parts, a deoxidizing agent and the like for steel-making, among the consumed aluminum cans.

Source: Compiled from materials of Japan Aluminum Can Recycling Association.

4.34 Changes in consumption and recycling rate of steel cans

	Total weight sold (1,000 t/year)	Weight recycled (1,000 t/year)	Recycling rate (%)
1984	1,027	341	33.2
1994	1,475	1,030	69.8
2001	1,055	899	85.2
2002	949	817	86.1
2003	911	797	87.5
2004	908	791	87.1
2005	770	868	88.7
2006	832	732	88.1
2007	834	710	85.1
2008	772	683	88.5
2009	699	623	89.1
2010	684	612	89.4
2011	682	616	90.4
2012	664	603	90.8
2013	611	567	92.9
2014	571	525	92.0

Notes:

・ Before 1998, production amounts are used for consumption weights and used amounts of steel can scrap are used for collected weights.

・ Recycling rates = recycled weight / weight of consumption

Source: Compiled from materials of Japan Steel Can Recycling Association.

4.35 Change in recovery rate of cardboard

	Recovery rate (%)
2004	84.0
2005	86.9
2006	88.4
2007	90.3
2008	92.1
2009	94.8
2010	95.0
2011	93.3
2012	94.1
2013	95.3
2014	96.7

Notes:

・ Recovery rate = [A] Real recovery amount of cardboard, waste paper, etc. / ([B] Consumption amount of base paper for cardboard + [C] Amount of products for import and export)

[A] is calculated by subtracting a weight of waste paper other than other than cardboard-origin and glue adhered on the cardboard from the collected weight of waste cardboard.

[B] refers to consumption amount of cardboard base-paper at cardboard factories.

[C] refers to an excess amount of exports (over imports) of cardboard used to pack import and export products.

※ Revised calculation method for recovery rate

According to the previous method, the weight of any brand products other than cardboard and foreign materials contained in collected waste was calculated on an assumption that they were contained with the same ratio as that in the domestic shipping amount of the base paper for cardboard and the consumption amount of it in the plants. This time, an inspection at factory sites by opening collected cardboard was conducted to find out that the ratio of weight of other brand products than cardboard and foreign materials was 8.4%. The new recovery rate is calculated by this ratio, that is lower than the previous ratio by 3 to 5 %.

Source: Compiled from materials of Cardboard Recycling Council.

4.36 Changes in production volume and recovery ratio of PET bottles

(Unit : ton/year)

	Amount of sorted-collection by municipalities	Production of PET resin (actual demand)					Sales of designated PET bottles (1,000 ton)	2) Municipal recovery rate	Recovery rate (including business-related waste)
		Soft drinks	Specified seasonings without oil	Sake, etc.	Other 1)	Total			
1995	2,594	118,831	13,491	9,788	30,720	172,830		1.8%	
1996	5,094	149,088	13,581	10,233	30,521	203,423		2.9%	
1997	21,361	194,748	13,222	10,836	32,923	251,729		9.8%	
1998	47,620	258,793	12,900	10,234	31,972	313,899		16.9%	
1999	75,811	308,222	12,501	11,479	38,284	370,486		22.8%	
2000	124,873	338,654	12,829	10,461	39,452	401,396		34.5%	
2001	161,651	380,372	11,265	11,090	40,053	442,780		40.1%	44.1%
2002	188,194	391,126	12,076	9,363	33,308	445,873		45.6%	53.4%
2003	211,753	412,970	12,606	10,980	34,175	470,731		48.5%	61.1%
2004	238,469	490,173	11,174	12,365	35,839	549,551		46.4%	62.3%
2005	251,962	509,684	10,995	11,904	38,027	570,610	530	47.5%	61.7%
2006	268,266	515,414	11,100	11,970	38,998	577,482	544	49.3%	66.3%
2007	283,441	533,091	13,175	11,583	41,363	599,212	572	49.6%	69.3%
2008	283,866	520,120	21,644	14,511	45,779	602,054	573	49.5%	77.7%
2009	287,340	511,080	21,121	14,500	46,545	593,246	565	50.9%	77.4%
2010	296,815	521,657	21,991	13,972	42,930	600,550	596	49.8%	72.2%
2011	297,839	511,412	20,339	13,363	37,893	583,007	604	49.3%	79.6%
2012	299,241	529,989	24,049	14,948	41,046	610,032	583	51.3%	90.4%
2013	301,787	568,340	25,553	15,291	44,620	653,804	579	52.1%	91.3%
2014	292,157	571,905	21,784	13,770	45,465	652,925	569	51.3%	93.5%

Notes:

1. Except soft drinks, specified seasonings without oil, alcoholic beverages: namely, detergent,~~s and~~ shampoo, cooking oil, other seasoning, cosmetics, pharmaceutical products, and the like.

2. Municipal recovery rate = Amount of municipal sorted collection ÷ Sales volume of PET bottles
(Until the end of fiscal year 2004, defined as Municipal recovery rate = Amount of municipal separate collection ÷ Production volume of resin)

Source: Compiled from materials of the Council for PET Bottles Recycling.

and "The Performance of Sorted Collection and Recycling by Municipalities under the Containers and Packaging Recycling Act in FY 2015" by Office for Recycling Division, Waste Management and Recycling Department, Minister's Secretariat, MOE, Government of Japan

4.37 Utilization of products from recycled PET bottles

(Unit : ton / year)

	Fiber	Sheet	Bottle	Molding	Other	Total
2010	79,824	57,646	8,940	6,443	339	153,192
2011	79,074	59,563	7,534	7,815	370	154,357
2012	74,605	61,684	12,343	6,027	357	155,017
2013	73,635	69,108	19,581	6,081	400	168,805
2014	67,347	59,152	19,667	3,664	225	150,056
2015	66,946	73,038	17,190	3,554	299	161,026
Ratio (FY 2015)	41.6%	45.4%	10.6%	2.2%	0.2%	100.0%

Source: materials of the Japan Containers And Packaging Recycling Association

4.38 Changes in sales volume and collection rate of household cartons

(Unit: ton / year)

	Sales volume	Collection volume	Collection rate
FY2002	171,840	39,914	23.2%
2003	181,100	44,300	24.5%
2004	188,400	46,300	24.6%
2006	191,200	48,100	25.2%
2007	194,100	55,600	28.6%
2008	189,300	56,700	30.0%
2009	184,300	57,300	31.1%
2010	184,600	56,600	30.7%
2011	184,800	56,200	30.4%
2012	180,300	57,200	31.7%
2013	178,500	59,400	33.3%
2014	176,200	60,400	34.3%

Notes:

・Loss of paper from beverage makers, collected cartons from households, and milk cartons for school lunch , are not assumed to include aluminum-coated cartons.

・Collection rate of household paper cartons = volume collected from households /manufacturers' sales volume of paper cartons for home-use beverages

Source: Compiled from materials of Committee for Milk Container Environmental Issues.

4.39 Achievement on Sorted Collection and Recycling based on the Containers and Packaging Recycling Act

		Estimate (t)	Actual (t)	Recycled (t)	Municipalities conducting sorted collection		
					# of municipalities conducting collection	Rate (%)	Population coverage rate (%)
Clear glass bottles	FY1997	406,133	292,775	275,119	1,610	49.5	76.8
	2010	358,442	326,614	310,356	1,660	94.9	98.9
	2011	324,023	322,655	308,851	1,639	94.1	98.5
	2012	340,563	315,630	302,432	1,635	93.9	98.4
	2013	339,032	325,149	301,619	1,634	93.8	98.5
	2014	323,210	319,018	296,590	1,640	94.2	98.5
Brown glass bottles	FY1997	299,536	243,916	228,170	1,610	49.5	77.0
	2010	307,399	282,663	268,540	1,662	95.0	98.9
	2011	293,965	278,409	264,833	1,643	94.3	98.5
	2012	292,687	274,022	260,553	1,636	93.9	98.3
	2013	291,567	271,797	258,447	1,635	93.9	98.4
	2014	274,004	260,111	249,682	1,640	94.2	98.4
Glass bottles of other colors	FY1997	118,536	107,533	95,190	1,535	47.2	74.1
	2010	183,967	188,117	175,345	1,657	94.7	98.3
	2011	179,736	189,780	177,615	1,646	94.5	98.0
	2012	179,717	196,237	183,701	1,644	94.4	97.9
	2013	179,402	200,578	188,356	1,655	95.0	98.0
	2014	185,679	202,745	191,573	1,663	95.5	98.0
Paper containers and packaging	FY2000	86,724	34,537	26,310	343	10.6	13.0
	2010	158,374	93,107	82,518	627	35.8	34.6
	2011	127,455	91,251	84,204	613	35.2	34.4
	2012	130,090	88,698	83,171	612	35.1	33.9
	2013	133,082	90,121	84,575	644	37.0	34.4
	2014	132,368	82,202	77,656	661	38.0	35.6
Pet bottles	FY1997	21,180	21,361	19,330	631	19.4	41.8
	2010	314,628	296,815	286,009	1,711	97.8	98.5
	2011	301,211	297,839	288,292	1,694	97.2	98.6
	2012	304,838	299,241	288,762	1,696	97.4	99.6
	2013	306,038	301,787	291,700	1,702	97.7	99.7
	2014	300,413	292,455	282,287	1,717	98.6	99.5
Plastic containers and packaging	FY2000	239,174	100,810	77,568	881	27.3	30.7
	2010	932,272	708,950	671,704	1,303	74.5	83.6
	2011	785,736	725,621	685,556	1,293	74.2	82.8
	2012	818,380	727,238	686,363	1,307	75.0	85.4
	2013	846,443	734,063	694,289	1,312	75.3	82.6
	2014	758,814	731,022	688,758	1,295	74.4	85.3
Steel cans	FY1997	526,701	464,662	443,506	2,411	74.1	86.4
	2010	310,523	226,038	224,329	1,722	98.4	98.1
	2011	250,251	218,637	215,719	1,698	97.5	97.6
	2012	248,461	207,845	203,446	1,692	97.1	97.5
	2013	246,687	193,804	189,527	1,689	97.0	96.7
	2014	213,227	179,068	174,722	1,692	97.2	97.5
Aluminum cans	FY1997	148,885	112,527	107,455	2,420	74.3	86.7
	2010	151,096	131,121	130,198	1,718	98.2	98.2
	2011	141,081	130,887	128,581	1,698	97.5	97.9
	2012	141,152	130,353	128,067	1,688	96.9	97.7
	2013	141,151	130,681	128,732	1,680	96.4	97.7
	2014	137,581	128,273	125,688	1,686	96.8	97.8
Cardboard	FY2000	434,888	380,290	372,576	1,728	53.5	61.0
	2010	769,679	603,244	601,753	1,583	90.5	91.8
	2011	697,549	615,841	614,937	1,561	89.6	91.3
	2012	697,363	604,528	599,496	1,558	89.4	93.2
	2013	697,643	610,129	598,892	1,556	89.3	93.5
	2014	698,150	586,654	581,809	1,563	89.8	93.4
Milk cartons and drink boxes	FY1997	23,028	6,644	6,419	993	30.5	43.4
	2010	27,334	15,612	15,542	1,357	77.5	87.9
	2011	22,696	14,447	14,413	1,314	75.4	87.8
	2012	22,904	15,079	14,426	1,308	75.1	88.0
	2013	23,321	13,933	13,183	1,304	74.9	86.5
	2014	22,919	13,231	12,476	1,301	74.7	85.6

Source: " Achievement on Sorted collection and Recycling based on the Containers and Packaging Recycling Act by municipalities in FY2014" by Office for Recycling Promotion, Policy Planning Division, Waste Management and Recycling Department, Minister's Secretariat, Ministry of the Environment

4.40 Changes in production volume and recycling rate of foamed polystyrene

(Unit : 1,000 t / year)

	Production volume	Domestic circulation volume	Recycling volume	Recycling rate
1994	223	158	38	24.2%
1996	225	180	52	28.7%
1998	213	182	57	31.2%
2000	209	183	64	34.9%
2002	197	176	69	39.1%
2004	194	175	72	41.0%
2006	187	169	76	45.0%
2007	182	165	83	50.0%
2008	168	155	82	53.0%
2009	151	141	80	56.8%
2010	153	148	82	55.5%
2011	150	142	78	55.0%
2012	139	130	74	56.9%
2013	139	129	73	56.6%
2014	141	129	72	55.8%

Note:
Recycling rate= Recycling volume/Domestic distribution volume.

Source: Compiled from materials of Japan Expanded Polystyrene Association.

4.41 Implementation of Recycling of Specified Home Appliances

Gross weight of parts and/or materials when they are processed into a shape that can be used as materials or parts of products and transacted at any cost or for free

			Number collected in designated collection locations (thousand)	Number processed for recycling (thousand)	Weight processed for recycling (t)(A)	Weight recycled (t)(B)	Resource regeneration rate[%] (B÷A×100)	Iron [t]	Copper [t]	Aluminum [t]	Mixer of non-iron materials and iron [t]	Cathode-ray tube (CRT) glass [t]	Others [t]	Total weight [t]
FY2003	Air conditioner		1,584	1,579	69,686	57,058	81%	23,219	3,432	1,136	26,831	—	2,439	57,058
	TV		3,550	3,549	96,435	76,025	78%	8,013	3,602	183	767	55,975	7,481	76,025
	Refrigerator		2,664	2,653	153,531	97,119	63%	68,417	1,113	293	18,179	—	9,115	97,119
	Washing machine		2,662	2,656	80,169	52,288	65%	35,120	644	263	9,894	—	6,365	52,288
2004	Air conditioner		1,814	1,809	79,044	64,939	82%	25,878	4,137	1,340	30,396	—	3,185	64,939
	TV		3,786	3,777	103,200	83,868	81%	8,167	3,825	123	1,100	60,818	9,823	83,868
	Refrigerator		2,801	2,807	161,131	103,546	64%	71,608	1,267	380	19,401	—	10,888	103,546
	Washing machine		2,813	2,791	85,764	58,710	68%	37,668	789	435	10,893	—	8,903	58,710
2005	Air conditioner		1,989	1,990	85,814	72,585	84%	26,200	5,490	2,228	33,925	—	4,742	72,585
	TV		3,857	3,852	107,993	83,530	77%	8,678	4,068	192	1,035	53,727	15,830	83,530
	Refrigerator		2,820	2,807	162,419	108,284	66%	70,931	1,309	384	20,661	—	14,999	108,284
	Washing machine		2,952	2,950	92,801	69,664	75%	39,225	1016	520	13,713	—	15,190	69,664
2006	Air conditioner		1,828	1,835	77,655	66,791	86%	23,910	5,031	2,023	30,275	—	5,552	66,791
	TV		4,127	4,094	117,849	91,092	77%	11,620	4,456	85	892	52,394	21,645	91,092
	Refrigerator		2,716	2,709	157,106	112,106	71%	67,042	1,722	268	20,312	—	22,762	112,106
	Washing machine		2,943	2,951	94,652	74,854	79%	39,857	1050	544	14,018	—	19,385	74,854
2007	Air conditioner		1,890	1,872	78,715	68,861	87%	23,729	5,076	8,634	24,453	—	6,969	68,861
	TV		4,613	4,542	134,283	115,563	86%	13,881	4,951	73	1,199	68,269	27,190	115,563
	Refrigerator		2,725	2,724	159,763	116,683	73%	68,435	1,994	325	20,188	—	25,741	116,683
	Washing machine		2,884	2,879	94,101	77,231	82%	40,755	1,240	612	12,915	—	21,709	77,231
2008	Air conditioner		1,968	1,968	82,746	73,698	89%	24,403	5,406	9,344	25,696	—	8,849	
	TV		5,365	5,210	156,546	139,476	89%	15,800	5,719	77	1,448	83,749	32,683	
	Refrigerator		2,746	2,733	163,056	121,331	74%	70,095	2,401	414	20,293	—	28,128	
	Washing machine		2,821	2,818	94,010	79,894	84%	41,524	1,605	789	11,360	—	24,616	
2009	Air conditioner		2,154	2,114	88,530	78,069	88%	25,160	5,917	9,927	27,448	—	9,617	78,069
	TV	CRT	10,320	9,213	269,145	232,475	86%	27,188	9,541	93	1,812	137,644	56,197	232,475
		LCD/PDP	218	179	2,625	1,963	74%	925	31	132	34	—	841	1,963
	Refrigerator		3,007	2,979	181,511	136,569	75%	77,045	2,269	538	22,770	—	33,947	136,569
	Washing machine		3,087	3,031	102,308	87,795	85%	46,200	1,514	941	12,047	—	27,093	87,795
2010	Air conditioner		3,142	3,071	127,850	112,848	88%	35,628	8,367	14,395	40,238	—	14,220	112,848
	TV	CRT	17,368	15,607	434,983	373,899	85%	43,737	15,153	218	2,636	217,846	94,309	373,899
		LCD/PDP	654	564	7,000	5,549	79%	2,709	90	290	102	—	2,358	5,549
	Refrigerator/ Freezer		3,400	3,381	210,272	159,836	76%	88,121	2,895	1,479	25,887	—	41,454	159,836
	Washer/Dryer		3,136	3,162	108,555	93,816	86%	48,015	1,785	1,257	13,216	—	29,543	93,816
2011	Air conditioner		2,341	2,372	98,783	88,566	89%	26,972	6,445	11,184	31,615	—	12,350	88,566
	TV	CRT	7,866	10,622	284,439	226,392	79%	28,482	10,154	172	1,782	122,452	63,350	226,392
		LCD/PDP	599	648	9,707	8,064	83%	3,814	112	406	87	—	3,645	8,064
	Refrigerator/ Freezer		2,843	2,836	175,723	139,090	79%	73,167	2,374	1,242	21,867	—	40,440	139,090
	Washer/Dryer		3,151	3,095	107,363	93,699	87%	47,660	1,776	1,332	12,901	—	30,030	93,699
2012	Air conditioner		2,359	2,358	97,909	89,206	91%	27,887	6,546	10,372	30,178	—	14,223	89,206
	TV	CRT	2,282	2,467	67,401	55,522	82%	6,920	2,476	58	481	30,908	14,679	55,522
		LCD/PDP	491	483	9,253	8,053	87%	3,483	93	400	91	—	3,986	8,053
	Refrigerator/ Freezer		2,919	2,925	183,467	147,180	80%	77,121	2,795	1,104	21,682	—	44,478	147,180
	Washer/Dryer		3,145	3,108	109,992	95,606	86%	48,750	1,743	1,412	12,749	—	30,952	95,606
2013	Air conditioner		2,961	2,721	112,769	103,434	91%	31,847	7,434	12,124	34,711	—	17,318	103,434
	TV	CRT	2,042	1,987	54,266	43,245	79%	5,623	1,917	51	394	23,176	12,084	43,245
		LCD/PDP	698	660	13,122	11,743	89%	4,857	122	546	149	—	6,069	11,743
	Refrigerator/ Freezer		3,432	3,224	205,607	164,909	80%	83,698	3,449	1,297	24,810	—	51,655	164,909
	Washer/Dryer		3,599	3,446	125,821	111,416	88%	55,484	2,088	1,819	15,170	—	36,855	111,416
2014	Air conditioner		2,225	2,465	102,155	94,213	92%	28,279	7,435	10,451	31,415	—	16,633	94,213
	TV	CRT	1,872	1,849	49,352	37,446	75%	5,147	1,791	34	398	18765	11,311	37,446
		LCD/PDP	847	834	16,629	14,806	89%	6,524	160	598	224	—	7,300	14,806
	Refrigerator/ Freezer		2,775	2,978	187,654	150,913	80%	76,131	3,392	1,280	22,547	—	47,563	150,913
	Washer/Dryer		3,142	3,349	124,195	110,294	88%	54,674	2,151	1,943	14,755	—	36,771	110,294

4.41 Implementation of Recycling of Specified Home Appliances

Collected and disposal weight of Freon used as a refrigerant

		Collected weight of Freon used as a refrigerant [kg]	Disposal weight of Freon used as a refrigerant [kg]
FY2003	Air conditioner	860,496	-
	Refrigerator/Freezer	286,646	-
2004	Air conditioner	994,732	976,479
	Refrigerator/Freezer	310,915	312,257
2005	Air conditioner	1,122,462	1,117,923
	Refrigerator/Freezer	310,701	309,734
2006	Air conditioner	1,043,778	1,047,979
	Refrigerator/Freezer	297,619	297,868
2007	Air conditioner	1,089,423	1,084,342
	Refrigerator/Freezer	298,544	298,145
2008	Air conditioner	1,166,887	1,170,356
	Refrigerator/Freezer	299,118	301,307
2009	Air conditioner	1,304,142	1,292,694
	Refrigerator/Freezer	319,896	315,323
	Washer/Dryer	847	818
2010	Air conditioner	1,870,472	1,855,076
	Refrigerator/Freezer	357,145	353,175
	Washer/Dryer	1,370	1,307
2011	Air conditioner	1,477,875	1,466,194
	Refrigerator/Freezer	284,360	282,469
	Washer/Dryer	2,523	2,400
2012	Air conditioner	1,478,610	1,469,477
	Refrigerator/Freezer	277,886	274,984
	Washer/Dryer	3,399	3,226
2013	Air conditioner	1,726,110	1,700,328
	Refrigerator/Freezer	292,057	286,221
	Washer/Dryer	6,756	6,519
2014	Air conditioner	1,576,865	1,040,914
	Refrigerator/Freezer	247,927	189,409
	Washer/Dryer	11,815	11,438

Source: Compiled from "About the publication of the results of recycling Home Appliances by each Home Appliance manufactures" by Association for Electric Home Appliances.

Collected and disposal weight of the liquefied Freon included in insulation material

		Collected weight of the liquefied Freon included in insulation material [kg]	Disposal weight of the liquefied Freon included in insulation material [kg]
FY2006	Refrigerator/Freezer	592,511	589,832
2007	Refrigerator/Freezer	574,535	562,020
2008	Refrigerator/Freezer	556,754	554,472
2009	Refrigerator/Freezer	543,502	514,701
2010	Refrigerator/Freezer	577,217	562,607
2011	Refrigerator/Freezer	433,566	421,381
2012	Refrigerator/Freezer	405,387	397,447
2013	Refrigerator/Freezer	432,354	420,404
2014	Refrigerator/Freezer	392,367	386,262

4.42 Volumes of construction waste by type

(FY2012)

Type	Volume (1,000 t)	Percentage (%)
Asphalt, concrete blocks	25,770	35
Concrete blocks	30,920	43
Construction sludge	6,570	9
Mixed construction waste	2,800	4
Waste wood generated from construction	5,000	7
Others	1,640	2
Nation-wide total	72,690	100

Notes:

- The total volume may not foot due to rounding off .
- Waste wood generated from construction includes the volume of logging wood and root wood and the like.

Source: "Survey on Construction By-products 2012," Ministry of Land, Infrastructure, Transport and Tourism.

4.43 Recycling of construction waste by item

(Unit : %)

	Construction waste	Asphalt, concrete blocks	Concrete blocks	Wood generated from construction (excludes Reduction)	Wood generated from construction (includes Reduction)	construction sludge (includes Reduction)	Mixed construction waste (10,000 t)
FY 1990	42	50	48	56	-	21	31
1995	58	81	65	40	-	14	11
2000	85	98	96	38	82	41	485
2002	92	99	98	62	90	68	337
2005	92	98	98	68	91	75	293
2008	94	98	97	80	89	85	267
2012	96	99	99	89	94	85	280

Notes:

- Wood generated from construction includes the number of logging wood and root wood and the like.
- Recycling, etc.=Amount of recycling, etc. / amount of generation
- Reduction refers to incineration and dehydration, etc.

Compiled from "Survey on Construction By-products 2012," Ministry of Land, Infrastructure, Transport and Tourism.

4.44 Generation and treatment of food waste

FY 2012 (Unit : 10,000 t)

	Total amount generated	Amount disposed				
		Incinerated and/or landfilled	Amount recycled			
			Composted	Animal Feed Produced	Others	Total
Municipal waste	14,460	12,340	—	—	—	2,120
Household	8,850	8,290	—	—	—	550
Businesses	5,610	4,050	560	560	440	1,570
Industrial waste	2,570	510	360	1,500	210	2,060
Total	17,030	12,850	—	—	—	4,180

Sources:

- "FY2012 Food Balance Sheet," Minister's Secretariat, Ministry of Agriculture, Forestry, Fisheries
- "Amount of Food Waste Generated and Recycling (FY2012)" Statistics Department, Ministry of Agriculture, Forestry, Fisheries
- "FY2014 Report on Recycling by Food Industry," a sponsored project by Ministry of Agriculture, Forestry, Fisheries
- Municipal wastes from households and businesses are estimates by Waste Management and Recycling Department, Ministry of the Environment based on its publication, "Generation and Treatment of Municipal Waste and Industrial Waste"
- "FY2014 Report on Performance Survey on Food Recycling Resource," a contract project by Ministry of the Environment

4.45 Collection of used cars (number of cases reported)

(Unit: cars)

	Type of process					
	Collection process	CFC recovery process	Dismantling process*2	Among them Dismantling process→ Dismantling process	Crushing process	Among them Crushing process→ Crushing process
FY 2004	471,057	383,343	425,640	(14,056)	542,725	(187,952)
2005	3,048,539	2,419,473	3,167,138	(116,306)	4,823,812	(1,845,470)
2006	3,573,215	2,621,280	3,738,877	(154,925)	5,848,370	(2,306,910)
2007	3,708,996	2,792,803	3,867,349	(149,065)	6,294,748	(2,623,147)
2008	3,580,882	2,798,418	3,716,791	(137,361)	6,129,797	(2,610,509)
2009	3,918,415	3,221,770	4,076,424	(169,152)	6,841,394	(3,007,090)
2010	3,648,428	3,048,627	3,833,989	(154,972)	6,516,840	(2,867,100)
2011	2,963,642	2,441,715	3,083,162	(123,358)	5,177,173	(2,288,072)
2012	3,405,662	2,900,043	3,567,777	(152,499)	6,053,494	(2,698,623)
2013	3,433,356	2,974,479	3,587,714	(147,664)	6,064,548	(2,696,864)
2014	3,331,901	2,927,357	3,503,381	(147,624)	5,901,803	(2,616,185)

Note:
The figures for fiscal year 2004 are the totals from January to March, 2005 after the enforcement of the law.

Source: Compiled from "State of enforcement with the End-of-Life Vehicle Recycling Law 2015" by Manufacturing Industries Bureau, METI as well as by Waste Management and Recycling Department, MOE Government of Japan

4.46 Rate of recycling of Shredder dust (ASR) and the like by automobile manufacturers

(Unit : %)

		Shredder dust	Airbag etc.
Goals	2005 ~	30	85
	2010 ~	50	
	2015 ~	70	

Actual	FY 2004	49 ~ 69.1	91.6 ~ 100
	FY 2005	48.0 ~ 70.0	93.0 ~ 94.7
	FY 2006	63.7 ~ 75.0	93.5 ~ 95.1
	FY 2007	64.2 ~ 78.0	92.0 ~ 94.7
	FY 2008	72.4 ~ 80.5	94.1 ~ 94.9
	FY 2009	77.5 ~ 82.1	93.2 ~ 100
	FY 2010	79.9 ~ 87	93 ~ 100
	FY 2011	92 ~ 94	92 ~ 100
	FY 2012	93 ~ 96.8	93 ~ 95
	FY 2013	96 ~ 97.7	94 ~ 95
	FY 2014	96.8 ~ 98.1	94 ~ 95

Notes:

・ Recycle rate is indicated by the following equation.

$$\frac{\text{Amount of ASR loaded into regeneration facilities} + \text{Amount equivalent to ASR contained in dismantled ELVs loaded into electric furnaces} - \text{Amount of ASR-originated residue from regeneration facilities and electric furnaces}}{\text{Total ASR weight collected by automobile manufactures} + \text{Amount equivalent to ASR contained in dismantled ELVs loaded into electric furnaces}}$$

・ ASR : Automotive shredder residue, a mixture of metallic waste resulting from the shredding of automobiles

・ Airbags: Total weight of the airbags that have been regenerated to be used as parts of the products / Total weight of the airbags that have been collected by automobile manufactures and the like.

・ The figures for fiscal year 2004 are the totals from January to March, 2005 after the enforcement of the law.

Source: Compiled from "State of Enforcement with the End-of-Life Vehicle Recycling Law 2015" by Manufacturing Industries Bureau, METI as well as by Waste Management and Recycling Department, MOE, Government of Japan respectively

4.47 Voluntary collection and resource regeneration of PC and small rechargeable batteries (FY2014)

(1) Voluntary collection

PC (household and business total)

Small rechargeable batteries

Product groups	Weight (t)
NiCad batteries	777
Nickel hydride batteries	195
Lithium Rechargeable Batteries	404
Small valve regulated lead-acid batteries	1,121
Total	2,498

PC

Product groups	Number collected (piece)
Desktop PC	200,124
Notebook PC	241,512
CRT-type display device	37,237
LCD display device	203,543
Total	682,416

(2) Resource regeneration

PC

Product groups	Treatment amount (t)	Resource regeneration amount (t)	Resource regeneration rate (%)	Statutory target (%)
Desktop PC	1,968	1,507	76.6	50
Notebook PC	781	472	60.4	20
CRT type display device	611	438	71.6	55
LCD display device	1,572	1,169	74.4	55
Total	4,933	3,585		

Small rechargeable batteries

Product groups	Treatment amount (t)	Resource regeneration amount (t)	Resource regeneration rate (%)	Statutory target (%)
NiCad batteries	699	497	71.1	60
Nickel hydride batteries	176	135	76.6	55
Lithium Rechargeable Batteries	375	217	57.9	30
Total	2,372	1,410		

Note:

Resource regeneration refers to using it as reproduction resource.

The total volume may not foot due to rounding up/down.

Source: "The Publication of the implementation status of voluntary collection and resource regeneration by each project under Act on the Promotion of Effective Utilization of Resources," Manufacturing Industries Bureau, METI as well as by Waste Management and Recycling Department, MOE, the Government of Japan

5.01 Number of Specified Sites in accordance with the Water Pollution Control Act

	Total number of specified sites	Breakdown by water discharge regulations			
		Discharge per day is more than 50 m3	Specified sites dealing with hazardous substances.	Discharge per day is less than 50 m3	Specified sites dealing with hazardous substances
FY1985	279,762	29,890	3,900	249,872	9,507
	(5,035)	(4,797)	(849)	(238)	(25)
1986	280,443	29,802	3,854	250,641	9,035
	(4,740)	(4,518)	(765)	(222)	(20)
1987	281,057	29,968	3,983	251,089	9,253
	(4,728)	(4,514)	(800)	(214)	(19)
1988	285,860	31,420	4,067	254,440	9,030
	(5,168)	(4,901)	(817)	(267)	(25)
1989	287,679	31,692	4,295	255,987	12,953
	(5,018)	(4,757)	(759)	(261)	(16)
1990	290,328	32,190	4,328	258,138	13,295
	(5,008)	(4,742)	(803)	(266)	(16)
1991	304,663	36,548	4,387	268,115	14,022
	(5,004)	(4,733)	(771)	(271)	(20)
1992	303,810	36,901	4,430	266,909	13,613
	(5,009)	(4,751)	(801)	(258)	(22)
1993	305,318	36,939	5,025	268,379	13,233
	(4,741)	(4,507)	(848)	(234)	(22)
1994	305,987	37,948	5,295	268,039	13,546
	(5,106)	(4,849)	(918)	(257)	(29)
1995	303,807	38,417	5,258	265,390	13,024
	(5,124)	(4,861)	(917)	(263)	(28)
1996	303,100	38,534	5,128	264,566	13,146
	(4,989)	(4,745)	(893)	(244)	(26)
1997	298,967	38,127	4,934	260,840	12,707
	(4,676)	(4,455)	(836)	(221)	(20)
1998	298,044	38,386	5,178	259,658	12,432
	(4,599)	(4,382)	(861)	(217)	(16)
1999	298,529	38,415	4,712	260,114	12,005
	(4,528)	(4,299)	(718)	(229)	(18)
2000	298,245	38,502	4,815	259,743	12,127
	(4,462)	(4,221)	(734)	(241)	(22)
2001	297,973	38,751	5,091	259,222	11,892
	(4,617)	(4,365)	(811)	(252)	(29)
2002	296,157	38,292	4,582	257,865	10,975
	(4,551)	(4,304)	(774)	(247)	(27)
2003	293,481	37,226	4,434	256,255	10,926
	(4,289)	(4,027)	(664)	(262)	(27)
2004	292,379	37,017	4,475	255,362	10,526
	(4,188)	(3,926)	(677)	(262)	(32)
2005	290,759	36,543	4,424	254,216	10,567
	(4,158)	(3,874)	(603)	(284)	(33)
2006	289,091	36,139	4,471	252,952	11,234
	(4,118)	(3,842)	(651)	(276)	(43)
2007	280,517	35,506	4,330	245,011	10,757
	(3,906)	(3,662)	(617)	(244)	(37)
2008	276,952	34,807	4,336	242,145	10,611
	(3,854)	(3,595)	(639)	(259)	(36)
2009	274,039	34,271	4,179	239,768	10,348
	(3,813)	(3,543)	(628)	(270)	(31)
2010	271,242	33,964	4,156	237,278	10,119
	(3,743)	(3,492)	(622)	(251)	(24)
2011	266,860	33,529	4,025	233,331	10,046
	(3,685)	(3,440)	(623)	(245)	(24)
2012	271,168	33,067	3,931	233,146	10,917
	(3,559)	(3,321)	(545)	(238)	(28)
2013	(269,847)	(32,589)	(3,877)	(232,300)	(11,388)
	(3,485)	(3,241)	(541)	(244)	(31)
2014	267,328	32,381	3,813	230,225	11,207
	(3,444)	(3,202)	(538)	(242)	(30)

Note:
Parenthesized is the number of specified sites with the specified facilities, in accordance with Law concerning Special Measures for Conservation of the Environment of the Seto Inland Sea.

Source: "Enforcement of Water Pollution Control Law etc.," Water Environment Division, Environment Management Bureau, MOE, the Government of Japan.

5.02 Number of specified sites by prefecture in accordance with Water Pollution Control Act

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Hokkaido	7,127	6,936	6,818	6,569	6,372	6,332	6,242	6,186	6,252	6,129	6,361	6,130	6,112
Aomori	5,353	5,299	5,445	5,401	5,494	5,374	5,035	4,984	4,974	4,861	4,856	4,788	4,795
Iwate	5,489	5,521	5,414	5,339	5,346	5,287	5,282	5,266	5,228	5,173	5,288	5,300	5,268
Miyagi	6,714	6,699	6,746	6,725	6,717	6,761	5,787	5,758	5,771	5,703	5,792	5,631	5,539
Akita	4,380	4,405	4,401	4,241	4,310	4,181	3,974	3,939	3,847	3,737	3,781	3,735	3,638
Yamagata	4,235	4,206	4,245	4,235	4,289	4,331	4,364	4,282	3,660	3,672	3,712	3,753	3,760
Fukushima	7,991	7,940	7,975	7,973	7,899	7,892	7,827	7,711	7,643	7,649	7,652	8,037	7,975
Ibaraki	9,750	9,767	9,783	10,039	9,580	8,634	9,346	9,327	9,279	9,000	9,353	8,905	8,563
Tochigi	8,445	8,490	8,183	8,174	8,220	8,240	8,239	8,234	8,233	8,233	8,251	8,198	8,173
Gunma	5,230	5,237	5,345	5,387	5,484	5,376	5,270	5,285	5,300	5,308	5,275	5,242	5,143
Saitama	10,276	10,081	10,161	9,314	9,608	9,670	9,670	9,625	9,461	9,577	9,590	9,482	9,321
Chiba	11,836	11,491	11,302	11,199	11,022	10,787	10,581	10,401	10,260	10,194	10,278	10,597	10,487
Tokyo	1,777	1,855	1,878	2,216	2,289	2,325	2,304	2,295	2,265	2,218	3,352	3,333	3,390
Kanagawa	8,960	8,985	8,904	8,775	8,564	8,229	8,142	8,017	7,915	7,800	7,832	7,792	7,767
Niigata	10,857	10,841	10,784	10,787	10,694	10,635	10,593	10,498	10,145	9,477	8,917	8,664	8,621
Toyama	3,386	3,382	3,389	3,412	3,430	3,458	3,472	3,486	3,452	3,383	3,421	3,448	3,454
Ishikawa	4,180	4,079	4,064	3,979	3,979	3,982	3,837	3,911	3,871	3,824	3,835	3,856	3,840
Fukui	2,788	2,813	2,891	2,906	2,772	2,648	2,542	2,474	2,457	2,430	2,431	2,398	2,375
Yamanashi	5,385	5,361	5,301	5,312	5,302	5,195	5,148	5,153	5,124	5,067	5,049	5,013	4,854
Nagano	13,073	13,046	13,058	13,077	12,986	12,941	12,911	12,871	12,670	12,499	12,587	12,447	12,434
Gifu	8,898	8,843	8,873	8,874	8,827	8,820	8,790	8,714	8,614	8,545	8,538	8,573	8,473
Shizuoka	12,581	12,573	12,552	12,476	12,378	12,535	12,499	11,853	11,941	11,848	12,290	11,541	11,501
Aichi	14,372	14,138	14,001	13,849	13,695	13,393	13,139	12,894	12,658	12,468	12,203	12,172	11,956
Mie	8,544	8,592	8,663	8,618	8,484	8,516	8,549	8,568	8,547	8,513	8,525	8,565	8,333
Shiga	3,580	3,523	3,418	3,422	3,284	3,238	2,957	2,902	3,165	2,866	2,897	3,467	3,414
Kyoto	4,920	4,798	4,760	4,874	5,063	5,048	5,036	5,038	4,791	4,693	4,579	4,524	4,473
Osaka	5,516	5,362	5,230	5,214	4,936	5,001	4,965	4,468	4,029	3,403	4,569	4,572	4,470
Hyogo	10,700	10,667	10,538	10,027	9,986	9,825	9,783	9,680	9,071	8,984	9,283	9,344	9,132
Nara	3,058	3,070	3,270	3,332	3,340	3,358	3,356	3,355	3,101	3,107	3,124	3,254	3,095
Wakayama	3,631	3,672	3,721	3,953	3,951	3,871	3,843	3,853	3,678	3,643	3,678	3,705	3,991
Tottori	2,465	2,430	2,366	2,269	2,351	2,345	2,370	2,326	2,316	2,309	2,333	2,396	2,396
Shimane	3,875	3,355	3,330	3,325	3,341	3,348	3,256	3,233	3,179	3,101	3,123	3,126	3,124
Okayama	5,894	5,898	5,896	5,723	5,713	5,680	5,604	5,571	5,031	5,020	5,020	4,801	4,645
Hiroshima	7,315	7,289	7,270	7,520	7,159	6,636	6,491	6,308	5,788	5,764	5,799	5,814	5,772
Yamaguchi	4,781	4,780	4,251	4,249	4,241	4,243	4,242	4,236	3,900	3,911	3,950	3,946	3,849
Tokushima	4,224	4,256	4,303	4,323	4,316	4,324	4,334	4,356	4,148	4,159	4,175	4,187	4,177
Kagawa	4,924	4,924	4,931	4,929	4,923	4,841	4,700	4,580	4,290	4,296	4,280	4,108	4,090
Ehime	5,743	5,290	5,236	5,077	5,046	4,972	4,859	4,726	4,329	4,185	4,197	4,132	4,082
Kochi	3,291	3,287	3,300	3,320	3,288	3,309	3,318	3,203	3,210	3,049	2,951	2,947	2,903
Fukuoka	6,789	6,583	6,545	6,462	6,544	6,184	6,096	5,899	5,510	5,048	5,200	5,372	5,365
Saga	2,891	2,872	2,896	2,908	2,907	2,952	2,980	2,991	2,906	2,733	3,497	3,539	2,739
Nagasaki	5,647	5,634	5,397	5,468	5,651	5,789	5,889	5,954	6,182	6,144	5,421	5,639	6,381
Kumamoto	8,413	8,474	8,532	8,584	8,865	3,579	3,103	3,198	3,211	3,299	3,445	3,471	3,479
Oita	5,466	5,477	5,607	5,546	5,652	5,733	5,624	5,663	5,273	5,374	5,434	5,344	5,355
Miyazaki	4,059	3,953	4,009	3,942	4,009	4,066	4,107	4,176	4,189	4,154	4,051	3,883	3,867
Kagoshima	5,724	5,763	5,825	5,817	5,287	5,246	5,236	5,284	5,311	5,314	5,479	5,416	5,477
Okinawa	1,624	1,544	1,572	1,598	1,497	1,387	1,260	1,307	1,324	1,311	1,355	1,377	1,383
Total	296,157	293,481	292,379	290,759	289,091	280,517	276,952	274,039	267,499	263,175	267,009	265,964	263,431

Source: "Enforcement of Water Pollution Control Law etc.," Water Environment Division, Environment Management Bureau, MOE, the Government of Japan.

5.03 Results of the comprehensive survey of release of water pollution substances

(FY2013)

	Number of subjected business establishments	Effluent concentration (mg/L)		
		Average	Maximum	Minimum
BOD	21,142	7.10	2,900.00	0.00
COD	17,215	11.64	8,612.00	0.00
Cadmium and its compounds	609	0.01	1.20	0.00
Organic phosphorus compound	409	0.15	7.20	0.00
Hexavalent chromium compounds	946	0.05	2.00	0.00
Arsenic and its compounds	659	0.01	1.50	0.00
Total mercury	477	0.00	0.01	0.00
Alkyl mercury compounds	258	0.00	0.03	0.00
PCB	332	0.00	0.01	0.00
Trichloroethylene	539	0.01	0.30	0.00
Tetrachloroethylene	507	0.25	3.20	0.00

Source: "Comprehensive survey of release of water pollution substance in fiscal year 2013," Water Environment Division, Environment Management Bureau, MOE, the Government of Japan

5.04 Rate of compliance with environmental quality on health issues (non-achievement rate)

	FY2014									FY2013		
	Rivers		Lakes		Sea areas		Total			Total		
	a:Number of exceeding points	b:Number of monitoring points	a:Number of exceeding points	b:Number of monitoring points	a:Number of exceeding points	b:Number of monitoring points	a:Number of exceeding points	b:Number of monitoring points	a / b (%)	a:Number of exceeding points	b:Number of monitoring points	a / b (%)
Cadmium	3	3,102	0	261	0	818	3	4,181	0.07	4	4,171	0.10
Total cyanide	0	2,788	0	219	0	693	0	3,700	0	0	3,686	0
Lead	2	3,243	0	261	0	837	2	4,341	0.05	2	4,346	0.05
Hexavalent chromium	0	2,882	0	236	0	784	0	3,902	0	0	3,920	0
Arsenic	21	3,188	1	262	0	839	22	4,289	0.51	25	4,290	0.58
Total mercury	0	2,970	0	245	0	831	0	4,046	0	1	4,069	0
Alkyl mercury	0	687	0	66	0	178	0	931	0	0	894	0
PCB	0	1,745	0	145	0	421	0	2,311	0	0	2,337	0
Dichloromethane	0	2,688	0	202	0	558	0	3,448	0	0	3,490	0
Carbon tetrachloride	0	2,677	0	200	0	513	0	3,390	0	0	3,401	0
1,2-dichloroethane	1	2,689	0	202	0	546	1	3,437	0	1	3,466	0
1,1-dichloroethylene	0	2,677	0	202	0	546	0	3,425	0	0	3,476	0
cis-1,2-dichloroethylene	0	2,679	0	202	0	546	0	3,427	0	0	3,476	0
1,1,1-trichloroethane	0	2,713	0	208	0	546	0	3,467	0	0	3,500	0
1,1,2-trichloroethane	0	2,678	0	202	0	546	0	3,426	0	0	3,474	0
Trichloroethylene	0	2,748	0	214	0	569	0	3,531	0	0	3,600	0
Tetrachloroethylene	0	2,747	0	214	0	569	0	3,530	0	0	3,600	0
1,3-dichloropropene	0	2,697	0	209	0	505	0	3,411	0	0	3,439	0
Thiuram	0	2,652	0	212	0	496	0	3,360	0	0	3,368	0
Simazine	0	2,636	0	209	0	493	0	3,338	0	0	3,401	0
Thiobencarb	0	2,621	0	209	0	493	0	3,323	0	0	3,392	0
Benzene	0	2,643	0	203	0	547	0	3,393	0	0	3,440	0
Selenium	0	2,659	0	203	0	554	0	3,416	0	0	3,458	0
Nitrate nitrogen and nitrite nitrogen	2	3,135	0	355	0	757	2	4,247	0.05	2	4,074	0.05
Fluorine	17 (29)	2,690 (2,702)	0	226 (226)	- -	- (24)	17 (29)	2,916 (2,952)	0.58	14 (25)	2,919 (2,959)	0.48
Boron	1 (75)	2,566 (2,640)	0 (4)	216 (220)	- -	- (22)	1 (79)	2,782 (2,882)	0.04	1 (100)	2,779 (2,905)	0.04
1,4-dioxane	0	2,564	0	209	0	600	0	3,373	0	0	3,387	0
Total (total number of points)	45 <47>	3,902	1 <1>	400	0 <0>	1,073	46 <48>	5,375	0.86	44 <50>	5,409	0.81

Notes:

・ Nitrate nitrogen and nitrite nitrogen, fluorine, and boron have been included in water quality measurements across the country since 1999.

・ Environmental standards of fluorine and boron are not applicable to sea areas.

Measurement points of sea areas of these two items as described in ( ) are for reference purpose only and are excluded from environmental standards as well as the total field. Also, in rivers and lakes, a number of points, not including exceeding points of environmental standards which are affected in the sea, are described. These points are described below ( ) for reference.

・ Upper number in the "Total" field: the number of points without overlaps.

Lower number in the total field: gross number of points counted as one when it detects multiple exceeding values beyond environmental standards. Non-achievement rates are calculated based on the number "46" which is equivalent to the number of points that detect multiple exceeding values beyond the environmental standards.

Source: "Results of water quality measurement in public waters FY2014," Environment Management Bureau, MOE, the Government of Japan

5.05 Rate of compliance for environmental standards (BOD or COD)

	Rivers	Lakes	Sea areas	Tokyo Bay	Ise Bay	Osaka Bay	Seto Inland Sea*	Seto Inland Sea	Ariake Sea	Yatsushiro Sea	Total	Number of Water Areas
FY1974	51.3	41.9	70.7	44	47	67	-	67	88	75	54.9	1,927
1975	57.1	38.6	72.4	44	53	67	-	69	81	100	59.6	2,394
1976	57.6	40.7	76.4	67	47	67	-	72	88	86	60.6	2,586
1977	58.5	35.2	76.9	61	47	67	-	73	81	93	61.2	2,769
1978	59.5	37.6	75.3	61	53	67	-	75	94	93	61.7	2,814
1979	65.0	41.8	78.2	61	53	67	-	76	88	93	66.7	2,866
1980	67.2	41.6	79.8	61	53	67	-	72	88	79	68.7	2,913
1981	63.3	42.7	81.6	61	59	75	81	81	94	86	66.0	2,935
1982	65.3	41.7	81.3	61	41	67	83	81	94	93	67.5	2,982
1983	65.9	40.8	79.8	61	53	67	83	81	94	93	67.7	3,009
1984	63.4	42.7	81.3	61	47	67	81	81	94	100	66.1	3,044
1985	67.7	41.2	80.0	61	47	67	81	81	94	93	69.0	3,052
1986	68.6	40.0	81.2	63	59	67	79	78	94	100	69.9	3,061
1987	68.3	43.1	82.6	63	47	67	81	80	94	86	70.1	3,070
1988	73.3	44.2	82.7	63	65	67	81	81	88	93	73.9	3,083
1989	73.8	46.3	82.4	63	53	67	79	78	94	93	74.3	3,092
1990	73.6	44.2	77.6	63	59	67	75	75	94	100	73.1	3,103
1991	75.4	42.3	80.2	63	59	67	79	78	94	100	75.0	3,123
1992	75.4	44.6	80.9	74	53	67	79	78	88	100	75.2	3,149
1993	77.3	46.1	79.5	63	65	67	73	72	94	100	76.5	3,147
1994	67.9	40.6	79.2	63	47	67	77	76	94	100	68.9	3,170
1995	72.3	39.5	78.6	63	56	67	75	75	93	100	72.1	3,181
1996	73.6	42.0	81.1	63	56	67	79	78	93	100	73.7	3,231
1997	80.9	41.0	74.9	63	44	67	75	75	93	86	78.1	3,244
1998	81.0	40.9	73.6	63	44	67	75	76	80	79	77.9	3,258
1999	81.5	45.1	74.5	63	50	67	75	75	93	79	78.7	3,270
2000	82.4	42.3	75.3	63	56	67	77	76	87	43	79.4	3,274
2001	81.5	45.8	79.3	68	56	67	75	74	93	86	79.5	3,291
2002	85.1	43.8	76.9	68	44	67	69	69	87	86	81.7	3,300
2003	87.4	55.2	76.2	68	50	67	70	70	93	86	83.8	3,301
2004	89.8	50.9	75.5	63	50	67	67	67	80	71	85.2	3,313
2005	87.2	53.4	76.0	63	50	67	74	74	87	64	83.4	3,319
2006	91.2	55.6	74.5	68	44	67	71	70	87	64	86.3	3,334
2007	90.0	50.3	78.7	63	56	67	78	77	80	86	85.8	3,324
2008	92.3	53.0	76.4	74	56	67	72	72	93	79	87.4	3,331
2009	92.3	50.0	79.2	68	56	67	77	77	93	86	87.6	3,335
2010	92.5	53.2	78.3	63	56	67	81	80	87	79	87.8	3,337
2011	93.0	53.7	78.4	68	56	67	79	78	80	64	88.2	3,326
2012	93.1	55.3	79.8	63	56	67	79	78	87	86	88.6	3,329
2013	92.0	55.1	77.3	63	56	67	77	77	87	79	87.3	3,335
2014	93.9	55.6	79.1	63	50	67	78	77	93	86	89.1	3,339

Notes:
- BOD is applied for Rivers, COD for Lakes and Sea Areas.
- Achievement rate (%) = (number of water areas meeting the standards / number of water areas in a specified type) × 100
- Mikawa Bay is included in Ise Bay.
- "Seto Inland Sea*," the column shadowed with a gray does not include Osaka Bay. Osaka Bay is included in "Seto Inland Sea. "

Source: "Measurement Results of Water Quality in Public Waters FY2014," Water Environment Division, Environment Management

5.06 Water quality of enclosed sea area (annual average of COD)

			FY 2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Average of the last 10 years
Tokyo Bay	Average (mg/L)		2.8	2.7	2.5	2.6	2.5	2.8	2.7	2.7	2.6	2.8	
		Category A	2.2	2.0	1.8	2.3	1.7	2.3	2.1	2.3	2.0	2.2	
		Category B	2.7	2.7	2.5	2.4	2.5	2.9	2.7	2.7	2.5	2.8	
		Category C	3.2	3.0	2.9	2.9	2.8	3.1	3.0	3.2	2.9	3.1	2.7 mg/L
	Total points of environment standards ①		49	49	49	49	49	49	49	49	49	49	
	Environment standards point to satisfy standard level ②		31	30	30	38	35	25	35	29	29	29	
	② / ① (%)		63	61	61	78	71	51	71	59	59	59	
Ise Bay (including Mikawa Bay)	Average (mg/L)		3.1	3.3	3.2	3.4	2.9	3.1	2.8	2.8	3.1	3.2	
		Category A	2.8	3.0	2.6	3.1	2.5	2.6	2.5	2.6	2.8	2.8	
		Category B	2.9	3.0	3.2	3.0	2.8	2.8	2.6	2.7	2.8	2.8	
		Category C	3.6	3.8	3.7	4.0	3.2	3.8	3.5	3.8	3.7	3.9	3.1 mg/L
	Total points of environment standards ③		32	32	32	32	32	32	32	32	32	32	
	Environment standards point to satisfy standard level ④		14	13	17	15	17	17	16	17	19	15	
	④ / ③ (%)		44	41	53	47	53	53	50	53	59	47	
Osaka Bay	Average (mg/L)		2.9	2.7	2.7	2.8	2.8	2.8	2.5	2.7	2.6	2.4	
		Category A	2.5	2.4	2.4	2.5	2.4	2.4	2.3	2.4	2.4	2.1	
		Category B	3.1	2.8	2.8	2.9	2.8	3.0	2.7	2.9	2.7	2.6	
		Category C	3.2	3.0	2.9	3.0	3.2	3.1	2.5	2.8	2.8	2.7	2.7 mg/L
	Total points of environment standards ⑤		28	28	28	28	28	28	28	28	28	28	
	Environment standards point to satisfy standard level⑥		13	18	16	15	15	16	18	15	17	18	
	⑥ / ⑤ (%)		46	64	57	54	54	57	64	54	61	64	
Seto Inland Sea (excluding Osaka Bay)	Average (mg/L)		2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.9	2.1	2.0	
		Category A	1.8	1.9	1.8	1.8	1.7	1.7	1.7	1.8	1.8	1.8	
		Category B	2.3	2.3	2.2	2.3	2.2	2.2	2.2	2.0	2.0	2.2	
		Category C	3.0	3.0	2.8	2.7	2.8	2.7	2.7	2.7	2.5	2.6	2.0 mg/L
	Total points of environment standards ⑦		426	426	426	423	401	421	424	424	424	424	
	Environment standards point to satisfy standard level ⑧		294	277	322	297	310	323	323	334	325	332	
	⑧ / ⑦ (%)		69	65	76	70	77	77	76	79	77	78	
Seto Inland Sea (including Osaka Bay)	Average (mg/L)		2.1	2.1	2.0	2.1	2.0	2.0	2.0	2.0	2.1	2.0	
		Category A	1.8	1.9	1.8	1.8	1.7	1.7	1.8	1.8	1.9	1.8	
		Category B	2.3	2.4	2.3	2.3	2.2	2.2	2.2	2.0	2.0	2.2	
		Category C	3.1	3.0	2.8	2.8	2.8	2.8	2.7	2.6	2.5	2.6	2.0 mg/L
	Total points of environment standards ⑨		454	454	454	451	429	449	452	452	452	452	
	Environment standards point to satisfy standard level ⑩		307	295	338	312	325	339	340	349	342	350	
	⑩ / ⑨ (%)		68	65	74	69	76	76	75	77	76	77	
Ariake Sea	Average (mg/L)		1.8	1.8	1.9	1.8	1.8	1.9	2.3	2.3	2.1	1.8	
		Category A	2.1	2.0	2.2	1.9	2.0	2.2	2.1	2.1	2.0	2.0	
		Category B	1.5	1.5	1.6	1.4	1.5	1.5	2.6	2.3	2.2	1.5	
		Category C	2.0	2.0	2.1	2.1	2.2	2.3	2.2	2.0	2.0	2.2	1.9 mg/L
	Total points of environment standards ⑪		34	34	34	34	34	34	34	34	34	34	
	Environment standards point to satisfy standard level ⑫		26	26	25	28	28	25	20	19	26	28	
	⑫ / ⑪ (%)		76	76	74	82	82	74	59	56	76	82	
Yatsushiro Sea	Average (mg/L)		2.0	1.9	1.9	1.6	1.7	1.8	1.9	1.9	1.9	1.7	
		Category A	1.8	1.8	1.7	1.5	1.6	1.7	1.8	1.6	1.7	1.7	
		Category B	2.1	2.0	2.0	1.6	1.8	1.9	2.1	1.9	1.9	1.9	
		Category C	3.1	2.8	2.6	2.1	2.6	2.5	2.4	2.3	2.4	1.9	1.8 mg/L
	Total points of environment standards ⑬		29	29	29	29	29	29	29	29	29	29	
	Environment standards point to satisfy standard level ⑭		19	20	26	26	27	26	21	27	23	27	
	⑭ / ⑬ (%)		66	69	90	90	93	90	72	93	79	93	

Source: "Measurement Results of Water Quality in Public Waters FY2014," Water Environment Division, Environment Management Bureau, MOE, the Government of Japan

5.07 Changes in Water quality in the specified lakes (COD)

(Unit: mg / L)

		Category	Number of points	FY 2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Kamafusa Dam		A A	1	2.7	2.6	2.2	2.3	2.5	2.6	2.5	2.4	2.5	2.9
				2.3	2.1	2.0	2.1	2.3	2.5	2.4	2.2	2.4	2.7
Hachirogata Regulating Pond		A	3	12.0	12.0	9.5	10.0	8.8	9.7	10.0	12.0	9.4	9.8
				7.5	8.8	7.5	6.8	6.8	7.5	7.2	8.5	6.3	7.0
Kasumigaura Lake	(Nishiura)	A	4	8.9	9.3	9.7	9.8	10.0	10.0	9.0	8.3	7.5	7.9
				7.6	8.2	8.5	8.4	9.3	8.2	8.1	7.5	6.6	6.6
	(Lake Kitaura)	A	2	8.1	9.4	9.8	10.0	11.0	12.0	9.1	9.2	8.5	9.6
				7.7	8.4	9.5	9.3	10.0	9.1	8.0	8.3	7.3	7.5
	(Hitachitonegawa)	A	2	7.9	8.9	9.6	9.7	9.7	10.0	9.2	8.3	7.2	7.4
				7.4	8.1	8.8	8.7	9.3	9.2	8.5	8.0	6.7	7.3
Lake Inba-numa		A	1	9.6	10.0	12.0	9.6	9.8	10.0	13.0	12.0	14.0	11
				8.1	8.6	11.0	8.5	8.6	8.9	11.0	11.0	12.0	11
Lake Teganuma		B	1	9.3	9.6	9.7	9.1	10.0	9.6	10.0	11.0	10.0	8.4
				8.2	7.9	8.4	8.2	8.6	8.9	9.3	9.6	9.5	7.6
Lake Suwa		A	3	7.3	7.4	6.2	6.8	6.0	6.7	4.9	6.7	7.5	7.5
				5.7	5.5	5.1	5.3	4.8	4.5	4.0	4.9	5.9	5.0
Lake Nojiri		A A	2	1.7	1.8	2.0	2.3	2.4	2.2	2.2	2.3	2.4	2.3
				1.6	1.6	1.6	1.9	2.1	1.9	1.9	2.0	2.0	2.1
Lake Biwa	(North lake)	A A	4	3.0	2.5	2.9	3.0	3.0	2.9	2.8	2.8	2.6	2.9
				2.6	2.4	2.6	2.7	2.7	2.6	2.5	2.6	2.4	2.4
	(South lake)	A A	4	4.2	3.7	4.3	4.3	4.7	5.0	4.5	5.3	4.4	4.3
				3.2	2.9	3.4	3.5	3.5	3.7	3.3	3.7	3.1	3.1
Lake Nakaumi		A	12	5.3	5.9	5.6	6.0	5.9	5.3	5.4	5.4	5.6	5.0
				4.2	4.5	4.5	4.4	4.1	3.8	3.4	3.6	4.0	3.4
Lake Shinji		A	5	4.9	4.8	6.2	6.1	5.5	5.9	6.1	6.5	5.7	4.9
				4.5	4.3	5.4	5.4	4.8	5.1	5.1	5.3	4.9	4.1
Lake Kojima		B	2	8.3	8.0	7.9	8.1	7.5	8.0	7.8	7.7	7.4	7.6
				7.5	7.4	7.0	7.3	7.1	7.6	7.6	6.9	6.7	7.3
Overall average of designated lakes			46	5.4	5.5	6.0	5.9	6.0	6.0	5.9	6.0	5.7	5.5

Note:

・ Upper rows indicate 75% of the Environmental Quality Standards values for COD. Lower rows for the annual average of the same.

・ 75% values for COD refer to the highest among that in each point. The annual COD average values are taken from the average values of all measuring points.

・ Value for the whole of a specified lakes is calculated from the mean value of each lake by averaging them. (Hachirogata Regulating Pond was excluded until FY2007. It was included in FY 2008.)

・ Hachirogata Regulating Pond was designated as a specified lake in December 2007.

・ The number of points describe the number of measuring points of the Environmental Quality Standards in each lakes of FY201 4 .

Source: "Measurement Results of Water Quality in Public Waters FY2014," Water Environment Division, Environment Management Bureau, MOE, the Government of Japan

5.08 Achievement rate of Environmental Quality Standards for total nitrogen and total phosphorus in marine water

	Total Nitrogen			Total Phosphorus			Total Nitrogen, Total Phosphorus		
	Number of type-designated water areas	Number of achievement water areas	Achievement rate (%)	Number of type-designated water areas	Number of achievement water areas	Achievement rate (%)	Number of type-designated water areas	Number of achievement water areas	Achievement rate (%)
FY1995	9	2	22.2	9	4	44.4	9	2	22.2
1996	29	20	69.0	29	16	55.2	29	16	55.2
1997	49	33	67.3	49	32	65.3	49	27	55.1
1998	112	83	74.1	112	94	83.9	112	79	70.5
1999	124	96	77.4	124	107	86.3	124	90	72.6
2000	132	102	77.3	132	112	84.8	132	94	71.2
2001	145	128	88.3	145	127	87.6	145	119	82.1
2002	152	134	88.2	152	134	88.2	152	122	80.3
2003	152	135	88.8	152	135	88.8	152	128	84.2
2004	152	126	82.9	152	134	88.2	152	119	78.3
2005	152	131	86.2	152	134	88.2	152	125	82.2
2006	152	133	87.5	152	132	86.8	152	122	80.3
2007	152	141	92.8	152	133	87.5	152	125	82.2
2008	152	140	92.1	152	136	89.5	152	129	84.9
2009	151	143	94.7	151	128	84.8	151	123	81.5
2010	152	137	90.1	152	133	87.5	152	124	81.6
2011	151	142	94.0	151	132	87.4	151	128	84.8
2012	149	132	88.6	149	131	87.9	149	125	83.9
2013	149	141	94.6	149	137	91.9	149	132	88.6
2014	151	145	96.0	151	139	92.1	151	135	89.4

Notes:

- Only when both Total Nitrogen and Total Phosphorus satisfy the Environmental Quality Standards (EQS.), an area is considered as achievement water area
- No sea area is subjected to EQS for only Total Nitrogen nor for only Total Phosphorus.
- Survey on total Nitrogen and total Phosphorus in Sea area began in 1995.

Source: "Measurement Results of Water Quality in Public Waters FY2014," Water Environment Division, Environment Management Bureau, MOE, the Government of Japan

5.09 Achievement of Environment Standards for Total Nitrogen and Total Phosphorus in Lakes

	Total Nitrogen			Total Phosphorus			Total Nitrogen, Total Phosphorus		
	Number of type-designated water areas	Number of water areas achieving the standard	Achievement rate (%)	Number of type-designated water areas	Number of water areas achieving the standard	Achievement rate (%)	Number of type-designated water areas	Number of water areas achieving the standard	Achievement rate (%)
FY1984	3	0	0.0	3	0	0.0	3	0	0.0
1985	7	1	14.3	17	9	52.9	17	8	47.1
1986	15	2	13.3	31	17	54.8	31	15	48.4
1987	17	2	11.8	37	16	43.2	37	15	40.5
1988	21	1	4.8	42	16	38.1	42	13	31.0
1989	22	3	13.6	45	17	37.8	45	16	35.6
1990	22	3	13.6	47	24	51.1	47	20	42.6
1991	22	1	4.5	48	17	35.4	48	14	29.2
1992	22	1	4.5	48	23	47.9	48	18	37.5
1993	22	1	4.5	48	19	39.6	48	15	31.3
1994	23	1	4.3	49	23	46.9	49	20	40.8
1995	23	1	4.3	50	24	48.0	50	18	36.0
1996	24	3	12.5	51	27	52.9	51	24	47.1
1997	25	3	12.0	54	25	46.3	54	23	42.6
1998	27	3	11.1	60	25	41.7	60	23	38.3
1999	27	2	7.4	64	30	46.9	64	27	42.2
2000	28	2	7.1	67	31	46.3	67	27	40.3
2001	32	2	6.3	79	35	44.3	79	30	38.0
2002	32	3	9.4	81	34	42.0	81	28	34.6
2003	32	2	6.3	93	47	50.5	93	40	43.0
2004	35	3	8.6	98	50	51.0	98	43	43.9
2005	35	4	11.4	103	54	52.4	103	48	46.6
2006	35	3	8.6	109	57	52.3	109	50	45.9
2007	35	4	11.4	110	57	51.8	110	51	46.4
2008	37	3	8.1	112	64	57.1	112	56	50.0
2009	39	6	15.4	115	67	58.3	115	60	52.2
2010	38	5	13.2	117	62	53.0	117	59	50.4
2011	39	5	12.8	119	61	51.3	119	57	47.9
2012	39	5	12.8	119	65	54.6	119	61	51.3
2013	39	5	12.8	119	62	52.1	119	60	50.4
2014	39	6	15.4	121	64	52.9	121	61	50.4

Notes:

- In "Total Nitrogen" column, "water areas achieving the standard" is water areas where the standards for Total Nitrogen is achieved.

- In "Total Phosphorus" column, "water areas achieving the standard" is water areas where the standards for Total Phosphorus are achieved.
- In regard to achievement of environment standards for Total Nitrogen and Total Phosphorus,
  1) For the water areas subject to environment standards both for Total Nitrogen and Total Phosphorus, they are classified as water area achieving the standard only when both Total Nitrogen and Total Phosphorus fulfill the environment standards.
  2) For the water areas subject to environment standard for Total Phosphorus only, they are classified as water area achieving the standard only when Total Phosphorus fulfills the environment standards.
- Survey on Total Nitrogen and Total Phosphorus in Lake began in 1984.

Source: "Measurement Results of Water Quality in Public Waters FY2014," Water Environment Division, Environment Management Bureau, MOE, the Government of Japan

5.10 Generation Loads and Reduction Targets for 3 Sea Areas with Area-wide Total Pollutant Controls by Source

① Generation load and reduction target for COD for 3 seas areas with Area-wide Total Pollutant Controls by Source

(Unit: t / day)

		Actual								Reduction Target
		FY1979	1984	1989	1994	1999	2004	2009	2014	FY2014
Tokyo Bay	Domestic Wastewater	324	290	243	197	167	144	124	110	119
	Industrial Wastewater	115	83	76	59	52	42	36	34	36
	Others	38	40	36	30	28	25	23	19	22
	Sub Total	477	413	355	286	247	211	183	163	177
Ise Bay	Domestic Wastewater	151	150	141	134	118	99	81	69	71
	Industrial Wastewater	119	101	97	83	76	65	57	54	56
	Others	37	35	34	29	27	22	20	18	19
	Sub Total	307	286	272	246	221	186	158	141	146
Seto Inland Sea	Domestic Wastewater	488	444	400	365	319	261	221	180	201
	Industrial Wastewater	429	367	356	309	286	245	193	173	215
	Others	95	89	82	72	67	55	54	51	56
	Sub Total	1,012	900	838	746	672	561	468	404	472
Total	Domestic Wastewater	963	884	784	696	604	504	426	359	391
	Industrial Wastewater	663	551	529	451	414	352	286	261	307
	Others	170	164	152	131	122	102	97	88	97
	Total	1,796	1,599	1,465	1,278	1,140	958	809	708	795

Notes:

・ Reduction target volume during FY2014 was formulated at the seventh series of total pollutant load control.

・ The target years for load reduction are as follows; The first series: FY 1984, the second: FY1989, the third: FY1994, the forth: FY1999, the fifth: FY2004, the sixth: FY 2009 and the seventh: FY2014.

Source: materials by Office for Environmental management of Enclosed Coastal Seas, Water Environment Division, Environment Management Bureau, MOE, the Government of Japan

② Generation load and reduction target for Nitrogen Content for 3 seas areas with Area-wide Total Pollutant Controls by Source

(Unit: t / day)

		Actual								Reduction Target
		FY1979	1984	1989	1994	1999	2004	2009	2014	FY2014
Tokyo Bay	Domestic Wastewater	201	187	183	175	164	136	122	111	118
	Industrial Wastewater	96	82	72	50	41	29	26	25	25
	Others	67	64	64	55	49	43	37	34	38
	Sub Total	364	333	319	280	254	208	185	170	181
Ise Bay	Domestic Wastewater	69	73	64	64	60	52	47	42	44
	Industrial Wastewater	52	49	42	39	29	26	22	21	22
	Others	66	63	62	58	54	51	49	47	49
	Sub Total	188	185	168	161	143	129	118	110	115
Seto Inland Sea	Domestic Wastewater	189	188	201	205	184	159	143	125	138
	Industrial Wastewater	249	225	223	259	191	117	95	87	111
	Others	228	226	232	233	221	200	195	178	191
	Sub Total	666	639	656	697	596	476	433	390	440
Total	Domestic Wastewater	459	448	448	444	408	347	312	278	300
	Industrial Wastewater	397	356	337	348	261	172	143	133	158
	Others	361	353	358	346	324	294	281	259	278
	Sub Total	1,218	1,157	1,143	1,138	993	813	736	670	736

Notes:

・ The pollutant load reduction target volume during FY2014 was formulated at the seventh series of total pollutant load control.

・ Reduction of nitrogen content was implemented from the fifth series. The target years of the fifth, sixth, and seventh series are 2004, 2009, and 2014 respectively.

・ Actual figures in 1994 or before are aggregated data of the prefectures involved.

Source: materials by Office for Environmental management of Enclosed Coastal Seas, Water Environment Division, Environment Management Bureau, MOE, the Government of Japan

③Transition of pollutant load generation in the total pollutant load control areas and the pollutant load reduction target for phosphorus

(Unit: t / day)

		Actual								Reduction Target
		FY1979	1984	1989	1994	1999	2004	2009	2014	FY2014
Tokyo Bay	Domestic Wastewater	24.9	17.6	15.1	14.2	13.5	10.4	9.0	8.8	8.5
	Industrial Wastewater	9.5	6.4	5.2	4.3	3.5	1.8	1.4	1.4	1.4
	Others	6.8	6.2	5.6	4.5	4.1	3.1	2.5	2.1	2.2
	Sub Total	41.2	30.2	25.9	23.0	21.1	15.3	12.9	12.3	12.1
Ise Bay	Domestic Wastewater	9.8	6.7	6.3	6.4	6.5	5.1	4.3	3.7	3.9
	Industrial Wastewater	7.0	6.5	5.3	4.8	4.1	2.9	2.5	2.3	2.5
	Others	7.6	7.2	7.2	6.1	4.6	2.8	2.2	2.2	2.3
	Sub Total	24.4	20.4	18.8	17.3	15.2	10.8	9.0	8.2	8.7
Seto Inland Sea	Domestic Wastewater	29.6	19.1	16.6	16.8	16.0	12.4	11.4	10.2	10.7
	Industrial Wastewater	20.4	16.2	14.2	13.3	13.2	8.0	6.5	5.7	7.0
	Others	12.9	11.7	11.9	11.0	11.2	10.2	10.1	8.7	9.7
	Sub Total	62.9	47.0	42.7	41.1	40.4	30.6	28.0	24.6	27.4
Total	Domestic Wastewater	64.3	43.4	38.0	37.4	36.0	27.9	24.7	22.7	23.1
	Industrial Wastewater	36.9	29.1	24.7	22.4	20.8	12.7	10.4	9.4	10.9
	Others	27.3	25.1	24.7	21.6	19.9	16.1	14.8	13.0	14.2
	Sub Total	128.5	97.6	87.4	81.4	76.7	56.7	49.9	45.1	48.2

Notes:

・ Reduction of phosphorus content was implemented from the fifth series. The target years of the fifth, sixth, and seventh series are 2004, 2009, and 2014 respectively.

・ Actual figures in 1994 or before are aggregated data of the prefectures involved.

Source: materials by Office for Environmental management of Enclosed Coastal Seas, Water Environment Division, Environment Management Bureau, MOE, the Government of Japan

5.11 Number of occurrences of Red Tides in Seto Inland Sea

	Number of confirmed cases of occurrence	Number of confirmed cases causing fishery damage
1971	136	39
1972	164	23
1973	210	18
1974	269	17
1975	255	29
1976	299	18
1977	196	27
1978	151	15
1979	172	17
1980	188	8
1981	171	8
1982	166	18
1983	165	13
1984	130	5
1985	170	8
1986	162	14
1987	107	12
1988	117	10
1989	124	6
1990	108	7
1991	107	5
1992	100	6
1993	105	6
1994	96	2
1995	90	10
1996	89	12
1997	135	11
1998	105	11
1999	112	7
2000	106	10
2001	97	7
2002	89	8
2003	106	8
2004	118	13
2005	115	7
2006	94	11
2007	99	9
2008	116	19
2009	104	7
2010	91	9
2011	89	11
2012	116	18
2013	83	9
2014	97	13

Source: "Red tides in Seto Inland Sea" Setonaikai Fisheries Coordination Office, Ministry of Agriculture, Forestry and Fisheries

5.12 Licensed landfill area of Seto inland sea

	Area (ha)
FY1965	2,197.2
1966	479.9
1967	1,230.0
1968	1,010.3
1969	3,595.2
1970	1,464.9
1971 ~ 1973	6,391.5
1974	390.3
1975	546.9
1976	266.1
1977	1,040.5
1978	991.3
1979	271.6
1980	534.1
1981	300.9
1982	110.7
1983	427.9
1984	206.9
1985	198.2
1986	266.8
1987	1,691.5
1988	399.9
1989	379.3
1990	265.2
1991	173.7
1992	147.8
1993	244.3
1994	462.0
1995	565.7
1996	315.7
1997	462.3
1998	465.3
1999	1,016.0
2000	146.3
2001	398.2
2002	35.2
2003	49.5
2004	43.9
2005	76.5
2006	17.8
2007	37.6
2008	94.4
2009	14.9
2010	33.4
2011	18.4
2012	1.8
2013	68.4
2014	38.0
2015	1.1

Notes:

・ From 1965 through 1970, a cumulative total from 1st January to 31th December is shown. After 1974, that from 2nd November in the previous year to 1st November is shown.

・ Figure for "1971 ~ 1973" is a cumulative total from 1st January 1971 to 1st November 1973.

Source: Materials by Office for Environmental Management of Enclosed Coastal Seas, Water Environment Division, Environment Management Bureau, MOE, the Government of Japan

5.13 Amount of sea gravel extracted in coastal prefectures in Seto Inland Sea

	Amount of sea gravel extracted (thousand/m³)
FY1968	6,052
1969	12,745
1970	21,966
1971	17,750
1972	17,301
1973	22,829
1974	21,975
1975	21,245
1976	20,187
1977	23,379
1978	28,384
1979	30,017
1980	29,314
1981	26,463
1982	25,828
1983	25,021
1984	23,274
1985	24,093
1986	24,356
1987	29,719
1988	27,056
1989	25,512
1990	25,491
1991	24,254
1992	24,904
1993	23,179
1994	23,958
1995	25,152
1996	23,913
1997	20,396
1998	19,904
1999	19,282
2000	17,397
2001	14,938
2002	13,123
2003	9,881
2004	9,435
2005	7,072
2006	4,628
2007	5,160
2008	4,931
2009	4,309
2010	3,687
2011	3,420
2012	3,640
2013	4,302
2014	4,311

Note:
Including amount of sea gravel extracted outside the scope of Law concerning Special Measures for Conservation of the Environment of the Seto Inland Sea.

Source: "Schedules of status report of gravel extraction work," Ministry of Economy, Trade and Industry; Ministry of Land, Infrastructure, Transport and Tourism.

5.14 Groundwater contamination - Yearly number of confirmed cases where contamination level exceeds the standards

("Year" is the fiscal year when cases were identified by the authority)

	Total		Number of confirmed contamination incidents							
			VOC		Heavy Metals		Nitric acid/nitrous acid		Complex contamination	
~FY1983	76	(34)	64	(26)	9	(6)	2	(1)	1	(1)
1984	55	(27)	50	(25)	4	(2)	0	(0)	1	(0)
1985	75	(35)	75	(35)	0	(0)	0	(0)	0	(0)
1986	46	(22)	46	(22)	0	(0)	0	(0)	0	(0)
1987	60	(26)	54	(24)	2	(0)	2	(2)	2	(0)
1988	98	(45)	94	(43)	0	(0)	2	(0)	2	(2)
1989	237	(132)	215	(116)	16	(13)	3	(1)	3	(2)
1990	207	(103)	178	(86)	21	(12)	4	(2)	4	(3)
1991	145	(68)	121	(57)	18	(8)	5	(2)	1	(1)
1992	116	(57)	91	(41)	16	(9)	4	(4)	5	(3)
1993	140	(61)	59	(32)	55	(21)	24	(6)	2	(2)
1994	148	(88)	63	(39)	56	(35)	29	(14)	0	(0)
1995	165	(77)	62	(29)	45	(25)	58	(23)	0	(0)
1996	165	(90)	53	(25)	54	(35)	58	(30)	0	(0)
1997	168	(96)	42	(23)	56	(29)	83	(41)	4	(3)
1998	285	(166)	137	(92)	40	(24)	102	(47)	6	(3)
1999	344	(226)	93	(62)	72	(39)	175	(124)	4	(1)
2000	428	(322)	87	(57)	107	(77)	224	(180)	10	(8)
2001	386	(287)	68	(42)	79	(60)	230	(180)	9	(5)
2002	393	(287)	67	(41)	81	(54)	239	(187)	6	(5)
2003	455	(324)	74	(51)	85	(54)	288	(213)	8	(6)
2004	411	(294)	89	(48)	110	(80)	204	(160)	8	(6)
2005	367	(258)	100	(56)	113	(81)	145	(116)	9	(5)
2006	355	(269)	94	(50)	106	(83)	139	(124)	16	(12)
2007	350	(281)	79	(43)	126	(107)	139	(126)	6	(5)
2008	315	(261)	51	(33)	118	(100)	134	(119)	12	(9)
2009	295	(249)	62	(41)	98	(82)	129	(120)	6	(6)
2010	271	(241)	41	(29)	97	(85)	130	(124)	3	(3)
2011	256	(244)	46	(40)	96	(91)	108	(107)	6	(6)
2012	241	(232)	35	(32)	112	(108)	90	(88)	4	(2)
2013	255	(252)	44	(42)	106	(105)	103	(103)	2	(2)
2014	224	(221)	41	(38)	99	(99)	82	(82)	2	(2)
Parameter	7,325	(5,154)	2,434	(1,382)	1,898	(1,425)	2,853	(2,244)	140	(103)

Note:
Parenthesized figures are the total number of cases of exceeding the standards" and cases of temporarily exceeding" as of the end of FY2014.

Source: "Test result of groundwater quality measurement in FY2014," Environmental Management Bureau, MOE, the Government of Japan

5.15 Itemized breakdown of groundwater contamination cases

(As of the end of fiscal year 2014)

Item category	Item name	Number of cases					
			Excess cases		Temporary achievement cases	Improvement case	Non-survey case
			cases that exceeds	cases that does not exceed currently (Note 2)			
VOC	Dichloromethane	57	16	12	10	18	1
	Carbon tetrachloride	108	28	23	14	41	2
	Vinyl chloride monomer	187	118	29	27	10	3
	1,2-dichloroethane	85	26	22	11	21	5
	1,1-dichloroethylene	262	28	112	40	73	9
	1,2-dichloroethylene	342	182	71	54	28	7
	1,1,1-trichloroethane	123	11	26	20	57	9
	1,1,2-trichloroethane	40	10	12	10	8	0
	Trichloroethylene	1,206	421	145	194	353	93
	Tetrachloroethylene	1,428	551	71	243	432	131
	1,3-dichloropropene	0	0	0	0	0	0
	Benzene	299	94	12	28	150	15
	1,4-diozane	12	11	1	0	0	0
Heavy metals	Cadmium	17	9	1	2	5	0
	Total cyanide	49	25	8	4	11	1
	Lead	295	72	29	51	111	32
	Hexavalent chromium	73	30	4	19	17	3
	Arsenic	1218	840	20	108	133	117
	Total mercury	126	52	4	18	36	16
	Alkyl mercury	1	0	1	0	0	0
	PCB	10	4	1	0	4	1
	Thiuram	0	0	0	0	0	0
	Simazine	0	0	0	0	0	0
	Thiobencarb	0	0	0	0	0	0
	Selenium	22	14	2	1	3	2
	Fluorine	500	330	15	69	44	42
	Boron	204	131	11	22	20	20
Nitrate nitrogen and nitrite nitrogen		2,946	1,710	0	587	461	188
Parameter		7,589		4,020	1,265	1,708	596

Notes:

1) Contamination may happen in multiple items in one case, and the total may not foot the parameter.

2) "Item that does not exceed currently" refers to the case where contamination happed multiple times in the past and currently EQS is satisfied as to the indicated item but as to other items EQS is not satisfied.

Source: "Results of the FY 2014 Water Quality Survey of underground water," Environmental Management Bureau, MOE, the Government of Japan

5.16 Results of groundwater quality survey

Researched groups \ Researched items		General monitoring survey			Survey of contaminated wells and vicinities		Continuance surveillance or Regular monitoring survey		Remarks	
		Number of survey	Exceeding number	Exceeding rate (%)	Number of survey	Exceeding number	Number of survey	Exceeding rate	Standard type	Standard value
Cadmium	1998	3,102	0	0.0	50	0	340	0	Environmental standards	0.01mg/L or less
	1999	3,152	1	0.0	30	0	333	0		
	2000	2,997	0	0.0	35	0	252	0		
	2001	3,003	0	0.0	45	0	237	0		
	2002	3,242	0	0.0	25	0	298	0		
	2003	3,591	0	0.0	31	0	308	0		
	2004	3,247	0	0.0	73	0	246	0		
	2005	3,092	0	0.0	56	0	216	0		
	2006	3,166	0	0.0	27	0	117	0		
	2007	3,160	0	0.0	56	0	154	0		
	2008	2,871	0	0.0	48	0	230	0		
	2009	3,185	0	0.0	24	0	79	0		
	2010	2,996	0	0.0	52	0	54	0		
	2011	2,910	2	0.0	76	0	31	1		0.003mg/L or less
	2012	2,899	0	0.0	24	0	49	2		
	2013	2,904	0	0.0	24	0	44	2		
	2014	2,704	0	0.0	20	0	43	1		
Total cyanide	1998	2,659	0	0.0	42	0	282	0	Environmental standards	Should not be detected
	1999	2,786	0	0.0	25	0	297	0		
	2000	2,616	0	0.0	26	0	230	0		
	2001	2,660	0	0.0	47	0	225	0		
	2002	2,639	0	0.0	28	2	284	0		
	2003	2,870	0	0.0	50	2	300	0		
	2004	2,723	0	0.0	46	0	236	0		
	2005	2,830	0	0.0	28	0	218	1		
	2006	2,904	0	0.0	40	0	120	1		
	2007	2,737	0	0.0	44	0	155	0		
	2008	2,508	0	0.0	40	0	234	0		
	2009	2,904	0	0.0	21	0	101	0		
	2010	2,774	0	0.0	36	0	73	0		
	2011	2,713	0	0.0	30	0	54	0		
	2012	2,642	0	0.0	27	0	60	1		
	2013	2,736	0	0.0	26	0	55	0		
	2014	2,534	0	0.0	22	0	58	0		
Lead	1998	3,312	8	0.2	90	1	374	5	Environmental standards	0.01mg/L or less
	1999	3,198	15	0.5	84	0	374	7		
	2000	3,360	10	0.3	82	3	298	13		
	2001	3,362	13	0.4	110	4	275	6		
	2002	3,484	8	0.2	149	7	346	8		
	2003	3,689	21	0.6	164	6	349	7		
	2004	3,566	14	0.4	145	2	344	11		
	2005	3,374	15	0.4	162	6	306	10		
	2006	3,484	8	0.2	130	2	220	10		
	2007	3,466	12	0.3	296	4	283	8		
	2008	3,193	10	0.3	232	7	360	10		
	2009	3,219	11	0.3	115	1	189	9		
	2010	3,041	12	0.4	426	14	173	9		
	2011	2,975	13	0.4	282	4	149	16		
	2012	2,962	12	0.4	138	2	178	15		
	2013	2,964	9	0.3	215	4	205	13		
	2014	2,755	7	0.3	66	2	197	13		
Hexavalent chromium	1998	3,232	0	0.0	60	0	403	11	Environmental standards	0.05mg/L or less
	1999	3,129	0	0.0	25	0	376	11		
	2000	3,187	1	0.0	49	2	285	9		
	2001	3,175	0	0.0	38	2	264	11		
	2002	3,308	0	0.0	25	0	325	11		
	2003	3,562	1	0.0	60	1	334	10		
	2004	3,420	0	0.0	49	0	291	15		
	2005	3,286	0	0.0	58	0	267	14		
	2006	3,387	0	0.0	58	1	173	15		
	2007	3,388	1	0.0	74	0	208	15		
	2008	3,116	0	0.0	68	1	294	15		
	2009	3,189	0	0.0	48	27	140	14		
	2010	3,015	0	0.0	43	0	124	21		
	2011	2,882	0	0.0	33	0	117	22		
	2012	2,849	0	0.0	50	0	129	20		
	2013	2,869	0	0.0	43	0	139	23		
	2014	2,662	0	0.0	58	0	139	22		
Arsenic	1998	3,424	45	1.3	275	32	688	234	Environmental standards	0.01mg/L or less
	1999	3,310	45	1.4	186	29	695	223		
	2000	3,386	65	1.9	380	83	613	238		
	2001	3,422	44	1.3	284	108	626	246		
	2002	3,520	53	1.5	255	49	720	261		
	2003	3,760	54	1.4	217	32	727	270		
	2004	3,666	74	2.0	441	138	727	285		
	2005	3,457	61	1.8	411	100	834	293		
	2006	3,663	78	2.1	318	66	786	301		
	2007	3,591	73	2.0	326	71	693	305		
	2008	3,239	77	2.4	394	107	826	315		
	2009	3,338	63	1.9	236	43	568	292		
	2010	3,088	66	2.1	589	78	580	300		
	2011	3,038	57	1.9	440	85	582	308		
	2012	3,017	68	2.3	331	67	600	313		
	2013	3,020	63	2.1	383	47	647	332		
	2014	2,816	69	2.5	301	29	644	361		

5.16 Results of groundwater quality survey

Researched groups \ Researched items		General monitoring survey			Survey of contaminated wells and vicinities		Continuance surveillance or Regular monitoring survey		Remarks	
		Number of survey	Exceeding number	Exceeding rate (%)	Number of survey	Exceeding number	Number of survey	Exceeding rate	Standard type	Standard value
Total mercury	1998	2,961	1	0.0	68	5	413	15	Environmental standards	0.0005mg/L or less
	1999	3,084	0	0.0	55	2	383	16		
	2000	2,833	2	0.1	43	2	302	16		
	2001	2,907	3	0.1	270	34	300	18		
	2002	3,253	0	0.0	44	0	351	15		
	2003	3,318	1	0.0	60	0	353	9		
	2004	3,235	5	0.2	63	4	289	12		
	2005	3,120	3	0.1	108	6	256	14		
	2006	3,234	3	0.1	35	3	157	14		
	2007	3,233	5	0.2	73	8	197	13		
	2008	2,944	2	0.1	71	5	275	25		
	2009	3,154	2	0.1	39	4	145	23		
	2010	2,999	0	0.0	45	2	119	24		
	2011	2,908	0	0.0	75	3	107	21		
	2012	2,886	1	0.0	46	5	117	19		
	2013	2,900	1	0.0	68	4	113	20		
	2014	2,701	1	0.0	51	6	104	24		
Alkyl mercury	1998	1,315	0	0.0	21	0	121	0	Environmental standards	Should not be detected
	1999	1,278	0	0.0	37	0	85	0		
	2000	1,048	0	0.0	26	0	57	0		
	2001	1,075	0	0.0	43	0	61	0		
	2002	1,020	0	0.0	25	0	108	0		
	2003	931	0	0.0	24	0	106	0		
	2004	993	0	0.0	33	0	52	0		
	2005	1,008	0	0.0	77	0	34	0		
	2006	762	0	0.0	21	0	38	0		
	2007	683	0	0.0	22	0	50	0		
	2008	545	0	0.0	22	0	53	0		
	2009	523	0	0.0	30	0	43	0		
	2010	500	0	0.0	35	0	38	0		
	2011	692	0	0.0	22	0	38	0		
	2012	450	0	0.0	26	0	41	0		
	2013	642	0	0.0	25	0	44	0		
	2014	526	0	0.0	27	0	40	0		
P C B	1998	1,852	0	0.0	21	0	141	0	Environmental standards	Should not be detected
	1999	1,930	0	0.0	25	0	132	0		
	2000	1,818	0	0.0	26	0	113	0		
	2001	2,044	0	0.0	26	0	125	0		
	2002	1,738	0	0.0	25	0	164	0		
	2003	1,816	0	0.0	24	0	148	0		
	2004	1,899	0	0.0	26	0	117	0		
	2005	1,883	0	0.0	30	0	61	0		
	2006	1,830	0	0.0	21	0	53	0		
	2007	1,732	0	0.0	21	0	45	0		
	2008	1,685	0	0.0	48	0	55	0		
	2009	2,082	0	0.0	21	0	30	0		
	2010	2,005	0	0.0	35	0	32	0		
	2011	1,946	0	0.0	23	0	15	0		
	2012	1,969	0	0.0	22	0	20	0		
	2013	2,057	2	0.1	40	0	16	0		
	2014	2,022	2	0.0	23	0	19	2		
Trichlorethylene	1998	4,492	17	0.4	1,251	34	3,301	242	Environmental standards	0.03mg/L or less
	1999	4,455	15	0.3	916	37	3,338	267		
	2000	4,225	22	0.5	846	47	3,054	292		
	2001	4,371	11	0.3	586	14	3,070	301		
	2002	4,414	10	0.2	436	21	2,954	286		
	2003	4,473	16	0.4	457	22	3,001	265		
	2004	4,234	18	0.4	457	19	2,922	243		
	2005	3,968	11	0.3	370	21	2,704	263		
	2006	3,911	6	0.2	346	15	2,490	260		
	2007	3,948	7	0.2	314	13	2,331	231		
	2008	3,658	3	0.1	431	22	2,470	237		
	2009	3,676	2	0.1	411	14	2,220	226		
	2010	3,366	1	0.0	464	15	2,123	215		
	2011	3,285	1	0.0	387	13	2,049	182		
	2012	3,245	2	0.1	468	8	2,021	171		
	2013	3,235	4	0.1	413	9	1,997	157		
	2014	2,965	7	0.2	440	25	1,941	279		0.01mg/L or less
Tetrachlorethylene	1998	4,492	28	0.6	1,255	73	3,362	645	Environmental standards	Should not be detected
	1999	4,451	23	0.5	921	49	3,376	589		
	2000	4,225	17	0.4	825	15	3,104	653		
	2001	4,374	10	0.2	620	39	3,072	624		
	2002	4,414	7	0.2	435	31	2,945	595		
	2003	4,472	21	0.5	431	22	2,992	586		
	2004	4,248	22	0.5	477	39	2,950	556		
	2005	3,961	6	0.2	328	39	2,710	559		
	2006	3,922	13	0.3	346	21	2,509	537		
	2007	3,938	12	0.3	323	21	2,327	543		
	2008	3,660	9	0.2	411	24	2,472	520		
	2009	3,679	5	0.1	405	30	2,186	513		
	2010	3,363	4	0.1	453	8	2,083	473		
	2011	3,283	7	0.2	393	18	2,004	448		
	2012	3,242	3	0.1	430	26	1,967	414		
	2013	3,233	7	0.2	390	17	1,945	424		
	2014	2,958	8	0.3	423	18	1,885	417		

5.16 Results of groundwater quality survey

Researched groups \ Researched items		General monitoring survey			Survey of contaminated wells and vicinities		Continuance surveillance or Regular monitoring survey		Remarks	
		Number of survey	Exceeding number	Exceeding rate (%)	Number of survey	Exceeding number	Number of survey	Exceeding rate	Standard type	Standard value
1,1,1-trichloroethane	1998	4,436	1	0.0	1,189	0	3,123	0	Environmental standards	1mg/L or less
	1999	4,362	0	0.0	879	0	2,987	3		
	2000	4,219	0	0.0	808	0	2,539	2		
	2001	4,290	0	0.0	564	0	2,586	3		
	2002	4,270	0	0.0	377	0	2,379	2		
	2003	4,312	0	0.0	359	0	2,417	2		
	2004	3,990	0	0.0	389	0	2,320	3		
	2005	3,739	0	0.0	207	0	2,123	1		
	2006	3,717	0	0.0	187	0	1,820	0		
	2007	3,635	0	0.0	193	0	1,631	0		
	2008	3,473	0	0.0	172	0	1,608	0		
	2009	3,430	0	0.0	186	0	1,443	0		
	2010	3,222	0	0.0	309	0	1,355	0		
	2011	3,189	0	0.0	239	0	1,212	0		
	2012	3,150	0	0.0	216	0	1,196	0		
	2013	3,136	0	0.0	207	0	1,162	0		
	2014	2,872	0	0.0	225	0	1,109	0		
Carbon tetrachloride	1998	3,631	2	0.1	388	2	1,376	24	Environmental standards	0.002mg/L or less
	1999	3,695	3	0.1	372	0	1,413	21		
	2000	3,675	2	0.1	291	3	1,272	24		
	2001	3,700	0	0.0	313	2	1,341	22		
	2002	3,814	3	0.1	232	5	1,323	22		
	2003	3,824	0	0.0	146	0	1,318	22		
	2004	3,661	4	0.1	221	2	1,287	23		
	2005	3,554	3	0.1	106	1	1,017	26		
	2006	3,628	3	0.1	103	4	888	23		
	2007	3,536	0	0.0	96	0	798	25		
	2008	3,379	0	0.0	72	2	799	26		
	2009	3,340	1	0.0	102	1	702	24		
	2010	3,120	1	0.0	193	1	653	29		
	2011	3,036	0	0.0	153	2	567	21		
	2012	3,005	0	0.0	170	3	556	19		
	2013	2,986	1	0.0	182	3	513	16		
	2014	2,740	0	0.0	156	3	532	15		
Dichloromethane	1998	3,729	1	0.0	349	0	768	0	Environmental standards	0.02mg/L or less
	1999	3,740	0	0.0	223	0	770	3		
	2000	3,534	0	0.0	229	0	744	0		
	2001	3,548	1	0.0	280	0	802	0		
	2002	3,635	1	0.0	146	0	835	0		
	2003	3,865	1	0.0	169	1	890	0		
	2004	3,535	0	0.0	141	0	877	0		
	2005	3,381	0	0.0	52	0	730	1		
	2006	3,455	0	0.0	97	1	627	1		
	2007	3,370	0	0.0	88	0	571	0		
	2008	3,276	0	0.0	72	0	557	0		
	2009	3,349	0	0.0	98	0	486	0		
	2010	3,178	0	0.0	141	0	467	0		
	2011	3,121	0	0.0	145	0	398	0		
	2012	3,077	0	0.0	138	0	389	0		
	2013	3,087	0	0.0	106	0	360	0		
	2014	2,823	0	0.0	137	0	382	0		
1,2-dichloroethane	1998	3,580	0	0.0	328	9	867	5	Environmental standards	0.004mg/L or less
	1999	3,687	1	0.0	254	0	1,030	7		
	2000	3,301	0	0.0	296	6	959	6		
	2001	3,316	0	0.0	345	1	1,055	12		
	2002	3,360	2	0.1	155	0	1,094	11		
	2003	3,555	0	0.0	148	0	1,129	9		
	2004	3,267	0	0.0	172	0	1,104	9		
	2005	3,136	0	0.0	55	0	1,102	7		
	2006	3,300	1	0.0	120	1	872	8		
	2007	3,198	0	0.0	112	0	690	10		
	2008	3,120	0	0.0	88	0	650	5		
	2009	3,203	0	0.0	105	0	580	7		
	2010	3,025	0	0.0	177	1	597	4		
	2011	2,984	0	0.0	145	0	535	3		
	2012	2,953	0	0.0	178	0	516	5		
	2013	2,985	1	0.0	182	3	513	16		
	2014	2,733	0	0.0	171	0	516	1		
1,1-dichloroethylene	1998	3,594	2	0.1	905	9	1,685	26	Environmental standards	0.02mg/L or less
	1999	3,727	1	0.0	729	3	1,804	35		
	2000	3,650	2	0.1	702	11	1,831	37		
	2001	3,668	0	0.0	535	1	1,964	41		
	2002	3,771	1	0.0	244	0	1,967	40		
	2003	3,846	0	0.0	322	2	2,032	38		
	2004	3,744	2	0.1	404	2	2,077	39		
	2005	3,584	1	0.0	264	4	2,026	46		
	2006	3,651	0	0.0	215	0	1,890	33		
	2007	3,567	0	0.0	225	1	1,843	30		
	2008	3,337	0	0.0	340	0	1,885	31		
	2009	3,306	0	0.0	347	0	1,804	2		
	2010	3,078	0	0.0	468	0	1,764	4		0.1mg/L or less
	2011	3,037	0	0.0	342	0	1,750	3		
	2012	3,001	0	0.0	419	0	1,721	3		
	2013	2,979	0	0.0	378	0	1,689	2		
	2014	2,723	0	0.0	403	1	1,647	2		

5.16 Results of groundwater quality survey

Researched groups \ Researched items		General monitoring survey			Survey of contaminated wells and vicinities		Continuance surveillance or Regular monitoring survey		Remarks	
		Number of survey	Exceeding number	Exceeding rate (%)	Number of survey	Exceeding number	Number of survey	Exceeding rate	Standard type	Standard value
1,1,2-trichloroethane	1998	3,574	0	0.0	174	0	854	0	Environmental standards	0.006mg/L or less
	1999	3,679	0	0.0	239	0	989	6		
	2000	3,286	0	0.0	278	2	962	6		
	2001	3,308	0	0.0	307	1	1,052	4		
	2002	3,359	0	0.0	146	0	1,084	5		
	2003	3,590	0	0.0	148	0	1,120	3		
	2004	3,259	1	0.0	191	1	1,107	2		
	2005	3,127	0	0.0	74	0	1,014	4		
	2006	3,240	1	0.0	159	2	773	4		
	2007	3,136	1	0.0	118	0	715	9		
	2008	2,987	0	0.0	65	2	659	3		
	2009	3,170	1	0.0	123	0	583	1		
	2010	2,938	0	0.0	175	0	599	1		
	2011	2,878	0	0.0	153	0	522	0		
	2012	2,851	1	0.0	183	0	529	1		
	2013	2,876	0	0.0	121	0	509	0		
	2014	2,630	0	0.0	191	0	535	1		
1,3-dichloropropene	1998	3,179	0	0.0	98	0	368	0	Environmental standards	0.002mg/L or less
	1999	3,181	0	0.0	178	0	385	0		
	2000	3,039	0	0.0	162	0	372	0		
	2001	2,898	0	0.0	81	0	412	0		
	2002	3,085	0	0.0	95	0	454	0		
	2003	3,082	0	0.0	115	0	509	0		
	2004	3,043	0	0.0	103	0	520	0		
	2005	2,886	0	0.0	41	0	437	0		
	2006	2,940	0	0.0	71	0	347	0		
	2007	2,883	0	0.0	78	0	294	0		
	2008	2,799	0	0.0	46	0	317	0		
	2009	2,922	0	0.0	89	0	261	0		
	2010	2,773	0	0.0	124	0	270	0		
	2011	2,661	0	0.0	93	0	216	0		
	2012	2,646	0	0.0	116	0	220	0		
	2013	2,645	0	0.0	30	0	210	0		
	2014	2,392	0	0.0	137	0	234	0		
Thiuram	1998	2,764	0	0.0	8	0	195	0	Environmental standards	0.006mg/L or less
	1999	2,490	0	0.0	2	0	186	0		
	2000	2,528	0	0.0	10	0	171	0		
	2001	2,506	0	0.0	2	0	201	0		
	2002	2,494	0	0.0	3	0	258	0		
	2003	2,625	0	0.0	2	0	233	0		
	2004	2,472	0	0.0	4	0	204	0		
	2005	2,322	0	0.0	4	0	222	0		
	2006	2,411	0	0.0	1	0	92	0		
	2007	2,404	0	0.0	0	0	81	0		
	2008	2,330	0	0.0	15	0	90	0		
	2009	2,585	0	0.0	0	0	53	0		
	2010	2,509	0	0.0	14	0	47	0		
	2011	2,432	0	0.0	1	0	32	0		
	2012	2,451	0	0.0	1	0	35	0		
	2013	2,460	0	0.0	2	0	34	0		
	2014	2,263	0	0.0	3	0	33	0		
Simazine	1998	2,826	0	0.0	41	0	194	0	Environmental standards	0.003mg/L or less
	1999	2,549	0	0.0	2	0	190	0		
	2000	2,508	0	0.0	10	0	174	0		
	2001	2,638	0	0.0	7	0	205	0		
	2002	2,547	0	0.0	3	0	258	0		
	2003	2,614	0	0.0	2	0	233	0		
	2004	2,628	0	0.0	4	0	204	0		
	2005	2,402	0	0.0	4	0	222	0		
	2006	2,478	0	0.0	1	0	92	0		
	2007	2,471	0	0.0	3	0	81	0		
	2008	2,391	0	0.0	15	0	91	0		
	2009	2,643	0	0.0	0	0	52	0		
	2010	2,563	0	0.0	14	0	47	0		
	2011	2,420	0	0.0	1	0	32	0		
	2012	2,448	0	0.0	1	0	34	0		
	2013	2,457	0	0.0	2	0	34	0		
	2014	2,260	0	0.0	3	0	33	0		
Thiobencarb	1998	2,759	0	0.0	8	0	194	0	Environmental standards	0.02mg/L or less
	1999	2,476	0	0.0	2	0	186	0		
	2000	2,453	0	0.0	10	0	171	0		
	2001	2,575	0	0.0	2	0	201	0		
	2002	2,487	0	0.0	3	0	258	0		
	2003	2,573	0	0.0	2	0	233	0		
	2004	2,539	0	0.0	4	0	204	0		
	2005	2,319	0	0.0	4	0	222	0		
	2006	2,409	0	0.0	1	0	92	0		
	2007	2,399	0	0.0	0	0	81	0		
	2008	2,327	0	0.0	15	0	90	0		
	2009	2,583	0	0.0	0	0	52	0		
	2010	2,506	0	0.0	14	0	47	0		
	2011	2,419	0	0.0	1	0	32	0		
	2012	2,448	0	0.0	1	0	34	0		
	2013	2,456	0	0.0	2	0	34	0		
	2014	2,260	0	0.0	3	0	33	0		

5.16 Results of groundwater quality survey

Researched groups	Researched items	General monitoring survey			Survey of contaminated wells and vicinities		Continuance surveillance or Regular monitoring survey		Remarks	
		Number of survey	Exceeding number	Exceeding rate (%)	Number of survey	Exceeding number	Number of survey	Exceeding rate	Standard type	Standard value
Benzene	1998	3,536	0	0.0	178	4	451	2	Environmental standards	0.01mg/L or less
	1999	3,610	0	0.0	243	2	442	0		
	2000	3,436	0	0.0	211	1	425	1		
	2001	3,324	0	0.0	266	1	496	11		
	2002	3,563	1	0.0	136	1	544	6		
	2003	3,590	0	0.0	118	0	606	4		
	2004	3,524	0	0.0	107	0	604	3		
	2005	3,389	2	0.1	122	1	517	3		
	2006	3,485	0	0.0	96	0	466	3		
	2007	3,396	0	0.0	168	4	410	2		
	2008	3,238	0	0.0	156	0	431	5		
	2009	3,277	0	0.0	139	1	367	4		
	2010	3,106	0	0.0	177	0	353	3		
	2011	3,044	0	0.0	154	0	302	3		
	2012	2,999	0	0.0	158	0	324	3		
	2013	3,010	0	0.0	104	1	293	4		
	2014	2,751	1	0.0	193	0	320	4		
Selenium	1998	2,935	0	0.0	41	0	198	0	Environmental standards	0.01mg/L or less
	1999	2,758	0	0.0	27	0	192	0		
	2000	2,634	0	0.0	36	0	193	0		
	2001	2,600	0	0.0	24	0	203	0		
	2002	2,650	0	0.0	37	1	272	0		
	2003	2,919	0	0.0	24	0	276	0		
	2004	2,698	1	0.0	32	0	242	0		
	2005	2,599	1	0.0	48	0	218	0		
	2006	2,713	0	0.0	35	0	119	0		
	2007	2,830	0	0.0	46	0	157	0		
	2008	2,624	0	0.0	64	0	208	0		
	2009	2,965	0	0.0	21	0	81	0		
	2010	2,818	0	0.0	49	0	58	0		
	2011	2,738	0	0.0	23	0	47	0		
	2012	2,725	0	0.0	22	0	46	0		
	2013	2,720	0	0.0	24	0	46	0		
	2014	2,533	0	0.0	20	0	48	0		
Nitrate nitrogen and nitrite nitrogen	2000	4,167	253	6.1	1,682	479	988	165	Environmental standards	10mg/L or less
	2001	4,017	231	5.8	1,343	535	1,113	272		
	2002	4,207	247	5.9	1,199	296	1,324	423		
	2003	4,288	280	6.5	1,101	309	1,504	501		
	2004	4,260	235	5.5	928	283	1,750	637		
	2005	4,122	174	4.2	714	221	1,815	651		
	2006	4,193	179	4.3	789	266	1,732	715		
	2007	4,232	172	4.1	608	128	1,654	729		
	2008	3,830	167	4.4	461	96	1,945	757		
	2009	3,895	149	3.8	500	96	1,713	788		
	2010	3,361	144	4.3	691	160	1,723	813		
	2011	3,227	117	3.6	427	89	1,677	796		
	2012	3,240	117	3.6	401	94	1,625	769		
	2013	3,289	107	3.3	389	60	1,629	760		
	2014	3,084	90	2.9	266	42	1,661	733		
Fluorine	2000	3,276	25	0.8	658	112	417	19	Environmental standards	0.8mg/L or less
	2001	3,558	25	0.7	285	31	839	53		
	2002	4,117	16	0.4	207	31	446	80		
	2003	3,934	27	0.7	218	29	455	83		
	2004	3,542	19	0.5	142	18	441	89		
	2005	3,703	30	0.8	270	47	601	108		
	2006	3,817	32	0.8	190	41	536	103		
	2007	3,890	41	1.1	203	46	376	114		
	2008	3,537	23	0.7	185	10	582	148		
	2009	3,527	17	0.5	155	5	365	138		
	2010	3,088	20	0.6	253	20	380	156		
	2011	3,027	21	0.7	184	14	362	158		
	2012	2,964	18	0.6	142	5	391	151		
	2013	2,983	16	0.5	113	7	417	162		
	2014	2,783	26	0.9	120	12	422	167		
Boron	2000	3,210	16	0.5	231	4	314	5	Environmental standards	1mg/L or less
	2001	3,408	14	0.4	141	20	738	9		
	2002	3,989	5	0.1	217	12	287	15		
	2003	3,819	9	0.2	157	12	297	20		
	2004	3,499	8	0.2	92	1	291	26		
	2005	3,342	5	0.1	145	9	396	32		
	2006	3,396	8	0.2	59	4	301	39		
	2007	3,289	6	0.2	71	1	199	35		
	2008	3,149	9	0.3	62	2	220	39		
	2009	3,068	7	0.2	48	0	203	45		
	2010	2,956	9	0.3	176	11	176	44		
	2011	2,926	7	0.2	101	11	162	41		
	2012	2,868	3	0.1	68	3	176	43		
	2013	2,891	9	0.3	67	6	181	42		
	2014	2,676	7	0.3	50	5	174	43		

5.16 Results of groundwater quality survey

Researched groups \ Researched items		General monitoring survey			Survey of contaminated wells and vicinities		Continuance surveillance or Regular monitoring survey		Remarks	
		Number of survey	Exceeding number	Exceeding rate (%)	Number of survey	Exceeding number	Number of survey	Exceeding rate	Standard type	Standard value
Vinyl chloride monomer	2009	179	0	0.0	25	0	23	8	Environmental standards	0.002mg/L or less
	2010	2,311	4	0.2	282	5	852	48		
	2011	2,764	7	0.3	295	13	1,189	57		
	2012	2,716	1	0.0	273	14	1,365	83		
	2013	2,679	5	0.2	244	1	1,381	92		
	2014	2,495	2	0.1	357	8	1,374	94		
1,2-dichloroethylene	2009	138	0	0.0	107	0	97	8	Environmental standards	0.04mg/L or less
	2010	2,935	0	0.0	325	3	1,833	160		
	2011	3,133	3	0.0	321	5	1,846	162		
	2012	3,097	2	0.1	427	13	1,826	154		
	2013	3,043	2	0.1	376	4	1,808	148		
	2014	2,831	0	0.0	388	7	1,758	143		
1,4-dioxane	2009	226	0	0.0	22	0	0	0	Environmental standards	0.05mg/L or less
	2010	2,456	0	0.0	52	0	116	0		
	2011	2,731	1	0.0	61	1	83	1		
	2012	2,672	1	0.0	26	2	92	2		
	2013	2,701	0	0.0	31	0	102	3		
	2014	2,519	0	0.0	149	2	143	4		

Notes

・ The exceeding number is the number of wells exceeding the standard measure at the time, and exceeding rate is the ratio of excess following a number of surveys.
The environmental Standards for Water Pollution of groundwater was set in fiscal year 1997, and the standards before 1997 had been evaluation standards or provisional guidelines.

・ Environmental standards related to ground water contamination were set in FY 1997. All other standards prior to FY 1997 were considered to be evaluation standards or tentative guidelines.

・ Nitrate nitrogen and nitrite nitrogen, fluorine, boron were added to the environmental standards in 1999.

・ Starting in FY 2009, Continuance surveillance was changed to Regular monitoring survey in the survey group.

・ Nitrate nitrogen and nitrite nitrogen, fluorine, boron were added to the environmental standards in 1999.

Source: "FY 2014 Quality Survey of Underground Water ," Environmental Management Bureau, MOE, the Government of Japan

5.17 Changes in number of confirmed marine pollution cases by sea area

(Unit: Case)

Year	Type		Coast of Hokkaido	Eastern coast of Honshu	Tokyo Bay	Ise Bay	Osaka Bay	Seto inland sea (excluding Osaka Bay)	Southern coast of Honshu	Coastal Kyushu	Japan sea coast	Southwestern sea	Total
2009		Oil	66	47	59	19	4	60	30	48	23	13	369
	Non-oil	Hazardous liquid substance	0	0	0	0	0	2	1	0	0	0	3
		Waste	26	16	2	23	3	2	9	7	15	1	104
		Others	8	1	2	0	0	4	0	9	0	0	24
		Subtotal	34	17	4	23	2	8	10	16	15	1	131
	Red tide		0	0	6	4	0	1	0	1	2	0	14
	Total		100	64	69	46	7	69	40	65	40	14	514
2010		Oil	39	46	32	10	10	66	23	24	30	20	300
	Non-oil	Hazardous liquid substance	0	0	0	1	0	4	0	0	1	0	6
		Waste	36	27	0	33	1	4	6	5	12	2	126
		Others	3	3	3	4	0	6	2	2	10	0	33
		Subtotal	39	30	6	38	1	14	8	7	23	2	168
	Red tide		0	0	6	2	0	0	1	3	0	0	12
	Total		78	76	41	50	11	80	32	34	53	22	477
2011		Oil	17	23	37	12	16	56	22	25	27	21	256
	Non-oil	Hazardous liquid substance	0	0	0	2	0	0	0	0	0	1	3
		Waste	22	0	0	21	0	11	8	9	17	3	91
		Others	3	1	1	0	1	4	0	3	12	0	25
		Subtotal	25	1	1	23	1	15	8	12	29	4	119
	Red tide		0	2	5	1	0	1	2	4	1	0	16
	Total		42	26	43	36	17	72	32	41	57	25	391
2012		Oil	12	27	34	18	14	38	18	34	27	22	244
	Non-oil	Hazardous liquid substance	0	2	1	3	2	3	0	0	0	0	11
		Waste	29	16	0	23	2	6	4	3	32	1	116
		Others	3	2	0	3	0	1	0	0	2	0	11
		Subtotal	32	20	1	29	4	10	4	3	34	1	138
	Red tide		0	0	3	6	0	5	2	0	2	0	18
	Total		44	47	38	53	18	53	24	37	63	23	400
2013		Oil	11	30	31	23	16	46	25	30	27	18	257
	Non-oil	Hazardous liquid substance	0	0	1	0	1	0	0	0	1	0	3
		Waste	35	58	1	39	3	6	1	3	41	0	187
		Others	1	3	1	1	0	0	1	1	0	0	8
		Subtotal	36	61	3	40	4	6	2	4	42	0	198
	Total		47	91	34	63	20	52	27	34	69	18	455
2014		Oil	18	24	13	25	18	46	19	35	30	7	235
	Non-oil	Hazardous liquid substance	0	0	0	0	0	1	1	0	1	0	3
		Waste	29	11	1	28	0	9	8	10	30	2	128
		Others	1	2	1	2	0	2	0	2	4	0	14
		Subtotal	30	13	2	30	0	12	9	12	35	2	145
	Total		48	37	15	55	18	58	28	47	65	9	380
2015		Oil	11	17	21	10	19	56	38	26	40	9	247
	Non-oil	Hazardous liquid substance	0	0	0	1	1	3	2	1	0	1	9
		Waste	35	27	1	18	1	13	3	1	13	0	112
		Others	0	1	3	2	0	3	0	7	8	0	24
		Subtotal	35	28	4	21	2	19	5	9	21	1	145
	Total		46	45	25	31	21	75	43	35	61	10	392

Notes:
・ "Others" in the "Non-oil" column refer to factory effluent, blue tide and the like.
・ Confirmed cases of "Oil" in the "Eastern coast of Honshu" includes the continuous oil spill of 23 cases from “the Chilsong” which was stranded at Hitachi Harbor.

Source: Compiled from "Current situations of Oceanic pollution: 2009~2015" by Japan Coast Guard.

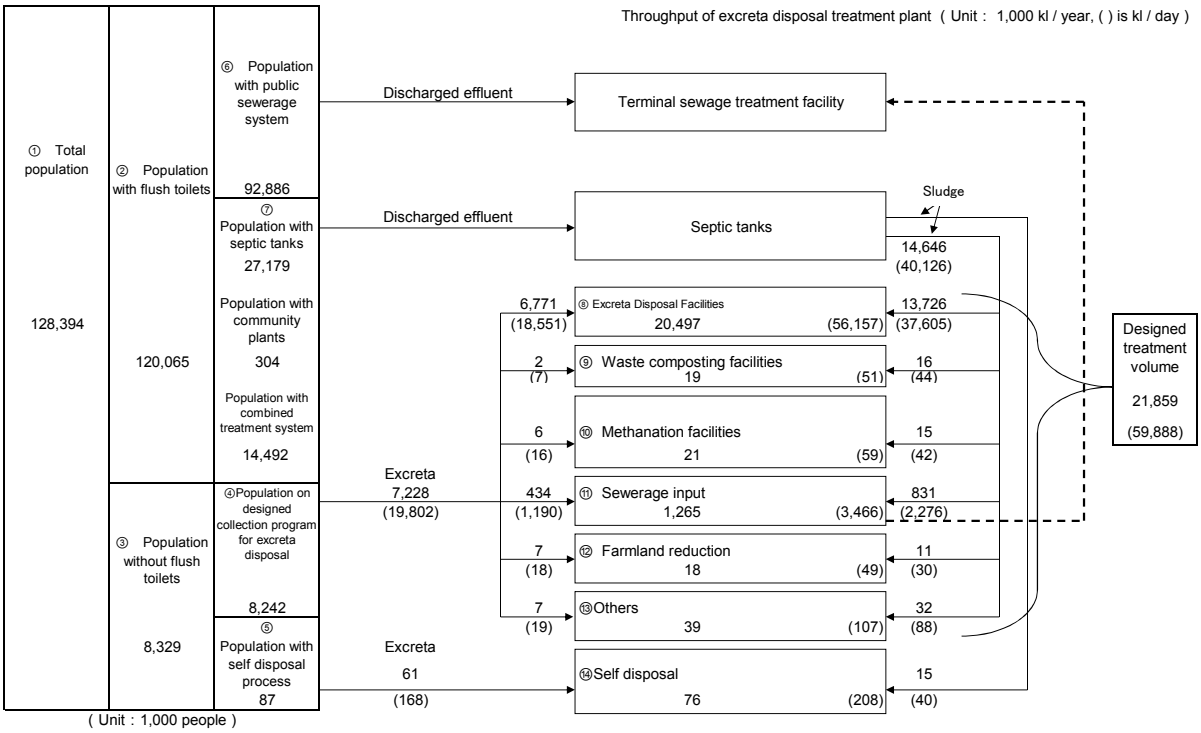
5.18 Changes in number of cases of referral by violations against marine environmental laws

(Unit: case)

Group / Name of Act	Violation	Number detained						
		2007	2008	2009	2010	2011	2012	2013
Prevention of Marine Pollution and Maritime Disaster Act	Violation against prohibiting discharge of oil from ships	141	195	182	140	125	106	106
	Violation against prohibiting discharge of hazardous liquids from ships	6	1	4	3	0	2	2
	Violation against prohibiting discharge of waste from ships	34	6	33	33	25	43	43
	Violation against prohibiting the disposal of disabled ship	167	83	156	102	127	118	118
	Other violations	100	99	94	142	132	101	101
	Subtotal	448	384	469	420	409	370	370
Waste Management and Public Cleansing Act	Violation against prohibiting the disposal of waste	115	190	156	161	114	135	135
Water Pollution Control Act	Violation against prohibiting discharge of drainage with unadoptable emission standard	13	11	2	7	16	5	5
Port Regulations Act	Violation against prohibiting the disposal of waste and provisions ordering the mounting of equipment to prevent falling of cargos	45	43	77	41	52	37	37
Other laws	Violation of Prefectural fisheries coordination regulation	31	11	35	9	2	15	15
	Total	652	639	739	638	593	562	562

Source: Compiled from "Current situations of Oceanic Pollution 3: 2007~2013" by Japan Coast Guard.

5.19 Night soil treatment flow sheet (FY2013)



・ Rate of flush-toilet use	= ②/①	=93.5 %
・ Use rate of non-flush toilet	= ③/①	=6.5 %
・ Public sewage rate	= ⑥/①	=72.3 %
・ Use rate of flush toilet with a Septic tank (includes community plant) (combined treatment system 11.3%)	= ⑦/①	=21.2 %
・ Designed collection rate in population with non-flush toilets	= ④/③	=99.0 %
・ Self disposal rate in population with non-flush toilets	= ⑤/③	=1.0 %
・ Designed treatment volume (includes septic tanks sludge)	= ⑧ + ⑨ + ⑩ + ⑪ + ⑫ + ⑬	=59,888 kl/day ·····a
・ Total amount of treatment (designed treatment volume+self disposal volume)	= ⑧ + ⑨ + ⑩ + ⑪ + ⑫ + ⑬ + ⑭	=60,096 kl/day ·····b
・ Treatment rate by waste composting facility and sewage input.	= (⑧ + ⑪)÷a	=99.6 %
・ Designed treatment volume of urine per person per day	= (a - 40,086)÷④	=2.40 l/person-day
・ Discharged volume of night soil per person per day	= (b - 40,086 - 40)÷③	=2.40 l/person-day
・ Designed treatment volume of septic tanks sludge per person per day	= 40,086÷⑦	=1.47 l/person-day
・ Discharged volume of sludge from septic tanks per person per day	= (40,086 + 40)÷⑦	=1.48 l/person-day

Source: "Waste & Recycling (FY2013)," Waste Management Division, Waste Management and Recycling Department, Minister's Secretariat, MOE, the Government of Japan

5.20 Changes in population using flush toilets and treatment volume of night soil

1. Population by treatment type

(Unit : 1,000 people)

Group			FY 2002	2003	2004	2005	2006	2007
Total population			127,299	127,507	127,606	127,712	127,781	127,487
Population with flush toilet	Population with public sewage		76,004	78,174	80,061	81,880	83,742	84,982
	Population with community plant		418	362	383	552	361	336
	Population with septic tanks		33,053	32,516	31,947	31,095	30,473	29,863
		Stand-alone	21,038	20,035	19,163	18,303	17,187	15,924
		Combined	12,015	12,481	12,784	12,792	13,286	13,939
	Total		109,475	111,052	112,390	113,526	114,576	115,181
Population without flush toilet	Population covered with scheduled collection		17,348	16,049	14,877	13,920	12,983	12,121
	Self-disposal		476	405	339	266	222	185
	Total		17,824	16,455	15,215	14,186	13,205	12,306
Rate with flush toilets		(%)	86.0	87.1	88.1	88.9	89.7	90.3
Rate without flushing toilet		(%)	14.0	12.9	11.9	11.1	10.3	9.7
Rate with flush toilets using public sewage		(%)	59.7	61.3	62.7	64.1	65.5	66.7
Rate with flush toilets using septic tanks		(%)	26.3	25.8	25.3	24.8	24.1	23.7
	Combined treatment	(%)	9.6	10.1	10.3	10.0	10.7	11.2

Notes:
"Combined" of population septic tanks is the sum of population of combined septic tanks and population of Including community plant.
Population of septic tanks is included population using an agricultural community effluent treatment facility.

2. Current night soil treatment

Group			FY2002	2003	2004	2005	2006	2007
Number of total treatment	Number of designed treatment	Night soil treatment facilities	26,406	26,187	25,013	24,191	23,953	23,248
			(89.6)	(90.8)	(91.2)	(91.1)	(91.8)	(93.1)
		Amount of night soil collected	12,720	12,390	11,269	10,400	9,864	9,261
		Amount of septic tanks sludge	13,686	13,797	13,744	13,790	14,089	13,987
		Composting facilities	-	-	-	4	7	11
			-	-	-	(0.0)	(0.0)	(0.0)
		Amount of night soil collected	-	-	-	3	3	4
		Amount of septic tanks sludge	-	-	-	1	3	6
		Methane composting facilities	-	-	-	1	7	15
			-	-	-	(0.0)	(0.0)	(0.1)
		Amount of night soil collected	-	-	-	0	1	5
		Amount of septic tanks sludge	-	-	-	1	6	10
		Outflow to sewage	1,513	1,377	1,293	1,385	1,442	1,476
			(5.1)	(4.8)	(4.7)	(5.2)	(5.5)	(5.9)
		Amount of night soil collected	753	642	575	608	649	581
		Amount of septic tanks sludge	759	734	718	777	793	894
		Farmland reduction	61	60	59	51	48	41
			(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)
		Amount of night soil collected	33	34	33	28	25	16
		Amount of septic tanks sludge	28	27	26	23	23	26
		Sea dumping	1,082	842	748	623	393	-
			(3.7)	(2.9)	(2.7)	(2.3)	(1.5)	-
		Amount of night soil collected	390	255	234	192	121	-
		Amount of septic tanks sludge	692	587	514	431	272	-
		Others	61	65	53	109	110	54
			(0.2)	(0.2)	(0.2)	(0.4)	(0.4)	(0.2)
		Amount of night soil collected	34	28	19	30	34	20
		Amount of septic tanks sludge	27	37	34	79	76	35
		Subtotal	29,123	28,531	27,165	26,364	25,960	24,845
			(98.8)	(99.0)	(99.1)	(99.3)	(99.4)	(99.5)
		Amount of night soil collected	13,929	13,349	12,130	11,262	10,698	9,887
		Amount of septic tanks sludge	15,193	15,182	15,035	15,102	15,262	14,959
	Self disposal volume		340	296	257	197	144	129
			(1.2)	(1.0)	(0.9)	(0.7)	(0.6)	(0.5)
	Amount of night soil collected		316	280	243	170	138	123
	Amount of septic tanks sludge		23	16	14	27	7	6
	Total		29,462	28,827	27,422	26,561	26,105	24,974
			(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)
	Amount of night soil collected		14,246	13,629	12,374	11,432	10,836	10,010
	Quantity of septic tanks sludge		15,216	15,198	15,049	15,128	15,269	14,964
Designed treatment volume of urine per person per day (l / person· day)			2.20	2.27	2.23	2.22	2.26	2.23
Discharged night soil per person per day (l / person· day)			2.19	2.26	2.23	2.21	2.25	2.22
Designed treatment volume of septic tanks sludge per person per day (l / person· day)			1.24	1.26	1.27	1.31	1.36	1.35
Discharge of sludge from septic tanks per day (l / person· day)			1.25	1.26	1.28	1.31	1.36	1.35

Notes:
"Night soil treatment facilities": Facility to treat excreta by anaerobic digestion process, chemical processing, aerobic treatment ,wet oxidation system etc.
"Composting facility": Facility to make compost from collected excreta and septic tanks sludge.
"Methane composting facility": Facility for methane fermentation of collected excreta, septic tank's sludge and ejection of biogas.
"Sewage input": Outflow or pressurized transportation to a sewage system with terminal treatment plants.
"Farmland reduction": To use collected night soil or septic tanks sludge as fertilizer for farmland.
"Sea dumping": To dump collected night soil or septic tanks sludge into the sea.
Data in parenthesis are the rate of percentage to total.

5.20 Changes in population using flush toilets and treatment volume of night soil

1. Population by treatment type

(Unit : 1,000 people)

Group			FY2008	2009	2010	2011	2012	2013
Total population			127,529	127,429	127,302	127,146	128,622	128,394
Population with flush toilet	Population with public sewage		86,027	87,819	88,865	89,810	91,984	92,886
	Population with community plant		416	297	293	286	289	304
	Population with septic tanks		29,267	28,504	28,030	27,591	27,392	26,875
		Stand-alone	15,413	14,712	13,948	13,316	13,052	12,383
		Combined	13,854	13,792	14,082	14,276	14,341	14,492
	Total		115,710	116,620	117,188	117,687	119,666	120,065
Population without flush toilet	Population covered with scheduled collection		11,301	10,671	9,984	9,348	8,849	8,242
	Self-disposal		518	139	130	112	107	87
	Total		11,819	10,810	10,114	9,460	8,956	8,329
Rate with flush toilets	(%)	(%)	90.7	91.5	92.1	92.6	93.0	93.5
Rate without flushing toilet	(%)	(%)	9.3	8.5	7.9	7.4	7.0	6.5
Rate with flush toilets using public sewage		(%)	67.5	68.9	69.8	70.6	71.5	72.3
Rate with flush toilets using sept	(%)	(%)	22.9	22.4	22.0	21.7	21.3	20.9
Combined treatment		(%)	11.2	11.1	11.3	11.2	11.1	11.3

2 . conditions of current urine treatment

Group				FY2008	2009	2010	2011	2012	2013
Number of total treatment	Number of designed treatment		Night soil treatment facilities	22,958 (93.5)	22,343 (93.6)	21,678 (93.1)	20,912 (91.6)	20,538 (92.1)	20,497 (93.4)
			Amount of night soil collected	8,894	8,353	7,917	7,365	7,018	6,771
			Amount of septic tanks sludge	14,064	13,989	13,760	13,547	13,519	13,726
			Composting facilities	28 (0.1)	58 (0.2)	17 (0.1)	15 (0.1)	21 (0.1)	19 (0.1)
			Amount of night soil collected	3	16	4	3	3	2
			Amount of septic tanks sludge	25	42	13	13	17	16
			Methane composting facilities	16 (0.1)	27 (0.1)	16 (0.1)	16 (0.1)	15 (0.1)	21 (0.1)
			Amount of night soil collected	5	5	4	4	4	6
			Amount of septic tanks sludge	11	23	12	12	11	15
			Outflow to sewage	1,347 (5.5)	1,265 (5.3)	1,346 (5.8)	1,654 (7.2)	1,544 (6.9)	1,265 (5.8)
			Amount of night soil collected	519	455	462	587	502	434
			Amount of septic tanks sludge	828	810	884	1,068	1,042	831
			Farmland reduction	39 (0.2)	33 (0.1)	72 (0.3)	69 (0.3)	23 (0.1)	18 (0.1)
			Amount of night soil collected	17	9	13	9	9	7
			Amount of septic tanks sludge	22	23	59	60	14	11
			Sea dumping	- -	- -	- -	- -	- -	- -
			Amount of night soil collected	-	-	-	-	-	-
			Amount of septic tanks sludge	-	-	-	-	-	-
			Others	54 (0.2)	47 (0.2)	69 (0.3)	61 (0.3)	71 (0.3)	39 (0.2)
			Amount of night soil collected	18	16	16	17	14	7
			Amount of septic tanks sludge	36	30	53	44	56	32
			Subtotal	24,442 (99.5)	23,772 (99.6)	23,198 (99.6)	22,728 (99.6)	22,211 (99.6)	21,859 (99.7)
			Amount of night soil collected	9,455	8,855	8,417	7,984	7,551	7,228
			Amount of septic tanks sludge	14,987	14,917	14,781	14,744	14,660	14,631
	Self-disposal volume			111 (0.5)	102 (0.4)	83 (0.4)	99 (0.4)	78 (0.4)	76 (0.3)
			Amount of night soil collected	104	91	76	93	62	61
			Amount of septic tanks sludge	6	11	7	6	16	15
	Total			24,553 (100.0)	23,874 (100.0)	23,280 (100.0)	22,827 (100.0)	22,289 (100.0)	21,935 (100.0)
			Amount of night soil collected	9,560	8,946	8,493	8,077	7,613	7,289
			Amount of septic tanks sludge	14,993	14,928	14,788	14,750	14,676	14,646
Designed treatment volume of urine per person per day (l / person· day)				2.29	2.27	2.31	2.33	2.34	2.40
Discharged night soil per person per day (l / person· day)				2.32	2.30	2.30	2.33	2.33	2.40
Designed treatment volume of septic tanks sludge per person per day (l / person· day)				1.38	1.42	1.43	1.45	1.45	1.47
Discharge of sludge from septic tanks per day (l / person· day)				1.38	1.42	1.43	1.45	1.45	1.48

Source: "Waste Treatment in Japan (annual version)," Waste Management Division, Waste and Recycling Department, Minister's Secretariat, MOE, the Government of Japan

5.21 Current situations of night soil treatment facilities by prefectures

(FY2013)

	Total Population (Thousand person)	Population using flush toilet (Thousand person)								The population not using flush toilet			
		Public sewage System		Community Plants	septic tank			Total	The usage rate of flush toilet(%)		Population on designed disposal program	Population coverd with designed disposal program (%)	Population under self-disposal process
			Use rate of flush toilet(%)			Use rate of flush toilet(%)	Combined Septic Tanks						
Hokkaido	5,460	4,775	87.5	0	269	4.9	190	5,045	92.4	416	412	7.6	3
Aomori	1,370	692	50.5	0	478	34.9	205	1,170	85.4	200	200	14.6	0
Iwate	1,312	632	48.2	2	283	21.5	237	916	69.8	396	395	30.2	1
Miyagi	2,327	1,723	74.0	6	250	10.7	168	1,979	85.0	349	344	15.0	5
Akita	1,072	534	49.8	0	269	25.1	198	803	74.9	269	269	25.1	0
Yamagata	1,151	739	64.2	0	295	25.6	137	1,034	89.8	117	117	10.2	0
Fukushima	1,964	889	45.3	7	833	42.4	478	1,729	88.0	235	235	12.0	0
Ibaraki	2,984	1,625	54.5	17	1,085	36.3	584	2,727	91.4	257	257	8.6	0
Tochigi	2,011	1,216	60.4	1	673	33.5	381	1,890	93.9	122	122	6.1	0
Gunma	2,022	925	45.7	25	949	46.9	428	1,898	93.9	124	124	6.1	0
Saitama	7,287	5,462	75.0	9	1,683	23.1	841	7,154	98.2	133	132	1.8	0
Chiba	6,249	4,216	67.5	9	1,817	29.1	910	6,042	96.7	207	206	3.3	1
Tokyo	13,195	13,067	99.0	2	98	0.7	40	13,168	99.8	27	27	0.2	0
Kanagawa	9,100	8,615	94.7	0	446	4.9	144	9,061	99.6	39	39	0.4	0
Niigata	2,357	1,475	62.6	0	710	30.1	269	2,185	92.7	172	172	7.3	0
Toyama	1,092	830	76.0	5	211	19.4	110	1,046	95.8	46	46	4.2	0
Ishikawa	1,164	845	72.6	5	269	23.1	124	1,119	96.2	45	45	3.8	0
Fukui	809	554	68.4	0	218	27.0	109	772	95.4	37	36	4.6	1
Yamanashi	862	480	55.7	7	312	36.2	113	799	92.7	63	63	7.3	0
Nagano	2,157	1,637	75.9	8	305	14.1	202	1,950	90.4	208	207	9.6	0
Gifu	2,055	1,289	62.7	12	642	31.2	344	1,942	94.5	112	112	5.5	1
Shizuoka	3,808	2,085	54.8	16	1,599	42.0	632	3,699	97.2	108	106	2.8	2
Aichi	7,494	5,270	70.3	11	2,048	27.3	992	7,329	97.8	166	165	2.2	0
Mie	1,833	832	45.4	3	859	46.9	561	1,695	92.5	138	138	7.5	0
Shiga	1,421	1,144	80.5	0	205	14.4	140	1,349	94.9	72	70	5.1	2
Kyoto	2,636	2,344	88.9	7	150	5.7	95	2,502	94.9	135	133	5.1	2
Osaka	8,877	8,133	91.6	0	541	6.1	236	8,674	97.7	203	202	2.3	1
Hyogo	5,652	5,094	90.1	68	351	6.2	213	5,513	97.6	138	137	2.4	1
Nara	1,404	975	69.4	4	340	24.2	144	1,319	93.9	85	85	6.1	0
Wakayama	1,013	191	18.9	1	605	59.7	324	798	78.7	216	215	21.3	1
Tottori	587	349	59.5	1	183	31.2	72	533	90.9	54	52	9.1	1
Shimane	712	279	39.2	4	278	39.0	208	561	78.8	151	147	21.2	4
Okayama	1,946	1,087	55.9	0	600	30.9	371	1,687	86.7	259	255	13.3	4
Hiroshima	2,877	1,912	66.5	11	614	21.3	391	2,537	88.2	340	326	11.8	14
Yamaguchi	1,444	850	58.9	0	443	30.7	283	1,293	89.6	151	143	10.4	8
Tokushima	783	116	14.8	7	592	75.6	279	715	91.3	68	62	8.7	6
Kagawa	1,011	397	39.2	0	496	49.1	275	894	88.4	117	116	11.6	1
Ehime	1,438	665	46.3	6	602	41.9	304	1,273	88.5	165	163	11.5	2
Kochi	755	219	29.0	8	367	48.6	261	594	78.7	161	159	21.3	2
Fukuoka	5,116	3,863	75.5	18	644	12.6	501	4,526	88.5	590	589	11.5	2
Saga	853	403	47.3	1	228	26.8	194	632	74.1	221	220	25.9	1
Nagasaki	1,420	775	54.6	12	261	18.4	216	1,049	73.8	372	370	26.2	1
Kumamoto	1,826	1,100	60.2	1	490	26.8	278	1,590	87.1	236	233	12.9	3
Oita	1,199	484	40.4	1	565	47.1	285	1,050	87.6	149	133	12.4	16
Miyazaki	1,143	556	48.7	0	448	39.2	288	1,004	87.9	138	138	12.1	0
Kagoshima	1,701	654	38.4	9	809	47.6	525	1,471	86.5	230	230	13.5	0
Okinawa	1,441	885	61.4	0	463	32.1	212	1,348	93.5	93	93	6.5	0
Total	128,394	92,886	72.3	304	26,875	20.9	14,492	120,065	93.5	8,329	8,242	6.5	87

5.21 Current situations of night soil treatment facilities by prefectures

(FY2013)

	Total throughput of resulting products (Thousand KL/Year)									
	Throughput of designed disposal program								Throughput of self-disposal process	Total
	Night soil treatment facilities	Waste Composting Facilities	Methane Composting Facilities	Outflow to sewage	Farmland Reduction	Sea Dumping	Others	Sub Total		
Hokkaido	565	3	5	100	0	-	0	674	4	678
Aomori	446	0	0	0	0	-	0	446	0	446
Iwate	570	0	0	0	0	-	0	570	1	570
Miyagi	462	0	0	0	0	-	0	462	6	468
Akita	430	0	0	0	0	-	0	430	0	430
Yamagata	229	0	0	0	0	-	0	229	0	229
Fukushima	564	0	0	46	0	-	0	611	1	612
Ibaraki	637	0	0	5	0	-	0	642	0	642
Tochigi	344	0	0	0	0	-	0	344	0	344
Gunma	467	6	0	0	0	-	9	482	0	482
Saitama	807	0	0	0	0	-	0	807	7	813
Chiba	819	0	0	11	0	-	0	830	1	831
Tokyo	71	0	0	16	0	-	13	99	0	99
Kanagawa	174	0	0	175	0	-	0	349	1	350
Niigata	460	0	0	53	0	-	0	514	0	514
Toyama	102	0	0	34	0	-	0	136	0	136
Ishikawa	136	0	0	0	0	-	0	136	0	136
Fukui	138	0	0	16	0	-	0	154	1	155
Yamanashi	149	2	0	0	0	-	0	151	0	151
Nagano	339	0	0	29	0	-	0	368	0	368
Gifu	608	0	0	0	0	-	0	608	0	609
Shizuoka	927	0	0	33	0	-	5	964	1	965
Aichi	1,116	0	0	103	0	-	0	1,219	0	1,219
Mie	629	0	0	10	0	-	0	639	0	639
Shiga	189	1	0	16	0	-	0	205	2	207
Kyoto	227	0	0	25	0	-	0	252	2	254
Osaka	475	0	0	128	0	-	0	603	1	603
Hyogo	264	0	0	83	0	-	0	347	1	348
Nara	244	0	0	2	0	-	0	245	0	246
Wakayama	519	0	0	0	0	-	0	519	0	519
Tottori	124	0	0	0	0	-	0	124	1	125
Shimane	276	0	0	1	0	-	0	277	4	280
Okayama	614	0	0	30	0	-	0	644	5	649
Hiroshima	598	0	0	82	0	-	0	680	9	689
Yamaguchi	410	0	5	36	0	-	1	452	5	457
Tokushima	276	0	0	0	0	-	0	276	7	283
Kagawa	182	0	0	0	0	-	0	183	0	183
Ehime	409	0	0	1	0	-	0	409	1	410
Kochi	359	1	0	0	0	-	0	361	1	362
Fukuoka	1,117	0	11	122	0	-	0	1,249	1	1,251
Saga	415	2	0	0	0	-	0	417	1	418
Nagasaki	615	0	0	3	0	-	0	619	2	620
Kumamoto	433	2	0	73	0	-	1	509	2	511
Oita	419	2	0	0	0	-	0	420	6	427
Miyazaki	325	0	0	12	0	-	0	337	0	337
Kagoshima	707	0	0	1	12	-	3	724	0	724
Okinawa	110	0	0	23	5	-	7	145	0	145
Total	20,497	19	21	1,265	18	-	39	21,859	76	21,935

Source: "Waste & Recycling (FY2013)," Waste Management Division, Waste Management and Recycling Department, Minister's Secretariat, MOE, the Government of Japan

5.22 Trends in breakdown of nationwide night soil treatment facilities by type (start-of-construction-basis)

(Unit: KL/Day)

	Anaerobic treatment		Aerobic treatment		Standard Denitrification treatment		High-loading denitrification treatment		Membrane Bioreactor treatment		Others		Total	
	Number of facilities	Processing capacity	Number of facilities	Processing capacity	Number of facilities	Processing capacity	Number of facilities	Processing capacity	Number of facilities	Processing capacity	Number of facilities	Processing capacity	Number of facilities	Processing capacity
FY1990	385	34,580	703	60,008	–	–	–	–	–	–	124	13,777	1,212	108,365
1991	355	30,681	346	33,353	245	26,048	138	9,672	–	–	175	18,053	1,259	117,807
1992	304	26,312	289	22,745	247	25,995	139	10,681	11	509	195	23,068	1,185	109,310
1993	289	24,021	300	22,306	260	27,816	139	10,674	14	653	191	21,558	1,193	107,028
1994	270	22,901	286	21,261	279	30,149	157	12,310	21	994	200	21,080	1,213	108,695
1995	234	19,869	265	19,716	281	30,157	175	13,817	28	1,616	200	20,028	1,183	105,203
1996	210	17,510	246	17,951	286	30,751	187	15,312	29	1,645	210	21,474	1,168	104,643
1997	183	15,585	240	17,215	294	31,251	202	17,525	35	2,042	207	21,422	1,161	105,039
1998	167	14,068	217	14,781	302	31,850	192	16,235	36	2,036	236	24,795	1,150	103,764
1999	142	12,277	194	12,730	300	31,815	195	16,331	40	2,314	245	25,159	1,116	100,625
2000	130	10,996	191	12,166	300	31,908	198	16,498	41	2,375	259	25,917	1,119	99,860
2001	121	9,892	181	11,070	307	32,245	195	16,177	41	2,597	279	27,551	1,124	99,532
2002	101	8,518	169	10,411	306	32,230	196	16,735	40	2,759	299	27,566	1,111	98,219
2003	96	8,090	160	10,005	307	32,375	197	17,177	38	4,401	303	28,716	1,101	100,764
2004	86	7,032	152	9,369	307	31,628	199	16,973	37	4,350	320	29,707	1,101	99,329
2005	76	6,476	136	8,465	288	29,655	203	17,493	38	3,055	317	30,277	1,058	95,420
2006	66	5,856	127	8,005	272	28,363	189	15,980	31	4,264	366	34,733	1,051	97,200
2007	59	4,801	126	7,892	273	28,102	186	15,784	27	3,861	370	33,115	1,041	93,555
2008	56	4,444	118	7,535	268	27,737	182	14,938	26	3,650	389	35,441	1,039	93,745
2009	52	4,144	108	6,961	269	27,748	189	16,285	24	3,573	389	34,654	1,031	93,364
2010	50	3,891	105	6,753	257	26,173	186	16,104	27	3,684	393	34,577	1,018	91,182
2011	44	3,265	94	6,200	251	25,694	184	15,778	27	3,684	400	34,622	1,000	89,243
2012	43	3,159	96	6,469	248	25,608	179	15,030	32	4,062	391	33,556	989	87,884
2013	43	3,059	90	6,001	244	25,153	175	14,529	31	4,074	399	33,975	982	86,791

Notes:
- Facilities established by municipalities and administration associations include idle facilities and facilities started construction in the fiscal year, but not abolished facilities.
- "Standard Denitrification treatment" and "Standard Denitrification treatment" were included in Aerobic treatment prior to survey 1990.
- Membrane Bioreactor treatment is included in others prior to survey 1991.

Source: "Waste & Recycling (Yearly report)," Waste Management Division, Waste Management and Recycling Department, Minister's Secretariat, MOE, the Government of Japan

5.23 Changes in number of installed Johkasou※ (Nationwide)

(Unit: Plant)

		FY2003	2004	2005	2006	2007	2008
Plant for ~ 20 people		7,683,252 (5,874,096)	7,659,463 (5,941,469)	7,676,160 (6,021,016)	7,688,392 (6,097,153)	7,534,990 (6,066,922)	7,480,780 (6,083,458)
21 ~ 100		832,765 (523,288)	818,145 (527,228)	808,594 (526,998)	793,545 (524,396)	747,142 (510,199)	730,606 (506,074)
101 ~ 500		136,935 (81,776)	134,724 (83,313)	130,645 (81,235)	127,481 (80,977)	121,025 (79,123)	117,473 (78,958)
Sub Total		8,652,952 (6,479,160)	8,612,332 (6,552,010)	8,615,399 (6,629,249)	8,609,418 (6,702,526)	8,403,157 (6,656,244)	8,328,859 (6,668,490)
501 ~ 1,000		8,745 (6,264)	8,633 (6,354)	8,369 (6,136)	8,298 (6,153)	7,971 (5,996)	7,930 (6,108)
1,001 ~ 2,000		4,557 (3,437)	4,477 (3,447)	4,463 (3,452)	4,441 (3,458)	4,439 (3,499)	4,372 (3,499)
2,001 ~ 3,000		1,397 (1,062)	1,383 (1,077)	1,376 (1,077)	1,384 (1,094)	1,358 (1,082)	1,396 (1,112)
3,001 ~ 4,000		407 (312)	399 (312)	407 (319)	412 (316)	417 (329)	411 (326)
4,001 ~ 5,000		242 (197)	245 (201)	230 (194)	221 (186)	221 (186)	215 (182)
5,001 ~		353 (220)	335 (217)	327 (221)	321 (222)	321 (223)	312 (222)
Sub Total		15,701 (11,492)	15,472 (11,608)	15,172 (11,399)	15,077 (11,429)	14,727 (11,315)	14,636 (11,449)
Total		8,668,653 (6,490,652)	8,627,804 (6,563,618)	8,630,571 (6,640,648)	8,624,495 (6,713,955)	8,417,884 (6,667,559)	8,343,495 (6,679,939)
Break-down	Black water only type	6,513,810 (4,360,395)	6,299,840 (4,258,880)	6,131,836 (4,166,189)	5,965,513 (4,081,040)	5,641,662 (3,916,080)	5,442,181 (3,803,133)
	Both black + grey water type	2,154,843 (2,130,257)	2,327,964 (2,304,738)	2,498,735 (2,474,459)	2,658,982 (2,632,915)	2,776,222 (2,751,479)	2,901,314 (2,876,806)

		FY2009	2010	2011	2012	2013	2014
Plant for ~ 20 people		7,340,054 (6,098,795)	7,162,437 (6,025,052)	7,066,207 (6,004,392)	7,028,375 (6,014,594)	6,984,374 (6,036,702)	6,948,435 (6,047,384)
21 ~ 100		691,535 (495,735)	657,270 (480,207)	637,111 (473,461)	620,588 (465,127)	608,635 (462,011)	596,578 (455,869)
101 ~ 500		111,631 (77,733)	106,452 (75,982)	101,361 (73,629)	97,088 (71,416)	96,312 (71,116)	93,789 (70,070)
Sub Total		8,143,220 (6,672,263)	7,926,159 (6,581,241)	7,804,679 (6,551,482)	7,746,051 (6,551,137)	7,689,321 (6,569,829)	7,638,802 (6,573,323)
501 ~ 1,000		7,715 (6,076)	7,517 (5,988)	7,155 (5,776)	6,870 (5,615)	6,790 (5,545)	6,655 (5,512)
1,001 ~ 2,000		4,280 (3,484)	4,212 (3,465)	4,053 (3,374)	3,943 (3,313)	3,910 (3,297)	3,877 (3,312)
2,001 ~ 3,000		1,328 (1,085)	1,326 (1,092)	1,300 (1,084)	1,263 (1,066)	1,250 (1,057)	1,244 (1,079)
3,001 ~ 4,000		401 (317)	388 (311)	375 (301)	374 (305)	372 (305)	363 (302)
4,001 ~ 5,000		212 (182)	217 (186)	205 (175)	199 (171)	203 (177)	200 (175)
5,001 ~		315 (228)	296 (223)	291 (219)	286 (215)	293 (222)	282 (220)
Sub Total		14,251 (11,372)	13,956 (11,265)	13,379 (10,929)	12,935 (10,685)	12,818 (10,603)	12,621 (10,600)
Total		8,157,471 (6,683,635)	7,940,115 (6,592,506)	7,818,058 (6,562,411)	7,758,986 (6,561,822)	7,702,139 (6,580,432)	7,651,423 (6,583,923)
Break-down	Black water only type	5,170,659 (3,723,893)	4,883,467 (3,559,629)	4,674,779 (3,441,912)	4,531,552 (3,356,153)	4,368,516 (3,266,792)	4,233,122 (3,184,853)
	Both black + grey water type	2,986,812 (2,959,742)	3,056,648 (3,032,877)	3,143,279 (3,120,499)	3,227,434 (3,205,669)	3,333,623 (3,313,640)	3,418,301 (3,399,070)

Note:

※Packaged Aerated Wastewater Treatment Plant

・Parenthesized figures in lower rows refer to the number of tanks subjected to new standard structures.

Source: "Governance survey results on Johkasou FY2015,"Office for promotion of Johkasou, Waste Management Division, Waste Management and Recycling Department, Minister's Secretariat, MOE, the Government of Japan

5.24 Night soil treatment facilities (established by municipalities and administration associations) by prefecture

(FY2013)

	Anaerobic treatment		Aerobic treatment		Standard Denitrification treatment		High-loading denitrification treatment		Membrane Bioreactor treatment		Others		Total	
	Number of facilities	Processing capacity (kl/Day)	Number of facilities	Processing capacity (kl/Day)	Number of facilities	Processing capacity (kl/Day)	Number of facilities	Processing capacity (kl/Day)	Number of facilities	Processing capacity (kl/Day)	Number of facilities	Processing capacity (kl/Day)	Number of facilities	Processing capacity (kl/Day)
Hokkaido	15	1,046	8	521	1	60	7	237	1	43	31	1,730	63	3,638
Aomori	0	0	0	0	6	872	4	200	0	0	3	562	13	1,634
Iwate	1	105	1	80	4	463	5	672	0	0	5	636	16	1,956
Miyagi	0	0	0	0	5	537	5	536	0	0	6	705	16	1,778
Akita	0	0	2	133	4	572	7	493	0	0	5	467	18	1,665
Yamagata	0	0	0	0	5	660	1	180	0	0	4	282	10	1,122
Fukushima	3	440	3	316	7	535	3	252	0	0	6	563	22	2,106
Ibaraki	1	50	5	384	7	912	9	753	1	39	12	727	35	2,865
Tochigi	0	0	0	0	7	980	6	452	0	0	1	191	14	1,623
Gunma	0	0	5	253	2	174	11	775	1	46	6	573	25	1,821
Saitama	0	0	1	100	15	1,817	4	428	1	80	16	1,438	37	3,863
Chiba	1	200	1	110	9	899	8	935	4	451	11	1,340	34	3,935
Tokyo	0	0	1	23	1	140	1	4	3	2,055	9	254	15	2,476
Kanagawa	1	47	1	50	3	309	1	37	0	0	6	630	12	1,073
Niigata	1	20	2	50	9	682	1	20	0	0	14	1,250	27	2,022
Toyama	0	0	1	66	1	80	1	45	0	0	4	360	7	551
Ishikawa	2	155	1	120	3	263	1	80	0	0	6	485	13	1,103
Fukui	0	0	0	0	1	50	4	211	0	0	8	433	13	694
Yamanashi	2	90	3	204	5	230	1	85	1	40	2	151	14	800
Nagano	0	0	1	200	8	1,154	6	599	0	0	10	524	25	2,477
Gifu	1	60	2	106	8	606	6	287	1	35	10	995	28	2,089
Shizuoka	1	36	6	201	9	871	3	301	2	272	15	1,981	36	3,662
Aichi	1	60	5	600	7	1,187	5	527	0	0	13	1,918	31	4,292
Mie	0	0	2	24	5	733	2	340	2	48	7	1,027	18	2,172
Shiga	0	0	2	313	4	501	2	208	0	0	4	170	12	1,192
Kyoto	0	0	4	259	3	221	1	76	1	94	5	421	14	1,071
Osaka	0	0	3	428	3	225	5	819	0	0	10	1,073	21	2,545
Hyogo	0	0	3	132	7	526	3	122	1	44	13	1,268	27	2,092
Nara	1	76	1	3	1	50	4	178	1	6	7	624	15	937
Wakayama	1	2	1	450	6	624	1	37	1	131	4	383	14	1,627
Tottori	0	0	0	0	1	140	3	275	0	0	2	191	6	606
Shimane	0	0	1	40	2	117	4	218	1	125	4	342	12	842
Okayama	0	0	0	0	8	743	3	270	0	0	11	1,087	22	2,100
Hiroshima	2	210	3	38	7	687	5	325	1	176	16	1,065	34	2,501
Yamaguchi	0	0	0	0	5	597	3	93	0	0	10	690	18	1,380
Tokushima	0	0	3	210	6	400	2	45	1	35	4	291	16	981
Kagawa	0	0	1	30	2	257	4	509	1	2	3	130	11	927
Ehime	0	0	0	0	10	1,170	2	50	2	67	6	208	20	1,495
Kochi	1	47	2	40	6	774	3	139	0	0	7	181	19	1,181
Fukuoka	1	90	4	117	7	953	6	957	0	0	15	1,469	33	3,585
Saga	1	10	1	2	3	300	3	475	0	0	6	641	14	1,428
Nagasaki	0	0	1	22	8	702	9	665	0	0	12	688	30	2,077
Kumamoto	2	195	3	161	2	110	3	198	2	187	11	635	23	1,486
Oita	0	0	1	50	5	229	2	140	0	0	10	1,076	18	1,495
Miyazaki	0	0	0	0	6	375	3	262	0	0	11	593	20	1,230
Kagoshima	0	0	2	123	9	586	2	19	2	98	14	1,270	29	2,096
Okinawa	4	120	3	43	1	80	0	0	0	0	4	259	12	502
Total	43	3,059	90	6,001	244	25,153	175	14,529	31	4,074	399	33,975	982	86,791

Note: Figures include facilities of which constructionstarted in FY2013 and idle facilities, but not abolished facilities.

Source: "Waste treatment in Japan (FY2013)," Waste Management Division, Waste Management and Recycling Department, Minister's Secretariat, MOE, the Government of Japan

5.25 Diffusion of Johkasou and community plants by prefecture

(As of the end of FY2014)

	Rate of population served by sewage treatment system	Coverage rate of Johkasou (Both black + grey water type)	Coverage rate of community plants
Hokkaido	94.7%	3.0%	-
Aomori	76.4%	9.6%	-
Iwate	77.8%	12.6%	0.1%
Miyagi	89.5%	6.6%	0.3%
Akita	84.5%	11.3%	-
Yamagata	90.1%	7.7%	-
Fukushima	-	-	-
Ibaraki	81.5%	15.5%	0.3%
Tochigi	83.7%	15.4%	0.0%
Gunma	77.5%	18.0%	1.2%
Saitama	90.0%	9.4%	0.0%
Chiba	85.8%	12.8%	0.1%
Tokyo	99.7%	0.2%	0.0%
Kanagawa	97.8%	1.3%	-
Niigata	85.5%	5.4%	-
Toyama	95.9%	3.6%	0.3%
Ishikawa	92.9%	4.4%	0.2%
Fukui	93.5%	5.0%	-
Yamanashi	80.6%	13.6%	0.7%
Nagano	97.3%	5.7%	0.0%
Gifu	90.7%	10.5%	0.2%
Shizuoka	77.8%	15.0%	0.4%
Aichi	88.4%	10.5%	0.1%
Mie	82.2%	25.9%	0.2%
Shiga	98.3%	2.9%	-
Kyoto	97.2%	2.2%	0.0%
Osaka	97.0%	2.0%	0.0%
Hyogo	98.6%	1.9%	1.3%
Nara	87.5%	8.3%	0.3%
Wakayama	59.0%	29.6%	-
Tottori	91.4%	5.5%	0.1%
Shimane	77.0%	15.0%	0.6%
Okayama	83.6%	16.3%	-
Hiroshima	85.9%	11.4%	0.5%
Yamaguchi	84.9%	16.3%	0.0%
Tokushima	55.7%	34.7%	1.0%
Kagawa	73.4%	27.7%	0.1%
Ehime	75.3%	20.4%	0.4%
Kochi	73.3%	34.0%	0.2%
Fukuoka	90.5%	9.4%	0.3%
Saga	79.9%	14.4%	0.1%
Nagasaki	78.1%	13.4%	0.4%
Kumamoto	84.7%	14.3%	0.0%
Oita	72.3%	20.8%	0.1%
Miyazaki	83.0%	21.5%	-
Kagoshima	76.4%	32.6%	0.3%
Okinawa	84.7%	10.1%	-
Total	89.5%	8.9%	0.2%
(The end of FY2013)	(88.9%)	(8.9%)	(0.2%)

Note:
Due to the devastating damage of the Great East Japan Earthquake, data are tabulated without figures from Fukushima prefecture.

Source: "Diffusion of Johkasou (as of the end of FY2014)," Office for promotion of Johkasou, Waste Management Division, Waste Management and Recycling Department, Minister's Secretariat, MOE, the Government of Japan

5.26 Population served by waste-water treatment system by year

	Rate of population served by waste water treatment system (B/A)	Total population (A) (Thousand person)	Total population served by waste-water treatment system (B) (Thousand person)	Sewage system (Thousand person)	Agricultural drainage facilities (Thousand person)	Johkasou (Both black + grey water type) (Thousand person)	Community Plant (Thousand person)
FY1999	68.9%	126,071	86,893	75,477	2,301	8,719	396
2000	71.4%	126,285	90,182	78,031	2,589	9,139	423
2001	73.7%	126,478	93,260	80,317	2,896	9,646	402
2002	75.8%	126,688	95,990	82,570	3,106	9,932	382
2003	77.7%	126,824	98,536	84,584	3,280	10,297	375
2004	79.4%	126,869	100,793	86,365	3,439	10,618	371
2005	80.9%	127,055	102,815	88,021	3,521	10,926	347
2006	82.4%	127,053	104,680	89,610	3,607	11,142	322
2007	83.7%	127,066	106,347	91,106	3,697	11,214	330
2008	84.8%	127,076	107,741	92,412	3,741	11,273	314
2009	85.7%	127,058	108,899	93,600	3,785	11,236	278
※ 2010	86.9%	121,233	105,311	91,035	3,435	10,590	250
※ 2011	87.6%	123,350	108,104	93,548	3,502	10,794	263
※ 2012	88.1%	126,396	111,378	96,446	3,601	11,065	266
※ 2013	88.9%	126,186	112,160	97,136	3,564	11,208	251
※ 2014	89.5%	126,017	112,755	97,751	3,520	11,245	239

Notes:
- Due to rounding off, a sum of the breakdown may not match the total population.
- The figure of r "Total Population" is quoted from population of Basic Resident Register published by Ministry of Internal Affairs and Communications.
- In FY2010, Iwate, Miyagi, and Fukushima prefectures were out of the scope of the survey to tabulate because the prefectures were affected by the Great East Japan Earthquake.
- In FY2011, Iwate and Fukushima prefectures were out of the scope of the survey to tabulate because the prefectures were affected by the Great East Japan Earthquake.
- In FY2012, 2013 and 2014, Fukushima prefecture was out of the scope of the survey to tabulate because the prefecture was affected by the Great East Japan Earthquake.

Source: From materials for press release of "population served by waste disposal system (September, 2015)," MOE, the Government of Japan.

5.27 Changes in expenses for night soil treatment projects

(Unit : Million yen / year)

				FY2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total population (Thousand people)				127,299	127,507	127,606	127,712	127,781	127,487	127,529	127,429	127,302	127,146	128,622	128,394
Target population			Septic tanks	33,471	32,879	32,330	31,646	30,834	30,199	29,683	28,801	28,323	27,877	27,682	27,179
			Total Population without flush toilet	17,824	16,455	15,215	14,186	13,205	12,306	11,819	10,810	10,114	9,460	8,956	8,329
			Total	51,295	49,333	47,545	45,832	44,039	42,505	41,502	39,611	38,437	37,337	36,638	35,508
Revenues (Municipalities)	General revenue source			226,355	218,735	208,676	203,003	196,471	198,554	186,694	180,919	172,002	173,892	169,832	220,491
	Earmarked revenue sources		National treasury disbursement	4,434	3,824	5,181	8,321	6,869	4,870	4,542	4,167	5,860	4,398	4,265	170,434
			Prefectural disbursement	2,108	2,276	1,794	1,903	2,224	1,510	1,309	1,285	1,386	1,411	1,235	5,278
			Handling fees/commissions	25,495	23,400	24,690	25,445	36,782	34,436	32,538	31,601	29,946	29,225	28,598	1,819
			Local Bonds	8,565	4,285	8,072	16,186	21,706	8,241	7,725	8,492	6,514	10,341	7,400	27,887
			Others	4,782	5,903	5,550	8,602	7,730	7,496	6,663	6,803	5,905	7,123	5,350	9,353
			Subtotal	45,383	39,688	45,286	60,456	75,311	56,553	52,776	52,347	49,612	52,498	46,848	5,721
			Total	271,738	258,423	253,962	263,459	271,782	246,107	239,470	233,266	221,613	226,389	216,680	50,057
Expenditure (Total of municipalities and cooperatives)	Expenses for night soil treatment			335,231	314,519	310,648	313,596	271,782	246,107	238,737	231,594	221,613	226,332	216,634	220,491
	Construction and improvement costs	Construction	Expenses for travelling or the like.	-	-	-	-	4,373	1,252	683	591	688	267	219	455
			Intermediate processing facilities	53,219	42,522	46,640	57,569	31,090	13,164	15,157	19,192	16,992	22,147	16,557	20,561
			Final disposal site	3,687	2,499	2,929	4,996	2,547	884	96	169	367	690	357	1,531
			Others	4,527	6,763	5,480	3,636	2,948	2,457	1,191	1,054	904	1,327	1,617	942
			Inspection fee	551	634	432	1,918	287	297	274	454	396	342	396	1,077
			Subtotal	61,984	52,417	55,481	68,119	41,245	18,054	17,401	21,461	19,347	24,772	19,147	24,565
	(Reference) Financial contributions to partial-affairs association			7,644	7,764	6,525	7,677	3,473	1,899	2,377	3,779	4,119	5,387	2,979	4,506
	Processing and maintenance costs, etc.	Labor cost		71,816	67,528	64,541	60,463	57,199	59,496	55,757	50,413	47,251	45,326	42,993	40,548
		Treatment costs	Collection and transportation	5,911	5,716	5,129	4,949	3,665	4,865	5,256	3,937	3,704	3,752	3,532	2,588
			Intermediate treatment	80,766	75,088	73,745	71,164	70,420	65,496	66,837	63,317	61,808	61,073	60,936	60,632
			Final disposal	3,852	3,555	4,000	2,888	2,679	2,630	2,624	2,070	1,777	1,906	2,085	2,047
		Purchasing vehicles and related costs		804	515	704	463	451	374	415	491	437	343	249	332
		Outsourcing costs	Collection and transportation	-	-	-	36,076	33,746	31,086	29,983	28,906	27,865	27,178	26,181	26,066
			Intermediate treatment	-	-	-	30,240	32,105	33,571	33,657	35,041	35,824	38,062	38,071	40,015
			Final disposal	-	-	-	7,502	5,510	4,635	4,444	4,143	3,470	3,631	3,104	3,545
			Others	-	-	-	8,713	4,547	4,342	3,835	4,601	3,868	3,719	3,623	4,535
			Total outsourcing costs	80,473	79,432	76,977	82,530	75,908	73,633	71,920	72,690	71,026	72,590	70,979	74,160
		Others		12,301	12,172	11,640	-	-	-	-	-	-	16,471	16,621	15,433
		Research expenses		-	-	-	704	103	63	67	169	227	99	93	186
		Subtotal		255,922	244,007	236,736	223,162	210,424	206,558	202,875	193,087	186,231	185,089	180,866	180,494
	(Reference) Financial contributions to partial-affairs association			103,433	98,838	93,326	81,268	77,326	75,124	73,951	72,664	67,887	65,849	66,250	64,546
	Others			17,325	18,094	18,431	22,315	20,112	21,495	18,461	17,046	16,035	16,471	16,621	15,433
Expenses of urine treatment project per person (Yen / person, year)				6,500	6,400	6,500	6,800	6,200	5,800	5,800	5,800	5,800	6,100	5,900	6,200

Note:
"Financial contributions to a partial-affairs association" are payable to a partial-affairs association from ~~of~~ the municipality and are not included in the totals because they are appropriated for the expenses of the treatment projects.

Source: "Waste Treatment in Japan (annual version)," Waste Management Division, Waste and Recycling Department, Minister's Secretariat, MOE, the Government of Japan

5.28 Production and Shipment of Major Agrochemicals

Agrochemical type	Production/ shipment	2012 Agrochemical year	2013	2014
Insecticides	Production	82,878	82,831	82,526
	Shipment	83,711	84,356	83,162
Disinfectants	Production	44,397	43,965	45,114
	Shipment	43,900	43,245	43,238
Insect - fungicides	Production	23,200	20,086	20,765
	Shipment	20,991	20,266	19,844
Herbicides	Production	72,923	78,345	82,410
	Shipment	71,423	75,511	77,406
Rodenticides	Production	308	344	304
	Shipment	338	349	337
Plant growth regulators (PGRs)	Production	1,877	1,544	1,590
	Shipment	1,618	1,692	1,652
adjuvants	Production	2,851	2,833	2,898
	Shipment	2,824	2,750	2,887
Other	Production	7,080	8,827	8,068
	Shipment	7,619	8,176	8,019
Total	Production	235,515	238,773	243,675
	Shipment	232,483	236,345	236,545

Notes:
- Unit: t or kl
- An agrochemical year refers a year from October in the previous year to September in the current year.
- "Other" under the heading "Agrochemical type" presents a total of the following:
  agrochemical fertilizer; insect-fungicide-PGR combination; repellent; lime and others (excluding calcium cyanamide)

Source: "Agrochemical handbook 2015," Japan Plant Protection Association

5.29 Changes in registered number of agrochemicals by year

Kinds of agrochemicals	Agrochemical year 2010	2011	2012	2013	2014
Insecticide	1,203	1,168	1,137	1,093	1,092
Disinfectant	979	948	930	911	914
Insect-fungicide	522	512	503	512	509
Herbicide	1,491	1,486	1,439	1,491	1,494
Pesticide-fertilizer combination products	62	69	76	72	64
Rodenticides	31	31	31	29	28
Plant growth regulators	84	89	92	89	92
Insect-fungicide PGR	2	2	2	2	1
Others	142	145	148	143	145
Total	4,516	4,450	4,358	4,342	4,339

Note:
Figures are the registered number of agrochemicals as of September 30 every year.

5.30 Production of chemical fertilizer

(Unit : t)

Chemical fertilizer year	Ammonium sulfate	Calcium cyanamide	Urea	Ammonium nitrate	Ammonium chloride
2005	1,419,512	60,187	427,150	39,319	91,938
2006	1,455,571	55,422	449,579	35,532	84,667
2007	1,479,520	51,019	453,487	29,400	67,147
2008	1,208,438	49,466	403,417	30,400	77,744
2009	1,351,078	49,439	366,955	-	70,611
2010	1,320,726	42,969	412,670	-	74,293
2011	1,270,308	52,511	453,487	-	73,976
2012	1,224,963	47,913	358,338	-	79,284

Chemical fertilizer year	Calcium superphosphate	Double/triple superphosphate	Calcined phosphate	Fused phosphate	High analysis compound fertilizers
2005	186,831	19,223	79,804	68,410	1,034,520
2006	175,100	22,423	69,160	63,941	965,793
2007	185,479	30,243	71,183	70,738	939,907
2008	165,332	22,465	52,788	61,388	721,445
2009	137,534	7,839	45,962	48,724	718,235
2010	149,328	8,672	62,677	49,666	791,827
2011	139,312	8,819	55,295	46,654	790,627
2012	124,298	6,783	50,135	41,075	785,899

Notes:

- Data for Ammonium nitrate are no longer taken after FY2009.
- Chemical fertilizer year starts on July 1st and finishes on June 30th in the following year.

Source: "Pocket handbook of chemical fertilizer 2013/2014," Association of Agriculture and Forestry Statistics

5.31 Changes in numbers of soil pollution incidents where Environmental Quality Standards (EQS) were exceeded

	Indicents that exceeded EQS for soil pollution		VOC (Volatile Organic Compounds) (Type1)		Heavy metals and the like (Type2)		Agrochemicals and the like (Type3)		Complex contamination	
Prior to FY1993	32		-		32		-		-	
1994	25		8		13		-		4	
1995	37		16		19		-		2	
1996	50		18		28		-		4	
1997	48		13		29		-		6	
1998	130		76		47		-		7	
1999	130		67		51		-		12	
2000	151		55		72		1		23	
2001	210		42		124		2		42	
2002	274	(0)	56	(0)	177	(0)	2	(0)	39	(0)
2003	366	(21)	56	(4)	257	(15)	2	(0)	51	(2)
2004	456	(43)	78	(12)	298	(28)	1	(0)	79	(3)
2005	673	(48)	125	(18)	451	(29)	6	(0)	91	(1)
2006	696	(77)	127	(24)	490	(46)	1	(0)	78	(7)
2007	728	(81)	110	(15)	542	(61)	1	(0)	75	(5)
2008	700	(71)	104	(13)	521	(55)	2	(0)	73	(3)
2009	575	(94)	89	(20)	423	(71)	3	(0)	60	(3)
2010	798	(275)	-	(13)	-	(207)	-	(0)	-	(13)
2011	943	(468)	-	(34)	-	(344)	-	(0)	-	(66)
2012	906	(487)	-	(34)	-	(371)	-	(0)	-	(59)
2013	867	(479)	-	(43)	-	(393)	-	(0)	-	(44)
Cumulative Total	8,795	(2,144)	-	(230)	-	(1,620)	-	(0)	-	(206)

Notes:

・"Incidents that exceed EQS" refers to the number of incidents that exceed either the designated standards by the Soil Contamination Countermeasures Act or EQS for soil contamination.

・Parenthesized figures are the numbers of over-the-standards incidents identified by a survey based on laws.

・Since 2010, a survey not based on the law has not been conducted for number of incidents in which the standard value was exceed; VOC, heavy metals, agrochemicals and complex contamination.

Source: "The survey on the enforcement status of the Soil Contamination Countermeasures Act and Soil Contamination Investigations and Countermeasures in FY 2013," Environment Management Bureau, MOE, the Government of Japan

5.32 Number of soil contamination investigations and countermeasures taken by prefecture

Prefectures (including ordinance-designated cities)		Number of cases						
		Number of survey results reported	Number of designated cases	VOC	Heavy metals and the like	Agrochemicals and the like	Complex contamination	Survey not conducted
Hokkaido area	Hokkaido	56	29	4	16	0	5	4
	Total	56	29	4	16	0	5	4
Tohoku area	Aomori	19	7	0	5	0	0	2
	Iwate	21	6	1	4	0	1	0
	Miyagi	47	38	4	30	0	2	2
	Akita	9	4	0	4	0	0	0
	Yamagata	23	4	1	3	0	0	0
	Fukushima	61	26	0	24	0	1	1
	Total	180	85	6	70	0	4	5
Kanto area	Ibaraki	56	25	1	20	0	4	0
	Tochigi	43	24	5	12	0	7	0
	Gunma	79	26	2	21	0	2	1
	Saitama	250	139	26	97	0	15	1
	Chiba	117	65	9	47	0	7	2
	Tokyo	856	467	54	361	0	50	2
	Kanagawa	432	239	35	162	0	33	9
	Niigata	96	34	9	24	0	1	0
	Yamanashi	39	22	4	15	0	3	0
	Shizuoka	90	41	1	31	0	5	4
	Total	2,058	1,082	146	790	0	127	19
Chubu area	Toyama	12	7	4	3	0	0	0
	Ishikawa	30	17	0	16	0	1	0
	Fukui	27	11	2	8	0	0	1
	Nagano	36	20	5	11	0	4	0
	Gifu	43	22	4	18	0	0	0
	Aichi	237	93	8	79	0	4	2
	Mie	21	4	1	1	0	0	2
	Total	406	174	24	136	0	9	5
Kinki area	Shiga	53	12	0	11	0	1	0
	Kyoto	75	43	2	36	0	4	1
	Osaka	529	305	15	253	0	31	6
	Hyogo	231	133	14	109	0	7	3
	Nara	13	6	1	5	0	0	0
	Wakayama	20	5	1	3	0	0	1
	Total	921	504	33	417	0	43	11
Chugoku・shikoku area	Tottori	11	4	0	3	0	1	0
	Shimane	5	2	0	2	0	0	0
	Okayama	33	18	2	16	0	0	0
	Hiroshima	60	34	2	28	0	3	1
	Yamaguchi	31	25	3	18	0	4	0
	Tokushima	14	2	1	1	0	0	0
	Kagawa	24	11	0	10	0	1	0
	Ehime	14	3	0	2	0	1	0
	Kochi	1	1	0	1	0	0	0
	Total	193	100	8	81	0	10	1
Kyushu area	Fukuoka	120	62	4	46	0	7	5
	Saga	7	3	0	3	0	0	0
	Nagasaki	23	19	2	16	0	1	0
	Kumamoto	28	23	1	22	0	0	0
	Oita	19	12	2	10	0	0	0
	Miyazaki	14	4	0	4	0	0	0
	Kagoshima	33	9	0	9	0	0	0
	Okinawa	10	0	0	0	0	0	0
	Total	254	132	9	110	0	8	5
Grand Total		4,068	2,106	230	1,620	0	206	50

Note

・ The figures are the number of surveys conducted based on the Soil Contamination Countermeasures Act.

・ The figures are cumulative total from the enforcement date of the Soil Contamination Countermeasures Act (February 15th, 2003) to the end of FY2013.

Source: "The survey on the enforcement status of the Soil Contamination Countermeasures Act and Soil Contamination Investigations and Countermeasures in FY 2013," Environment Management Bureau, MOE, the Government of Japan

5.33 Progress of agricultural land soil pollution countermeasures

(As of the end of FY2014)

Specific harmful substance		①Area where values above the standard levels were detected, etc.	② Designated area needing countermeasures	③Area where plans for countermeasures have been already formulated	④Area where project for countermeasures have been already completed	⑤ Designation has canceled	⑥Not yet	⑦Area with projects for countermeasures in progress	⑧Area where formulation of plans for countermeasures is in progress	⑨Area completed a project by the sole prefecture	⑩ Undesignated area
Cadmium		7,050ha	6,460ha	6,343ha	6,113ha	5,831ha	282ha	230ha	117ha	393ha	197ha
		97	64	63	63	59	11	13	2	52	17
Copper		1,405ha	1,225ha	1,225ha	1,199ha	1,169ha	30ha	26ha	-	171ha	9ha
		37	12	12	12	12	1	1	-	25	1
Arsenic		391ha	164ha	164ha	164ha	150ha	14ha	-	-	162ha	65ha
		14	7	7	7	6	1	-	-	7	5
Total	Area	7,592ha	6,609ha	6,492ha	6,262ha	5,966ha	296ha	230ha	117ha	713ha	270ha
	# of areas	134	73	72	72	67	12	13	2	80	22
⑪Completed area (= ④ + ⑨)										6,975ha	
⑫Progression rate (= ⑪ / ①×100)										91.9%	

(Upper row: Area, Lower row: Number of areas)

Notes:

・ "Area where values over standard level were detected" is based on the results of detailed investigation until fiscal year 2014.

・When added up the columns vertically, the sum does not match the "Total"column because of multiple contaminations.

・When added up the rows horizontally, the sum of the regions is not consistent with the value in "Total" since there are some areas where designation is partially canceled, or projects for countermeasures are partially completed .

・"Area where plans for countermeasures have been already completed" among "Area where plans for countermeasures have been formulated" refers to the area where state-subsidized surface work has been completed as well as the areas that have been changed their purposes of use.

・"Area completed a project by the sole prefecture" includes the area that no longer contamination is detected as the area has been changed its use in purposes.

Source: 'Enforcement status of the Soil Contamination Countermeasures Act for farmland in FY 2014,' Environment Management Bureau, MOE, the Government of Japan

5.34 Designated-contamination areas and areas with projects for countermeasures completed in each ye

(Unit: ha)

	①Above the detection standard value	②Designated area	③Formuration of plans for countermeasures	④Completation of projects for countermeasures		⑤Area which requires future countermeasures
	Cumulative area	Cumulative	Cumulative	Current FY	Cumulative	Current FY
FY 1970						
1971		112				
1972		400	164	70	70	
1973		1,140	357	30	100	
1974		2,579	502	30	130	
1975	6,100	3,398	713	40	170	5,930
1976	6,200	4,110	887	460	630	5,570
1977	6,390	4,336	1,650	10	640	5,750
1978	6,440	4,459	1,896	340	980	5,460
1979	6,510	4,577	2,334	370	1,350	5,160
1980	6,530	4,674	2,836	250	1,600	4,930
1981	6,610	4,891	3,015	270	1,870	4,740
1982	6,700	5,390	3,233	250	2,120	4,580
1983	6,710	5,451	4,148	320	2,440	4,270
1984	6,910	5,616	4,197	250	2,690	4,220
1985	7,030	6,053	4,364	330	3,020	4,010
1986	7,030	6,053	4,660	280	3,300	3,730
1987	7,030	6,078	4,841	320	3,620	3,410
1988	7,050	6,122	4,865	340	3,960	3,090
1989	7,050	6,146	4,911	220	4,180	2,870
1990	7,050	6,146	4,938	180	4,360	2,690
1991	7,050	6,146	6,021	120	4,480	2,570
1992	7,140	6,214	6,021	120	4,600	2,540
1993	7,140	6,255	6,105	120	4,720	2,420
1994	7,140	6,258	6,170	200	4,920	2,220
1995	7,140	6,258	6,170	240	5,160	1,980
1996	7,140	6,262	6,173	140	5,300	1,840
1997	7,140	6,265	6,176	110	5,410	1,730
1998	7,152	6,266	6,178	160	5,570	1,582
1999	7,156	6,266	6,181	61	5,631	1,525
2000	7,166	6,266	6,181	187	5,818	1,348
2001	7,217	6,275	6,181	54	5,872	1,345
2002	7,224	6,275	6,181	182	6,054	1,170
2003	7,228	6,276	6,190	254	6,308	920
2004	7,327	6,376	6,236	49	6,357	970
2005	7,327	6,376	6,236	41	6,398	929
2006	7,483	6,577	6,306	162	6,560	923
2007	7,487	6,577	6,306	20	6,580	907
2008	7,487	6,577	6,492	20	6,600	887
2009	7,487	6,577	6,492	104	6,704	783
2010	7,575	6,577	6,492	23	6,727	848
2011	7,575	6,577	6,492	57	6,784	791
2012	7,592	6,577	6,492	119	6,903	689
2013	7,592	6,577	6,492	40	6,943	649
2014	7,592	6,609	6,492	32	6,975	617

Notes:

・"③Formuration of plans for countermeasures" column is tabulated by the year when Minister of Environment approved the plans.
・"④Completation of projects for countermeasures" includes the area where countermeasures only by prefectures have been completed. Also, partially completed areas are not included in fiscal year 1977.
・Figures of "④Completation of projects for countermeasures" and "⑤Area which requires future countermeasures" from FY2012 to FY2013 were updated.

Source: 'Enforcement status of the Soil Contamination Countermeasures Act for farmland in FY 2014,'
Environment Management Bureau, MOE, the Government of Japan

5.35 Use of ground water in Japan

(Unit : Ten thousand ㎥ / year)

		Total amount of water used	Surface water and the like	Ground water	Dependency on ground water (%)	Source
FY 1972	For industrial use	127.7	82.0	45.7	36	1972 Statistical Charts on Industry
	For city water	116.3	90.0	26.3	23	FY 1972 Statistics on water supply
	For agriculture	528	495.3	32.7	6.2	Refer to the Notes at the bottom.
1978	For industrial use	116.9	77.7	39.2	34	1977 Statistical Charts on Industry
	For city water	132.9	105.0	27.9	21	FY 1977 Statistics on water supply
	For agriculture	570	532.5	37.5	6.6	Refer to the Notes at the bottom.
1983	For industrial use	105.4	72.6	32.9	31	1982 Statistical Charts on Industry
	For city water	140.6	110.4	30.2	21	FY 1982 Statistics on water supply
	For agriculture	580	542.5	37.5	6.5	Refer to the Notes at the bottom.
1987	For industrial use	103.3	72.5	30.8	30	1987 Statistical Charts on Industry
	For city water	152.2	118.0	34.2	22	FY 1987 Statistics on water supply
	For agriculture	585	546.2	38.8	7	1990 Water supply in Japan
1993	For industrial use	107.0	76.5	30.5	29	1992 Statistical Charts on Industry
	For city water	167.4	131.0	36.4	22	FY 1992 Statistics on water supply
	For agriculture	586	547.2	38.8	7	1994 Water supply in Japan
1998	For industrial use	101.0	73.3	27.8	27	1997 Statistical Charts on Industry
	For city water	169.3	132.6	36.7	22	FY 1997 Statistics on water supply
	For agriculture	589.7	550.9	38.8	7	1999 Water supply in Japan
2003	For industrial use	92.4	68.4	24.0	26	2002 Statistical Charts on Industry
	For city water	165.0	130.4	34.6	21	FY 2002 Statistics on water supply
	For agriculture	568.0	535.0	33.0	6	2004 Water supply in Japan
2008	For industrial use	90.1	67.7	22.4	25	2007 Statistical Charts on Industry
	For city water	161.7	129.1	32.6	20	FY 2007 Conditions of the source of water supply
	For agriculture	547.0	514.0	33.0	6	2009 Water supply in Japan
2009	For industrial use	87.5	66.2	21.3	24	2008 Statistical Charts on Industry
	For city water	159.1	127.3	31.8	20	FY 2008 Conditions of the source of water supply
	For agriculture	546.0	513.0	33.0	6	2010 Water supply in Japan
2010	For industrial use	82.4	62.7	19.7	24	2009 Statistical Charts on Industry
	For city water	158.2	127.0	31.2	20	FY 2009 Conditions of the source of water supply
	For agriculture	546.0	517.3	28.7	5	2011 Water supply in Japan
2011	For industrial use	83.5	63.5	20.0	24	2010 Statistical Charts on Industry
	For city water	158.4	127.0	31.4	20	FY 2010 Conditions of the source of water supply
	For agriculture	544.0	515.3	28.7	5	2012 Water supply in Japan
2012	For industrial use (2011)	79.5	60.3	19.2	24	2011 Statistical Charts on Industry
	For city water (FY 2011)	157.3	126.5	30.8	20	FY 2011 Conditions of the source of water supply
	For agriculture (2008)	546.0	517.3	28.7	5	2013 Water supply in Japan
2013	For industrial use (2012)	81.0	61.4	19.6	24	2012 Statistical Charts on Industry
	For city water (FY 2012)	155.9	125.4	30.5	20	FY 2012 Conditions of the source of water supply
	For agriculture (2008)	546.0	517.3	28.7	5	2014 Water supply in Japan
2014	For industrial use (2013)	79.4	60.3	19.0	24.0	2013 Statistical Charts on Industry
	For city water (FY 2013)	155.4	125.2	30.2	19.5	FY 2012 Conditions of the source of water supply
	For agriculture (2008)	546.0	517.3	28.7	5.3	2014 Water supply in Japan

Note:

・ Data for industrial use is calculated from by "Statistical chart on industry", Ministry of Economy, Trade and Industry, based on 300 operating days.
Total quantity of water for industrial use refers to freshwater abstraction except recycled water, and ground water refers to water from wells (water taken from shallow wells, deep wells and spring water.)

・ Data for water and sewerage service prior to FY 2003 was tabulated (water supply and wholesale supply were combined) based on the quantity of water abstraction from 'Statistics on water supply survey' provided from Ministry of Health, Labor and Welfare .
Ground water refers to water from wells (both shallow wells and deep wells.)

Source: Total quantity of water for agriculture and the quantity of ground water for agriculture for FY 1972 were provided by Ministry of Agriculture, Forestry and
Data of total quantity of water for agriculture in 1978 is an estimated data for water demand in 1983.
Figure of ground water for agricultural use is from "Survey on use of underground water for agricultural use" (actual FY1979) , Ministry of Agriculture, Forestry, and Fisheries.
Data of total quantity of water for agriculture in 1983 is an estimated data for water demand in 1980.

5.36 Changes in nationwide ground subsidence

	Area subsided at 2 cm or more per year		Area subsided at 4 cm or more per year	
	Number of areas	Square kilometers (㎢)	Number of areas	Square kilometers (㎢)
FY 1978	28	1,946	13	404
1979	25	624	9	176
1980	23	467	8	100
1981	25	689	8	60
1982	22	616	8	45
1983	22	594	6	45
1984	31	814	12	161
1985	19	499	7	40
1986	18	396	6	7
1987	12	500	7	22
1988	17	617	5	63
1989	16	285	4	7
1990	18	360	5	14
1991	17	467	4	6
1992	19	525	6	25
1993	11	276	1	0
1994	21	902	6	113
1995	14	21	2	0
1996	13	258	4	22
1997	9	244	−	−
1998	9	250	−	−
1999	9	6	−	−
2000	7	6	−	−
2001	9	28	−	−
2002	8	461	−	−
2003	6	3	1	0
2004	9	176	2	0
2005	7	4	−	−
2006	5	17	1	1
2007	9	72	−	−
2008	3	1	2	0
2009	6	24	1	0
2010	6	6	−	−
2011	14	5,920	11	4,061
2012	7	2	−	−
2013	4	1	−	−
2014	2	2	−	−

Note:
- Area is not measured for all areas subject to.
- "-" shows that there is no relevant data.
- "0" indicates to the case that the value is less than 0.5㎢.
- Area expressed in terms of Km2 is rounded off at the first digit.
- The data in FY 2011 includes ground subside cases that are considered to be affected by Great East Japan Earthquake.

Source: "Nationwide ground subsidence in FY 2014," Environment Management Bureau, MOE, the Government of Japan

6.01 Changes in number of facilities emitting soot and smoke

(Unit: Number of Facilities)

	Apparatus exhausting soot and smoke							
	Boiler	Diesel engine	Waste incinerator	Metal-heating furnace	Drying furnace	Metal-Melting furnace	Others	Total
FY1991	127,536	12,185	9,321	8,555	7,634	4,649	12,980	182,860
1992	129,637	13,642	10,569	8,503	7,606	4,625	12,608	187,190
1993	131,314	17,170	10,809	8,415	7,570	4,631	13,525	193,434
1994	133,546	18,258	11,142	8,319	7,651	4,618	9,669	193,203
1995	136,094	18,939	11,556	8,266	7,742	4,677	14,392	201,666
1996	137,089	20,250	10,939	8,184	7,773	4,579	14,349	203,163
1997	138,803	21,223	10,924	8,367	7,813	4,658	14,657	206,445
1998	140,830	19,313	10,372	8,385	7,910	4,556	17,438	208,804
1999	141,047	25,541	10,116	8,300	7,760	4,778	16,575	214,117
2000	137,149	26,063	9,102	8,043	7,629	4,661	22,055	214,702
2001	137,191	26,684	8,861	7,761	7,536	4,622	22,165	214,820
2002	141,149	28,115	7,361	7,433	7,480	4,394	19,229	215,161
2003	140,150	29,901	6,912	7,431	7,563	4,300	17,900	214,157
2004	141,317	31,425	6,788	7,430	7,485	4,312	18,197	216,954
2005	142,070	32,722	6,584	7,438	7,430	4,270	18,188	218,702
2006	141,466	32,608	6,391	7,478	7,371	4,242	18,958	218,514
2007	140,865	32,851	6,304	7,434	7,352	4,285	19,297	218,388
2008	141,787	33,195	6,151	7,528	7,272	4,320	19,755	220,008
2009	140,132	33,633	5,985	7,597	7,185	4,264	19,899	218,695
2010	138,931	33,725	5,889	7,557	7,057	4,105	19,924	217,188
2011	137,659	35,226	5,763	7,547	6,983	4,089	20,534	217,801
2012	136,487	36,065	5,633	7,562	6,900	3,948	20,537	217,132
2013	136,154	36,965	5,461	7,445	6,889	3,853	20,788	217,555
2014	136,470	36,745	5,311	7,393	6,801	3,849	20,617	217,186

Note:

From FY 1991 to FY1999, figures are the number of facilities subject to Air Pollution Control Law, including ones related to Electricity Business Act and Gas Business Act.

In FY 2000 and onward, figures are number of facilities subject to Air Pollution Control Law (including ones related to Electricity Business Act and Gas Business and Mine Safety Act.)

Source: 'Survey on the Enforcement of the Air Pollution Control Act,' Air Environment Division, Environment Management Bureau, MOE, the Government of Japan

6.02 Number of facilities emitting soot and smoke by prefecture

(Unit: Number of facilities)

	FY2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Hokkaido	16,475	16,362	16,516	16,545	16,439	16,440	16,410	16,389	16,245	16,259
Aomori	3,732	3,635	3,620	3,665	3,557	3,543	3,510	3,530	3,473	3,563
Iwate	3,182	3,166	3,090	3,203	3,168	3,147	3,214	3,189	3,252	3,025
Miyagi	4,458	4,331	4,368	4,334	4,310	4,281	4,265	4,294	4,321	4,254
Akita	2,555	2,573	2,604	2,579	2,608	2,590	2,585	2,642	2,667	2,659
Yamagata	2,976	2,864	2,873	2,814	2,765	2,754	2,756	2,715	2,746	2,724
Fukushima	4,683	4,674	4,721	4,716	4,669	4,637	4,628	4,673	4,740	4,569
Ibaraki	4,369	4,433	4,338	5,936	5,932	6,140	6,363	5,970	5,928	5,900
Tochigi	4,927	4,953	4,871	4,491	4,472	4,181	4,359	4,353	4,302	4,071
Gunma	3,995	3,789	3,785	3,781	3,844	3,840	3,970	3,988	3,987	4,013
Saitama	7,575	7,499	7,451	7,381	7,248	7,155	7,198	7,187	7,197	7,250
Chiba	7,342	7,488	7,224	7,219	7,220	7,130	7,281	7,182	7,220	7,435
Tokyo	14,441	14,784	14,324	14,398	14,425	14,106	14,256	14,159	14,387	14,456
Kanagawa	9,949	10,055	9,942	9,872	9,849	9,711	9,844	9,745	9,840	9,935
Niigata	5,474	5,403	5,498	5,500	5,465	5,518	5,494	5,650	5,711	5,766
Toyama	3,062	3,017	3,012	3,048	3,077	3,102	3,100	3,210	3,264	3,156
Ishikawa	2,849	2,845	2,814	2,793	2,782	2,752	2,715	2,669	2,691	2,660
Fukui	2,064	2,012	2,037	2,022	1,996	1,983	1,989	1,877	1,811	1,870
Yamanashi	2,229	2,177	2,132	2,121	2,113	2,107	2,157	2,119	2,098	2,145
Nagano	5,058	4,937	5,058	5,089	5,071	5,058	5,046	5,065	5,109	5,195
Gifu	4,096	4,028	4,084	4,097	4,077	4,065	4,282	4,337	4,306	4,248
Shizuoka	7,517	7,585	7,963	7,903	7,714	7,650	7,554	7,504	7,474	7,463
Aichi	14,634	14,541	14,678	14,653	14,622	14,279	14,176	14,063	14,034	14,122
Mie	4,626	4,759	4,550	4,608	4,595	4,590	4,564	4,525	4,486	4,346
Shiga	3,625	3,457	3,486	3,579	3,258	3,279	3,225	3,233	3,292	3,325
Kyoto	4,483	4,438	4,451	4,335	4,269	4,215	4,130	3,948	3,939	3,976
Osaka	13,219	13,441	13,310	13,439	13,452	13,279	13,218	13,161	13,193	13,327
Hyogo	9,382	9,486	9,618	9,723	9,647	9,499	9,517	9,517	9,424	9,379
Nara	1,697	1,676	1,691	1,702	1,718	1,719	1,722	1,713	1,732	1,759
Wakayama	1,726	1,712	1,724	1,740	1,726	1,736	1,669	1,665	1,701	1,774
Tottori	1,080	1,063	1,079	1,073	1,070	1,055	1,052	1,067	1,063	1,081
Shimane	1,344	1,514	1,566	1,565	1,523	1,594	1,641	1,640	1,668	1,705
Okayama	3,751	3,964	3,916	4,000	4,082	4,032	4,036	4,019	3,904	3,903
Hiroshima	4,866	4,850	4,829	4,783	4,773	4,735	4,689	4,657	4,647	4,646
Yamaguchi	3,304	3,351	3,347	3,338	3,317	3,323	3,296	3,273	3,307	3,223
Tokushima	1,567	1,461	1,489	1,493	1,497	1,503	1,521	1,512	1,515	1,510
Kagawa	2,203	2,170	2,144	2,135	2,003	2,026	1,956	2,036	1,999	1,997
Ehime	2,396	2,563	2,534	2,515	2,498	2,510	2,391	2,485	2,450	2,437
Kochi	1,097	1,097	1,123	1,097	1,115	1,128	1,138	1,157	1,165	1,188
Fukuoka	7,063	6,845	6,824	6,848	6,933	6,906	6,868	6,964	7,030	6,729
Saga	1,365	1,363	1,340	1,341	1,341	1,312	1,313	1,323	1,339	1,351
Nagasaki	1,796	1,821	1,808	1,880	1,882	1,876	1,911	1,891	1,921	1,923
Kumamoto	2,892	2,747	2,810	2,876	2,768	2,800	2,853	2,837	2,891	2,733
Oita	1,798	1,833	1,885	1,877	1,861	1,890	1,891	1,902	1,887	1,896
Miyazaki	1,642	1,671	1,688	1,698	1,680	1,692	1,711	1,724	1,741	1,783
Kagoshima	2,811	2,720	2,735	2,730	2,754	2,759	2,774	2,783	2,813	2,845
Okinawa	1,387	1,401	1,438	1,473	1,510	1,542	1,563	1,590	1,645	1,612
nationwide	218,702	218,514	218,388	220,008	218,695	217,169	217,801	217,132	217,555	217,186

Note:

In FY2000 and onward, data were taken from facilities subject to Air Pollution Control Law (including ones related to Electricity Business Act, Gas Business Act and Mine Safety Act.)

Source: 'Survey on the Enforcement of the Air Pollution Control Act,' Air Environment Division, Environment Management Bureau, MOE, the Government of Japan

6.03 Changes in of particulate-discharging facilities (Ordinary particulate/specified particulates)

(Unit: Number of facilities)

	Ordinary-particulate discharging facilities						Specified-particulate discharging facilities							
	Conveyor	Crusher/ Gridding mill	Accumulation on the grounds	Sieve	Coke oven	Total	Grinder	Cutting machine	Mixer	Press	Cutting machine	Crusher/ Gridding mill	Others	Total
FY1990	29,054	8,412	8,351	4,586	97	50,500	622	571	428	279	274	171	324	2,669
1991	30,828	8,706	8,532	4,770	107	52,943	627	560	406	268	260	159	313	2,593
1992	31,839	8,930	8,641	4,972	111	54,493	638	534	364	250	225	145	301	2,457
1993	32,345	9,151	8,770	5,075	107	55,448	602	520	352	256	221	142	253	2,346
1994	33,244	9,379	8,945	5,223	109	56,900	574	505	324	248	218	139	244	2,252
1995	33,872	9,569	9,032	5,328	108	57,909	555	495	311	249	216	131	229	2,186
1996	34,430	9,763	9,209	5,476	107	58,985	551	490	296	233	207	143	221	2,141
1997	34,818	9,782	9,269	5,533	100	59,502	558	467	303	237	194	136	224	2,119
1998	35,419	9,905	9,516	5,661	106	60,607	549	431	280	232	164	134	216	2,006
1999	34,973	9,962	9,539	5,676	99	60,249	507	414	262	223	157	133	203	1,899
2000	36,234	10,306	9,852	5,884	93	62,369	315	375	207	205	136	117	201	1,556
2001	36,847	10,465	10,217	6,009	95	63,633	199	340	157	164	107	99	170	1,236
2002	37,400	10,651	10,261	6,110	92	64,514	174	303	143	151	99	90	177	1,137
2003	37,885	10,726	10,464	6,267	95	65,437	119	250	123	137	78	72	150	929
2004	37,666	10,746	10,728	6,321	95	65,556	68	145	66	103	46	33	94	555
2005	37,536	10,764	10,770	6,439	101	65,610	4	16	2	61	0	0	11	94
2006	37,823	10,758	10,946	6,506	101	66,134	0	5	0	1	0	0	0	6
2007	38,521	10,611	10,988	6,378	96	66,594	0	0	0	0	0	0	0	0
2008	38,935	10,596	11,126	6,528	97	67,282	0	0	0	0	0	0	0	0
2009	39,346	11,268	10,659	6,644	85	68,002	0	0	0	0	0	0	0	0
2010	39,296	10,476	11,383	6,614	86	67,855	0	0	0	0	0	0	0	0
2011	39,536	10,353	11,408	6,582	85	67,964	0	0	0	0	0	0	0	0
2012	40,290	10,382	11,607	6,691	78	69,048	0	0	0	0	0	0	0	0
2013	40,512	10,366	11,694	6,674	95	69,341	0	0	0	0	0	0	0	0
2014	41,179	10,304	11,834	6,671	96	70,084	0	0	0	0	0	0	0	0

Note:
In 1990, the number of ordinary-particulate discharging facilities is that of facilities subject to Air Pollution Control Law, from 1991 to 1999, ones subject to Air Pollution Control Law including the ones subject to Electricity Business Act and Gas Business Act, since 2000, those and the ones subject to Mine Safety Act.

Source: "Survey on the Enforcement of the Air Pollution Control Law," Air Environment Division, Environment Management Bureau, MOE, the Government of Japan

6.04 Prefectural number of facilities discharging ordinary particulates

(Unit: Number of facilities)

	FY2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Hokkaido	4,445	4,511	4,545	4,550	4,529	4,498	4,356	4,344	4,270	4,280
Aomori	1,274	1,438	1,557	1,577	1,687	1,685	1,694	1,699	1,675	1,643
Iwate	1,415	1,425	1,213	1,408	1,514	1,513	1,529	1,535	1,557	1,485
Miyagi	703	694	685	676	651	674	810	977	691	731
Akita	683	675	676	655	688	615	550	569	522	526
Yamagata	763	780	775	761	736	705	667	660	663	675
Fukushima	1,642	1,614	1,519	1,586	1,582	1,647	1,664	1,660	1,781	1,737
Ibaraki	2,593	2,643	2,687	2,537	2,465	2,378	2,401	2,435	2,449	2,427
Tochigi	1,481	1,523	1,534	1,624	2,543	2,508	2,520	2,517	2,526	2,569
Gunma	599	613	611	619	631	569	524	626	664	671
Saitama	1,351	1,323	1,348	1,347	1,369	1,435	1,452	1,461	1,481	1,443
Chiba	1,387	1,478	1,924	1,921	1,923	1,949	1,999	1,979	2,029	2,127
Tokyo	1,576	1,521	1,463	1,431	1,446	1,453	1,458	1,469	1,490	1,493
Kanagawa	1,971	1,948	1,947	1,946	1,938	1,946	1,975	1,971	1,981	1,990
Niigata	827	830	814	760	759	816	798	829	822	828
Toyama	1,088	1,086	1,086	1,120	1,141	1,151	1,154	1,160	1,164	1,177
Ishikawa	684	668	686	692	709	705	703	707	692	691
Fukui	618	627	604	563	543	541	513	476	456	481
Yamanashi	571	564	557	578	592	590	562	585	597	596
Nagano	1,438	1,467	1,425	1,439	1,422	1,353	1,373	1,380	1,388	1,393
Gifu	741	762	778	792	807	817	821	819	823	840
Shizuoka	927	950	930	919	921	894	968	948	1,004	1,038
Aichi	4,136	4,206	4,377	4,342	4,411	4,470	4,522	4,625	4,533	4,670
Mie	1,548	1,568	1,572	1,588	1,613	1,686	1,716	1,734	1,745	1,704
Shiga	572	598	442	519	500	489	482	485	492	499
Kyoto	523	547	550	575	585	596	582	588	607	709
Osaka	1,500	1,240	1,261	1,284	1,235	1,239	1,199	1,406	1,403	1,584
Hyogo	5,138	5,136	5,099	5,200	5,223	5,204	5,119	5,249	5,117	4,993
Nara	209	209	209	225	229	231	295	298	304	305
Wakayama	1,473	1,414	1,486	1,554	1,479	1,427	1,472	1,475	1,501	1,499
Tottori	209	216	236	263	264	269	264	422	386	393
Shimane	610	631	634	632	640	588	582	608	613	606
Okayama	2,290	2,337	2,403	2,444	2,446	2,487	2,482	2,493	2,597	2,632
Hiroshima	2,507	2,530	2,452	2,501	2,485	2,394	2,438	2,397	2,970	3,010
Yamaguchi	1,675	1,723	1,633	1,716	1,761	1,769	1,733	1,773	1,786	2,091
Tokushima	688	730	740	746	743	728	738	743	742	714
Kagawa	924	929	1,001	1,007	958	963	966	946	941	953
Ehime	1,048	1,174	1,189	1,178	1,182	1,109	1,151	1,119	1,085	1,065
Kochi	498	502	538	538	536	808	784	780	746	760
Fukuoka	3,925	3,883	3,893	3,867	3,937	3,673	3,666	3,654	3,686	3,688
Saga	510	526	526	513	515	491	496	494	487	454
Nagasaki	1,035	1,039	1,011	1,009	832	988	931	1,047	982	999
Kumamoto	893	907	943	1,009	771	792	791	805	796	813
Oita	2,677	2,689	2,749	2,736	2,753	2,725	2,750	2,727	2,758	2,758
Miyazaki	734	729	737	747	706	678	691	706	663	668
Kagoshima	1,173	1,186	1,194	1,220	1,216	1,216	1,224	1,215	1,192	1,173
Okinawa	338	345	355	368	386	393	399	453	484	503
Nationwide	65,610	66,134	66,594	67,282	68,002	67,855	67,964	69,048	69,341	70,084

Note:

In FY 2000 and onward, figures are the number of facilities subject to Air Pollution Control Law (including ones related to Electricity Business Act, Gas Business Act and Mine Safety Act.)

Source: "Survey on the Enforcement of the Air Pollution Control Law," Air Environment Division, Environment Management Bureau, MOE, the Government of Japan

6.05 Air pollutant emissions (from Stationary sources)

(Unit: t)

	SOx emission	NOx emission	Soot and dust emission
FY 1978	1,315,637	870,924	-
1979	1,248,037	843,572	-
1980	1,157,837	818,667	-
1981	1,040,954	763,220	-
1982	956,666	717,469	-
1983	917,960	720,648	132,999
1984	853,700	721,802	-
1985	795,457	699,428	-
1986	684,497	661,622	100,550
1987	597,480	685,550	97,817
1988	580,757	703,905	93,796
1989	676,863	777,230	107,094
1990	614,866	778,977	96,945
1991	624,154	812,473	90,922
1992	694,689	832,655	102,989
1993	642,966	788,235	99,186
1994	676,351	819,860	108,230
1995	708,135	877,662	101,763
1996	659,743	855,787	94,606
1999	629,206	837,260	75,086
2002	595,506	869,113	60,738
2005	566,773	890,188	57,976
2008	505,590	731,094	47,660
2011	410,979	696,404	36,529

Notes:

・ The gray-shadowed figures for FY 1987 and FY 1988, data for FY 1990, FY 1991, FY 1993 and FY 1994 are taken from the result of a sample survey.

・ No surveys were conducted in FY 1997, FY 1998, FY 2000, FY 2001, FY 2003, FY 2004, FY 2006, FY 2007, FY 2009 and FY2010.

Source: 'Survey on the Enforcement of the Air Pollution Control Law,' Air Environment Division, Environment Management Bureau, MOE, the Government of Japan

6.06 Sulfur oxide emissions (breakdown by type of facility)

(Unit : ㎥N / Year)

	Apparatus exhausting soot and smoke							
	Boiler 01	Diesel engine 30	Waste incinerator 13	Metal-heating furnace 06	Drying furnace 11	Metal-melting furnace 05	Others	Total
FY 1992	171,472	11,590	13,917	3,026	4,129	2,639	36,368	243,141
1993	150,188	10,305	14,574	2,913	3,693	2,450	40,915	225,038
1994	157,992	12,225	15,433	3,041	3,354	2,293	42,385	236,723
1995	165,252	13,146	18,987	3,059	3,585	2,048	41,770	247,847
1996	160,402	13,008	12,513	2,844	4,519	1,894	35,730	230,910
1999	145,848	12,509	13,397	2,050	5,341	1,511	39,567	220,223
2002	136,744	15,076	8,162	1,970	3,035	3,208	40,232	208,427
2005	130,696	14,159	10,963	2,095	3,358	2,306	34,793	198,370
2008	120,700	12,864	5,509	1,413	2,888	2,356	31,226	176,956
2011	100,786	7,906	4,163	1,594	1,984	664	26,746	143,843

Notes:

・ The gray-shadowed figures for FY 1994 were results of a sample survey.

No surveys were conducted in FY1997, FY1998, FY 2000, FY 2001, FY 2003, FY 2004, FY2006, FY2007, FY2009, and FY2010.

Source: 'Survey on the Enforcement of the Air Pollution Control Law,' Air Environment Division, Environment Management Bureau, MOE, the Government of Japan

6.07 Nitrogen oxide emissions (breakdown by type of facility)

(Unit : ㎥N / Year)

	Apparatus exhausting soot and smoke							
	Boiler 01	Diesel engine 30	Waste incinerator 13	Metal-heating furnace 06	Drying furnace 11	Metal-melting furnace 05	Others	Total
FY 1992	178,664	46,517	27,388	6,616	4,738	1,446	140,097	405,466
1993	162,873	42,550	27,306	6,227	3,923	1,266	139,691	383,836
1994	170,399	50,249	28,358	6,629	3,605	1,101	138,895	399,236
1995	171,148	56,881	33,630	6,418	4,359	1,289	153,658	427,383
1996	176,218	55,494	30,488	6,499	4,631	1,191	142,210	416,731
1999	171,696	59,823	33,321	6,312	5,805	1,573	129,179	407,709
2002	179,687	78,613	29,522	6,747	5,236	3,473	119,942	423,220
2005	177,218	80,612	29,842	6,556	5,168	3,342	130,745	433,483
2008	158,760	36,984	25,373	5,878	3,825	3,323	121,868	356,011
2011	158,112	32,379	22,552	6,491	3,567	1,960	114,057	339,118

Note:
・ The gray-shadowed figures for FY 1994 were results of a sample survey.
・ No surveys were conducted in for FY1997, FY1998, FY 2000, FY 2001, FY 2003, FY 2004, FY2006, FY2007, FY2009, and FY2010.

Source: 'Survey on the Enforcement of the Air Pollution Control Law,' Air Environment Division, Environment Management Bureau, MOE, the Government of Japan

6.08 Soot and dust emissions (breakdown by type of facility)

(Unit: t / Year)

	Apparatus exhausting soot and smoke							
	Boiler 01	Diesel engine 30	Waste incinerator 13	Metal-heating furnace 06	Drying furnace 11	Metal-melting furnace 05	Others	Total
FY 1992	45,202	11,578	18,281	1,201	6,233	1,568	18,925	102,988
1993	42,229	11,078	17,612	1,180	5,545	1,752	19,790	99,186
1994	49,040	13,340	17,640	1,582	5,279	1,833	19,606	108,320
1995	42,314	11,934	19,597	1,153	4,399	912	21,454	101,763
1996	39,692	9,607	17,398	882	4,795	935	21,297	94,606
1999	30,101	2,747	16,119	838	4,174	987	20,120	75,086
2002	28,313	5,121	6,141	833	4,471	1,352	14,507	60,738
2005	26,368	3,079	4,842	844	5,144	1,558	16,141	57,976
2008	21,235	1,718	3,391	731	3,913	1,232	15,440	47,660
2011	16,181	1,365	2,621	911	2,694	993	11,764	36,529

Notes:
・The gray-shadowed figures for FY 1994 were results of a sample survey.
・No surveys were conducted in for FY1997, FY1998, FY 2000, FY 2001, FY 2003, FY 2004, FY2006, FY2007, FY2009, and FY2010.

Source: 'Survey on the Enforcement of the Air Pollution Control Law' by Air Environment Division, Environment Management Bureau, MOE, the Government of Japan

6.09 Changes in car ownership

End of fiscal year	(A) # of cars owned (C)+(D)+(E)	(B) # of inspected vehicles (C)+(D)	(C) # of registered vehicle			Breakdown of registered vehicles		
						Trucks		
			Business use total [ratio]	Private use total [ratio]	Total	Business use total	Private use total	Total
1985	48,240,555	36,178,795	1,149,933 [3%]	34,178,247 [97%]	35,328,180	703,594 (216)	7,602,424 (3,667)	8,306,018
1990	60,498,850	43,730,305	1,409,087 [3%]	41,321,364 [97%]	42,730,451	907,931 (136)	7,926,610 (1,929)	8,834,541
1993	66,278,836	48,130,439	1,499,131 [3%]	45,503,491 [97%]	47,002,622	974,513 (118)	7,904,406 (1,465)	8,878,919
1994	68,103,696	49,485,297	1,544,750 [3%]	46,763,318 [97%]	48,308,068	1,011,410 (114)	7,867,542 (1,393)	8,878,952
1995	70,106,536	50,936,863	1,589,809 [3%]	48,138,041 [97%]	49,727,850	1,047,272 (112)	7,810,558 (1,336)	8,857,830
1996	71,775,647	52,191,692	1,632,037 [3%]	49,334,880 [97%]	50,966,917	1,078,098 (112)	7,740,808 (1,275)	8,818,906
1997	72,856,583	52,980,674	1,660,534 [3%]	50,076,863 [97%]	51,737,397	1,094,365 (112)	7,598,844 (1,232)	8,693,209
1998	73,688,389	53,390,661	1,660,872 [3%]	50,460,557 [97%]	52,121,429	1,087,740 (111)	7,388,555 (1,182)	8,476,295
1999	74,582,612	53,552,803	1,672,921 [3%]	50,591,483 [97%]	52,264,404	1,091,259 (111)	7,174,875 (1,142)	8,266,134
2000	75,524,973	53,769,633	1,698,361 [3%]	50,762,855 [97%]	52,461,216	1,105,336 (99)	7,000,950 (1,117)	8,106,286
2001	76,270,813	53,757,576	1,706,272 [3%]	50,716,950 [97%]	52,423,222	1,101,591 (99)	6,805,282 (1,074)	7,906,873
2002	76,892,517	53,626,388	1,711,672 [3%]	50,682,517 [97%]	52,274,189	1,095,317 (98)	6,570,625 (1,050)	7,885,842
2003	77,390,245	53,314,815	1,725,027 [3%]	50,219,457 [97%]	51,944,484	1,097,103 (98)	6,317,232 (1,012)	7,414,335
2004	78,278,880	53,328,755	1,756,559 [3%]	50,174,804 [97%]	51,931,363	1,114,859 (98)	6,165,316 (992)	7,280,175
2005	78,992,060	53,185,519	1,778,369 [3%]	49,979,001 [97%]	51,757,370	1,125,963 (98)	6,033,733 (985)	7,159,696
2006	79,236,095	52,527,928	1,790,317 [4%]	49,284,718 [96%]	51,075,035	1,131,923 (98)	5,882,335 (976)	7,014,258
2007	79,080,762	51,640,443	1,795,399 [4%]	48,366,320 [96%]	50,161,719	1,134,930 (99)	5,748,760 (972)	6,883,690
2008	78,800,542	50,629,754	1,768,074 [4%]	47,356,376 [96%]	49,124,450	1,110,918 (100)	5,456,584 (962)	6,567,502
2009	78,693,495	50,045,805	1,734,643 [4%]	46,786,986 [96%]	48,521,629	1,082,614 (100)	5,279,820 (960)	6,362,434
2010	78,660,773	49,610,327	1,715,809 [4%]	46,359,337 [96%]	48,075,146	1,075,968 (100)	5,138,879 (949)	6,214,847
2011	79,112,584	49,543,611	1,711,587 [4%]	46,289,168 [96%]	48,000,755	1,074,412 (101)	5,061,501 (938)	6,135,913
2012	79,625,203	49,371,229	1,711,199 [4%]	46,093,689 [96%]	47,804,888	1,073,190 (101)	4,994,948 (935)	6,068,138
2013	80,272,571	49,197,590	1,721,239 [4%]	45,881,016 [96%]	47,602,255	1,080,442 (47)	4,960,643 (757)	6,041,085
2014	80,551,951	48,765,743	1,729,151 [4%]	45,425,503 [96%]	47,154,654	1,086,370 (47)	4,942,786 (749)	6,029,156
Relative change from last year (%)	100.3	99.1	100.5	99.0	99.1	100.5	99.6	99.8

Note: Parenthesized numbers refer to the number of three - wheelers and are included in each total.

Source: Compiled from 'Statistical Report on Motor Vehicle Transport' by Information Policy Division, Policy Bureau, Ministry of Land, Infrastructure, Transport and Tourism, Government of Japan

6.09 Changes in car ownership

End of fiscal year	Breakdown of registered vehicles											
	Trucks											
	Standard-sized car			Compact car						Trailers		
	Business use	Private use	Total	Business use		Private use		Total		Business use	Private use	Total
1985	550,059	1,123,089	1,673,148	93,823	(216)	6,473,179	(3,667)	6,567,002		59,712	6,156	65,868
1990	731,920	1,474,161	2,206,081	93,737	(136)	6,445,958	(1,929)	6,539,695		82,274	6,491	88,765
1993	792,052	1,640,224	2,432,276	89,354	(118)	6,257,273	(1,465)	6,346,627		93,107	6,909	100,016
1994	821,914	1,697,138	2,519,052	87,354	(114)	6,161,944	(1,393)	6,249,298		102,142	8,460	110,602
1995	849,427	1,734,729	2,584,156	85,973	(112)	6,066,652	(1,336)	6,152,625		111,872	9,177	121,049
1996	877,390	1,764,876	2,642,266	84,760	(112)	5,966,628	(1,275)	6,051,388		115,948	9,304	125,252
1997	891,734	1,763,933	2,655,667	83,617	(112)	5,825,481	(1,232)	5,909,098		119,014	9,430	128,444
1998	886,331	1,739,844	2,626,175	81,479	(111)	5,639,082	(1,182)	5,720,561		119,930	9,629	129,559
1999	889,604	1,704,931	2,594,535	79,883	(111)	5,460,470	(1,142)	5,540,353		121,772	9,474	131,246
2000	901,104	1,680,488	2,581,592	79,496	(99)	5,311,156	(1,117)	5,390,652		124,736	9,306	134,042
2001	897,530	1,656,668	2,554,198	78,183	(99)	5,139,380	(1,074)	5,217,563		125,878	9,234	135,112
2002	891,407	1,621,103	2,512,510	78,680	(98)	4,940,538	(1,050)	5,017,216		127,230	8,986	136,216
2003	892,082	1,579,219	2,471,301	75,553	(98)	4,729,227	(1,012)	4,804,780		129,468	8,786	138,254
2004	904,389	1,567,205	2,471,594	76,016	(98)	4,589,205	(992)	4,665,221		134,454	8,906	143,360
2005	909,871	1,558,569	2,468,440	76,877	(98)	4,465,748	(985)	4,542,625		139,215	9,416	148,631
2006	912,142	1,551,465	2,463,607	77,085	(98)	4,321,351	(976)	4,398,436		142,696	9,519	152,215
2007	911,457	1,533,807	2,445,264	77,896	(99)	4,205,417	(972)	4,283,313		146,181	9,536	155,717
2008	887,345	1,472,858	2,360,203	77,626	(100)	3,974,423	(962)	4,052,049		145,947	9,303	155,250
2009	863,399	1,440,170	2,303,569	76,432	(100)	3,830,428	(960)	3,906,860		142,783	9,222	152,005
2010	856,599	1,415,352	2,271,951	75,646	(100)	3,714,240	(949)	3,789,886		143,723	9,287	153,010
2011	854,516	1,408,991	2,263,507	74,811	(101)	3,642,980	(938)	3,717,791		145,085	9,530	154,615
2012	852,748	1,409,844	2,262,592	74,381	(101)	3,575,280	(935)	3,649,661		146,061	9,824	155,885
2013	859,534	1,418,602	2,278,136	73,376	(47)	3,531,802	(757)	3,605,178		147,532	10,239	157,771
2014	864,000	1,435,643	2,299,643	72,846	(47)	3,496,353	(749)	3,569,199		149,524	10,790	160,314
Relative change from last year (%)	100.5	101.2	100.9	99.3		99.0		99.0		101.4	105.4	101.6

Note: Parenthesized numbers refer to the number of three - wheelers and are included in each total.

Source: Compiled from 'Statistical Report on Motor Vehicle Transport' by Information Policy Division, Policy Policy Bureau, Ministry of Land, Infrastructure, Transport and Tourism, Government of Japan

6.09 Changes in car ownership

The end of fiscal year.	Breakdown of registered vehicles								
	Buses								
	Business use total	Private use total	Total	Standard-size car			Compact car		
				Business use	Private use	Total	Business use	Private use	Total
1985	90,100	140,683	230,783	84,660	24,420	109,080	5,440	116,263	121,703
1990	94,830	151,014	245,844	86,966	28,137	115,103	7,864	122,877	130,741
1993	96,200	150,919	247,119	87,064	29,425	116,489	9,136	121,494	130,630
1994	95,762	148,849	244,611	86,269	29,304	115,573	9,493	119,545	129,038
1995	95,218	147,689	242,907	85,236	29,160	114,396	9,982	118,529	128,511
1996	94,975	146,869	241,844	84,387	29,042	113,429	10,588	117,827	128,415
1997	95,681	144,185	239,866	83,873	28,667	112,540	11,808	115,518	127,326
1998	95,934	141,212	237,146	82,970	28,214	111,184	12,964	112,998	125,962
1999	96,350	139,375	235,725	82,341	27,929	110,270	14,009	111,446	125,455
2000	98,548	137,002	235,550	82,827	27,458	110,285	15,721	109,544	125,265
2001	100,534	133,710	234,244	83,469	26,757	110,226	17,065	106,953	124,018
2002	101,801	131,379	233,180	83,998	28,210	110,208	17,803	105,189	122,972
2003	103,093	128,891	231,984	84,485	25,634	110,119	18,608	103,257	121,865
2004	104,898	127,102	232,000	85,167	25,105	110,272	19,731	101,997	121,728
2005	105,770	125,926	231,696	85,120	24,722	109,842	20,650	101,204	121,854
2006	106,974	124,784	231,758	85,522	24,402	109,924	21,452	100,382	121,834
2007	107,771	123,210	230,981	85,774	24,006	109,780	21,997	99,204	121,201
2008	108,103	121,701	229,804	85,771	23,668	109,439	22,332	98,033	120,365
2009	107,876	120,419	228,295	85,242	23,285	108,527	22,634	97,134	119,768
2010	108,228	118,611	226,839	85,146	22,704	107,850	23,082	95,907	118,989
2011	108,544	117,726	226,270	85,232	22,466	107,698	23,312	95,260	118,572
2012	109,036	117,011	226,047	85,368	22,168	107,536	23,668	94,843	118,511
2013	110,208	116,334	226,542	86,334	21,890	108,224	23,874	94,444	118,318
2014	111,344	116,235	227,579	87,265	21,727	108,992	24,079	94,508	118,587
Relative change from last year (%)	101.0	99.9	100.5	101.1	99.3	100.7	100.9	100.1	100.2

Source: Compiled from 'Statistical Report on Motor Vehicle Transport' by Information Policy Division, Policy Bureau, Ministry of Land, Infrastructure, Transport and Tourism, Government of Japan

6.09 Changes in car ownership

End of fiscal year	Breakdown of registered vehicles											
	Passenger car											
	Business use total		Private use total		Total	Standard car			Compact car			
						Business use	Private use	Total	Business use		Private use		Total
1985	252,641	(-)	25,594,937	(21)	25,847,578	2,322	712,394	714,716	250,319	(-)	24,882,543	(21)	25,132,862
1990	259,589	(-)	32,176,908	(43)	32,436,497	7,364	1,926,169	1,933,533	252,225	(-)	30,250,739	(43)	30,502,964
1993	258,786	(-)	36,250,056	(88)	36,508,842	15,278	5,237,128	5,252,406	243,508	(-)	31,012,928	(88)	31,256,436
1994	256,875	(-)	37,497,646	(152)	37,754,521	17,332	6,697,684	6,715,016	239,543	(-)	30,799,962	(152)	31,039,505
1995	255,984	(-)	38,846,724	(234)	39,102,708	20,008	8,283,402	8,303,410	235,976	(-)	30,563,322	(234)	30,799,298
1996	256,403	(-)	40,220,165	(373)	40,476,568	23,029	9,949,956	9,972,985	233,374	(-)	30,270,209	(373)	30,503,583
1997	258,475	(-)	41,024,518	(492)	41,282,993	22,978	11,279,648	11,305,626	232,497	(-)	29,744,870	(492)	29,977,367
1998	257,780	(-)	41,525,096	(607)	41,782,876	27,494	12,299,442	12,326,936	230,286	(-)	29,225,654	(607)	29,455,940
1999	257,088	(-)	41,798,617	(710)	42,055,705	29,440	13,204,291	13,233,731	227,648	(-)	28,594,326	(710)	28,821,974
2000	256,343	(-)	42,108,726	(701)	42,365,069	31,046	14,132,311	14,163,357	225,297	(-)	27,976,415	(701)	28,201,712
2001	259,033	(-)	42,268,699	(688)	42,527,732	32,691	14,905,895	14,938,586	226,342	(-)	27,362,804	(688)	27,589,146
2002	263,282	(-)	42,391,647	(660)	42,664,929	34,804	15,398,886	15,433,690	228,478	(-)	28,992,761	(660)	27,221,239
2003	267,141	(-)	42,357,065	(639)	42,624,206	36,423	15,916,537	15,953,960	230,718	(-)	26,440,528	(639)	26,671,246
2004	270,703	(-)	42,505,475	(625)	42,776,178	38,413	16,357,803	16,396,216	232,290	(-)	26,147,672	(625)	26,379,962
2005	273,181	(-)	42,474,099	(599)	42,747,280	40,182	16,596,514	16,636,696	232,999	(-)	25,877,585	(599)	26,110,584
2006	273,740	(-)	41,955,669	(570)	42,229,409	42,061	16,671,316	16,713,377	231,679	(-)	25,284,353	(570)	25,516,032
2007	273,529	(-)	41,195,460	(542)	41,468,989	43,585	16,714,242	16,757,827	229,944	(-)	24,481,218	(542)	24,711,162
2008	271,327	(-)	40,527,918	(535)	40,799,245	45,050	16,613,720	16,658,770	226,277	(-)	23,914,198	(535)	24,140,475
2009	265,431	(-)	40,153,489	(535)	40,418,920	46,399	16,652,554	16,698,953	219,032	(-)	23,500,935	(535)	23,719,967
2010	249,934	(-)	39,885,198	(540)	40,135,132	47,850	16,790,700	16,838,550	202,084	(-)	23,094,498	(540)	23,296,582
2011	244,643	(-)	39,898,798	(537)	40,143,441	49,179	17,048,886	17,098,065	195,464	(-)	22,849,912	(537)	23,045,376
2012	241,431	(-)	39,767,919	(541)	40,009,350	50,989	17,246,034	17,297,023	190,442	(-)	22,521,885	(541)	22,712,327
2013	238,891	(-)	39,582,152	(540)	39,821,043	52,961	17,533,167	17,586,128	185,930	(-)	22,048,985	(540)	22,234,915
2014	236,525	(-)	39,254,592	(530)	39,491,117	54,931	17,662,272	17,717,203	181,594	(-)	21,592,320	(530)	21,773,914
Relative change from last year (%)	99.0		99.2		99.2	103.7	100.7	100.7	97.7		97.9		97.9

Note: Parenthesized numbers refer to the number of three - wheelers and are included in each total.

Source: Compiled from 'Statistical Report on Motor Vehicle Transport' by Information Policy Division, Policy Bureau, Ministry of Land, Infrastructure, Transport and Tourism, Government of Japan

6.09 Changes in car ownership

End of fiscal year	Breakdown of registered vehicles											
	Specific use vehicles											
	Business use total		Private use total		Total	Standard-sizes car			Compact car			
						Business use	Private use	Total	Business use		Private use		Total
1985	103,598	(-)	840,203	(681)	943,801	95,723	373,113	468,836	4,544	(-)	129,227	(681)	133,771
1990	146,737	(-)	1,066,832	(579)	1,213,569	136,266	494,476	630,742	7,038	(-)	152,982	(579)	160,020
1993	169,632	(-)	1,198,110	(560)	1,367,742	157,465	579,068	736,533	8,609	(-)	158,482	(560)	167,091
1994	180,703	(-)	1,249,281	(562)	1,429,984	168,003	615,206	783,209	9,090	(-)	160,083	(562)	169,173
1995	191,335	(-)	1,333,070	(565)	1,524,405	177,770	680,712	858,482	9,847	(-)	164,583	(565)	174,430
1996	202,561	(-)	1,227,038	(534)	1,429,599	188,293	748,349	936,642	10,473	(-)	172,512	(534)	182,985
1997	212,013	(-)	1,309,316	(511)	1,521,329	197,235	815,033	1,012,268	10,976	(-)	183,119	(511)	194,095
1998	219,418	(-)	1,405,694	(546)	1,625,112	204,305	893,508	1,097,813	11,411	(-)	197,261	(546)	208,672
1999	228,224	(-)	1,478,616	(529)	1,706,840	212,742	956,470	1,169,212	11,832	(-)	204,992	(529)	216,824
2000	238,134	(-)	1,516,177	(493)	1,754,311	222,151	992,452	1,214,603	12,412	(-)	204,147	(493)	216,559
2001	245,114	(-)	1,509,259	(456)	1,754,373	229,060	991,997	1,221,057	12,557	(-)	196,226	(456)	208,783
2002	251,272	(-)	1,468,888	(444)	1,720,138	236,244	963,932	1,199,176	12,617	(-)	184,198	(444)	196,816
2003	257,690	(-)	1,416,269	(415)	1,673,959	241,477	921,766	1,163,243	12,866	(-)	173,689	(415)	186,555
2004	266,099	(-)	1,376,911	(392)	1,643,010	249,654	890,007	1,139,661	13,163	(-)	165,388	(392)	178,551
2005	273,455	(-)	1,345,243	(382)	1,618,698	256,861	863,195	1,120,056	13,382	(-)	159,798	(382)	173,180
2006	277,680	(-)	1,321,930	(369)	1,599,610	260,898	843,235	1,104,133	13,576	(-)	154,946	(369)	168,522
2007	279,169	(-)	1,298,890	(357)	1,578,059	262,415	824,181	1,086,596	13,559	(-)	151,310	(357)	164,869
2008	277,726	(-)	1,250,173	(285)	1,527,899	261,046	786,024	1,047,070	13,509	(-)	141,663	(285)	155,172
2009	278,722	(-)	1,233,258	(273)	1,511,980	262,065	772,381	1,034,446	13,528	(-)	140,301	(273)	153,829
2010	281,679	(-)	1,216,649	(261)	1,498,328	264,923	760,067	1,024,990	13,661	(-)	137,025	(261)	150,686
2011	283,988	(-)	1,211,143	(11,307)	1,495,131	267,221	755,467	1,022,688	13,743	(-)	135,140	(11,307)	148,883
2012	287,542	(-)	1,213,811	(11,924)	1,501,353	270,636	756,436	1,027,072	13,944	(-)	133,881	(11,924)	147,825
2013	291,698	(-)	1,221,887	(12,669)	1,513,585	274,887	760,308	1,035,195	13,897	(-)	133,050	(12,669)	146,947
2014	294,912	(-)	1,111,890	(13,648)	1,406,802	278,058	765,272	1,043,330	13,975	(-)	13,975	(13,648)	27,950
Relative change from last year (%)	101.1		91.0		92.9	101.2	100.7	100.8	100.6		10.5		19.0

Note: Parenthesized numbers refer to the number of three - wheelers and are included in each total.

Source: Compiled from 'Statistical Report on Motor Vehicle Transport' by Information Policy Division, Policy Bureau, Ministry of Land, Infrastructure, Transport and Tourism, Government of Japan

6.09 Changes in car ownership

(Unit: vehicle)

End of fiscal year	Breakdown of registered vehicles			(D) Small two-wheeler	(E) Light motor vehicle				
	Specific use vehicles				Total				
	Large-sized special motor vehicle					Four-wheeler	Four-wheel truck	Three-wheeler	Two-wheeler
	Business use	Private use	Total						
1985	3,331	337,863	341,194	850,615	12,061,760	1,942,616	8,944,444	1,233	1,173,467
1990	3,433	419,374	422,807	999,854	16,768,545	2,715,334	12,310,428	1,235	1,741,548
1993	3,558	460,560	464,118	1,127,817	18,148,397	4,551,769	11,772,117	1,295	1,823,216
1994	3,610	473,992	477,602	1,177,229	18,618,399	5,201,818	11,591,832	1,303	1,823,446
1995	3,718	487,775	491,493	1,209,013	19,169,673	5,965,822	11,375,868	1,353	1,826,630
1996	3,795	306,177	309,972	1,224,775	19,583,955	6,738,258	11,037,077	1,363	1,807,257
1997	3,802	311,164	314,966	1,243,277	19,875,909	7,401,213	10,707,664	1,362	1,765,670
1998	3,702	314,925	318,627	1,269,232	20,297,728	8,185,273	10,383,719	1,336	1,727,400
1999	3,650	317,154	320,804	1,288,399	21,029,809	9,166,424	10,157,522	1,341	1,704,522
2000	3,571	319,578	323,149	1,308,417	21,755,340	10,084,285	9,957,111	1,347	1,712,597
2001	3,497	321,036	324,533	1,334,354	22,513,237	10,959,561	9,817,964	1,317	1,734,395
2002	3,411	320,736	324,147	1,362,199	23,288,129	11,816,447	9,675,844	1,293	1,772,545
2003	3,347	320,814	324,161	1,370,331	24,075,430	12,663,918	9,599,623	1,295	1,810,594
2004	3,282	321,516	324,798	1,397,392	24,950,125	13,512,078	9,579,425	1,183	1,857,439
2005	3,212	322,250	325,462	1,428,149	25,806,541	14,350,390	9,546,557	1,192	1,908,402
2006	3,206	323,749	326,955	1,452,893	26,708,149	15,280,951	9,475,481	1,205	1,950,512
2007	3,195	323,399	326,594	1,478,724	27,439,715	16,082,259	9,379,408	1,219	1,976,829
2008	3,171	322,486	325,657	1,505,304	28,170,788	16,883,230	9,290,018	1,229	1,996,311
2009	3,129	320,576	323,705	1,524,176	28,647,690	17,483,915	9,169,591	1,245	1,992,939
2010	3,095	319,557	322,652	1,535,181	29,050,446	18,004,339	8,921,550	1,244	1,975,623
2011	3,024	320,536	323,560	1,542,856	29,568,973	18,585,902	8,871,671	1,237	1,959,845
2012	2,962	323,494	326,456	1,566,341	30,253,974	19,347,873	8,782,302	1,226	1,969,187
2013	2,914	328,529	331,443	1,595,335	31,074,981	20,230,295	8,706,948	1,233	1,980,411
2014	2,879	332,643	335,522	1,611,089	31,786,208	21,026,132	8,622,311	1,234	1,978,462
Relative change from last year (%)	98.8	101.3	101.2	101.0	102.3	103.9	99.0	100.1	99.9

Note:
Starting FY2010, total number of Light motor vehicle does not include the number of Specific use vehicles; consequently, breakdown totals is not consist with totals.

Source: Compiled from 'Statistical Report on Motor Vehicle Transport' by Information Policy Division, Policy Bureau, Ministry of Land, Infrastructure, Transport and Tourism, Government of Japan

6.09 Changes in car ownership

Transition of numbers of motorized bicycles and small-sized special motor vehicles; (Unit: vehicle)

As of April 1st each year	Motorized bicycle					Small-sized special motor vehicles		
	Class 1	Class 2	Total	Ratio of change from last year (%)	Index	Total	Relative change from last year (%)	Index
1989	14,033,811	1,574,741	15,608,552	97	142	2,414,449	99	101
1990	13,539,269	1,517,228	15,056,497	96	137	2,406,252	100	100
1991	13,048,137	1,505,665	14,553,802	97	133	2,398,937	100	100
1992	12,520,835	1,480,476	14,001,311	96	128	2,380,556	99	99
1993	11,998,940	1,461,782	13,460,722	96	123	2,367,290	99	99
1994	11,521,894	1,435,990	12,957,884	96	118	2,342,641	99	98
1995	11,165,390	1,421,031	12,586,421	97	115	2,313,477	99	96
1996	10,835,934	1,390,327	12,226,261	97	111	2,292,441	99	96
1997	10,487,574	1,366,558	11,854,132	97	108	2,470,423	108	103
1998	10,181,449	1,346,116	11,527,565	97	105	2,454,691	99	102
1999	9,919,874	1,341,347	11,261,221	98	103	2,426,401	99	101
2000	9,636,487	1,337,395	10,973,882	97	100	2,399,487	99	100
2001	9,354,554	1,344,330	10,698,884	97	97	2,355,443	98	98
2002	9,136,832	1,334,792	10,471,624	98	95	2,330,893	99	97
2003	8,915,037	1,329,410	10,244,447	98	95	2,309,590	99	96
2004	8,739,686	1,341,088	10,080,774	98	92	2,284,223	99	95
2005	8,566,613	1,353,732	9,920,345	98	90	2,255,513	99	94
2006	8,372,001	1,378,714	9,750,715	98	89	2,240,149	99	93
2007	8,178,879	1,397,085	9,575,964	98	87	2,219,142	99	92
2008	7,963,604	1,429,738	9,393,342	98	86	2,197,386	99	92
2009	7,770,458	1,479,588	9,250,046	98	84	2,171,929	99	91
2010	7,530,672	1,511,440	9,042,112	96	82	2,153,890	99	90
2011	7,238,628	1,540,667	8,779,295	97	80	2,127,238	99	89
2012	6,985,633	1,582,925	8,568,558	98	78	2,114,115	99	88
2013	6,750,431	1,626,094	8,376,525	98	76	2,106,128	99	87
2014	6,528,790	1,674,884	8,203,674	98	74	2,102,642	99	87

Notes:

- Class 1 Motorized bicycles refer to ones with engine size of 50 cc and below;
  Class type 2 refer to the ones greater than Class type 1, with engine size of 125 cc and below.
- Figures in the table are for vehicles for which taxes are being paid to municipalities.
- A value in FY2000 is set as 100 for the index.

Source: 'Investigation on municipal taxation,' Local Tax Bureau, Ministry of Internal Affairs and Communications, the Government of Japan

6.10 Total automobile transportation volume and car ownership by prefecture

	Total automobile transportation volume (FY 2013)						Number of automobiles (at the end of FY 2013)			
	Freight tonnage carried (Thousand tons)			Passenger transportation (thousand people)			Trucks	Buses	Passenger cars	Total
	Business use	Personal use	Total	Buses	Passenger cars	Total				
Nationwide	2,967,945	1,082,289	4,050,234	4,505,190	1,647,725	6,152,915	6,041,085	226,542	39,821,043	47,602,255
Hokkaido	263,933	40,019	303,952	201,452	109,693	311,145	391,785	13,728	1,936,415	2,473,474
Aomori	37,303	25,568	62,871	31,692	17,680	49,372	84,205	3,864	416,508	533,353
Iwate	36,694	25,153	61,847	29,713	14,406	44,119	84,249	3,726	430,657	541,660
Miyagi	75,172	40,420	115,592	53,799	30,228	84,027	140,676	5,096	828,664	1,005,238
Akita	22,847	15,842	38,689	17,786	8,981	26,767	53,401	2,470	358,695	435,124
Yamagata	25,545	19,545	45,090	13,810	8,449	22,259	64,782	2,582	414,607	502,707
Fukushima	57,514	37,587	95,101	42,985	15,707	58,692	127,779	5,230	769,723	934,073
Ibaraki	79,108	40,228	119,336	201,610	21,745	223,355	218,652	6,938	1,328,513	1,597,822
Tochigi	41,225	24,222	65,447	113,746	14,600	128,346	129,576	4,651	902,339	1,064,090
Gunma	44,388	24,231	68,619	72,252	12,607	84,859	130,646	3,950	890,700	1,053,297
Saitama	137,081	52,949	190,030	283,322	45,016	328,338	300,824	9,864	2,250,624	2,631,384
Chiba	106,328	52,070	158,398	316,633	52,456	369,089	281,786	10,835	1,998,261	2,359,950
Tokyo	170,441	68,748	239,189	615,449	358,762	974,211	391,813	15,169	2,687,593	3,183,817
Kanagawa	126,937	49,114	176,051	407,456	92,119	499,575	280,528	11,406	2,435,550	2,798,797
Niigata	60,729	28,381	89,110	42,064	16,950	59,014	140,152	6,311	796,537	984,385
Toyama	32,696	12,968	45,664	14,818	5,677	20,495	65,818	2,088	436,326	522,545
Ishikawa	32,054	12,620	44,674	23,589	11,169	34,758	63,505	2,715	449,771	532,520
Fukui	21,565	8,447	30,012	30,145	6,520	36,665	45,089	1,887	306,423	367,178
Yamanashi	12,765	9,008	21,773	49,387	7,318	56,705	46,569	2,108	335,840	398,526
Nagano	41,700	25,422	67,122	41,597	15,439	57,036	120,605	5,702	821,906	979,909
Gifu	48,425	25,737	74,162	52,402	13,511	65,913	131,985	4,681	819,676	985,812
Shizuoka	103,686	41,728	145,414	100,188	31,158	131,346	222,042	6,505	1,366,255	1,637,255
Aichi	227,236	74,483	301,719	140,053	56,968	197,021	412,074	10,022	2,888,281	3,387,561
Mie	57,045	18,037	75,082	43,466	8,623	52,089	99,667	3,422	702,819	830,181
Shiga	24,723	9,563	34,286	56,400	9,636	66,036	60,777	2,683	465,232	544,236
Kyoto	43,839	14,091	57,930	132,906	64,018	196,924	90,169	4,669	664,549	783,282
Osaka	199,594	45,141	244,735	297,303	138,663	435,966	317,401	9,473	1,999,412	2,393,645
Hyogo	108,056	28,423	136,479	224,192	8,524	232,716	192,158	7,718	1,566,241	1,819,124
Nara	20,787	7,553	28,340	55,147	11,668	66,815	48,314	2,165	408,695	471,216
Wakayama	19,963	7,194	27,157	38,227	60,549	98,776	45,270	1,711	281,377	341,551
Tottori	12,671	3,692	16,363	14,046	4,479	18,525	24,791	1,268	182,817	217,265
Shimane	14,376	4,664	19,040	18,227	7,776	26,003	30,909	1,747	214,691	257,886
Okayama	60,503	13,975	74,478	41,832	21,582	63,414	98,443	3,047	644,597	772,793
Hiroshima	73,509	17,180	90,689	80,402	43,047	123,449	121,324	5,190	856,454	1,017,378
Yamaguchi	35,448	9,546	44,994	31,585	15,786	47,371	65,011	2,565	465,709	550,655
Tokushima	22,954	7,060	30,014	8,799	6,519	15,318	41,466	1,610	257,295	310,794
Kagawa	39,637	8,374	48,011	9,638	9,229	18,867	52,249	1,677	324,858	392,205
Ehime	53,182	10,743	63,925	12,771	13,546	26,317	68,143	2,268	391,342	480,161
Kochi	21,000	5,526	26,526	8,345	7,750	16,095	32,615	1,369	202,416	247,446
Fukuoka	145,980	38,160	184,140	167,307	90,281	257,588	246,995	10,092	1,575,036	1,886,289
Saga	26,323	7,535	33,858	25,234	8,771	34,005	47,638	2,064	258,600	319,574
Nagasaki	22,499	8,093	30,592	77,513	24,174	101,687	48,569	4,270	342,080	411,429
Kumamoto	38,916	16,712	55,628	58,667	27,247	85,914	99,009	3,825	559,881	686,111
Oita	26,419	9,687	36,106	36,769	17,333	54,102	59,353	2,530	382,058	458,746
Miyazaki	28,781	10,454	39,235	30,452	15,952	46,404	63,410	2,141	352,157	434,703
Kagoshima	45,793	15,206	60,999	81,950	29,691	111,641	93,379	4,226	492,873	620,338
Okinawa	20,575	11,190	31,765	58,064	35,722	93,786	65,484	3,284	359,984	444,770

Notes:

・ Freight tonnage carried is an estimation obtained from prorating the transportation volumes in each District Transpiration Bureau presented in "Annual Report on Automobile Transportation" by the ratio of the registered number of automobiles with each Local Land Transport Office as of the end of each FY. However, the tonnage by Specific use vehicles are included, but that by light vehicles are excluded.

・ Passenger transportation is tabulated in the same way.

・The differences between the total number of automobiles and the sum of the numbers of trucks, buses, and passenger cars are due to the number of specific use vehicles.

Source: "Transportation censuses," Information Policy Division, Policy Bureau, Ministry of Land, Infrastructure, Transport and Tourism, the Government of Japan

6.11 Trends in freight transportation

(Index : FY2005 (Mean) = 100)

	Freight tonnage carried (Thousand tons)										
	Motor freight	Index	Railway freight	Index	J R	Index	Coastal shipping	Index	Airfreight	Index	Total
FY 1950	309,000	…	131,748	222.3	120,193	308.0	49,282	9.5	–	–	490,030
1955	569,000	…	185,354	312.7	152,182	390.0	69,254	13.3	2	0.2	823,610
1960	1,156,291	…	229,856	438.0	186,953	507.1	138,849	32.6	9	0.8	1,525,005
1965	2,193,195	…	243,524	464.1	191,060	518.3	179,645	42.2	33	3.0	2,616,397
1970	4,626,069	…	250,360	477.1	193,106	523.8	376,647	88.4	116	10.7	5,253,192
1975	4,392,859	…	180,616	344.2	137,879	374.0	452,054	106.1	192	17.7	5,025,721
1980	5,317,950	…	162,827	310.3	117,896	319.8	500,258	117.4	329	30.4	5,981,364
1981	5,230,784	…	147,890	249.5	106,778	273.6	479,097	92.1	369	36.4	5,858,140
1982	5,171,623	…	132,356	223.3	93,885	240.6	437,584	84.1	401	39.5	5,741,964
1983	5,123,371	…	117,815	224.5	82,375	223.5	438,038	102.8	443	40.9	5,679,667
1984	5,114,657	…	103,801	197.8	71,503	194.0	450,278	105.7	497	45.9	5,669,233
1985	5,048,048	…	96,285	183.5	65,497	177.7	452,385	106.2	538	49.7	5,597,256
1986	4,969,101	…	87,242	166.3	59,072	160.2	440,677	103.4	602	55.6	5,497,622
1987	5,204,257	104.8	82,189	156.6	55,294	150.0	462,546	108.5	698	64.5	5,749,690
1988	5,578,451	112.3	82,338	156.9	55,695	151.1	493,000	115.7	761	70.3	6,154,550
1989	5,888,248	118.6	82,827	157.8	55,782	151.3	538,029	126.3	827	76.4	6,509,931
1990	6,113,565	123.1	86,619	165.1	58,400	158.4	575,199	135.0	874	80.8	6,776,257
1991	6,260,811	126.1	85,697	163.3	57,390	155.7	571,891	134.2	874	80.8	6,919,273
1992	6,101,706	122.9	82,402	157.0	55,633	150.9	540,410	126.8	854	78.9	6,725,372
1993	5,821,537	117.2	79,259	151.0	53,178	144.3	528,841	124.1	859	79.4	6,430,496
1994	5,810,374	…	78,948	150.5	52,753	143.1	555,764	130.4	910	84.1	6,445,996
1995	6,016,571	121.2	76,932	146.6	51,456	139.6	548,542	128.7	960	88.7	6,643,005
1996	6,177,265	124.4	73,558	140.2	49,185	133.4	546,909	128.3	1,002	92.6	6,798,734
1997	6,065,384	122.1	69,228	131.9	47,286	128.3	541,437	127.1	1,014	93.7	6,677,063
1998	5,819,881	117.2	60,369	115.0	40,604	110.1	516,647	121.2	1,015	93.8	6,397,912
1999	5,863,259	118.1	58,685	111.8	39,154	106.2	522,602	122.6	1,061	98.1	6,445,607
2000	5,773,619	116.3	59,274	113.0	39,620	107.5	537,021	126.0	1,103	101.9	6,371,017
2001	5,578,227	112.3	58,668	111.8	39,026	105.9	520,067	122.0	1,015	93.8	6,157,977
2002	5,339,487	107.5	56,592	107.8	38,197	103.6	497,251	116.7	1,001	92.5	5,894,331
2003	5,234,076	105.4	53,602	102.2	37,552	101.9	445,544	104.6	1,033	95.5	5,734,255
2004	5,075,877	102.2	52,219	99.5	36,789	99.8	440,252	103.3	1,065	98.4	5,569,413
2005	4,965,874 (4,842,232)	100.0 (97.8)	52,473	100.0	36,864	100.0	426,145	100.0	1,082	100.0	5,445,574 (5,358,796)
2006	4,961,325 (4,837,022)	99.9 (97.5)	51,872	98.9	36,371	98.7	416,644	97.8	1,099	101.6	5,430,940 (5,343,008)
2007	4,932,539 (4,811,884)	99.3 (97.6)	50,850	96.9	35,958	97.5	409,694	96.1	1,145	105.8	5,394,228 (5,309,531)
2008	4,718,318 (4,600,752)	95.0 (97.5)	46,225	88.1	32,850	89.1	378,705	88.9	1,074	99.3	5,144,322 (5,059,606)
2009	4,454,028 (4,339,538)	91.5 (97.4)	43,251	82.4	30,849	83.7	332,175	75.6	1,027	94.9	4,830,481 (4,746,840)
2010	4,480,195	…	43,647	83.2	30,790	83.5	366,734	86.1	1,004	92.8	4,891,580
2011	4,496,954	…	39,886	76.0	…	…	360,983	84.7	960	88.7	4,898,783
2012	4,365,927	87.9	42,340	80.7	…	…	365,992	85.8	977	90.2	4,775,236
2013	4,345,753	87.5	44,101	84.0	…	…	378,334	88.8	1,016	93.9	4,769,204

Note:

・In FY 1987, "Motor Freight" started to incorporate the tonnage carried by light motor vehicles. Consequently, the contents of data prior to FY 1986 and those after FY1987 are not continuous.

・"Motor freight" in FY 1994 does not include the figure in Hyogo prefecture between January and March in 1995.

・Column for Index of cars in FY 1994 was left out since it does not include data from Hyogo prefecture.

・Starting in FY 2010, methodology of survey as well as data processing was changed in Monthly Statistical Report on Motor Vehicle Transport. Consequently, data prior to FY 2009 and those after FY2010 are not continuous. Mini trucks for private use are excluded from the survey. For your reference, parenthesized numbers indicate data without those of minitrucks.

・"Motor freight" in FY 2010 as well as in FY 2011 does not include March and April data from Hokkaido District Transport Bureau and Tohoku District due to the Great East Japan Earthquake. Automobile index for FY 2010 and FY 2011 have been left out because data from Hokkaido District Transport Bureau and Tohoku District Transport Bureau are not available.

Only charged freight is included in Railway freight. In Monthly Statistical Report on Railway, JR data became unavailable in FY 2011, thus the data is no longer shown.

・Monthly transport volume for "Coastal shipping" and mean volume in FY 2003 do not include personal use.

・Transport volume for airfreight (regular service) includes overweight baggage and postal matters.

・Index is based on FY 2005.

Source: Compiled from "Statistical Report on Motor Vehicle Transport" by Information Policy Division, Policy Bureau, Ministry of Land, Infrastructure, Transport and Tourism, Government of Japan

6.11 Trends in freight transportation

(Index: FY 2005 (Mean) = 100)

	Freight ton-kilometers (Million tons)										
	Motor freight	Index	Railway freight	Index	J R	Index	Coastal shipping	Index	Airfreight	Index	Total
FY 1950	5,400	…	31,246	141.2	30,715	140.5	25,500	10.6	–	–	62,146
1955	9,500	…	42,695	192.9	42,005	192.2	29,022	12.0	1	0.1	81,218
1960	20,801	…	53,916	236.3	52,993	234.5	63,579	30.1	6	0.6	138,302
1965	48,392	…	56,678	248.4	55,788	246.8	80,635	38.1	21	2.0	185,726
1970	135,916	…	63,031	276.3	62,043	274.5	151,243	71.5	74	6.9	350,264
1975	129,701	…	47,058	206.3	46,288	204.8	183,579	86.8	152	14.1	360,490
1980	178,901	…	37,428	164.1	36,688	162.3	222,173	105.0	290	27.0	438,792
1981	181,309	…	33,806	152.7	33,116	151.5	211,763	87.6	327	30.4	427,205
1982	187,719	…	30,596	138.2	29,961	137.1	198,052	82.0	360	33.5	416,727
1983	193,527	…	27,373	120.0	26,812	118.6	200,748	94.9	400	37.2	422,048
1984	200,813	…	22,998	100.8	22,485	99.5	210,107	99.3	446	41.5	434,364
1985	205,941	…	21,919	96.1	21,410	94.7	205,818	97.3	482	44.8	434,160
1986	216,115	…	20,446	89.6	19,974	88.4	197,953	93.6	545	50.7	435,059
1987	226,425	67.6	20,474	89.7	20,026	88.6	201,386	95.2	634	59.0	448,919
1988	246,088	73.5	23,478	102.9	23,031	101.9	212,628	100.5	683	63.5	482,877
1989	262,857	78.5	25,136	110.2	24,675	109.2	220,063	104.0	753	70.0	508,809
1990	274,244	81.9	27,196	119.2	26,728	118.3	244,546	115.6	799	74.3	546,785
1991	283,776	84.7	27,157	119.0	26,698	118.1	248,203	117.3	812	75.5	559,948
1992	281,599	84.1	26,668	116.9	26,241	116.1	248,002	117.2	804	74.8	557,073
1993	275,885	82.4	25,433	111.5	25,027	110.7	233,526	110.4	817	76.0	535,661
1994	280,587	…	24,493	107.4	24,077	106.5	238,540	112.7	871	81.0	544,491
1995	294,648	88.0	25,101	110.0	24,702	109.3	238,330	112.6	924	86.0	559,002
1996	305,510	91.2	24,968	109.4	24,061	108.8	241,756	114.3	962	89.5	573,196
1997	306,263	91.4	24,618	107.9	24,301	107.5	237,018	112.0	981	91.3	568,880
1998	300,670	89.8	22,920	100.5	22,643	100.2	226,980	107.3	985	91.6	551,555
1999	307,149	91.7	22,541	98.8	22,272	98.5	229,432	108.4	1,039	96.7	560,161
2000	313,118	93.5	22,136	97.0	21,855	96.7	241,671	114.2	1,075	100.0	578,000
2001	313,072	93.5	22,193	97.3	21,907	96.9	244,451	115.5	994	92.5	580,710
2002	312,028	93.1	22,131	97.0	21,860	96.7	235,582	111.3	991	92.2	570,732
2003	321,862	96.1	22,794	99.9	22,565	99.8	218,190	103.1	1,027	95.5	563,873
2004	327,632	97.8	22,476	98.5	22,264	98.5	218,833	103.4	1,058	98.4	569,999
2005	334,979 (333,524)	100.0 (102.2)	22,813	100.0	22,601	100.0	211,576	100.0	1,075	100.0	570,443 (568,988)
2006	346,534 (345,035)	103.4 (99.6)	23,192	101.7	22,985	101.7	207,849	98.2	1,094	101.8	578,669 (577,170)
2007	354,800 (353,320)	105.9 (99.6)	23,334	102.3	23,140	102.4	202,962	95.9	1,145	106.5	582,241 (580,761)
2008	346,420 (344,939)	103.4 (99.6)	22,256	97.6	22,081	97.7	187,859	88.8	1,078	100.3	557,613 (556,132)
2009	334,667 (333,181)	99.9 (99.6)	20,562	90.5	20,404	90.3	167,315	79.1	1,043	97.0	523,587 (522,100)
2010	243,150	…	20,398	89.4	20,228	89.5	179,898	85.0	1,032	96.0	444,478
2011	231,061	…	19,998	87.7	…	…	174,900	82.7	992	92.3	426,951
2012	209,956	62.6	20,471	89.7	…	…	177,791	84.0	1,017	94.6	409,235
2013	214,092	63.9	21,071	92.4	…	…	184,860	87.4	1,049	97.6	421,072

Source: Compiled from "Statistical Report on Motor Vehicle Transport" by Information Policy Division, Policy Bureau, Ministry of Land, Infrastructure, Transport and Tourism, Government of Japan

6.12 Changes in volume of passenger transportation

(Index: FY 2005(mean)=100)

Year	Number of Passengers carried (unit: thousand)										
	Automobile	Index	Railway	Index	J R	Index	Passenger ship	Index	Air	Index	Total
FY 1950	1,515,000	…	8,391,932	38.8	3,095,194	35.7	97,348	88.4	–	–	10,044,280
1955	4,261,000	…	9,780,980	45.2	3,849,219	44.4	73,920	67.1	361	0.4	14,116,261
1960	7,900,743	…	12,290,380	56.0	5,123,901	59.0	98,887	95.8	1,260	1.3	20,291,270
1965	14,863,470	…	15,798,168	71.9	6,721,827	77.4	126,007	122.1	5,194	5.5	30,792,839
1970	24,032,433	…	16,384,034	74.6	6,534,477	75.3	173,744	168.4	15,460	16.4	40,605,671
1975	28,411,450	…	17,587,925	80.1	7,048,013	81.2	169,864	164.6	25,467	27.0	46,194,706
1980	33,515,233	…	18,004,962	82.0	6,824,817	78.6	159,751	154.8	40,427	42.8	51,720,373
1981	33,345,267	…	18,218,155	84.2	6,793,030	78.3	160,443	145.7	42,101	45.3	51,765,966
1982	33,510,893	…	18,269,106	84.4	6,742,418	77.8	156,218	141.9	40,486	43.6	51,976,703
1983	33,808,770	…	18,537,677	84.4	6,796,759	78.3	153,340	148.6	40,838	43.2	52,540,625
1984	34,029,706	…	18,753,086	85.4	6,883,837	79.3	154,793	150.0	44,718	47.3	52,982,303
1985	34,678,904	…	18,989,703	86.9	6,941,358	81.0	153,477	148.8	43,777	46.3	53,865,861
1986	34,942,850	…	19,414,040	88.8	7,103,955	82.9	154,127	149.4	46,367	49.1	54,557,384
1987	49,164,738	74.6	19,971,994	90.9	7,356,358	84.7	165,000	159.9	50,046	53.0	69,351,778
1988	52,217,608	79.2	20,742,139	94.4	7,761,346	89.4	157,400	152.6	52,945	56.0	73,170,092
1989	55,828,655	84.7	21,210,767	96.6	7,979,882	91.9	160,200	155.3	60,120	63.6	77,259,742
1990	55,767,427	84.6	21,938,609	99.9	8,357,583	96.3	162,600	157.6	65,252	69.1	77,933,888
1991	57,555,953	87.3	22,559,810	102.7	8,675,929	99.9	162,000	157.0	68,687	72.7	80,346,450
1992	58,841,075	89.2	22,694,082	103.3	8,817,783	101.6	157,855	153.0	69,687	73.8	81,762,699
1993	59,284,686	89.9	22,759,159	103.6	8,906,301	102.6	157,250	152.4	69,584	73.6	82,270,679
1994	59,934,869	…	22,597,951	…	8,883,699	…	150,866	146.2	74,547	78.9	82,758,233
1995	61,271,653	92.9	22,630,439	103.0	8,982,284	103.4	148,828	144.2	78,101	82.7	84,129,021
1996	61,542,541	93.3	22,593,304	102.9	8,997,037	103.6	148,107	143.5	82,131	86.9	84,366,083
1997	62,199,844	94.3	22,244,430	101.3	8,858,611	102.0	144,897	140.4	85,555	90.5	84,674,726
1998	61,838,994	93.8	22,013,765	100.2	8,764,494	100.9	127,665	123.7	87,910	93.0	84,068,334
1999	62,046,830	94.1	21,750,275	99.0	8,717,512	100.4	120,091	116.4	91,588	96.9	84,008,784
2000	62,841,306	95.3	21,646,751	98.6	8,670,971	99.9	110,128	106.7	92,873	98.3	84,691,058
2001	64,590,143	97.9	21,720,088	98.9	8,650,246	99.6	111,869	107.5	94,579	100.1	86,516,679
2002	65,480,675	99.3	21,561,067	98.2	8,685,455	98.9	108,846	105.5	96,662	102.3	87,247,250
2003	65,933,252	100.0	21,757,564	99.1	8,641,879	99.5	107,288	104.0	95,487	101.1	87,893,591
2004	65,990,529	100.1	21,686,454	98.7	8,618,243	99.3	100,872	97.8	93,739	99.2	87,871,594
2005	65,946,689 (6,762,778)	100.0 98.4	21,953,959	100.0	8,683,080	100.0	103,175	100.0	94,490	100.0	88,098,313 28,923,467
2006	65,943,252 (6,746,618)	100.0 (99.8)	22,243,472	101.3	8,778,178	101.1	99,168	96.1	96,971	102.6	88,382,863 29,186,228
2007	66,908,896 (6,697,498)	101.5 (99.3)	22,840,797	104.0	8,988,040	103.5	100,800	97.7	94,849	100.4	89,945,342 29,733,953
2008	66,774,143 (6,631,993)	101.3 (99.0)	22,976,100	104.6	8,984,425	103.5	99,032	92.0	90,662	95.9	89,939,937 29,797,787
2009	66,599,647 (6,424,629)	101.0 (96.9)	22,724,442	103.5	8,840,672	101.8	92,173	89.3	83,872	88.8	89,500,134 29,325,116
2010	6,241,395	…	22,669,009	103.2	8,818,311	101.6	85,047	82.4	82,211	87.0	29,077,662
2011	6,073,486	…	22,632,357	103.0	8,837,406	101.8	84,065	81.4	79,052	83.7	28,868,960
2012	6,076,806	…	23,041,856	104.9	8,962,809	103.2	87,134	84.4	85,996	91.0	29,291,792
2013	6,125,916	…	23,606,410	107.5	9,146,991	105.3	88,018	85.3	92,643	98.0	29,912,987

Notes:

・In FY 1987, "Automobile" started to include light motor vehicles, thus the data are not continuous from the data in FY 1986 or before.

・Data for automobile in FY 1994 do not include data from Hyogo prefecture between Jan. and Mar. in FY 1995 (excluding commercial busses). Also, data for automobile between Jan. and Feb. in 1995 does not include data from Hyogo prefecture (excluding commercial busses).

・Index of automobile in FY 1994 is left out because the data did not include data from Hyogo prefecture.

・Starting in FY 2010, methodology of survey as well as data processing was changed in Monthly Statistical Report on Motor Vehicle Transport. Consequently, data prior to FY 2010 and that in 2010 and onward are not continuous. In the "Automobiles", passenger cars for private use and light motor vehicles are excluded from the survey, and only data for cars for business uses are disclosed. For your reference, parenthesized numbers indicate data for business-use automobiles.

・Data for Automobile in FY 2010 as well as in FY 2011 does not include March and April data in 2011 from Hokkaido District Transport Bureau and Tohoku District (except buses for business use) due to the occurrence of the Great East Japan Earthquake. Automobile index for FY 2010 and FY 2011 have been left out because data from Hokkaido District Transport Bureau and Tohoku District Transport Bureau is not available.

・As for railway data in FY1987 and onward, some numbers of passengers carried are duplicated in one or more JR operating companies. Consequently, data prior to and after FY 1987 are not continuous .

As for transportation volume by passenger ships, data includes only regular service up to FY 1972, and both regular and irregular services are included in FY 1973 and onward. p to FY 1969, transportation volume passenger kilometer was estimated by multiplying number of transportation volume by 27 kilometers (an average transport kilometers per person.)

・Domestic Air includes only regular flights.

・Index is based on FY 2005.

6.12 Changes in volume of passenger transportation

(Index :FY 2005(mean)=100)

Year	Passenger -kilometers carried (unit: million passenger-kilometers)										
	Automobile	Index	Railway	Index	J R	Index	Passenger ship	Index	Air	Index	Total
FY 1950	9,000	…	105,468	27.4	69,004	28.7	2,628	61.1	–	–	117,096
1955	27,500	…	136,112	35.4	91,239	37.9	1,996	46.4	225	0.3	165,833
1960	55,531	…	184,340	47.1	126,983	51.6	2,670	66.3	737	0.9	243,278
1965	120,756	…	255,484	65.3	174,014	70.7	3,402	84.5	2,952	3.5	382,594
1970	284,229	…	288,815	73.8	189,726	77.1	4,814	119.6	9,319	11.2	587,177
1975	360,868	…	323,800	82.8	215,289	87.5	6,895	171.3	19,148	23.0	710,711
1980	431,669	…	314,542	80.4	193,143	78.5	6,132	152.3	29,688	35.7	782,031
1981	437,078	…	316,205	82.3	192,115	79.8	6,044	140.4	31,032	38.9	790,359
1982	452,055	…	316,347	82.3	190,767	79.3	5,859	136.1	30,106	37.8	804,367
1983	464,165	…	321,452	82.2	192,906	78.4	5,722	142.2	30,627	36.8	821,966
1984	468,695	…	324,135	82.9	194,180	78.9	5,780	143.6	33,499	40.3	832,109
1985	489,260	…	330,101	84.4	197,463	80.3	5,752	142.9	33,119	39.8	858,232
1986	499,844	…	334,741	85.5	198,299	80.6	5,684	141.2	35,324	42.4	875,593
1987	718,478	77.0	344,729	88.1	204,677	83.2	6,242	155.1	38,535	46.3	1,107,984
1988	782,033	83.8	361,796	92.5	217,589	88.5	5,711	141.9	41,102	49.4	1,190,642
1989	845,123	90.6	368,818	94.3	222,671	90.5	5,962	148.1	47,141	56.6	1,267,044
1990	853,060	91.4	387,478	99.0	237,657	96.6	6,275	155.9	51,623	62.0	1,298,436
1991	869,337	93.2	400,083	102.3	247,031	100.4	6,195	153.9	55,349	66.5	1,330,964
1992	888,279	95.2	402,258	102.8	249,606	101.5	6,097	151.5	56,680	68.1	1,353,314
1993	889,873	95.4	402,727	102.9	250,016	101.6	6,061	150.6	57,118	68.6	1,355,779
1994	896,751	…	396,332	101.3	244,378	99.3	5,946	147.7	61,289	73.6	1,360,318
1995	917,419	98.3	400,056	102.3	248,998	101.2	5,637	140.0	65,012	78.1	1,388,124
1996	931,721	99.9	402,156	102.8	251,724	102.3	5,634	140.0	69,049	83.0	1,408,560
1997	944,972	101.3	395,239	101.0	247,652	100.7	5,351	132.9	73,243	88.0	1,418,805
1998	954,807	102.3	388,938	99.4	242,810	98.7	4,620	114.8	75,988	91.3	1,424,353
1999	955,563	102.4	385,101	98.4	240,795	97.9	4,479	111.3	79,348	95.3	1,424,491
2000	951,253	102.0	384,441	98.3	240,659	97.8	4,304	106.9	79,698	95.8	1,419,696
2001	954,292	102.3	385,421	98.5	241,133	98.0	4,006	99.5	81,459	97.9	1,425,178
2002	955,413	102.4	382,236	97.7	239,243	97.3	3,893	96.7	83,949	100.9	1,425,491
2003	954,186	102.3	384,958	98.4	241,160	98.0	4,024	100.0	83,311	100.1	1,426,479
2004	947,563	101.6	385,163	98.4	241,977	98.4	3,869	96.1	81,786	98.3	1,418,381
2005	933,006 (84,266)	100.0 (101.3)	391,228	100.0	245,996	100.0	4,025	100.0	83,220	100.0	1,411,479 (562,739)
2006	917,938 (84,075)	98.4 (99.8)	395,908	101.2	249,029	101.2	3,783	94.0	85,746	103.0	1,403,375 (569,512)
2007	936,049 (83,082)	98.5 (98.8)	405,544	103.7	255,210	103.7	3,834	95.3	84,327	101.3	1,429,754 (576,787)
2008	905,907 (83,831)	97.1 (100.9)	404,585	103.4	253,556	103.1	3,510	87.0	80,931	97.2	1,394,933 (572,857)
2009	898,721 (81,360)	96.3 (97.1)	393,765	100.7	244,247	99.3	3,073	76.3	75,203	90.4	1,370,762 (553,401)
2010	77,677	…	393,466	100.6	244,593	99.4	3,004	74.6	73,750	88.6	547,897
2011	73,916	…	395,067	101.0	246,937	100.4	3,047	75.7	71,165	85.5	543,195
2012	75,668	…	404,396	103.3	253,788	103.1	3,092	76.8	77,917	93.6	561,073
2013	74,571	…	414,387	105.9	260,013	105.7	3,265	81.1	84,144	101.1	576,367

Source: Compiled from "Summary of Transportation Statistics" by Information Policy Division, Policy Bureau, Ministry of Land, Infrastructure, Transport and Tourism, Government of Japan

6.13 Changes in transport share by mode

1 . Freight

	Tonnage				Ton-kilometer			
	Automobile	Railway	Coastal shipping	Domestic airline	Automobile	Railway	Coastal shipping	Domestic airline
FY 1955	69.1	22.5	8.4	0.0	11.7	52.6	35.7	0.0
1960	75.8	15.1	9.1	0.0	15.0	39.0	46.0	0.0
1965	83.8	9.3	6.9	0.0	26.1	30.5	43.4	0.0
1970	88.1	4.8	7.2	0.0	38.8	18.0	43.2	0.0
1975	87.4	3.6	9.0	0.0	36.0	13.1	50.9	0.0
1980	89.0	2.7	8.4	0.0	40.8	8.5	50.6	0.1
1985	90.2	1.7	8.1	0.0	47.5	4.9	47.5	0.1
1986	90.4	1.6	8.0	0.0	49.7	4.6	45.5	0.1
1987	90.5	1.4	8.0	0.0	50.4	4.6	44.9	0.1
1988	90.6	1.3	8.0	0.0	51.0	4.9	44.0	0.1
1989	90.5	1.3	8.3	0.0	51.7	4.9	43.3	0.1
1990	90.2	1.3	8.5	0.0	50.2	5.0	44.7	0.1
1991	90.5	1.2	8.3	0.0	50.7	4.9	44.3	0.1
1992	90.7	1.2	8.0	0.0	50.5	4.8	44.5	0.1
1993	90.5	1.2	8.2	0.0	51.5	4.7	43.6	0.2
1994	90.1	1.2	8.6	0.0	51.5	4.5	43.8	0.2
1995	90.6	1.2	8.3	0.0	52.7	4.5	42.6	0.2
1996	90.9	1.1	8.0	0.0	53.3	4.4	42.1	0.2
1997	90.8	1.0	8.1	0.0	53.8	4.3	41.7	0.2
1998	91.0	0.9	8.1	0.0	54.5	4.2	41.2	0.2
1999	91.0	0.9	8.1	0.0	54.8	4.0	41.0	0.2
2000	90.6	0.9	8.4	0.0	54.2	3.8	41.8	0.2
2001	90.6	1.0	8.4	0.0	53.9	3.8	42.1	0.2
2002	90.6	1.0	8.4	0.0	54.7	3.9	41.3	0.2
2003	91.3	0.9	7.8	0.0	57.1	4.0	38.7	0.2
2004	91.1	0.9	7.9	0.0	57.5	3.9	38.4	0.2
2005	91.2 (91.0)	1.0 (1.0)	7.8 (8.0)	0.0 (0.0)	58.7 (58.6)	4.0 (4.0)	37.1 (37.2)	0.2 (0.2)
2006	91.4 (91.2)	1.0 (1.0)	7.7 (7.9)	0.0 (0.0)	59.9 (59.8)	4.0 (4.0)	35.9 (36.0)	0.2 (0.2)
2007	91.4 (91.2)	0.9 (1.0)	7.6 (7.8)	0.0 (0.0)	60.9 (60.8)	4.0 (1.0)	34.9 (34.9)	0.2 (0.2)
2008	91.7 (91.5)	0.9 (0.9)	7.4 (7.5)	0.0 (0.0)	62.1 (62.0)	4.0 (4.0)	33.7 (33.8)	0.2 (0.2)
2009	92.2 (92.0)	0.9 (0.9)	7.0 (7.0)	0.0 (0.0)	63.9 (63.8)	3.9 (3.9)	32.0 (32.0)	0.2 (0.2)
2010	91.8	0.9	7.3	0.0	54.9	4.6	40.3	0.2
2011	91.8	0.8	7.4	0.0	54.1	4.7	41.0	0.2
2012	91.4	0.9	7.7	0.0	51.3	5.0	43.4	0.3
2013	91.1	0.9	8.0	0.0	50.8	5.0	43.9	0.3

Notes:

・Share rate was calculated from table 6.11 previously presented.

・Starting in FY 1987, light motor vehicles and trucks for private were included in automobile, thus, the data prior to and after FY 1987 do not contain sequential data.

・Starting in FY 2010, the figures for "Automobile" are tabulated and disclosed excluding the surveyed data for trucks for t private use , thus, the data prior to and after FY 2010 do not contain sequential data. For your reference, parenthesized figures indicate the relevant values to the definition on the FY2010 basis.

・Due to rounding off fractions, total may not be consistent.

6.13 Changes in transport share by mode

2 . Passengers

	Passengers transported				Persons-kilometers			
	Automobile	Railway	Coastal shipping	Domestic airline	Automobile	Railway	Coastal shipping	Domestic airline
FY 1955	30.2	69.3	0.5	0.0	16.6	82.1	1.2	0.1
1960	38.9	60.6	0.5	0.0	22.8	75.8	1.1	0.3
1965	48.3	51.3	0.4	0.0	31.6	66.8	0.9	0.8
1970	59.2	40.3	0.4	0.0	48.4	49.2	0.8	1.6
1975	61.5	38.1	0.4	0.1	50.8	45.6	1.0	2.7
1980	64.8	34.8	0.3	0.1	55.2	40.2	0.8	3.8
1985	64.4	35.3	0.3	0.1	57.0	38.5	0.7	3.9
1986	64.0	35.6	0.3	0.1	57.1	38.2	0.6	4.0
1987	70.9	28.8	0.2	0.1	64.8	31.1	0.6	3.5
1988	71.4	28.3	0.2	0.1	65.7	30.4	0.5	3.5
1989	72.3	27.5	0.2	0.1	66.7	29.1	0.5	3.7
1990	71.6	28.1	0.2	0.1	65.7	29.8	0.5	4.0
1991	71.6	28.0	0.2	0.1	65.3	30.1	0.5	4.1
1992	72.0	27.8	0.2	0.1	65.6	29.7	0.5	4.2
1993	72.1	27.7	0.2	0.1	65.6	29.7	0.4	4.2
1994	72.4	27.3	0.2	0.1	65.9	29.1	0.4	4.5
1995	72.8	26.9	0.2	0.1	66.1	28.8	0.4	4.7
1996	72.9	26.8	0.2	0.1	66.1	28.6	0.4	4.9
1997	73.5	26.2	0.2	0.1	66.6	27.8	0.4	5.2
1998	73.6	26.2	0.2	0.1	67.0	27.3	0.3	5.3
1999	73.9	25.9	0.1	0.1	67.1	27.0	0.3	5.6
2000	74.2	25.6	0.1	0.1	67.0	27.1	0.3	5.6
2001	74.7	25.1	0.1	0.1	67.0	27.0	0.3	5.7
2002	75.1	24.7	0.1	0.1	67.0	26.8	0.3	5.9
2003	75.0	24.8	0.1	0.1	66.9	27.0	0.3	5.8
2004	75.1	24.7	0.1	0.1	66.8	27.2	0.3	5.8
2005	74.9 (23.4)	24.9 (75.9)	0.1 (0.4)	0.1 (0.3)	66.1 (15.0)	27.7 (69.5)	0.3 (0.7)	5.9 (14.8)
2006	74.6 (23.1)	25.2 (76.2)	0.1 (0.3)	0.1 (0.3)	65.4 (14.8)	28.2 (69.5)	0.3 (0.7)	6.1 (15.1)
2007	74.4 (22.5)	25.4 (76.8)	0.1 (0.3)	0.1 (0.3)	65.0 (14.4)	28.7 (70.3)	0.3 (0.7)	6.0 (14.6)
2008	74.2 (22.3)	25.5 (77.1)	0.1 (0.3)	0.1 (0.3)	64.9 (14.6)	29.0 (70.6)	0.3 (0.6)	5.8 (14.1)
2009	74.4 (21.9)	25.4 (77.5)	0.1 (0.3)	0.1 (0.3)	65.6 (14.7)	28.7 (71.2)	0.2 (0.6)	5.5 (13.6)
2010	21.5	78.0	0.3	0.3	14.2	71.8	0.5	13.5
2011	21.0	78.4	0.3	0.3	13.6	72.7	0.6	13.1
2012	20.7	78.7	0.3	0.3	13.5	72.1	0.6	13.9
2013	20.6	78.8	0.3	0.3	12.9	71.9	0.6	14.6

Notes:

・Share rate was calculated from table 6.12 previously presented.

・Starting in FY 1987, light motor vehicles and trucks for private were included in automobile, thus, the data prior to and after FY 1987 do not contain sequential data.

・ Starting in FY 2010, the figures for "Automobile" are tabulated and disclosed excluding the surveyed data for trucks for t private use , thus, the data prior to and after FY 2010 do not contain sequential data. For your reference, parenthesized figures indicate the relevant values to the definition on the FY2010 basis.

・Due to rounding off fractions, total may not be consistent.

Source: Compiled from "Transportation censuses" by Information Policy Division, Policy Bureau, Ministry of Land, Infrastructure, Transport and Tourism, Government of Japan

6.14 Development and coverage rate of national highways by prefecture

(As of April 1, 2014) (Unit: km, %)

	National highways				Prefectural and municipal roads				National highways & prefectural and municipal roads			
	Total length	Maintenance rate	Improvement rate	Pavement rate	Total length	Maintenance rate	Improvement rate	Pavement rate	Total length	Maintenance rate	Improvement rate	Pavement rate
Hokkaido	6,721.5	93.8	100.0	99.7	11,806.8	90.0	92.7	41.7	18,528.3	91.4	95.3	62.8
Aomori	1,430.7	76.9	88.5	86.3	2,486.8	63.8	67.7	60.8	3,917.5	68.6	75.3	70.1
Iwate	1,787.1	84.6	97.2	92.9	2,924.9	71.5	74.6	50.6	4,711.9	76.4	83.2	66.7
Miyagi	1,210.9	66.3	94.3	96.8	2,292.8	72.4	80.1	85.6	3,503.7	70.3	85.0	89.3
Akita	1,355.3	80.3	95.8	95.7	2,365.5	71.0	74.3	60.5	3,720.8	74.4	82.1	73.3
Yamagata	1,123.6	71.9	93.5	90.8	2,510.4	75.8	81.3	65.3	3,634.0	74.6	85.1	73.2
Fukushima	1,998.7	68.5	86.7	80.7	4,117.7	57.4	63.4	53.9	6,116.4	61.0	71.0	62.7
Ibaraki	1,138.8	61.4	96.6	97.7	3,406.1	58.8	70.1	67.6	4,544.9	59.5	76.8	75.1
Tochigi	916.9	56.0	92.3	98.6	2,839.6	57.0	70.3	81.4	3,756.5	56.8	75.6	85.6
Gunma	950.8	60.7	88.4	93.4	2,481.9	60.3	73.4	78.5	3,432.7	60.4	77.6	82.6
Saitama	897.9	42.7	95.2	97.3	2,500.1	59.4	85.1	88.2	3,398.0	55.0	87.8	90.6
Chiba	1,253.7	54.9	94.9	99.1	2,602.5	55.5	73.5	88.3	3,856.2	55.3	80.4	91.8
Tokyo	345.3	66.1	98.6	100.0	2,336.3	56.0	85.0	95.7	2,681.6	57.3	86.7	96.2
Kanagawa	696.3	49.3	99.0	99.8	1,479.2	52.3	81.2	90.8	2,175.5	51.4	86.9	93.7
Niigata	2,000.1	64.4	88.4	86.5	4,650.2	59.4	65.8	60.3	6,650.3	60.9	72.6	68.2
Toyama	519.2	64.6	93.4	96.5	2,158.4	68.1	79.0	87.7	2,677.6	67.4	81.8	89.4
Ishikawa	614.6	76.8	95.4	96.6	1,898.4	63.5	72.5	76.2	2,513.1	66.8	78.1	81.2
Fukui	799.2	75.2	86.8	87.0	1,557.9	58.7	64.8	59.4	2,357.2	64.3	72.2	68.8
Yamanashi	623.7	62.6	90.4	92.6	1,427.4	49.5	60.1	61.9	2,051.1	53.5	69.3	71.2
Nagano	1,704.7	62.0	88.1	84.5	3,884.1	52.9	60.2	46.7	5,588.8	55.7	68.7	58.3
Gifu	1,606.4	71.0	85.8	91.3	3,082.6	44.2	60.6	74.8	4,689.0	53.4	69.2	80.5
Shizuoka	1,258.4	52.5	92.1	93.0	3,228.3	53.9	70.3	70.9	4,486.7	53.5	76.4	77.1
Aichi	1,338.3	63.3	96.1	96.0	4,227.3	57.9	76.3	81.2	5,565.6	59.2	81.0	84.8
Mie	1,205.2	67.7	89.4	87.2	2,653.2	51.0	61.9	56.1	3,858.4	56.3	70.5	65.8
Shiga	670.2	58.2	93.3	95.5	1,839.1	51.7	65.7	73.0	2,509.3	53.5	73.1	79.0
Kyoto	930.7	68.7	90.9	95.5	2,177.4	43.9	56.1	66.0	3,108.1	51.3	66.5	74.8
Osaka	660.3	48.7	93.8	100.0	1,784.2	58.9	83.2	99.2	2,444.5	56.1	86.1	99.4
Hyogo	1,501.0	70.8	95.0	96.4	4,399.2	54.7	68.5	75.5	5,900.2	58.8	75.3	80.8
Nara	839.3	51.4	72.1	83.9	1,296.3	34.8	45.5	54.0	2,135.6	41.3	56.0	65.7
Wakayama	1,037.5	62.5	76.5	80.2	1,881.1	39.1	45.3	59.3	2,918.7	47.4	56.4	66.7
Tottori	596.9	76.5	98.8	97.7	1,642.3	74.2	78.0	75.8	2,239.2	74.8	83.6	81.7
Shimane	945.2	71.5	92.6	93.9	2,503.3	50.3	57.6	60.2	3,448.5	56.1	67.2	69.4
Okayama	1,016.7	72.2	96.9	94.8	3,573.6	50.4	59.2	53.1	4,590.3	55.2	67.5	62.4
Hiroshima	1,510.5	70.3	93.3	95.0	3,683.1	57.2	67.0	73.1	5,193.6	61.0	74.6	79.5
Yamaguchi	1,113.9	70.0	92.9	93.3	2,790.8	44.8	53.0	50.6	3,904.8	52.0	64.3	62.8
Tokushima	718.9	54.2	73.4	79.1	1,768.6	29.7	43.8	48.8	2,487.5	36.8	52.4	57.5
Kagawa	368.8	69.2	98.3	99.0	1,562.2	66.8	75.4	76.9	1,931.1	67.3	79.8	81.1
Ehime	1,076.3	72.7	89.3	85.5	2,887.2	45.8	51.6	41.8	3,963.5	53.1	61.9	53.7
Kochi	1,062.5	74.3	84.5	84.9	2,091.1	33.6	39.6	39.0	3,153.7	47.3	54.7	54.5
Fukuoka	1,185.0	58.0	95.4	92.1	3,506.9	57.1	75.5	57.0	4,692.0	57.3	80.5	65.9
Saga	622.3	57.5	96.8	97.3	1,262.0	51.6	67.0	72.2	1,884.3	53.5	76.8	80.5
Nagasaki	984.5	60.9	91.0	91.3	1,668.5	57.1	61.1	57.1	2,652.9	58.5	72.2	69.8
Kumamoto	1,249.8	72.0	95.1	94.5	2,950.3	52.9	61.4	55.2	4,200.1	58.6	71.4	66.9
Oita	1,068.6	73.8	94.4	93.8	2,529.4	62.7	68.2	61.0	3,598.0	66.0	76.0	70.7
Miyazaki	1,176.3	67.5	82.3	78.8	2,008.1	53.3	60.0	59.4	3,184.4	58.6	68.2	66.6
Kagoshima	1,290.1	80.0	96.4	94.9	3,517.4	69.3	73.1	64.5	4,807.5	72.2	79.3	72.7
Okinawa	503.7	73.8	98.9	97.8	1,060.8	77.9	90.3	89.5	1,564.5	76.6	93.0	92.2
nationwide	55,626.3	70.1	92.4	92.6	129,301.4	59.5	69.6	64.2	184,927.7	62.7	76.5	72.8

Notes:

- Maintenance rates are estimates based on Road Traffic census in FY 2010.
- The improvement rates were calculated by using the total length of improved roads.
- To calculate improvement rates of prefectural and municipal roads, and also the above, those of which roadway width is 5.5 meters or more are in consideration.
- Pavement rate does not include pavement done by the simplified method.
- Ordinance-designated cities are included.
- Due to influence of Great East Japan Earthquake, for Iwate, Miyagi and Fukushima prefectures, part of the data for Municipal roads include data before April 1st, 2014.

6.14 Development and coverage rate of national highways by prefecture

(As of April 1, 2014) (Unit: km, %)

	Municipal roads			Total			
	Total length	Maintenance rate	Pavement rate	Total length	Maintenance rate	Improvement rate	Pavement rate
Hokkaido	71,097.9	67.3	14.4	89,626.2	72.3	73.1	24.4
Aomori	15,930.1	58.4	23.3	19,847.6	60.4	61.8	32.5
Iwate	28,320.5	59.1	9.4	33,032.4	61.6	62.5	17.6
Miyagi	21,296.0	68.0	20.5	24,799.7	68.3	70.4	30.2
Akita	19,934.8	66.5	8.6	23,655.6	67.7	69.0	18.8
Yamagata	12,878.2	66.9	12.3	16,512.2	68.6	70.9	25.7
Fukushima	32,654.5	57.5	10.6	38,770.9	58.1	59.6	18.8
Ibaraki	51,284.2	38.3	8.2	55,829.1	40.0	41.4	13.6
Tochigi	21,370.5	68.3	12.6	25,127.0	66.6	69.4	23.5
Gunma	31,370.8	47.8	10.3	34,803.5	49.1	50.8	17.4
Saitama	43,465.8	51.6	11.4	46,863.7	51.8	54.2	17.1
Chiba	36,582.3	58.6	18.4	40,438.4	58.6	60.7	25.4
Tokyo	21,465.5	71.5	60.2	24,147.1	69.9	73.2	64.2
Kanagawa	23,353.2	66.3	53.3	25,528.7	65.1	68.1	56.8
Niigata	30,459.6	62.3	10.4	37,109.9	62.1	64.2	20.7
Toyama	11,080.5	76.8	28.9	13,758.2	75.0	77.8	40.7
Ishikawa	10,494.5	74.8	13.9	13,007.6	73.2	75.4	26.9
Fukui	8,413.2	71.7	25.5	10,770.4	70.1	71.8	35.0
Yamanashi	9,028.8	60.6	17.6	11,079.9	59.3	62.2	27.5
Nagano	42,080.2	48.5	7.8	47,669.0	49.3	50.8	13.7
Gifu	25,759.6	55.2	10.3	30,448.7	54.9	57.4	21.1
Shizuoka	32,083.4	58.1	20.0	36,570.1	57.5	60.3	27.0
Aichi	44,345.7	65.3	26.8	49,911.3	64.6	67.1	33.3
Mie	21,268.8	49.4	17.4	25,127.2	50.4	52.6	24.8
Shiga	9,818.2	59.7	28.5	12,327.4	58.4	62.4	38.8
Kyoto	12,339.6	54.8	32.6	15,447.7	54.1	57.1	41.1
Osaka	16,887.8	76.2	71.1	19,332.3	73.7	77.5	74.7
Hyogo	30,263.3	59.5	30.6	36,163.5	59.4	62.1	38.8
Nara	10,516.5	45.5	22.8	12,652.1	44.8	47.2	30.0
Wakayama	10,624.3	42.8	47.6	13,543.0	43.8	45.8	51.8
Tottori	6,553.6	65.3	17.5	8,792.8	67.7	69.9	33.8
Shimane	14,673.4	54.2	9.0	18,121.9	54.6	56.7	20.5
Okayama	27,317.0	44.9	11.4	31,907.3	46.3	48.1	18.7
Hiroshima	23,491.7	57.4	35.0	28,685.3	58.0	60.5	43.0
Yamaguchi	12,441.1	59.1	27.4	16,345.9	57.4	60.4	35.9
Tokushima	12,562.6	44.8	14.9	15,050.1	43.5	46.1	21.9
Kagawa	8,264.0	61.1	15.7	10,195.1	62.3	64.7	28.1
Ehime	14,124.0	50.4	12.9	18,087.5	51.0	52.9	21.8
Kochi	10,793.5	44.2	12.0	13,947.2	44.9	46.6	21.6
Fukuoka	32,675.0	64.3	10.3	37,367.0	63.5	66.4	17.3
Saga	8,967.9	69.8	14.2	10,852.1	66.9	71.0	25.7
Nagasaki	15,322.9	48.1	29.7	17,975.8	49.7	51.7	35.6
Kumamoto	21,605.0	55.7	17.6	25,805.1	56.2	58.2	25.6
Oita	14,595.0	60.7	26.8	18,193.0	61.8	63.8	35.5
Miyazaki	16,768.3	52.9	14.6	19,952.7	53.8	55.4	22.9
Kagoshima	22,301.8	69.0	11.1	27,109.3	69.5	70.8	22.0
Okinawa	6,491.3	63.9	39.8	8,055.7	66.3	69.5	50.0
nationwide	1,025,416.2	58.2	19.3	1,210,343.9	58.9	61.0	27.5

6.14 Development and coverage rate of national highways by prefecture

(As of April 1, 2014) (Unit: km, %)

	Area (A) (㎢)	Population (B) (Thousand people)	Total length of national highways and Prefectural and municipal roads (C) (km)	Length of roads per 1㎢ (C/A) (m)	Total length of roads per one thousand people (C/B) (km)	Road area (D) (㎢)	Road rate (D/A) (%)	Paved roads (E) (km)	Number of vehicles owned (F) (Thousand)	Total length of paved roads per vehicle (E/F) (m)
Hokkaido	83,424	5,400	18,528	222.1	3.43	731.78	0.88	11,630.1	3,544	3.3
Aomori	9,645	1,321	3,918	406.2	2.97	129.42	1.34	2,745.6	975	2.8
Iwate	15,275	1,284	4,712	308.5	3.67	200.20	1.31	3,140.7	985	3.2
Miyagi	* 7,282	2,328	3,504	481.2	1.51	165.76	2.28	3,127.8	1,595	2.0
Akita	11,638	1,037	3,721	319.7	3.59	145.79	1.25	2,728.3	799	3.4
Yamagata	* 9,323	1,131	3,634	389.8	3.21	120.04	1.29	2,658.5	906	2.9
Fukushima	13,784	1,935	6,116	443.7	3.16	228.30	1.66	3,833.3	1,565	2.4
Ibaraki	6,097	2,919	4,545	745.4	1.56	285.92	4.69	3,415.1	2,449	1.4
Tochigi	6,408	1,980	3,757	585.6	1.90	164.42	2.57	3,216.2	1,622	2.0
Gunma	6,362	1,976	3,433	539.6	1.74	183.42	2.88	2,836.7	1,701	1.7
Saitama	* 3,798	7,239	3,398	894.7	0.47	258.58	6.81	3,079.6	3,814	0.8
Chiba	* 5,158	6,197	3,856	747.6	0.62	242.14	4.69	3,539.4	3,406	1.0
Tokyo	* 2,191	13,390	2,682	1223.9	0.20	176.19	8.04	2,580.6	3,929	0.7
Kanagawa	2,416	9,096	2,176	900.4	0.24	168.93	6.99	2,038.8	3,671	0.6
Niigata	* 12,584	2,313	6,650	528.5	2.88	242.18	1.92	4,534.5	1,778	2.5
Toyama	* 4,248	1,070	2,678	630.3	2.50	100.36	2.36	2,393.7	871	2.7
Ishikawa	4,186	1,156	2,513	600.3	2.17	95.38	2.28	2,040.0	869	2.3
Fukui	4,190	790	2,357	562.6	2.98	74.28	1.77	1,620.9	640	2.5
Yamanashi	* 4,465	841	2,051	459.4	2.44	65.31	1.46	1,460.8	715	2.0
Nagano	* 13,562	2,109	5,589	412.1	2.65	237.83	1.75	3,256.0	1,813	1.8
Gifu	* 10,621	2,041	4,689	441.5	2.30	180.56	1.70	3,774.3	1,620	2.3
Shizuoka	* 7,779	3,705	4,487	576.8	1.21	227.14	2.92	3,459.9	2,719	1.3
Aichi	* 5,172	7,455	5,566	1076.1	0.75	334.71	6.47	4,718.4	4,883	1.0
Mie	* 5,774	1,825	3,858	668.2	2.11	142.09	2.46	2,538.1	1,443	1.8
Shiga	* 4,017	1,416	2,509	624.7	1.77	85.76	2.13	1,983.3	972	2.0
Kyoto	4,612	2,610	3,108	673.9	1.19	96.52	2.09	2,325.2	1,265	1.8
Osaka	1,905	8,836	2,445	1283.2	0.28	153.55	8.06	2,429.6	3,477	0.7
Hyogo	8,401	5,541	5,900	702.3	1.06	231.07	2.75	4,767.8	2,829	1.7
Nara	3,691	1,376	2,136	578.6	1.55	68.01	1.84	1,403.8	798	1.8
Wakayama	4,725	971	2,919	617.7	3.01	70.12	1.48	1,948.1	718	2.7
Tottori	3,507	574	2,239	638.5	3.90	58.39	1.66	1,828.4	451	4.1
Shimane	6,708	697	3,449	514.1	4.95	99.97	1.49	2,394.0	537	4.5
Okayama	* 7,115	1,924	4,590	645.2	2.39	167.67	2.36	2,862.3	1,460	2.0
Hiroshima	8,479	2,833	5,194	612.5	1.83	178.89	2.11	4,128.6	1,791	2.3
Yamaguchi	6,112	1,408	3,905	638.9	2.77	110.27	1.80	2,452.9	1,034	2.4
Tokushima	4,147	764	2,488	599.8	3.26	75.27	1.82	1,431.1	597	2.4
Kagawa	* 1,877	981	1,931	1028.8	1.97	66.01	3.52	1,566.8	747	2.1
Ehime	5,676	1,395	3,964	698.3	2.84	105.72	1.86	2,127.4	971	2.2
Kochi	7,104	738	3,154	443.9	4.27	75.92	1.07	1,717.9	538	3.2
Fukuoka	* 4,986	5,091	4,692	941.0	0.92	239.84	4.81	3,089.8	3,138	1.0
Saga	2,441	835	1,884	771.9	2.26	71.43	2.93	1,516.2	643	2.4
Nagasaki	4,132	1,386	2,653	642.0	1.91	101.36	2.45	1,852.2	893	2.1
Kumamoto	* 7,409	1,794	4,200	566.9	2.34	154.57	2.09	2,808.4	1,309	2.1
Oita	* 6,341	1,171	3,598	567.4	3.07	116.54	1.84	2,545.0	881	2.9
Miyazaki	* 7,735	1,114	3,184	411.7	2.86	121.16	1.57	2,119.5	895	2.4
Kagoshima	* 9,188	1,668	4,808	523.3	2.88	176.33	1.92	3,493.5	1,286	2.7
Okinawa	2,281	1,421	1,565	685.9	1.10	64.79	2.84	1,441.9	993	1.5
nationwide	377,972	127,083	184,928	489.3	1.46	7,589.89	2.01	134,601.2	76,539	1.8

Note:

① "Area" was quoted from "Statistical reports on the land area by prefectures and municipalities in Japan (as of October 1st, 2014)" by Geospatial Information Authority of Japan, Ministry of Land, Infrastructure, Transport and Tourism, Government of Japan

② "Population" was quoted from data by Statistic Bureau (as of October 1st, 2014)

③ "Number of vehicles owned" was quoted from data by Automobile Information Department, Automobile Bureau, Ministry of Land, Infrastructure, Transport and Tourism Government of Japan (as of the end of FY 2013).

・ Due to rounding off of the fraction less than unit, totals and ground total may not be consistent.
・ "Road area" refers to the area including Express Highways, National Highways, prefectural and municipal roads.
・ Paved extension excludes pavement applied with simplified paving method.
・ * indicates areas of the prefectures with the borderlines that are not yet fixed
・ "Number of vehicles owned" does not include the numbers of trailers, small two wheelers, and two mini-cyclers

Source: Compiled from "Annual Report the Japanese Roads 2015" by Planning Division, Road Bureau, Ministry of Land, Infrastructure, Transport and Tourism, Government of Japan.

6.15 Traffic Volume of National Expressways, Urban Expressways and Common Roadways

Traffic volume of national expressways and urban expressways (Unit: car / day)

	National Expressways			Urban Expressways	
	Tomei Expressway	Meishin Expressway	Chuo Expressway	Metropolitan Expressway	Hanshin Expressway
FY 1968	12,001	17,622	9,614	212,132	131,177
1969	21,300	24,578	10,205	323,168	177,278
1970	28,053	31,757	11,331	367,632	254,200
1971	32,282	32,135	12,833	454,574	294,579
1972	39,516	36,966	13,704	496,770	341,744
1973	44,840	41,179	16,295	526,595	368,226
1974	44,858	41,505	17,194	517,780	383,731
1975	41,636	37,700	16,618	523,642	401,236
1976	44,766	40,095	21,058	555,655	423,866
1977	48,062	43,226	24,117	596,833	444,836
1978	53,046	43,937	28,093	688,390	479,025
1979	51,349	47,379	* 20,707	704,472	492,013
1980	52,225	48,595	* 21,080	734,664	529,680
1981	54,243	49,479	* 22,866	770,508	585,587
1982	54,211	49,137	* 23,276	778,353	623,524
1983	54,945	50,119	* 25,406	765,082	654,082
1984	58,101	53,468	* 27,998	798,564	679,862
1985	60,102	54,751	* 29,331	835,796	697,000
1986	61,084	56,732	* 30,499	857,507	720,300
1987	64,817	60,087	* 32,902	928,378	743,143
1988	68,093	63,520	* 36,040	1,001,926	768,506
1989	70,790	66,518	* 39,135	1,044,538	771,921
1990	73,269	69,522	* 42,114	1,108,131	805,458
1991	74,785	70,084	* 41,704	1,129,474	821,166
1992	74,571	69,826	* 42,449	1,131,062	828,248
1993	74,419	69,217	* 41,531	1,114,010	833,610
1994	76,203	67,918	* 42,616	1,122,810	830,195
1995	76,839	66,422	* 42,510	1,152,295	708,576
1996	79,052	70,788	* 43,020	1,164,167	864,169
1997	77,710	71,365	* 42,148	1,147,210	940,151
1998	76,562	70,962	* 40,971	1,155,504	951,599
1999	76,366	72,146	* 41,063	1,158,974	920,291
2000	77,637	73,110	* 40,708	1,152,336	919,885
2001	77,065	72,669	* 40,231	1,147,468	905,613
2002	76,657	71,810	* 39,466	1,118,534	888,631
2003	76,356	70,458	* 39,321	1,117,653	893,842
2004	76,895	71,368	* 39,290	1,115,716	904,619
2005	78,646	73,198	* 39,834	1,142,913	910,933
2006	79,029	73,582	* 40,234	1,149,245	912,849
2007	78,484	73,002	* 41,527	1,147,000	899,853
2008	75,162	64,735	* 40,892	1,114,678	870,970
2009	79,286	67,259	* 43,254	1,119,739	861,408
2010	80,543	66,987	* 45,555	1,113,870	876,062
2011	79,872	65,882	* 44,227	956,459	727,952
2012	63,828	65,335	* 42,460	949,430	723,970

Notes:

- Figures for Urban Expressways refers to average traffic volume per day.
- Figures for Chuo Expressway refers to the average traffic volume of the whole of Fujiyoshida line. However, * indicates the average traffic volume between Hachioji and Kawaguchiko.

Source: Compiled from Annual Report of Road Statistics 2014 by Ministry of Ministry of Land, Infrastructure, Transport and Tourism

6.15 Traffic Volume of National Expressways, Urban Expressways and Common Roadways

Traffic volume of common roadway (Unit: car / 12 hours)

Types of road/Route name	FY1980	1983	1985	1988	1990	1994	1997	1999	2005	2010
National highway (direct control)	10,065	10,462	10,573	11,566	12,097	12,768	13,275	13,404	13,237	12,197
National highway (non-direct control)	4,538	4,573	4,681	5,237	5,576	5,708	6,158	6,227	6,308	6,261
National highway total	7,183	7,082	7,200	7,956	8,375	8,452	8,929	9,028	9,049	8,651
Major regional roads	3,658	3,679	3,747	4,122	4,360	4,613	4,906	5,008	5,101	4,944
Prefectural road	2,003	2,142	2,187	2,426	2,588	2,690	2,862	2,918	2,934	2,839
Prefectural road total	2,568	2,757	2,809	3,100	3,290	3,586	3,793	3,869	3,919	3,793
TOTAL	3,675	3,938	4,004	4,419	4,670	5,073	5,329	5,415	5,463	5,267
Route1 From Tokyo to Osaka	20,011	20,741	21,104	21,914	22,013	22,673	23,272	23,161	22,840	22,912
Route 2 From Osaka to Kitakyushu	19,492	20,241	20,629	22,058	22,835	24,286	25,329	24,757	24,896	23,780
Route 3 From Kitakyushu to Kagoshima	15,229	15,836	16,067	17,381	17,987	18,917	19,463	19,193	18,430	18,439
Route 4 From Tokyo to Aomori	13,586	13,596	14,087	15,036	15,628	16,940	17,533	18,436	19,167	18,526
Route 5 From Hakodate to Sapporo	8,215	8,329	8,598	9,119	10,016	10,618	11,614	11,409	11,005	9,440

Notes:

- Figures are the average traffic volume during 12 hours in daytime (7-19 o'clock) according to Road traffic census (yearly published.)
- Traffic volume is defined as the traffic volume excluding that in road-closed sections.

Source: Road Bureau's web: "http://www.milt.go.jp/road/ir/ir-data/data_shu.html", Ministry of Land, Infrastructure, and Tourism

6.16 Changes in Kilometers Traveling (one million kilometers)

	Kilometers travelling	Index
FY 1971	243,479	100.0
1972	259,593	106.6
1973	276,194	113.4
1974	266,485	109.4
1975	286,345	117.6
1976	309,698	127.2
1977	342,326	140.6
1978	361,261	148.4
1979	381,951	156.9
1980	389,052	159.8
1981	394,658	162.1
1982	403,101	165.6
1983	408,928	168.0
1984	415,743	170.8
1985	428,442	176.0
1986	441,613	181.4
1987	457,858	188.0
1988	478,289	196.4
1989	501,187	205.8
1990	527,964	216.8
1991	551,110	226.3
1992	566,275	232.6
1993	568,500	233.5
1994	576,132	236.6
1995	596,363	244.9
1996	610,183	250.6
1997	615,099	252.6
1998	613,951	252.2
1999	626,286	257.2
2000	630,755	259.1
2001	639,818	262.8
2002	634,395	260.6
2003	628,769	258.2
2004	610,336	250.7
2005	592,489	243.3
2006	580,483	238.4
2007	573,806	236.7
2008	552,230	226.8
2009	546,041	224.3
2010	484,435	199.0
2011	493,631	202.7
2012	503,953	207.0
2013	501,478	206.0

Notes:

・As for the Index, FY1971=100.

・Light motor vehicles are excluded.

・Due to the influence of the Great East Japan Earthquake, figures for 2011 does not include March and April data within the jurisdiction of Hokkaido District Transport Bureau and Tohoku District Transport Bureau.

Source: Compiled from "Transportation censuses" by Information Policy Division, Policy Bureau, Ministry of Land, Infrastructure, Transport and Tourism. Government of Japan

6.17 Increase in vehicle weight of Passenger cars (private use/business use)

	Vehicle weight (per car)					Average of vehicle weight (kg)
	~ 500kg	501 ~ 1,000kg	1,001 ~ 1,500kg	1,501kg ~	Others	
FY 1980	372	13,451,676	7,919,402	168,797	3,227	942
1981	250	13,651,100	8,685,598	171,044	6,798	951
1982	195	13,965,109	9,236,698	172,558	14,579	955
1983	192	14,290,444	9,785,987	176,015	30,011	959
1984	186	14,544,529	10,228,196	201,178	53,152	963
1985	190	14,694,986	10,823,540	237,340	91,522	970
1986	206	14,697,022	11,552,703	275,137	162,623	978
1987	227	14,587,549	12,565,780	367,624	303,553	992
1988	234	14,225,016	13,784,422	474,482	491,385	1,009
1989	262	13,779,443	15,557,300	769,172	775,403	1,034
1990	298	13,007,294	17,137,377	1,223,034	1,068,494	1,063
1991	344	12,237,883	18,465,559	1,909,013	1,337,780	1,093
1992	415	11,369,719	19,679,441	2,578,309	1,606,583	1,122
1993	494	10,729,736	20,762,032	5,016,568	12	1,175
1994	606	10,027,588	21,848,312	5,878,003	12	1,200
1995	725	9,441,373	22,860,727	6,799,871	12	1,222
1996	866	8,888,483	23,838,118	7,749,091	10	1,243
1997	1,007	8,418,558	24,331,530	8,531,890	8	1,259
1998	1,156	8,059,068	24,636,863	9,085,781	8	1,271
1999	1,266	7,764,673	24,617,132	9,672,626	8	1,282
2000	1,311	7,414,303	24,708,250	10,241,194	11	1,293
2001	1,336	7,167,928	24,634,074	10,724,383	11	1,302
2002	1,348	7,012,555	24,641,880	10,999,132	14	1,307
2003	1,346	6,714,955	24,655,319	11,252,572	14	1,314
2004	1,333	6,532,323	24,738,036	11,504,471	15	1,319
2005	1,311	6,251,768	24,671,870	11,822,316	15	1,327
2006	1,268	5,894,155	24,325,087	12,008,884	15	1,334
2007	1,234	5,603,280	23,758,721	12,105,739	15	1,340
2008	1,222	5,372,240	23,306,249	12,119,512	22	1,345
2009	1,211	5,164,218	23,073,771	12,179,693	27	1,349
2010	1,220	5,005,002	22,844,577	11,315,981	23	1,331
2011	1,239	4,881,363	22,849,536	12,411,281	0	1,344
2012	1,247	4,656,070	22,862,631	12,489,379	0	1,348
2013	1,221	4,398,732	22,776,234	12,644,830	0	1,354
2014	1,217	4,139,146	22,585,937	12,764,817	0	1,359

Note:
Mini vans and station wagons weighing 1,501 kg or more were categorized under "others" prior to 1992. In 1993 and onward, they were classified by weight.

Source: Compiled from "Number of registered vehicles classified by type" as of March 31, 2011, 2012, 2013, 2014, and 2015 by Automobile Inspection & Registration Information Association

6.18 Changes in number of the next-generation vehicles

Number of vehicles owned	Electric	Plug-in hybrid	fuel-cell	Hybrid	CNG
FY2009 End	424	165	-	983,402	23,137
FY2010 End	4,938	379	-	1,417,996	22,496
FY2011 End	13,597	4,133	-	20,286,559	21,581
FY2012 End	25,334	17,296	-	2,851,806	20,484
FY2013 End	39,165	30,192	-	3,813,184	19,041
FY2014 End	53,373	44,046	155	4,662,387	17,598

Number of vehicles sold	Clean diesel
2009	4,562
2010	9,736
2011	9,072
2012	40,567
2013	76,141
2014	79,565
2015	153,592

Source:

・Other than clean-diesel vehicles: Next Generation Vehicle Promotion Center.

・Clean-diesel vehicles: Clean Diesel Promotion Association

6.19 Changes in number of fueling facilities for next-generation vehicles

Natural gas (quick charging)

	(Units)
FY 1994 End	24
1995	34
1996	47
1997	62
1998	82
1999	107
2000	138
2001	181
2002	224
2003	270
2004	288
2005	311
2006	324
2007	327
2008	344
2009	342
2010	333
2011	321
2012	314
2013	300
2014	290

Source: Compiled from materials by The Japan Gas Association

Electric (quick charging)

	(Unit: location)
Apr. 2010	193
Oct.	276
Apr. 2011	629
Oct.	763
Apr. 2012	1,154
Oct.	1,344
Apr. 2013	1,677
Oct.	1,759
Mar. 2014	1,882
Sep.	2,129
Mar. 2015	3,087
Oct.	5,484
Apr. 2016	6,469

Source: CHAdeMO Association

Commercial hydrogen station

	(Unit: location)
FY2015 End	76

Source: Japan Revitalization Strategy Revision 2016

Hydrogen fueling station derived from renewable energy

	(Unit: location)
FY2015 End	2

Source: Japan Revitalization Strategy Revision 2016

6.20 Trends in annual average concentration of Sulfur Dioxide (Ambient air pollution monitoring stations/Roadside air pollution monitoring stations)

	Ambient air pollution monitoring stations		Roadside air pollution monitoring stations	
	Yearly average (ppm)	Number of stations	Yearly average (ppm)	Number of stations
FY1974	0.017	1,125	0.022	24
1975	0.015	1,236	0.021	34
1976	0.014	1,353	0.020	33
1977	0.013	1,414	0.021	40
1978	0.011	1,456	0.018	42
1979	0.010	1,532	0.017	41
1980	0.009	1,571	0.014	43
1981	0.008	1,585	0.012	41
1982	0.007	1,603	0.012	46
1983	0.007	1,612	0.011	52
1984	0.007	1,623	0.011	51
1985	0.006	1,609	0.010	49
1986	0.006	1,608	0.010	49
1987	0.006	1,603	0.011	53
1988	0.006	1,601	0.012	58
1989	0.006	1,599	0.012	65
1990	0.006	1,602	0.012	69
1991	0.006	1,607	0.011	70
1992	0.005	1,614	0.009	78
1993	0.005	1,601	0.007	82
1994	0.005	1,604	0.008	91
1995	0.005	1,608	0.008	94
1996	0.005	1,612	0.008	101
1997	0.005	1,595	0.006	104
1998	0.004	1,579	0.006	103
1999	0.004	1,551	0.005	101
2000	0.005	1,501	0.006	96
2001	0.005	1,489	0.006	95
2002	0.004	1,468	0.005	97
2003	0.004	1,395	0.004	92
2004	0.004	1,361	0.004	89
2005	0.004	1,319	0.004	85
2006	0.003	1,265	0.004	86
2007	0.003	1,236	0.003	82
2008	0.003	1,171	0.003	72
2009	0.003	1,129	0.003	68
2010	0.003	1,114	0.003	68
2011	0.002	1,066	0.003	61
2012	0.002	1,022	0.002	59
2013	0.002	1,011	0.002	58
2014	0.002	1,003	0.002	55

Note:
The figures indicate historical changes in arithmetic means of the annual averages at valid stations.

Source: Compiled from "Air pollution in FY 2014 (a press release)" by Environment Management Bureau, Ministry of the Environment, Government of Japan

6.21 Achievement of environmental quality standards for concentration of Sulfur Dioxide (Ambient air pollution monitoring stations/roadside air pollution monitoring stations)

	Ambient air pollution monitoring stations			Roadside air pollution monitoring stations		
	Number of stations where standards were met	Number of valid monitoring stations	Achievement rate (%)	Number of stations where standards were met	Number of valid monitoring stations	Achievement rate (%)
FY1979	1,485	1,532	96.9	35	41	85.4
1980	1,546	1,571	98.4	41	43	95.3
1981	1,569	1,585	99.0	40	42	95.2
1982	1,596	1,603	99.6	44	46	95.7
1983	1,603	1,612	99.4	52	52	100.0
1984	1,614	1,623	99.4	50	51	98.0
1985	1,603	1,609	99.6	49	49	100.0
1986	1,600	1,608	99.5	48	49	98.0
1987	1,596	1,603	99.6	52	53	98.1
1988	1,596	1,601	99.7	57	58	98.3
1989	1,591	1,599	99.5	62	64	96.9
1990	1,598	1,602	99.8	65	68	95.6
1991	1,601	1,607	99.6	69	70	98.6
1992	1,608	1,614	99.6	77	78	98.7
1993	1,598	1,601	99.8	82	82	100.0
1994	1,600	1,604	99.8	91	91	100.0
1995	1,603	1,608	99.7	94	94	100.0
1996	1,610	1,612	99.9	101	101	100.0
1997	1,590	1,595	99.7	104	104	100.0
1998	1,575	1,579	99.7	103	103	100.0
1999	1,547	1,551	99.7	101	101	100.0
2000	1,415	1,501	94.3	90	96	93.8
2001	1,483	1,489	99.6	95	95	100.0
2002	1,465	1,468	99.8	96	97	99.0
2003	1,391	1,395	99.7	92	92	100.0
2004	1,359	1,361	99.9	89	89	100.0
2005	1,315	1,319	99.7	85	85	100.0
2006	1,263	1,265	99.8	86	86	100.0
2007	1,234	1,236	99.8	82	82	100.0
2008	1,169	1,171	99.8	72	72	100.0
2009	1,125	1,129	99.6	68	68	100.0
2010	1,111	1,114	99.7	68	68	100.0
2011	1,062	1,066	99.6	61	61	100.0
2012	1,019	1,022	99.7	59	59	100.0
2013	1,008	1,011	99.7	58	58	100.0
2014	999	1,003	99.6	55	55	100.0

Source: Compiled from "Air pollution in FY 2014 (a press release) " by Environment Management Bureau, Ministry of the Environment, Government of Japan

6.22 Trends in annual average of Nitrogen dioxide (NO_2) and Nitrogen Monoxide (NO) concentration (Ambient air pollution monitoring stations / Roadside air pollution monitoring stations)

	Ambient air pollution monitoring station				Roadside air pollution monitoring station			
	Nitrogen dioxide		Nitrogen monoxide		Nitrogen dioxide		Nitrogen monoxide	
	Annual average (ppm)	Number of monitoring stations	Annual average (ppm)	Number of monitoring stations	Annual average (ppm)	Number of monitoring stations	Annual average (ppm)	Number of monitoring stations
FY1977	0.019	891	0.012	886	0.037	195	0.059	195
1978	0.017	981	0.014	971	0.033	205	0.075	206
1979	0.016	1,080	0.012	1,075	0.033	213	0.070	213
1980	0.016	1,169	0.012	1,168	0.033	232	0.068	234
1981	0.015	1,215	0.012	1,210	0.032	246	0.068	246
1982	0.015	1,245	0.011	1,243	0.032	260	0.064	262
1983	0.015	1,283	0.010	1,280	0.031	274	0.060	274
1984	0.015	1,302	0.011	1,300	0.031	282	0.058	283
1985	0.014	1,309	0.011	1,306	0.030	281	0.057	280
1986	0.015	1,321	0.011	1,319	0.031	282	0.059	283
1987	0.016	1,324	0.012	1,323	0.032	289	0.060	289
1988	0.016	1,337	0.012	1,337	0.032	299	0.058	299
1989	0.016	1,357	0.012	1,356	0.032	307	0.057	307
1990	0.016	1,367	0.011	1,365	0.032	315	0.055	315
1991	0.017	1,378	0.013	1,378	0.033	325	0.056	325
1992	0.016	1,406	0.011	1,404	0.032	336	0.052	336
1993	0.017	1,420	0.012	1,419	0.032	346	0.052	346
1994	0.017	1,439	0.011	1,438	0.032	359	0.050	359
1995	0.017	1,453	0.011	1,453	0.032	369	0.050	369
1996	0.017	1,460	0.012	1,460	0.033	373	0.051	373
1997	0.017	1,457	0.012	1,457	0.032	385	0.049	385
1998	0.017	1,466	0.011	1,466	0.031	392	0.048	392
1999	0.016	1,460	0.010	1,460	0.030	394	0.045	394
2000	0.017	1,466	0.010	1,466	0.030	395	0.044	395
2001	0.016	1,465	0.010	1,465	0.030	399	0.043	399
2002	0.016	1,460	0.009	1,461	0.029	413	0.040	413
2003	0.016	1,454	0.009	1,454	0.029	426	0.037	426
2004	0.015	1,444	0.008	1,444	0.028	434	0.035	434
2005	0.015	1,424	0.007	1,424	0.027	437	0.032	437
2006	0.015	1,397	0.007	1,397	0.027	441	0.029	441
2007	0.013	1,397	0.006	1,397	0.025	431	0.027	431
2008	0.013	1,366	0.005	1,366	0.024	421	0.024	421
2009	0.012	1,351	0.005	1,351	0.023	423	0.021	423
2010	0.011	1,332	0.004	1,332	0.022	416	0.020	416
2011	0.011	1,308	0.004	1,308	0.021	411	0.019	411
2012	0.011	1,285	0.004	1,285	0.020	406	0.017	406
2013	0.010	1,278	0.003	1,278	0.020	405	0.016	405
2014	0.010	1,275	0.003	1,275	0.019	403	0.014	403

Note:
The data show chronological changes of simple means of annual averages at valid stations.

Source: Compiled from "Air Pollution in FY 2014 (a press release)" by Environment Management Bureau, Ministry of the Environment, Government of Japan

6.23 Achievement of environmental quality standards for Nitrogen Dioxide (Ambient air pollution monitoring stations / Roadside traffic environment monitoring stations)

	Ambient air pollution monitoring stations			Roadside traffic environment monitoring stations		
	Number of monitoring stations recording levels that met criteria	Number of valid monitoring stations	Achievement rate (%)	Number of monitoring stations recording levels that met criteria	Number of valid monitoring stations	Achievement rate (%)
FY1985	1,289	1,309	98.5	215	280	76.8
1986	1,287	1,321	97.4	212	282	75.2
1987	1,244	1,324	94.0	181	289	62.6
1988	1,282	1,337	95.9	204	299	68.2
1989	1,292	1,357	95.2	201	307	65.5
1990	1,280	1,367	93.6	202	314	64.3
1991	1,297	1,378	94.1	204	325	62.8
1992	1,369	1,406	97.4	240	336	71.4
1993	1,356	1,420	95.5	232	346	67.1
1994	1,377	1,439	95.7	242	359	67.4
1995	1,417	1,453	97.5	260	369	70.5
1996	1,407	1,460	96.4	241	373	64.6
1997	1,389	1,457	95.3	253	385	65.7
1998	1,382	1,466	94.3	267	392	68.1
1999	1,444	1,460	98.9	310	394	78.7
2000	1,454	1,466	99.2	316	395	80.0
2001	1,451	1,465	99.0	317	399	79.4
2002	1,447	1,460	99.1	345	413	83.5
2003	1,453	1,454	99.9	365	426	85.7
2004	1,444	1,444	100	387	434	89.2
2005	1,423	1,424	99.9	399	437	91.3
2006	1,397	1,397	100	400	441	90.7
2007	1,379	1,379	100	407	431	94.4
2008	1,366	1,366	100	402	421	95.5
2009	1,351	1,351	100	405	423	95.7
2010	1,332	1,332	100	407	416	97.8
2011	1,308	1,308	100	409	411	99.5
2012	1,285	1,285	100	406	403	99.3
2013	1,278	1,278	100	405	401	99.0
2014	1,275	1,275	100	403	401	99.5

Source: "Air Pollution in FY 2014 (a press release)," Environment Management Bureau, MOE, the Government of Japan

6.24 Achievement of environmental quality standards for Nitrogen Dioxide by prefecture (Ambient Air Pollution Monitoring Stations)

	FY 2009			FY 2010			FY 2011			FY 2012			FY 2013			FY 2014		
	Number of valid monitoring stations	Number of monitoring stations recording levels that met criteria	Achievement rate (%)	Number of valid monitoring stations	Number of monitoring stations recording levels that met criteria	Achievement rate (%)	Number of valid monitoring stations	Number of monitoring stations recording levels that met criteria	Achievement rate (%)	Number of valid monitoring stations	Number of monitoring stations recording levels that met criteria	Achievement rate (%)	Number of valid monitoring stations	Number of monitoring stations recording levels that met criteria	Achievement rate (%)	Number of valid monitoring stations	Number of monitoring stations recording levels that met criteria	Achievement rate (%)
Hokkaido	70	70	100.0	70	70	100.0	69	69	100.0	67	67	100.0	63	63	100.0	62	62	100.0
Aomori	14	14	100.0	14	14	100.0	14	14	100.0	14	14	100.0	13	13	100.0	13	13	100.0
Iwate	11	11	100.0	11	11	100.0	10	10	100.0	12	12	100.0	12	12	100.0	12	12	100.0
Miyagi	27	27	100.0	26	26	100.0	22	22	100.0	23	23	100.0	24	24	100.0	24	24	100.0
Akita	12	12	100.0	13	13	100.0	13	13	100.0	13	13	100.0	13	13	100.0	13	13	100.0
Yamagata	14	14	100.0	17	17	100.0	17	17	100.0	16	16	100.0	16	16	100.0	16	16	100.0
Fukushima	28	28	100.0	26	26	100.0	25	25	100.0	23	23	100.0	21	21	100.0	20	20	100.0
Ibaraki	47	47	100.0	47	47	100.0	45	45	100.0	38	38	100.0	40	40	100.0	42	42	100.0
Tochigi	19	19	100.0	18	18	100.0	17	17	100.0	17	17	100.0	17	17	100.0	17	17	100.0
Gunma	21	21	100.0	20	20	100.0	14	14	100.0	14	14	100.0	14	14	100.0	14	14	100.0
Saitama	56	56	100.0	55	55	100.0	56	56	100.0	56	56	100.0	54	54	100.0	54	54	100.0
Chiba	114	114	100.0	112	112	100.0	112	112	100.0	106	106	100.0	105	105	100.0	105	105	100.0
Tokyo	46	46	100.0	45	45	100.0	46	46	100.0	46	46	100.0	46	46	100.0	46	46	100.0
Kanagawa	61	61	100.0	61	61	100.0	61	61	100.0	61	61	100.0	60	60	100.0	60	60	100.0
Niigata	26	26	100.0	26	26	100.0	26	26	100.0	26	26	100.0	25	25	100.0	22	22	100.0
Toyama	17	17	100.0	17	17	100.0	15	15	100.0	14	14	100.0	14	14	100.0	14	14	100.0
Ishikawa	19	19	100.0	19	19	100.0	19	19	100.0	17	17	100.0	17	17	100.0	17	17	100.0
Fukui	24	24	100.0	22	22	100.0	22	22	100.0	22	22	100.0	22	22	100.0	22	22	100.0
Yamanashi	10	10	100.0	10	10	100.0	9	9	100.0	10	10	100.0	10	10	100.0	10	10	100.0
Nagano	17	17	100.0	16	16	100.0	14	14	100.0	15	15	100.0	15	15	100.0	15	15	100.0
Gifu	11	11	100.0	11	11	100.0	11	11	100.0	11	11	100.0	11	11	100.0	11	11	100.0
Shizuoka	52	52	100.0	50	50	100.0	49	49	100.0	47	47	100.0	49	49	100.0	48	48	100.0
Aichi	100	100	100.0	88	88	100.0	86	86	100.0	84	84	100.0	84	84	100.0	85	85	100.0
Mie	21	21	100.0	21	21	100.0	21	21	100.0	22	22	100.0	24	24	100.0	25	25	100.0
Shiga	9	9	100.0	9	9	100.0	8	8	100.0	9	9	100.0	10	10	100.0	10	10	100.0
Kyoto	25	25	100.0	26	26	100.0	26	26	100.0	24	24	100.0	25	25	100.0	24	24	100.0
Osaka	65	65	100.0	66	66	100.0	66	66	100.0	65	65	100.0	66	66	100.0	66	66	100.0
Hyogo	69	69	100.0	70	70	100.0	69	69	100.0	70	70	100.0	67	67	100.0	67	67	100.0
Nara	11	11	100.0	11	11	100.0	11	11	100.0	11	11	100.0	8	8	100.0	9	9	100.0
Wakayama	25	25	100.0	25	25	100.0	24	24	100.0	24	24	100.0	25	25	100.0	25	25	100.0
Tottori	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0
Shimane	7	7	100.0	7	7	100.0	7	7	100.0	6	6	100.0	7	7	100.0	5	5	100.0
Okayama	43	43	100.0	44	44	100.0	44	44	100.0	44	44	100.0	44	44	100.0	44	44	100.0
Hiroshima	33	33	100.0	33	33	100.0	33	33	100.0	33	33	100.0	33	33	100.0	32	32	100.0
Yamaguchi	26	26	100.0	26	26	100.0	26	26	100.0	26	26	100.0	26	26	100.0	26	26	100.0
Tokushima	19	19	100.0	19	19	100.0	17	17	100.0	17	17	100.0	17	17	100.0	16	16	100.0
Kagawa	17	17	100.0	17	17	100.0	17	17	100.0	17	17	100.0	17	17	100.0	18	18	100.0
Ehime	12	12	100.0	12	12	100.0	12	12	100.0	12	12	100.0	12	12	100.0	12	12	100.0
Kochi	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0	5	5	100.0
Fukuoka	37	37	100.0	37	37	100.0	38	38	100.0	38	38	100.0	38	38	100.0	38	38	100.0
Saga	9	9	100.0	11	11	100.0	11	11	100.0	11	11	100.0	11	11	100.0	13	13	100.0
Nagasaki	20	20	100.0	20	20	100.0	20	20	100.0	20	20	100.0	20	20	100.0	19	19	100.0
Kumamoto	28	28	100.0	27	27	100.0	28	28	100.0	27	27	100.0	28	28	100.0	28	28	100.0
Oita	23	23	100.0	22	22	100.0	22	22	100.0	22	22	100.0	22	22	100.0	20	20	100.0
Miyazaki	14	14	100.0	14	14	100.0	14	14	100.0	14	14	100.0	11	11	100.0	12	12	100.0
Kagoshima	10	10	100.0	10	10	100.0	10	10	100.0	10	10	100.0	10	10	100.0	10	10	100.0
Okinawa	6	6	100.0	5	5	100.0	6	6	100.0	5	5	100.0	6	6	100.0	6	6	100.0
Nationwide	1,351	1,351	100.0	1,332	1,332	100.0	1,308	1,308	100.0	1,285	1,285	100.0	1,278	1,278	100.0	1,275	1,275	100.0

Source: "Air Pollution in FY 2014 (a press release)," Environment Management Bureau, Ministry of the Environment, the Government of Japan

6.25 Achievement of environmental standards for Nitrogen Dioxide (NO_2) by prefecture (Roadside air pollution monitoring stations)

	FY2009			2010			2011			2012			2013			2014		
	Number of valid monitoring stations	Number of stations where standards were met	Achievement rate (%)	Number of valid monitoring stations	Number of stations where standards were met	Achievement rate (%)	Number of valid monitoring stations	Number of stations where standards were met	Achievement rate (%)	Number of valid monitoring stations	Number of stations where standards were met	Achievement rate (%)	Number of valid monitoring stations	Number of stations where standards were met	Achievement rate (%)	Number of valid monitoring stations	Number of stations where standards were met	Achievement rate (%)
Hokkaido	15	14	93.3	15	15	100.0	15	15	100.0	15	15	100.0	15	15	100.0	16	16	100.0
Aomori	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0
Iwate	3	3	100.0	3	3	100.0	2	2	100.0	2	2	100.0	2	2	100.0	2	2	100.0
Miyagi	10	10	100.0	10	10	100.0	7	7	100.0	9	9	100.0	9	9	100.0	9	9	100.0
Akita	4	4	100.0	3	3	100.0	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0
Yamagata	1	1	100.0	1	1	100.0	1	1	100.0	1	1	100.0	1	1	100.0	1	1	100.0
Fukushima	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0
Ibaraki	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0
Tochigi	11	11	100.0	10	10	100.0	11	11	100.0	11	11	100.0	11	11	100.0	11	11	100.0
Gunma	7	7	100.0	8	8	100.0	8	8	100.0	8	8	100.0	8	8	100.0	8	8	100.0
Saitama	28	28	100.0	28	28	100.0	27	27	100.0	27	27	100.0	27	27	100.0	27	27	100.0
Chiba	29	28	96.6	29	28	96.6	28	28	100.0	27	27	100.0	27	27	100.0	27	27	100.0
Tokyo	39	35	89.7	39	36	92.3	39	38	97.4	39	37	94.9	39	37	94.9	39	38	97.4
Kanagawa	31	27	87.1	31	28	90.3	31	30	96.8	31	30	96.8	31	31	100.0	30	29	96.7
Niigata	5	5	100.0	5	5	100.0	4	4	100.0	4	4	100.0	4	4	100.0	3	3	100.0
Toyama	7	7	100.0	7	7	100.0	7	7	100.0	7	7	100.0	7	7	100.0	7	7	100.0
Ishikawa	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0
Fukui	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0
Yamanashi	1	1	100.0	1	1	100.0	1	1	100.0	1	1	100.0	1	1	100.0	1	1	100.0
Nagano	7	7	100.0	7	7	100.0	7	7	100.0	7	7	100.0	7	7	100.0	7	7	100.0
Gifu	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0
Shizuoka	10	10	100.0	10	10	100.0	10	10	100.0	9	9	100.0	9	9	100.0	9	9	100.0
Aichi	35	32	91.4	30	29	96.7	30	30	100.0	29	29	100.0	30	29	96.7	30	30	100.0
Mie	7	6	85.7	7	6	85.7	7	7	100.0	7	7	100.0	7	7	100.0	7	7	100.0
Shiga	5	5	100.0	5	5	100.0	5	5	100.0	4	4	100.0	4	4	100.0	4	4	100.0
Kyoto	9	9	100.0	9	9	100.0	8	8	100.0	7	7	100.0	7	7	100.0	7	7	100.0
Osaka	36	34	94.4	35	35	100.0	36	36	100.0	35	35	100.0	36	36	100.0	36	36	100.0
Hyogo	32	31	96.9	32	32	100.0	32	32	100.0	32	32	100.0	32	32	100.0	31	31	100.0
Nara	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0	2	2	100.0
Wakayama	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tottori	1	1	100.0	2	2	100.0	2	2	100.0	2	2	100.0	2	2	100.0	2	2	100.0
Shimane	2	2	100.0	2	2	100.0	2	2	100.0	2	2	100.0	1	1	100.0	1	1	100.0
Okayama	11	11	100.0	10	10	100.0	10	10	100.0	10	10	100.0	10	10	100.0	10	10	100.0
Hiroshima	7	7	100.0	7	7	100.0	7	7	100.0	7	7	100.0	7	7	100.0	7	7	100.0
Yamaguchi	1	1	100.0	1	1	100.0	1	1	100.0	1	1	100.0	1	1	100.0	1	1	100.0
Tokushima	1	1	100.0	1	1	100.0	1	1	100.0	1	1	100.0	1	1	100.0	1	1	100.0
Kagawa	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0	3	3	100.0
Ehime	1	1	100.0	1	1	100.0	1	1	100.0	1	1	100.0	1	1	100.0	1	1	100.0
Kochi	1	1	100.0	1	1	100.0	1	1	100.0	1	1	100.0	1	1	100.0	1	1	100.0
Fukuoka	16	15	93.8	16	16	100.0	16	16	100.0	16	16	100.0	15	14	93.3	16	16	100.0
Saga	2	2	100.0	2	2	100.0	2	2	100.0	2	2	100.0	2	2	100.0	2	2	100.0
Nagasaki	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0
Kumamoto	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0
Oita	2	2	100.0	2	2	100.0	2	2	100.0	2	2	100.0	2	2	100.0	2	2	100.0
Miyazaki	5	5	100.0	5	5	100.0	5	5	100.0	5	5	100.0	5	5	100.0	5	5	100.0
Kagoshima	2	2	100.0	2	2	100.0	2	2	100.0	2	2	100.0	2	2	100.0	2	2	100.0
Okinawa	2	2	100.0	2	2	100.0	2	2	100.0	1	1	100.0	-	-	-	1	1	100.0
Nationwide	423	405	95.7	416	407	97.8	411	409	99.5	406	403	99.3	405	401	99.0	403	401	99.5

Source: Compiled from "Air Pollution in FY 2014 (a press release)" by Environment Management Bureau, Ministry of the Environment, Government of Japan

6.26 Trends in annual average concentration of Suspended Particulate Matters (Ambient Air Pollution Monitoring Stations/Roadside Air Pollution Monitoring Stations)

(Unit: mg/m³)

	Ambient Air Pollution Monitoring Stations	Roadside Air Pollution Monitoring Stations
FY1977	0.047	0.063
1978	0.047	0.056
1979	0.044	0.054
1980	0.042	0.053
1981	0.039	0.062
1982	0.038	0.059
1983	0.034	0.053
1984	0.037	0.051
1985	0.035	0.048
1986	0.037	0.050
1987	0.037	0.050
1988	0.036	0.048
1989	0.036	0.049
1990	0.037	0.050
1991	0.037	0.050
1992	0.035	0.047
1993	0.034	0.045
1994	0.035	0.048
1995	0.034	0.047
1996	0.034	0.047
1997	0.033	0.046
1998	0.032	0.043
1999	0.028	0.037
2000	0.031	0.040
2001	0.030	0.038
2002	0.027	0.035
2003	0.026	0.033
2004	0.025	0.031
2005	0.027	0.031
2006	0.026	0.030
2007	0.024	0.027
2008	0.022	0.026
2009	0.021	0.024
2010	0.021	0.023
2011	0.020	0.022
2012	0.019	0.021
2013	0.020	0.022
2014	0.020	0.021

Source: Compiled from "Air Pollution in FY 2014 (a press release)" by Environment Management Bureau, MOE, Government of Japan

6.27 Achievement of environmental quality standards for Suspended Particulate Matters (Ambient air pollution monitoring stations / Roadside air pollution monitoring stations)

	Ambient Air Pollution Monitoring Stations			Roadside Air Pollution Monitoring Stations		
	Number of stations where standards were met	Number of valid monitoring stations	Achievement rate (%)	Number of stations where standards were met	Number of valid monitoring stations	Achievement rate (%)
FY1985	393	755	52.1	17	66	25.8
1986	486	855	56.8	21	74	28.4
1987	504	956	52.7	26	90	28.9
1988	515	1,094	47.1	31	119	26.1
1989	784	1,203	65.2	55	148	37.2
1990	552	1,282	43.1	33	156	21.2
1991	670	1,349	49.7	50	166	30.1
1992	811	1,409	57.6	61	182	33.5
1993	839	1,441	58.2	77	190	40.5
1994	918	1,485	61.8	69	210	32.9
1995	960	1,511	63.5	76	216	35.2
1996	1,070	1,533	69.8	97	229	42.4
1997	944	1,526	61.9	85	250	34.0
1998	1,029	1,528	67.3	96	269	35.7
1999	1,378	1,529	90.1	215	282	76.2
2000	1,292	1,529	84.4	199	301	66.1
2001	1,025	1,539	66.6	150	319	47.0
2002	807	1,538	52.5	123	359	34.3
2003	1,410	1,520	92.8	301	390	77.2
2004	1,486	1,508	98.5	393	409	96.1
2005	1,426	1,480	96.4	385	411	93.7
2006	1,363	1,465	93.0	388	418	92.8
2007	1,295	1,447	89.5	365	412	88.6
2008	1,416	1,422	99.6	400	403	99.3
2009	1,370	1,386	98.8	404	406	99.5
2010	1,278	1,374	93.0	371	399	93.0
2011	927	1,340	69.2	288	395	72.9
2012	1,316	1,320	99.7	393	394	99.7
2013	1,288	1,324	97.3	372	393	94.7
2014	1,318	1,322	99.7	393	393	100.0

Source: Compiled from "Air Pollution in FY 2014 (a press release)" by Environment Management Bureau, MOE, Government of Japan

6.28 Annual average concentration of Particulate Matters

	Ambient Air Pollution Monitoring Station		Roadside Air Pollution Monitoring Station	
	Annual average (μg/m³)	Number of stations	Annual average (μg/m³)	Number of stations
FY 2010	15.1	34	17.2	12
2011	15.4	105	16.1	51
2012	14.5	312	15.4	123
2013	15.3	492	16	181
2014	14.7	672	15.5	198

Achievement Rate of Environmental Standards for Suspended Particulate Matters

	Ambient Air Pollution Monitoring Station			Roadside Air Pollution Monitoring Station		
	Number of monitoring stations recording levels that met criteria	Number of valid monitoring stations	Achievement rate (%)	Number of monitoring stations recording levels that met criteria	Number of valid monitoring stations	Achievement rate (%)
FY 2010	11	34	32.4	1	12	8.3
2011	29	105	27.6	15	51	29.4
2012	135	312	43.3	41	123	33.3
2013	79	492	16.1	24	181	13.3
2014	254	672	37.8	51	198	25.8

Source: Compiled from "Air contamination in FY 2014 (a press release)" by Environment Management Bureau, MOE, Government of Japan

6.29 Achievement of environmental quality standards for Suspended Particulate Matters by prefecture (Ambient Air Pollution Monitoring Stations)

	FY2009			2010			2011			2012			2013			2014		
	Number of valid monitoring stations	Number of monitoring stations recording levels that met criteria	Achievement rate (%)	Number of valid monitoring stations	Number of monitoring stations recording levels that met criteria	Achievement rate (%)	Number of valid monitoring stations	Number of monitoring stations recording levels that met criteria	Achievement rate (%)	Number of valid monitoring stations	Number of monitoring stations recording levels that met criteria	Achievement rate (%)	Number of valid monitoring stations	Number of monitoring stations recording levels that met criteria	Achievement rate (%)	Number of valid monitoring stations	Number of monitoring stations recording levels that met criteria	Achievement rate (%)
Hokkaido	61	61	100.0	60	60	100.0	58	57	98.3	57	57	100.0	53	53	100.0	50	49	98.0
Aomori	14	14	100.0	14	14	100.0	14	14	100.0	14	14	100.0	14	14	100.0	14	14	100.0
Iwate	7	7	100.0	8	8	100.0	8	8	100.0	8	8	100.0	8	8	100.0	8	8	100.0
Miyagi	27	27	100.0	27	27	100.0	23	23	100.0	23	23	100.0	26	25	96.2	25	25	100.0
Akita	17	17	100.0	17	17	100.0	17	17	100.0	17	17	100.0	17	17	100.0	17	17	100.0
Yamagata	14	14	100.0	17	17	100.0	17	17	100.0	16	16	100.0	16	16	100.0	16	16	100.0
Fukushima	24	24	100.0	23	23	100.0	22	22	100.0	24	24	100.0	27	27	100.0	27	27	100.0
Ibaraki	46	46	100.0	46	46	100.0	45	45	100.0	37	37	100.0	44	41	93.2	45	45	100.0
Tochigi	25	25	100.0	24	24	100.0	22	22	100.0	23	23	100.0	23	23	100.0	21	21	100.0
Gunma	23	23	100.0	22	22	100.0	16	16	100.0	17	17	100.0	15	15	100.0	18	18	100.0
Saitama	56	56	100.0	55	55	100.0	56	56	100.0	55	55	100.0	55	54	98.2	55	55	100.0
Chiba	112	112	100.0	110	110	100.0	111	110	99.1	104	104	100.0	103	88	85.4	103	103	100.0
Tokyo	48	48	100.0	47	47	100.0	48	48	100.0	48	48	100.0	48	47	97.9	48	48	100.0
Kanagawa	61	61	100.0	61	61	100.0	61	61	100.0	61	61	100.0	60	56	93.3	60	59	98.3
Niigata	26	26	100.0	26	26	100.0	22	22	100.0	22	22	100.0	20	20	100.0	19	19	100.0
Toyama	22	22	100.0	22	22	100.0	20	20	100.0	19	19	100.0	19	19	100.0	19	19	100.0
Ishikawa	19	19	100.0	19	19	100.0	19	19	100.0	18	18	100.0	18	18	100.0	18	18	100.0
Fukui	28	28	100.0	26	26	100.0	26	26	100.0	26	26	100.0	26	26	100.0	26	26	100.0
Yamanashi	10	10	100.0	10	10	100.0	10	10	100.0	10	10	100.0	10	8	80.0	10	10	100.0
Nagano	16	16	100.0	14	14	100.0	10	10	100.0	10	10	100.0	10	10	100.0	10	10	100.0
Gifu	15	15	100.0	15	15	100.0	14	12	85.7	14	14	100.0	14	14	100.0	14	14	100.0
Shizuoka	47	47	100.0	47	47	100.0	47	44	93.6	44	44	100.0	44	44	100.0	43	43	100.0
Aichi	105	105	100.0	96	96	100.0	92	46	50.0	91	91	100.0	88	87	98.9	87	87	100.0
Mie	21	21	100.0	21	21	100.0	21	8	38.1	22	22	100.0	24	24	100.0	25	25	100.0
Shiga	9	9	100.0	9	9	100.0	8	7	87.5	9	9	100.0	9	9	100.0	9	9	100.0
Kyoto	24	24	100.0	25	25	100.0	25	12	48.0	22	22	100.0	23	23	100.0	22	22	100.0
Osaka	64	64	100.0	67	67	100.0	67	12	17.9	66	66	100.0	67	67	100.0	67	67	100.0
Hyogo	67	67	100.0	68	68	100.0	66	48	72.7	68	68	100.0	67	64	95.5	67	67	100.0
Nara	11	11	100.0	11	11	100.0	11	5	45.5	11	11	100.0	11	11	100.0	11	11	100.0
Wakayama	32	32	100.0	31	31	100.0	31	15	48.4	29	29	100.0	30	29	96.7	31	31	100.0
Tottori	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0	4	4	100.0
Shimane	7	7	100.0	7	7	100.0	7	4	57.1	7	7	100.0	7	7	100.0	7	7	100.0
Okayama	44	44	100.0	42	26	61.9	42	13	31.0	42	42	100.0	42	42	100.0	42	42	100.0
Hiroshima	32	32	100.0	32	24	75.0	32	15	46.9	32	32	100.0	32	32	100.0	32	32	100.0
Yamaguchi	32	32	100.0	32	24	75.0	32	7	21.9	32	32	100.0	32	32	100.0	32	32	100.0
Tokushima	18	18	100.0	18	18	100.0	17	13	76.5	17	17	100.0	17	17	100.0	17	17	100.0
Kagawa	18	18	100.0	16	7	43.8	17	5	29.4	17	16	94.1	17	17	100.0	18	18	100.0
Ehime	23	23	100.0	25	25	100.0	25	5	20.0	25	25	100.0	25	25	100.0	24	24	100.0
Kochi	5	5	100.0	5	5	100.0	5	5	100.0	5	5	100.0	5	5	100.0	8	8	100.0
Fukuoka	42	40	95.2	42	11	26.2	42	0	0.0	42	41	97.6	41	40	97.6	42	42	100.0
Saga	11	11	100.0	13	13	100.0	13	4	30.8	13	13	100.0	13	13	100.0	15	15	100.0
Nagasaki	20	9	45.0	20	9	45.0	20	2	10.0	20	20	100.0	20	20	100.0	18	18	100.0
Kumamoto	29	29	100.0	29	19	65.5	29	1	3.4	29	29	100.0	27	27	100.0	28	28	100.0
Oita	23	23	100.0	22	22	100.0	22	6	27.3	22	22	100.0	22	22	100.0	20	20	100.0
Miyazaki	10	10	100.0	10	7	70.0	10	9	90.0	10	10	100.0	11	10	90.9	9	9	100.0
Kagoshima	15	14	93.3	15	15	100.0	15	2	13.3	15	13	86.7	15	13	86.7	15	13	86.7
Okinawa	3	1	33.3	5	5	100.0	2	1	50.0	4	4	100.0	6	6	100.0	6	6	100.0
Nationwide	1,386	1,370	98.8	1,374	1,278	93.0	1,340	927	69.2	1,320	1,316	99.7	1,324	1,288	97.3	1,322	1,318	99.7

Source: Compiled from "Air Pollution in FY 2014 (a press release)," Environment Management Bureau, MOE, the Government of Japan

6.30 Achievement of Environmental Standards for Suspended Particulate Matter by prefecture (Roadside Air Pollution Monitoring Stations)

	FY2009			2010			2011			2012			2013			2014		
	Number of valid monitoring stations	Number of stations where standards were met	Achievement rate (%)	Number of valid monitoring stations	Number of stations where standards were met	Achievement rate (%)	Number of valid monitoring stations	Number of stations where standards were met	Achievement rate (%)	Number of valid monitoring stations	Number of stations where standards were met	Achievement rate (%)	Number of valid monitoring stations	Number of stations where standards were met	Achievement rate (%)	Number of valid monitoring stations	Number of stations where standards were met	Achievement rate (%)
Hokkaido	17	17	100.0	16	16	100.0	17	17	100.0	17	17	100.0	17	17	100.0	18	18	100.0
Aomori	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0
Iwate	3	3	100.0	3	3	100.0	2	2	100.0	2	2	100.0	2	2	100.0	2	2	100.0
Miyagi	9	9	100.0	9	9	100.0	8	8	100.0	9	9	100.0	9	9	100.0	9	9	100.0
Akita	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0
Yamagata	1	1	100.0	1	1	100.0	1	1	100.0	1	1	100.0	1	1	100.0	1	1	100.0
Fukushima	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0
Ibaraki	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0	4	3	75.0	4	4	100.0
Tochigi	11	11	100.0	10	10	100.0	11	11	100.0	11	11	100.0	11	10	90.9	11	11	100.0
Gunma	6	6	100.0	6	6	100.0	7	7	100.0	7	7	100.0	7	7	100.0	7	7	100.0
Saitama	24	24	100.0	25	25	100.0	23	22	95.7	26	26	100.0	27	27	100.0	27	27	100.0
Chiba	28	28	100.0	28	28	100.0	28	28	100.0	26	26	100.0	26	19	73.1	26	26	100.0
Tokyo	38	38	100.0	38	38	100.0	38	37	97.4	38	38	100.0	38	36	94.7	38	38	100.0
Kanagawa	31	31	100.0	31	30	96.8	31	31	100.0	31	31	100.0	31	27	87.1	30	30	100.0
Niigata	5	5	100.0	5	5	100.0	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0
Toyama	7	7	100.0	7	7	100.0	7	7	100.0	7	7	100.0	7	7	100.0	7	7	100.0
Ishikawa	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0
Fukui	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0
Yamanashi	2	2	100.0	2	2	100.0	2	2	100.0	2	2	100.0	2	2	100.0	2	2	100.0
Nagano	7	7	100.0	7	7	100.0	7	7	100.0	7	7	100.0	7	7	100.0	6	6	100.0
Gifu	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0	4	4	100.0
Shizuoka	10	10	100.0	10	10	100.0	10	10	100.0	9	9	100.0	9	9	100.0	9	9	100.0
Aichi	35	35	100.0	30	30	100.0	30	15	50.0	29	29	100.0	29	28	96.6	30	30	100.0
Mie	7	7	100.0	7	7	100.0	7	4	57.1	7	7	100.0	7	7	100.0	7	7	100.0
Shiga	4	4	100.0	4	4	100.0	4	3	75.0	4	4	100.0	4	4	100.0	4	4	100.0
Kyoto	9	9	100.0	9	9	100.0	8	4	50.0	7	7	100.0	7	7	100.0	7	7	100.0
Osaka	34	34	100.0	33	33	100.0	34	9	26.5	33	33	100.0	34	32	94.1	34	34	100.0
Hyogo	27	27	100.0	28	27	96.4	28	20	71.4	28	28	100.0	28	26	92.9	27	27	100.0
Nara	3	3	100.0	3	3	100.0	3	2	66.7	3	3	100.0	3	3	100.0	3	3	100.0
Wakayama	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Tottori	2	2	100.0	2	2	100.0	2	2	100.0	2	1	50.0	2	1	50.0	2	2	100.0
Shimane	2	2	100.0	2	2	100.0	2	1	50.0	2	2	100.0	1	1	100.0	1	1	100.0
Okayama	10	10	100.0	9	6	66.7	9	5	55.6	9	9	100.0	9	9	100.0	9	9	100.0
Hiroshima	7	7	100.0	7	3	42.9	7	0	0.0	7	7	100.0	7	7	100.0	7	7	100.0
Yamaguchi	1	1	100.0	1	1	100.0	1	0	0.0	1	1	100.0	1	1	100.0	1	1	100.0
Tokushima	1	1	100.0	1	1	100.0	1	0	0.0	1	1	100.0	1	1	100.0	1	1	100.0
Kagawa	3	3	100.0	3	1	33.3	3	0	0.0	3	3	100.0	3	3	100.0	3	3	100.0
Ehime	1	1	100.0	1	1	100.0	1	0	0.0	1	1	100.0	1	1	100.0	1	1	100.0
Kochi	1	1	100.0	1	1	100.0	1	0	0.0	1	1	100.0	1	1	100.0	1	1	100.0
Fukuoka	16	16	100.0	16	5	31.3	16	1	6.3	16	16	100.0	15	15	100.0	16	16	100.0
Saga	2	2	100.0	2	1	50.0	2	0	0.0	2	2	100.0	2	2	100.0	2	2	100.0
Nagasaki	3	2	66.7	3	0	0.0	3	0	0.0	3	3	100.0	3	3	100.0	3	3	100.0
Kumamoto	3	3	100.0	3	2	66.7	3	0	0.0	3	3	100.0	3	3	100.0	3	3	100.0
Oita	2	2	100.0	2	2	100.0	2	0	0.0	2	2	100.0	2	2	100.0	2	2	100.0
Miyazaki	5	5	100.0	5	4	80.0	5	3	60.0	5	5	100.0	5	5	100.0	5	5	100.0
Kagoshima	2	2	100.0	2	2	100.0	2	0	0.0	2	2	100.0	2	2	100.0	2	2	100.0
Okinawa	1	0	0.0	1	1	100.0	–	–	–	1	1	100.0	-	-	-	-	-	-
nationwide	406	404	99.5	399	371	93.0	395	288	72.9	394	393	99.7	393	372	94.7	393	393	100.0

Source: Compiled from "Air Pollution in FY 2014 (a press release)," Environment Management Bureau, MOE, the Government of Japan

6.31 Trends in annual average concentration of Carbon Monoxide (Ambient Air Pollution Monitoring Stations/Roadside Air Pollution Monitoring Stations)

	Ambient Air Pollution Monitoring Stations		Roadside Air Pollution Monitoring Stations	
	Annual average (ppm)	Number of stations	Annual average (ppm)	Number of stations
FY1977	1.2	163	2.8	287
1978	1.1	185	2.6	296
1979	1.0	200	2.3	322
1980	0.9	205	2.2	334
1981	0.9	200	1.9	282
1982	0.8	205	1.9	304
1983	0.7	189	1.7	297
1984	0.7	193	1.6	300
1985	0.7	191	1.6	299
1986	0.7	191	1.6	299
1987	0.7	187	1.6	304
1988	0.7	187	1.5	301
1989	0.7	189	1.5	305
1990	0.7	186	1.4	311
1991	0.7	190	1.4	314
1992	0.6	195	1.2	317
1993	0.6	187	1.2	328
1994	0.6	183	1.1	339
1995	0.6	185	1.1	343
1996	0.6	184	1.1	342
1997	0.6	150	1.0	329
1998	0.5	145	0.9	327
1999	0.5	138	0.9	319
2000	0.5	134	0.8	314
2001	0.5	131	0.8	312
2002	0.4	126	0.7	309
2003	0.4	99	0.7	302
2004	0.4	96	0.6	306
2005	0.4	91	0.6	304
2006	0.4	86	0.6	294
2007	0.4	78	0.5	291
2008	0.3	73	0.5	276
2009	0.3	71	0.5	270
2010	0.3	70	0.5	258
2011	0.3	70	0.5	258
2012	0.3	68	0.4	241
2013	0.3	60	0.4	243
2014	0.3	59	0.4	241

Source: Compiled from "Air Pollution in FY 2014 (a press release)" by Environment Management Bureau, MOE, Government of Japan

6.32 Trends in annual average concentration of Non-Methane Hydrocarbon (Ambient Air Pollution Monitoring Stations / Roadside Air Pollution Monitoring Stations)

Annual Averages from 6 a.m. to 9 a.m. (ppmC)

	Ambient Air Pollution Monitoring Stations	Roadside Air Pollution Monitoring Stations
FY1985	0.35	0.57
1986	0.34	0.56
1987	0.35	0.57
1988	0.34	0.57
1989	0.33	0.53
1990	0.32	0.54
1991	0.32	0.52
1992	0.29	0.47
1993	0.27	0.42
1994	0.27	0.42
1995	0.26	0.40
1996	0.27	0.40
1997	0.26	0.38
1998	0.26	0.37
1999	0.24	0.35
2000	0.24	0.35
2001	0.23	0.34
2002	0.22	0.31
2003	0.22	0.31
2004	0.21	0.29
2005	0.21	0.28
2006	0.20	0.27
2007	0.19	0.25
2008	0.18	0.23
2009	0.17	0.22
2010	0.16	0.21
2011	0.16	0.19
2012	0.14	0.18
2013	0.14	0.18
2014	0.14	0.17

Source: Compiled from "Air Pollution in FY 2014 (a press release)" by Environment Management Bureau, MOE, Government of Japan

6.33 Changes in nationwide average concentration of hazardous air pollutants to which environmental standards are applied

(Unit : μg/m³)

	Benzene	Trichloroethylene	Tetrachloroethylene	Dichloromethane
FY2008	1.4	0.65	0.23	2.3
2009	1.3	0.53	0.22	1.7
2010	1.1	0.44	0.17	1.6
2011	1.2	0.53	0.18	1.6
2012	1.2	0.50	0.18	1.6
2013	1.1	0.53	0.15	1.6
2014	1.0	0.51	0.15	1.5

Source: Compiled from "Monitoring Results of Hazardous Air Pollutants" by Environment Management Bureau, MOE, Government of Japan

6.34 Achievement of the Environmental Quality Standards for designated Hazardous Air Pollutants

(Unit : %)

	Benzene	Trichloroethylene	Tetrachloroethylene	Dichloromethane
FY2008	99.8	100	100	100
2009	99.8	100	100	100
2010	100	100	100	100
2011	99.5	100	100	100
2012	100	100	100	100
2013	99.8	100	100	100
2014	100	100	100	100

Source: Compiled from "Monitoring Results of Hazardous Air Pollutants" by Environment Management Bureau, MOE, Government of Japan

6.35 Changes in nationwide averages of concentration of hazardous air pollutants for which guideline values are set

	Acrylonitrile	Vinyl chloride monomer	Chloroform	1,2-dichloroethane	Mercury and its compounds	Nickel compounds	Arsenic and its compounds	1,3-butadiene	Manganese and its compounds
	μg/m³	μg/m³	μg/m³	μg/m³	ngHg/m³	ngNi/m³	ngAs/m³	μg/m³	ngMn/m³
FY2008	0.09	0.053	0.22	0.16	2.1	4.9	1.6	0.18	30
2009	0.079	0.066	0.21	0.17	2.0	4.2	1.5	0.16	27
2010	0.073	0.055	0.19	0.16	2.0	4.0	1.4	0.14	25
2011	0.088	0.053	0.21	0.18	2.1	4.4	1.6	0.15	25
2012	0.080	0.047	0.20	0.17	2.1	4.1	1.5	0.14	24
2013	0.077	0.032	0.21	0.17	2.0	4.3	1.7	0.12	25
2014	0.070	0.046	0.23	0.20	2.0	4.1	1.6	0.11	24

Note:
Guideline values for Arsenic and its compounds were set based on the Ninth recommendations, a report submitted by Central Environment Council in Oct, 2010. Guideline values for Manganese and its compounds were set based on the Tenth recommendations, a report submitted by Central Environment Council in April, 2014.

Source: Compiled from "Monitoring Results of Hazardous Air Pollutants" by Environment Management Bureau, MOE, Government of Japan

6.36 Achievement of the guideline values of designated hazardous air pollutants

(Unit : %)

	Acrylonitrile	Vinyl chloride monomer	Chloroform	1,2-dichloroethane	Mercury and its compounds	Nickel compounds	Arsenic and its compounds	1,3-butadiene	Manganese and its compounds
FY2008	99.7	100	100	99.7	100	99.7	-	100	-
2009	100	100	100	99.2	100	99.7	98.6	100	-
2010	100	100	100	100	100	100	98.9	100	-
2011	100	100	100	99.1	100	100	98.1	100	-
2012	100	100	100	99.4	100	100	98.6	100	-
2013	100	100	100	100	100	99.6	98.5	100	99.2
2014	100	100	100	99.4	100	99.6	97.9	100	100

Note:
The guideline values for Arsenic and its compounds were set in October, 2010 and so were those for Manganese and its compounds in April 2014. The conformity status before the guidelines were set is not shown here.

Source: Compiled from "Monitoring Results of Hazardous Air Pollutants" by Environment Management Bureau, MOE, Government of Japan

6.37 Trends in number of days when photochemical oxidant warning were issued and reported damages

	Advisory/alert/warning issuance		Damage reported	
	Number of prefectures	Total number of days	Number of prefectures	Total number of people
FY1973	21	328(2)	19	31,936
1974	22	288(2)	16	14,725
1975	21	266(5)	17	46,081
1976	21	150(0)	15	4,215
1977	19	167(0)	11	2,669
1978	22	169(3)	12	5,376
1979	16	84(0)	9	4,083
1980	16	86(0)	9	1,420
1981	9	59(0)	8	780
1982	13	73(0)	9	446
1983	17	131(0)	9	1,721
1984	16	135(1)	6	5,822
1985	16	171(0)	10	966
1986	15	85(0)	3	48
1987	18	168(0)	7	1,056
1988	16	86(0)	5	132
1989	17	63(0)	6	36
1990	22	242(0)	5	58
1991	15	121(0)	6	1,454
1992	16	164(0)	7	307
1993	15	71(0)	3	93
1994	19	175(0)	6	564
1995	19	139(0)	5	192
1996	18	99(0)	5	64
1997	20	95(0)	5	315
1998	22	135(0)	9	1,270
1999	19	100(0)	6	402
2000	22	259(0)	12	1,479
2001	20	193(0)	8	343
2002	23	184(2)	9	1,347
2003	19	108(0)	5	254
2004	22	189(0)	9	393
2005	21	185(1)	10	1,495
2006	25	177(0)	8	289
2007	28	220(0)	14	1,910
2008	25	144(0)	10	400
2009	28	123(0)	12	910
2010	22	182(0)	10	128
2011	18	82(0)	4	69
2012	17	53(0)	3	80
2013	18	106(0)	3	78
2014	15	83(0)	2	33
2015	17	101(0)	1	2

Note:

Parenthesized figures refer to number of days where alert/warning(s) were issued and they are included in the Total numbers.

Source: Compiled from "Reports on photochemical air pollutants in 2015" by Environment Management Bureau, MOE, Government of Japan

6.38 Trends in number of days when photochemical oxidant warning were issued by prefecture

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Miyagi		3								1											
Yamagata																					
Fukushima																					
Ibaraki	16	21	14	17	9	18	12	3	4		3	2	6	16	7	22	3	5	21	19	14
Tochigi		10	10	6	7	11	5	2	2			1	4	15	6	16	8	3	7	5	19
Gunma		1	4	11	1		3					1					3	3	12	2	9
Saitama	15	45	29	44	15	26	36	8	15	8	12	33	30	28	16	29	12	6	25	14	19
Chiba	21	28	26	33	21	7	14	11	13	8	8	20	16	17	8	21	4	6	17	20	19
Tokyo	33	45	26	41	17	21	22	12	13	14	17	24	35	19	9	15	7	7	23	15	14
Kanagawa	31	30	26	27	17	12	18	19	10	11	11	15	7	12	3	12	8	3	12	12	14
Niigata																					
Toyama							1														
Ishikawa								1													
Fukui							1												3		
Yamanashi								2		1						3	4	4	23	9	20
Nagano																					
Gifu													1								
Shizuoka		8	15	6	3	1	1	3	2		1	1	2	5	1	1	1		7	6	2
Aichi	5	8	2	6	3	2			1			2	2	6		2				2	1
Mie	4	6	7		3	1					1		1			5	8	1	10	1	4
Shiga		4	4	4	5	1	1	5	6		5	1		2		4	5	4	5	3	9
Kyoto	7	17	17	11	6	9	5	1	5	3	3	5	4	5	3	3	5	2	6		7
Osaka	18	26	27	23	25	25	16	12	10	12	8	8	9	19	16	21	8	10	27	8	11
Hyogo	19	23	19	11	3	4	2	1	1	1	1	5	7	13	3	5	1	2	7	4	1
Nara	1	6	3	9	3	3	3		1			1			1	2		2	6		1
Wakayama	1	1	1													1			1		
Okayama	3	14	16	5	1	5	8	1	1		2	7	8	8	2	3	2	1	8		
Hiroshima		9	18	4	1	6	9	1	1		1	3	2	3	6	3	7	3	14	1	
Yamaguchi			5	1	2	5	3							2							
Tokushima			2	2	3	3	1							1	2				1		
Kagawa		1	4	1			6					2	1		2			1			
Ehime	2	22	13	1	4	7	1	2	1										3		
Kochi																					
Fukuoka																			4		
Saga																					
Nagasaki																					
Kumamoto																					
Oita																					
Kagoshima																					
Nationwide	176	328	288	266	150	167	169	84	86	59	73	131	135	171	85	168	86	63	242	121	164

Source: Compiled from "Report on photochemical air pollutants in 2015" by Environment Management Bureau, MOE, Government of Japan

6.38 Trends in number of days when photochemical oxidant warning were issued by prefecture

(Unit: Day) (Unit: Day)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Miyagi					1			1															
Yamagata																	1						
Fukushima								3		1		2	1	1			3	1					1
Ibaraki	7	14	16	10	9	5	11	23	12	13	14	18	13	10	15	5	6	14	2	3	5	9	2
Tochigi	2	10	2	6	4	4	9	21	15	11	8	7	14	8	16	5	7	16	11	2	4	5	2
Gunma	8	18	16	18	8	6	4	16	6	15	2	15	10	5	8	11	6	12	10	4	6	10	9
Saitama	4	19	13	10	16	12	18	40	30	21	19	23	26	16	32	18	14	25	17	7	13	13	16
Chiba	6	14	22	6	13	8	9	18	23	21	11	28	28	11	17	12	3	15	11	8	14	12	15
Tokyo	5	12	19	6	11	11	5	23	23	19	8	18	22	17	17	19	7	20	9	4	17	9	14
Kanagawa	9	15	13	7	4	10	4	10	13	11	6	16	7	14	20	11	4	10	5	5	16	9	10
Niigata															1								
Toyama			1							1		2			1								
Ishikawa																							
Fukui										1													
Yamanashi	7	8	5	4	2	7	6	14	13	12	5	5	9	12	15	4	3	11	2	2	3	6	1
Nagano																1							
Gifu									4	3		3	1	4	2	4	3			1			
Shizuoka	3	8	2	3	4	6	2	9	6	4	1	5		9	7	2	2	3	1	1	2	1	
Aichi		1				1					1		1	2	5	9	9	1	1	2	1		1
Mie		9	2	1	1	2	1	9	4			1	2	2				2		1	1		
Shiga	1		1			1	2	3	6	4	2	2	7	6	5	2	6	4	1		3		
Kyoto		1		1	1	3	1	3	1	5		3	7	7	10	6	4	11	1	2	3	1	2
Osaka	11	15	8	10	3	25	11	23	20	11	14	10	10	17	11	7	13	12	4	4	7	3	11
Hyogo	4	13	3	4	2	4	7	17	5	8	7	6	9	8	4	6	5	2		1	2	2	2
Nara	1		3			1		8	2	5	2	5	7	3		1	1	2	1			1	2
Wakayama		1	1	1	1	1		2	1	1				1	1	1						1	
Okayama	2	6	6	3	4	4	2	1	2	3	1		1	8	6	6	4	9	3	5	7	1	9
Hiroshima		9	3	6	4	15	3	8	5	9	4	13	8	9	6	5	6	7	1		1		3
Yamaguchi						2	1	5		4	1	3	1	2	3	4	1						
Tokushima			3	2	3	6	3	2	2	1	1	3	1	3	2	1							
Kagawa		1													1								1
Ehime	1	1			3	1	1				1	1			3	1	3	3					
Kochi																							
Fukuoka				1	1										4	2	2			1			
Saga																1	2	1			1		
Nagasaki														1	3		2	1	1				
Kumamoto														1	4		2						
Oita															1		3						
Kagoshima																	1						
Nationwide	71	175	139	99	95	135	100	259	193	184	108	189	185	177	220	144	123	182	81	53	106	83	101

Source: Compiled from "Report on photochemical air pollutants in 2015" by Environment Management Bureau, MOE, Government of Japan

6.39 Changes in the number of specified facilities under the Noise Regulation Law

(Unit: Facilities)

	Metalworking machinery	Air compressor etc.	Crusher for soil and stones, etc.	Loom	Machinery for manufacturing construction materials	Grain mill	Wood processing machinery	Paper-making machinery	Printing press	Injection molding machinery for plastics	Molding machinery	Total
FY1987	247,914	396,212	22,625	476,521	8,943	3,783	69,691	2,115	80,803	46,291	8,265	1,363,163
1988	250,700	408,377	22,774	480,189	5,631	3,735	69,966	2,100	81,419	47,267	8,213	1,380,371
1989	254,680	421,494	22,981	477,278	5,741	3,662	70,127	2,090	82,249	48,327	8,259	1,396,888
1990	259,025	434,787	23,268	471,711	5,815	3,829	69,773	2,162	82,547	49,629	8,189	1,410,735
1991	259,719	450,215	23,648	472,173	5,950	3,662	69,887	2,118	82,924	50,581	8,207	1,429,084
1992	261,136	463,494	24,117	468,229	5,914	3,687	69,967	2,166	82,839	51,392	8,034	1,440,975
1993	260,226	476,886	24,637	466,376	5,933	3,698	69,909	2,178	82,320	51,236	7,920	1,451,319
1994	267,836	490,410	24,389	459,363	6,091	3,748	69,863	2,142	81,924	52,153	7,914	1,465,833
1995	265,720	500,969	24,523	448,120	5,977	3,794	69,486	2,127	81,495	52,810	7,880	1,462,901
1996	266,442	513,239	24,813	446,420	5,903	3,670	68,210	2,341	80,629	53,305	7,879	1,472,851
1997	268,942	528,014	25,136	432,316	5,981	3,601	68,893	2,205	80,583	55,274	7,721	1,478,666
1998	269,491	540,393	25,559	425,576	5,879	3,659	68,687	2,187	80,234	56,309	7,632	1,485,606
1999	275,300	555,606	25,647	416,530	5,732	3,625	68,911	2,357	80,363	58,754	7,707	1,500,532
2000	273,276	560,981	25,517	403,879	5,570	3,735	67,154	2,242	79,845	59,029	7,879	1,489,107
2001	276,714	581,444	25,602	418,510	5,609	3,775	67,003	2,277	79,879	59,974	8,402	1,529,189
2002	277,411	595,537	25,748	415,697	5,569	3,685	66,863	2,275	80,158	60,682	8,562	1,542,187
2003	277,208	595,044	25,616	395,535	5,492	3,686	66,293	2,242	78,030	61,595	9,714	1,520,455
2004	278,517	608,009	25,812	381,437	6,236	3,488	64,447	2,145	76,127	61,400	7,688	1,515,306
2005	275,093	609,160	25,619	360,885	5,375	3,354	62,721	2,100	74,078	59,502	8,031	1,485,918
2006	283,435	637,174	26,324	361,632	5,362	3,587	63,442	2,181	74,871	64,383	8,408	1,530,799
2007	281,965	645,335	26,002	362,633	5,296	3,578	62,822	2,036	73,437	64,853	9,127	1,537,084
2008	278,164	648,985	25,974	342,536	5,176	3,645	61,820	2,214	72,718	63,774	7,749	1,512,755
2009	282,405	667,918	26,572	337,107	5,119	3,515	62,830	2,140	72,498	66,333	9,111	1,535,548
2010	282,971	678,990	26,848	340,650	5,063	3,476	61,336	2,135	71,949	66,609	9,132	1,549,159
2011	276,426	671,628	25,522	328,243	4,954	3,457	59,942	2,127	70,229	65,989	7,832	1,516,349
2012	271,430	667,704	24,908	324,014	4,680	3,471	57,442	2,082	69,112	64,456	7,509	1,496,808
2013	276,356	680,531	25,470	320,026	4,835	3,470	58,258	2,457	67,708	63,831	6,711	1,509,653
2014	276,982	688,441	25,487	319,737	4,776	3,535	58,331	2,048	67,427	64,407	7,349	1,518,520

Source: Compiled from "Survey of the Implementation of Noise Regulation Law" by Office of Odor, Noise and Vibration, Air Environment Division, Environment Management Bureau, MOE, Government of Japan

6.40 Changes in numbers of specified facilities under Vibration Regulation Law

(Unit: Facility)

	Metalworking machinery	Air compressor	Crusher for soil and stones, etc.	Loom	Concrete block machinery	Wood processing machinery	Printing press	Mixing Mill	Injection molding machinery for plastic	Molding machinery	Total
FY1987	275,863	91,934	15,799	339,341	11,624	4,072	36,887	3,805	40,618	5,142	825,085
1988	272,331	95,488	16,594	350,277	4,926	3,439	34,412	3,673	42,558	5,140	828,838
1989	279,502	97,133	16,330	350,926	5,079	3,446	35,068	3,721	43,656	5,221	840,082
1990	283,170	100,987	16,744	345,887	5,233	3,448	35,602	3,842	45,030	5,368	845,311
1991	285,552	104,694	17,252	345,162	5,209	3,580	35,999	3,939	46,234	5,592	853,213
1992	283,545	107,837	17,780	344,617	4,886	3,784	36,253	3,922	46,583	5,442	854,649
1993	285,844	110,796	18,062	342,775	2,537	3,804	35,983	3,917	47,035	5,511	856,264
1994	292,432	117,936	18,280	330,722	2,545	4,153	37,340	4,019	48,518	5,806	861,751
1995	287,691	128,592	18,316	318,499	2,533	4,039	37,268	3,909	48,299	5,488	854,634
1996	289,073	123,816	18,541	320,379	2,484	5,225	36,956	4,028	49,106	6,038	855,646
1997	289,695	129,562	18,940	318,131	2,477	4,136	37,286	3,892	50,893	6,041	861,053
1998	290,328	134,908	18,997	313,169	2,212	4,318	37,235	3,877	51,534	6,231	862,809
1999	294,777	142,042	19,554	307,210	2,248	4,389	37,695	3,779	54,501	6,338	872,533
2000	292,952	147,726	19,443	288,374	2,185	4,278	38,176	3,845	55,355	6,202	858,536
2001	295,097	154,696	21,516	296,072	2,926	4,345	38,212	3,912	55,935	7,015	879,726
2002	290,420	158,521	21,442	291,453	2,964	4,285	38,093	3,737	56,362	6,461	873,738
2003	290,783	164,838	19,064	291,204	3,004	4,587	37,750	3,854	57,116	6,108	878,308
2004	282,865	166,325	19,173	269,315	2,884	4,636	37,475	3,735	57,609	5,806	849,823
2005	275,787	169,757	19,286	265,111	2,887	4,621	37,948	3,709	56,212	5,847	841,165
2006	282,472	178,316	19,703	272,698	2,146	4,588	38,596	3,722	59,173	5,883	867,297
2007	285,122	186,778	20,221	263,444	2,171	4,765	38,405	3,796	61,535	6,020	872,257
2008	279,500	188,095	20,185	257,911	2,126	4,527	38,127	3,806	60,168	5,646	860,091
2009	276,659	189,723	20,130	247,633	2,056	4,801	37,627	3,727	60,519	5,729	848,609
2010	277,826	193,192	20,214	248,851	2,086	4,643	37,515	3,882	60,514	5,945	854,668
2011	276,569	198,076	20,807	250,422	2,104	4,624	37,146	3,814	60,993	6,626	861,181
2012	271,774	199,598	20,199	248,689	2,358	4,771	36,576	3,966	60,500	6,389	854,820
2013	271,318	205,663	20,436	245,155	2,332	4,469	36,509	3,607	60,253	6,290	856,032
2014	269,181	205,628	19,739	244,969	2,283	4,347	36,937	3,906	60,248	6,378	853,616

Source: Compiled from "Survey of the Implementation of Vibration Regulation Law" by Office of Odor, Noise and Vibration, Air Environment Division, Environment Management Bureau, MOE, Government of Japan

6.41 Changes in number of specified facilities under Noise Regulation Law by prefecture

(Unit: Facility)

	FY2006	2007	2008	2009	2010	2011	2012	2013	2014
Hokkaido	24,431	24,180	24,450	24,029	23,716	23,538	22,390	22,274	21,595
Aomori	3,046	3,031	3,071	3,154	3,124	3,144	3,179	3,265	3,310
Iwate	5,923	5,971	5,796	5,247	5,706	5,206	5,173	5,306	5,347
Miyagi	11,504	12,319	12,130	12,296	12,182	12,346	12,426	12,729	13,189
Akita	3,890	3,939	3,940	3,786	3,716	3,721	3,771	2,987	3,732
Yamagata	8,578	8,624	6,154	6,195	8,674	7,179	8,653	8,650	8,705
Fukushima	9,706	9,133	10,245	10,379	7,245	9,162	9,124	10,777	11,167
Ibaraki	25,859	25,050	25,054	25,152	24,786	23,078	21,291	22,793	22,796
Tochigi	14,651	15,291	15,373	15,290	15,126	13,381	13,451	12,725	12,780
Gunma	34,556	35,527	36,306	34,828	35,415	35,477	34,143	36,367	36,872
Saitama	58,264	58,968	58,937	58,813	58,318	58,468	58,742	60,239	65,505
Chiba	51,299	52,068	54,242	50,775	55,514	55,353	55,108	53,966	56,370
Tokyo	143,389	137,442	134,030	139,134	139,348	140,596	136,963	134,783	137,616
Kanagawa	59,416	59,887	59,742	60,389	59,743	59,833	60,751	57,562	58,180
Niigata	31,643	32,113	31,498	31,425	31,644	31,731	32,075	32,296	32,057
Toyama	16,477	16,892	17,356	17,837	17,679	17,757	18,713	18,772	18,773
Ishikawa	37,804	38,024	38,131	38,161	38,268	37,850	38,211	38,313	37,718
Fukui	36,090	36,088	36,138	35,780	35,808	35,778	35,888	35,858	35,877
Yamanashi	8,558	8,597	8,319	7,901	8,716	9,200	9,560	9,581	9,751
Nagano	16,525	16,927	14,068	17,849	18,214	18,056	18,033	18,197	18,206
Gifu	40,866	41,681	42,270	42,625	42,988	43,283	43,865	44,389	44,853
Shizuoka	99,190	100,083	95,014	94,759	95,697	96,215	97,001	95,161	93,696
Aichi	213,372	211,269	205,325	200,970	206,436	198,832	187,452	194,566	192,561
Mie	13,249	16,385	14,060	9,421	14,255	14,563	14,552	14,734	14,881
Shiga	36,844	38,136	32,706	61,617	59,292	28,676	26,874	29,015	28,975
Kyoto	39,883	39,261	38,138	38,300	38,202	38,584	37,990	37,994	37,863
Osaka	169,308	169,249	165,748	160,926	158,783	165,159	165,620	165,729	165,312
Hyogo	77,510	78,650	79,767	80,716	81,226	78,607	78,730	79,206	79,602
Nara	11,067	11,302	11,418	11,609	11,767	11,766	11,883	12,029	12,010
Wakayama	6,443	6,161	6,278	6,319	6,345	6,385	6,356	6,426	5,807
Tottori	2,246	2,258	2,239	2,219	1,864	897	1,876	1,903	2,004
Shimane	2,223	2,238	2,254	2,725	2,726	2,725	2,565	1,799	1,366
Okayama	29,213	29,594	29,857	30,005	30,071	30,312	30,275	27,485	26,547
Hiroshima	37,003	38,038	37,248	37,615	37,734	37,866	37,641	38,355	38,653
Yamaguchi	9,389	9,348	9,319	9,307	9,269	9,552	9,642	9,767	9,873
Tokushima	5,229	5,291	5,247	5,390	5,444	5,533	5,251	5,833	5,848
Kagawa	10,516	10,594	10,827	11,304	11,684	12,071	11,922	12,280	12,502
Ehime	18,129	18,355	18,569	18,897	19,397	19,542	19,510	18,710	18,940
Kochi	2,195	2,207	2,332	2,351	2,349	2,133	2,338	2,316	2,174
Fukuoka	42,586	43,012	43,716	43,673	43,858	44,503	43,535	45,651	45,682
Saga	10,562	11,029	11,302	11,073	11,385	11,919	11,495	11,832	11,879
Nagasaki	5,490	5,120	5,450	5,343	5,392	4,850	4,862	4,848	4,820
Kumamoto	17,555	17,808	18,029	18,517	18,183	19,150	15,024	18,830	19,445
Oita	12,177	12,500	12,704	13,372	13,423	13,601	13,807	13,996	14,133
Miyazaki	5,774	5,812	6,220	6,053	6,222	6,301	6,375	6,510	6,518
Kagoshima	8,100	8,510	8,617	8,651	8,724	8,892	9,077	9,016	9,146
Okinawa	3,071	3,122	3,121	3,371	3,501	3,578	3,645	3,833	3,884
Nationwide	1,530,799	1,537,084	1,512,755	1,535,548	1,549,159	1,516,349	1,496,808	1,509,653	1,518,520

Source: "Survey on the Implementation of Noise Regulation Law," Office of Odor, Noise and Vibration, Air Environment Division, Environment Management Bureau, MOE, the Government of Japan

6.42 Changes in number of specified facilities under Vibration Regulation Law by prefecture

(Unit: Facility)

	FY2006	2007	2008	2009	2010	2011	2012	2013	2014
Hokkaido	7,704	7,766	7,851	7,675	7,456	7,388	6,907	6,965	6,687
Aomori	1,225	1,278	1,301	1,336	1,337	1,330	1,341	1,356	1,386
Iwate	2,327	2,324	2,187	1,910	2,097	2,039	1,897	2,025	1,567
Miyagi	4,915	5,597	5,466	5,763	5,719	5,778	5,808	5,939	6,087
Akita	1,325	1,358	1,381	1,346	1,273	1,279	1,292	1,236	1,295
Yamagata	5,636	5,608	5,583	5,678	5,695	4,925	5,735	5,758	5,828
Fukushima	4,640	5,675	5,726	5,532	4,117	4,788	4,852	5,347	5,509
Ibaraki	8,688	9,073	9,109	9,241	9,317	9,192	9,423	8,820	9,192
Tochigi	10,192	10,482	10,455	10,221	10,307	8,570	8,592	8,239	6,070
Gunma	25,969	26,571	25,359	24,542	24,695	25,154	24,892	25,679	25,751
Saitama	35,808	36,376	35,534	34,808	34,829	34,752	34,787	36,548	39,539
Chiba	15,151	15,366	15,983	15,471	16,645	16,434	15,870	16,074	16,504
Tokyo	64,702	62,782	61,947	61,147	59,964	60,734	59,723	58,696	54,064
Kanagawa	35,211	35,196	34,201	34,598	33,375	33,578	34,471	30,852	33,006
Niigata	21,719	21,971	21,622	21,575	21,699	21,810	21,951	22,003	22,163
Toyama	8,312	8,450	8,460	8,593	8,611	8,608	9,055	8,809	9,029
Ishikawa	28,115	28,256	28,329	28,321	28,388	28,435	28,445	28,496	28,141
Fukui	21,752	21,874	21,899	21,776	21,830	21,819	21,823	21,861	21,880
Yamanashi	6,667	6,747	6,606	6,102	6,763	7,043	7,275	7,278	7,459
Nagano	10,132	10,374	8,610	10,230	10,344	10,266	10,357	10,468	10,438
Gifu	30,792	33,733	34,304	34,568	34,815	35,113	35,585	36,046	36,559
Shizuoka	67,731	68,562	64,756	61,698	65,611	65,669	66,130	60,302	65,032
Aichi	154,634	143,492	149,429	146,711	151,881	150,453	143,122	152,497	146,691
Mie	8,557	10,305	8,878	6,400	8,874	8,990	9,079	9,103	9,025
Shiga	20,643	24,619	19,528	16,022	13,563	17,729	16,354	17,062	17,668
Kyoto	21,921	21,510	20,985	21,191	21,396	21,553	21,047	20,210	21,058
Osaka	102,933	104,449	100,275	98,668	95,698	97,556	97,812	97,368	97,078
Hyogo	41,062	41,664	42,276	42,533	42,657	42,726	42,937	42,727	43,127
Nara	7,397	7,609	7,703	7,819	7,966	7,983	8,114	8,240	8,090
Wakayama	2,274	2,528	2,823	2,929	3,035	3,221	3,290	3,319	3,152
Tottori	1,087	1,096	1,080	1,077	894	525	904	905	910
Shimane	1,036	1,049	1,157	1,395	1,395	1,443	2,347	758	565
Okayama	18,985	19,286	19,464	19,421	19,461	19,518	19,474	17,503	16,113
Hiroshima	14,607	14,870	14,466	14,963	15,068	14,806	14,788	14,732	14,767
Yamaguchi	4,379	4,453	4,439	4,392	4,310	4,322	4,345	4,361	4,546
Tokushima	2,404	2,388	2,489	2,501	2,286	2,342	2,127	2,559	2,561
Kagawa	3,897	3,920	3,931	4,018	3,980	4,021	4,381	4,665	4,659
Ehime	7,782	8,069	7,836	7,944	8,001	7,915	8,067	7,981	8,086
Kochi	1,057	1,076	1,080	1,147	1,164	1,194	1,195	1,182	1,175
Fukuoka	14,788	14,970	15,191	15,448	15,595	15,604	15,420	16,075	15,853
Saga	2,605	3,085	3,227	3,096	3,502	4,450	4,273	4,455	4,473
Nagasaki	1,637	1,334	1,597	1,448	1,569	1,614	1,613	1,643	1,659
Kumamoto	4,345	4,339	4,477	6,045	5,970	6,601	5,724	6,760	7,070
Oita	4,675	4,791	4,884	5,054	5,104	5,206	5,262	5,382	5,162
Miyazaki	1,608	1,595	1,785	1,754	1,822	1,951	1,963	1,970	1,987
Kagoshima	3,379	3,453	3,510	3,541	3,596	3,691	3,861	3,782	3,816
Okinawa	892	888	912	961	994	1,063	1,110	1,131	1,139
Nationwide	867,297	872,257	860,091	848,609	854,668	861,181	854,820	855,167	853,616

Source: "Survey of the Implementation of Vibration Regulation Law," Office of Odor, Noise and Vibration, Air Environment Division, Environment Management Bureau, MOE, the Government of Japan

6.43 Trends in number of complaints on noise, vibration and odor

(Unit: case)

	Noise	Vibration	Odor
FY1977	21,038	3,823	16,676
1978	22,886	4,033	16,742
1979	22,686	3,914	15,499
1980	22,571	3,766	13,439
1981	22,103	3,737	13,541
1982	22,322	3,067	13,395
1983	21,781	3,103	12,741
1984	22,894	3,131	13,529
1985	20,171	3,118	13,070
1986	19,937	3,058	12,705
1987	22,120	3,109	12,488
1988	20,746	3,279	11,932
1989	19,479	2,921	11,717
1990	19,018	2,795	11,666
1991	16,800	2,207	10,616
1992	15,539	2,193	10,753
1993	15,094	2,083	9,972
1994	15,986	2,547	11,946
1995	14,359	2,742	11,276
1996	15,059	2,662	11,942
1997	14,011	2,257	14,554
1998	12,685	2,124	20,092
1999	12,452	2,084	18,732
2000	14,066	2,264	21,205
2001	14,547	2,480	23,776
2002	15,461	2,614	23,519
2003	15,928	2,608	24,587
2004	16,215	3,289	19,657
2005	16,470	3,599	19,114
2006	17,192	3,615	18,805
2007	16,434	3,384	17,533
2008	15,558	2,941	16,245
2009	15,101	2,540	15,937
2010	15,849	2,882	15,194
2011	15,944	3,222	14,569
2012	16,518	3,254	14,411
2013	16,717	3,351	13,792
2014	17,110	3,180	13,136

Note:
Surveyed by the Environmental Dispute Coordination from FY 1970 to FY 1974

Source: Compiled from "Survey on the Implementation of Noise Regulation Law," "Survey on the Implementation of Vibration Regulation Law," "Survey on the Implementation of Offensive Odor Control Law" by Office of Odor, Noise and Vibration, Air Environment Division , MOE, Government of Japan

6.44 Achievement of environmental standards for noises caused by automobiles, airplanes and Shinkansen

Automobile

	Number of local governments conducted evaluations	Number of residences evaluated	Number of residence where standard values were achieved and rate							
			Below standard values in both daytime and night		Below standard values only at night		Below standard values only in daytime		Exceed standard values in both daytime and night	
		(Thousand)	(Thousand)	(%)	(Thousand)	(%)	(Thousand)	(%)	(Thousand)	(%)
FY2001	78	1,487	1,154	77.6	122	8.2	13	0.9	198	13.3
2002	102	1,934	1,549	80.1	127	6.6	24	1.2	234	12.1
2003	141	2,395	1,933	80.7	177	7.4	22	0.9	263	11.0
2004	165	2,663	2,167	81.4	194	7.3	22	0.8	280	10.5
2005	165	2,914	2,458	84.4	181	6.2	22	0.7	253	8.7
2006	172	3,292	2,812	85.4	196	6.0	26	0.8	258	7.8
2007	176	3,861	3,398	88.0	211	5.5	28	0.7	225	5.8
2008	178	4,632	4,158	89.8	218	4.7	28	0.6	229	4.9
2009	179	5,072	4,595	90.6	221	4.4	25	0.5	231	4.6
2010	179	5,759	5,260	91.3	222	3.9	28	0.5	248	4.3
2011	179	6,116	5,612	91.8	224	3.7	29	0.5	252	4.1
2012	818	6,645	6,151	92.6	228	3.4	28	0.4	238	3.6
2013	828	7,209	6,695	92.9	231	3.2	30	0.4	253	3.5
2014	835	7,794	7,265	93.2	241	3.1	32	0.4	256	3.3

Notes:

・Reporting by prefectures and so forth was started in FY 2000 as continuous monitoring of automobile noises under Noise Regulation Law started.

・Residences and the like within 50m from the both sides of the roads facing major highways were evaluated.

・ Needs taking yearly differences in residences subject to evaluation into consideration.

・Total figures may not foot due to rounding.

Source: Compiled from "Survey on the road traffic noise" by Environmental Transport Policy Division, Environment Management Bureau, MOE, Government of Japan

Airplanes

	Number of measurement points	Number of measurement points that achieved target
FY2001	592	441
2002	563	402
2003	554	403
2004	581	417
2005	590	433
2006	584	418
2007	577	426
2008	576	438
2009	568	423
2010	582	454
2011	563	435
2012	568	441
2013	549	420
2014	542	412

Notes:

・ The results of the measurements in each year by the relevant local governments among areas where such prefectural governments specified patterns, were tabulated.

・ Needs to take into consideration that measurement points each year may not be the same.

・ Tabulation was made from the results measured at a location of approximately 25 kilometers from the track-center on the side of a measuring point (a standard measuring point).

・ Because of the adoption of new evaluation targets based on the partial revision of Environmental Standards regarding airplane noise, the results in 2013 and onward cannot be simply compared with those in 2012 or before.

Source: Compiled from materials from Environmental Transport Policy Division, Environment Management Bureau, MOE, Government of Japan

Shinkansen

	Number of measurement points	Number of measurement points that achieved target
FY2001	292	114
2002	296	123
2003	314	118
2004	331	129
2005	374	144
2006	373	153
2007	378	160
2008	346	149
2009	412	195
2010	424	219
2011	504	299
2012	482	290
2013	496	289
2014	479	248

Notes:

・The results of the measurements in each year by relevant local governments among areas where such prefectural governments specified patterns, were tabulated. .

・ Needs to take into consideration that measurement points each year may not be the same.

・In "countermeasures against 75dB"target sections, the noise level may exceed Environmental standards after the implementation of countermeasures against 75dB since the countermeasures only aims at lowering the noise level below 75dB for the time being.

※ As part of countermeasures to conform with Environmental Standards, concerned governmental agencies and enterprises have been promoting the "countermeasures against 75dB(phon)" since FY1985 for reduction of noise focusing on the "target sections", which means densely populated residential areas along the Shinkansen railroads where the noise level exceeds 75 phon.

Source: Compiled from materials from Environmental Transport Policy Division, Environment Management Bureau, MOE, Government of Japan

7.01 Dioxins emission inventory

Source		Amount of emission (g-TEQ/Year)						Remarks column					
		2009	2010	2011	2012	2013	2014	2009	2010	2011	2012	2013	2014
1 Emissions to air													
Municipal waste incinerators		36	33	32	31	30	27	⑪	⑭	⑰	⑳	㉓	㉖
Industrial waste incinerators		33	28	27	28	19	19	⑪	⑭	⑰	⑳	㉓	㉖
Small-scale waste incinerators	3)	33-34	32-33	24.5	22.6	23	22.2	⑪	⑭	⑰	⑳	㉓	㉖
Crematoria		1.2-2.8	1.2−3.0	1.3-3.1	1.3-3.1	1.3-3.2	1.3-3.2	⑫	⑮	⑱	㉑	㉔	㉗
Electric steel-making furnaces		20.1	30.1	21.6	21.2	23.3	22.1	⑬	⑯	⑲	㉒	㉕	㉘
Sintering process for steel industry		9.1	10.9	11.9	14.1	12	10.8	⑬	⑯	⑲	㉒	㉕	㉘
Facilities for recovering zinc		2.2	2.3	2.5	0.93	3.2	2.9	⑬	⑯	⑲	㉒	㉕	㉘
Secondary aluminum smelting and refining facilities	6)	8.53	7.3	7.59	6.76	6.97	6.75	⑬	⑯	⑲	㉒	㉕	㉘
Aluminum scrap melting process for aluminum rolling industry		2.2	1.1	1.1	1.1	1.4	1.4	⑬	⑯	←	←	㉕	←
Aluminum scrap melting process for automobile dismantling and metal scrapping industry	1a)	0.32	0.32	0.32	0.32	-	-	⑬	⑯	←	←	㉕	←
Aluminum scrap melting process for aluminum casting/die-casting industry	1a)	0.014	0.014	0.014	0.014	0.014	0.014	①	←	←	←	←	←
Aluminum cutting chips drying process for automobile and automobile parts manufacturing industry		0.006	0.0009	0.001	0.001	0.0004	0.0004	⑬	⑯	←	←	㉕	←
Paper manufacturing (Kraft pulp recovery boilers)	1b)	0.056	0.073	0.073	0.073	0.067	0.067	⑬	⑯	←	←	㉕	←
PVC-monomer manufacturing facilities		0.31	0.51	0.51	0.51	0.18	0.18	⑬	⑯	←	←	㉕	←
Caprolactam manufacturing (using nitrosyl chloride) facilities	5)	-	−	−	−	-	-	-	−	←	←	←	←
Chlorobenzene manufacturing facilities		0.000012	0.000002	0.000002	0.000002	0.000002	0.000002	⑬	⑯	←	←	㉕	←
Potassium-sulphate manufacturing facilities	5)	-	-	−	−	-	-	-	−	−	−	-	-
Short alumina-fiber manufacturing facilities		0.093	0.050	0.050	0.050	0.008	0.008	⑬	⑯	←	←	㉕	←
Cement-manufacturing facilities	4)	0.86 (1.79)	0.54 (1.20)	0.54 (1.20)	0.54 (1.20)	0.30 (0.70)	0.30 (0.70)	⑬	⑯	←	←	㉕	←
Refractory material manufacturing facilities	5)	-	-	−	−	-	-	-	−	−	−	-	-
Fire brick manufacturing facilities	5)	-	-	−	−	-	-	-	−	−	−	-	-
Roof tile manufacturing facilities	5)	0.0029	0.0032	−	−	-	-	⑬	⑯	−	−	-	-
Sheet glass manufacturing facilities	5)	-	−	−	−	-	-	-	−	−	−	-	-
Glass fiber manufacturing facilities	5)	-	−	−	−	-	-	-	−	−	−	-	-
Electric glass manufacturing facilities	5)	-	−	−	−	-	-	-	−	−	−	-	-
Optical glass manufacturing facilities	5)	-	−	−	−	-	-	-	−	−	−	-	-
Frit (roof tile glazing materials) manufacturing facilities	5)	-	−	−	−	-	-	-	−	−	−	-	-
Frit (enamel-glazing materials) manufacturing facilities	5)	-	−	−	−	-	-	-	−	−	−	-	-
Glass container manufacturing facilities	5)	-	−	−	−	-	-	-	−	−	−	-	-
Glass tableware manufacturing facilities	5)	-	−	−	−	-	-	-	−	−	−	-	-
Tile manufacturing facilities	5)	-	−	−	−	-	-	-	−	−	−	-	-
Sanitary earthenware manufacturing facilities	5)	-	−	−	−	-	-	-	−	−	−	-	-
Kiln furniture manufacturing facilities	5)	-	−	−	−	-	-	-	−	−	−	-	-
Ceramic tableware manufacturing facilities	5)	-	−	−	−	-	-	-	−	−	−	-	-
Insulator manufacturing facilities	5)	-	−	−	−	-	-	-	−	−	−	-	-
Lime manufacturing facilities	1a)	0.8	1.1	1.1	1.1	0.95	0.95	⑬	⑯	←	←	㉕	←
Cast and forged steel manufacturing facilities		0.17	0.217	0.22	0.22	0.57	0.57	⑬	⑯	←	←	㉕	←
Primary copper smelting facilities		0.43	0.322	0.32	0.32	0.18	0.18	⑬	⑯	←	←	㉕	←
Primary lead smelting facilities		0.013	0.094	0.094	0.094	0.027	0.027	⑬	⑯	←	←	㉕	←
Primary zinc smelting facilities		0.918	1.367	1.37	1.37	0.07	0.07	⑬	⑯	←	←	㉕	←
Copper recovery facilities		0	0	0	0	0	0	⑬	⑯	←	←	㉕	←
Lead recovery facilities		0.0068	0.011	0.011	0.011	0.014	0.014	⑬	⑯	←	←	㉕	←
Precious metals recovery facilities	5)	-		−	−	-	-	-	−	−	−	-	-
Wrought copper and copper alloy products manufacturing facilities	1a)	1.24	1.42	1.42	1.42	1.30	1.30	⑬	⑯	←	←	㉕	←
Copper wire and cable manufacturing facilities	1b)	0.48	0.53	0.53	0.53	0.49	0.49	⑬	⑯	←	←	㉕	←
Aluminum casting/die-casting facilities	5)	0.011	0.014	−	−	-	-	⑬	⑯	−	−	-	-
Automobile manufacturing (aluminum casting/die-casting) facilities		0.50	0.30	0.30	0.30	0.3	0.3	⑬	⑯	←	←	㉕	←
Automobile parts manufacturing (aluminum casting/die-casting) facilities		0.282	0.388	0.388	0.388	0.099	0.099	⑬	⑯	←	←	㉕	←
Thermal power plants		1.18	1.26	1.26	1.26	1.62	1.62	⑬	⑯	←	←	㉕	←
Cigarette smoke		0.06	0.06	0.05	0.05	0.05	0.05	⑪	⑭	⑰	←	㉓	←
Exhaust gas from automobiles	1b)	1.0	1.0	1.0	1.0	0.92	0.92	⑪	⑭	⑰	←	㉓	←

7.01 Dioxins emission inventory

Source		Amount of emission (g-TEQ/Year)						Remarks column					
		2009	2010	2011	2012	2013	2014	2009	2010	2011	2012	2013	2014
2 Emissions to water													
Municipal waste incinerators		0.0010	0.0020	0.0007	0.0010	0.00062	0.00075	⑪	⑭	⑰	⑳	㉓	㉖
Industrial waste incinerators		0.60	0.71	0.35	0.64	0.48	0.29	⑪	⑭	⑰	⑳	㉓	㉖
Bleaching facilities for pulp making		0.19	0.24	0.24	0.24	0.09	0.09	⑬	⑯	←	←	㉕	←
PVC monomer manufacturing facilities		0.055	0.051	0.051	0.051	0.12	0.12	⑬	⑯	←	←	㉕	←
Aluminum alloy manufacturing (rolling, etc.)		0.008	0.011	0.011	0.011	0.008	0.008	⑬	⑯	←	←	㉕	←
Aluminum alloy manufacturing (automobiles and automobile parts manufacturing)		0.000009	0.000013	0.000013	0.000013	0.00000002	0.00000002	⑬	⑯	←	←	㉕	←
Caprolactam manufacturing (using nitrosylchloride) facilities		0.012	0.010	0.010	0.010	0.0047	0.0047	⑬	⑯	←	←	㉕	←
Chlorobenzene manufacturing facilities		0.0000002	0.000001	0.000001	0.000001	0.000002	0.000002	⑬	⑯	←	←	㉕	←
Potassium sulphate manufacturing facilities		0		−	−	-	-	⑬	⑯	−	−	-	-
Acetylene manufacturing (dry process) facilities		0.0010	0.0012	−	−	-	-	⑬	⑯	−	−	-	-
Short alumina fiber manufacturing facilities		0.0016	0.0010	−	−	-	-	⑬	⑯	−	−	-	-
Dioxazine violet manufacturing facilities		0	0	−	−	-	-	⑬	⑯	−	−	-	-
Facilities for recovering Zinc		0.00083	0.00040	0.00003	0.00006	0.00002	0.00011	⑬	⑯	⑱	㉒	㉕	㉘
Facilities for manufacturing yellow pigment intermediates	5)	-	-	−	−	-	-	-	−	−	−	-	-
4-Chlorophthalic acid monosodium salt manufacturing facilities		0.0000001	0.0000002	−	−	-	-	⑬	⑯	−	−	-	-
2, 3-dichloro-1, 4-naphthoquinone manufacturing facilities		0.000009	0.000137	−	−	-	-	⑬	⑯	−	−	-	-
Terminal sewage treatment facilities		0.131	0.23	0.50	0.11	0.22	0.19	⑪	⑭	⑰	⑳	㉓	㉖
Joint wastewater treatment facilities		0.056	0.264	0.26	0.26	0.057	0.057	⑪	⑭	⑰	←	㉓	←
Final disposal sites		0.006	0.006	0.007	0.007	0.006	0.006	⑪	⑭	⑰	⑳	㉓	㉖
Facilities for processing exhaust gas from carrier type catalyst manufacturing facilities		0.000083	0.000000055	−	−	-	-	⑬	⑯	−	−	-	-
Facilities for processing PCB	7)	0.00000046	0.000005	0.000063	0.000006	0.000001	0.000003	⑪	⑭	⑰	⑳	㉓	㉖
Facilities for destroying CFC	7)	0.00014	0.000023	0.000012	0.00001	0.000045	0.000079	⑪	⑭	⑰	⑳	㉓	㉖
Total		155-157	158−160	141−143	136−138	128-130	121-123						
Of which, emission to water		1.1	1.5	1.4	1.3	1.0	0.8						

Notes:

1: Unit of emission: g-TEQ/year. Emissions from 2001 to 2007 are expressed by WHO-TEF(1998) as Toxicity Equivalency Factor. Emissions after 2008 are expressed by WHO-TEF(2006) as long as possible.

1a: Emissions from Aluminum scrap melting process for automobile dismantling and metal scrapping industry, Aluminum scrap melting process for aluminum casting/die-casting industry, Roof tile manufacturing facilities, Lime manufacturing facilities, and Wrought copper and copper alloy products manufacturing facilities are expressed by WHO-TEF (1998) as Toxicity Equivalency Factor.

1b: Parts of Emission data from Paper manufacturing (Kraft pulp recovery boilers), Copper wire and cable manufacturing facilities, Exhaust gas from automobiles are expressed by WHO-TEF(1998) as Toxicity Equivalency Factor.

2: Arrows in the Remarks column indicate that the same amount was considered to be emitted as in the year which arrow points.

3: Small-scale waste incinerator refer to an incinerator with capacity of less than 200kg/h and implemented at plants.

4: Parenthesized values refer to the number of facilities having permissions for installing industrial waste disposal facilities and the numbers are excluded from total.

5: Sources not listed in Stockholm Convention on Persistent Organic Pollutants Annexes C, of which emission amounts are so small as to not affect total of emissions in any way, are excluded from the calculation.

6: Up until 2003, generation source of aluminum related products was called as "Aluminum alloy manufacturing facilities" as a collective term, from 2004, it was called as "Secondary aluminum smelting and refining facilities" as "the Government Plan to Reduce Dioxin Levels Resulting from Business Activities in Japan" described. No alternation on data has been conducted so far.

7: Data collection on an amount of gas emission from operators nationwide began and they were compiled when operators were registered as a so-called specified facility which "the Law Concerning Special Measures against Dioxins" stipulates.

8: Numbers in the Remark column correspond with the followings.

①: estimated by METI in Sep., 2004
②: estimated by Moe in Dec., 2007
③: estimated by MHLW in Oct., 2007
④: estimated by METI in Oct., 2007
⑤: estimated by Moe in Nov., 2008
⑥: estimated by MHLW in Nov., 2008
⑦: estimated by METI in Nov., 2008
⑧: estimated by Moe in Nov., 2009
⑨: estimated by MHLW in Sep., 2009
⑩: estimated by METI in Oct., 2009
⑪: estimated by Moe in Dec., 2010
⑫: estimated by MHLW in Oct., 2010
⑬: estimated by METI in Nov., 2010
⑭: estimated by Moe in Feb., 2012
⑮: estimated by MHLW in Nov., 2011
⑯: estimated by METI in Feb., 2012
⑰: estimated by Moe in Jan., 2013
⑱: estimated by MHLW in Nov., 2012
⑲: estimated by METI in Dec., 2012
⑳: estimated by Moe in Feb., 2014
㉑: estimated by MHLW in Nov., 2013
㉒: estimated by METI in Feb., 2014
㉓: estimated by Moe in Mar., 2015
㉔: estimated by MHLW in Nov., 2014
㉕: estimated by METI in Feb., 2015
㉖: estimated by Moe in Mar., 2016
㉗: estimated by MHLW in Nov., 2015
㉘: estimated by METI in Mar., 2016

Source: "Dioxins Emission Inventory" by Dioxins Control Office, Policy Planning Division, Water Environment Division, Environmental Management Bureau, MOE, the Government of Japan

7.02 Result of environmental survey on dioxins in FY 2014

Unit : Air pg-TEQ/m3
Water quality pg-TEQ/L
Sediments pg-TEQ/g
Soil quality pg-TEQ/g

Environmental media	Type of survey or classification of areas (Water area)	Number of Sampling points	Number of samples	Sampling points that exceed environmental standards	Results of Survey			Environmental Standard value
					Average	Minimum value	Maximum value	
Air	All	645	1,983	0	0.021	0.0036	0.42	0.6
		(709)	(2,073)	(-)	(0.021)	(0.0036)	(0.42)	
	Ambient Environment	497	1,524	0	0.020	0.0037	0.420	
		(524)	(1,557)	(-)	(0.020)	(0.0037)	(0.420)	
	Vicinities of sources	122	373	0	0.022	0.0036	0.17	
		(158)	(429)	(-)	(0.021)	(0.0036)	(0.17)	
	Roadsides	26	86	0	0.025	0.0065	0.077	
		(27)	(87)	(-)	(0.024)	(0.0065)	(0.077)	
Public Waters ~~area~~ Quality	All	1,480	1,956	21	0.18	0.0120	2.1	1
	River	1,149	1,593	20	0.20	0.0120	2.1	
	Lakes and marshes	75	87	1	0.20	0.0150	1.6	
	Sea areas	256	276	0	0.070	0.0170	0.48	
Public Waters ~~area~~ Sediment	All	1,197	1,272	2	6.4	0.0680	660	150
	River	921	995	2	5.7	0.0680	660	
	Lakes and marshes	64	64	0	8.9	0.1700	42	
	Sea areas	212	213	0	8.7	0.0690	93	
Groundwater Source		530	531	0	0.050	0.0120	1.0	1
Soil	Total	872	872	0	2.3	0	100	1,000
	Ambient Environment Survey	603	603	0	1.6	0	57	
	Survey on the vicinities of pollution sources	269	269	0	4.0	0	100	

Notes:
・Average, Minimum value, and Maximum value are the annual average, minimum, and maximum values taken at each sampling points.
・WHO-TEF(2006) is used to calculate amount of toxic equivalent.
・As for Air, data includes survey results of fixed points designated by Ministry of the Environment, as well as the survey results independently carried out by municipality designated by Air Pollution Control Law ordinance. The lower parenthesized data refers to data from all of the sampling points.
・The number of over-the-standards sampling points for sediments of pubic water areas that of sampling points where the environmental standards were exceeded once a year or more.
・As for underground water, besides the survey reported here, investigation on the surrounding area of pollution well (5 samples from 5 sampling points) and continuous monitoring and researches (15 samples from 18 sampling points) were implemented.
・As for soil, data from 8 samples of 8 sampling points where a simplified measuring method is used are not included when calculating averages and concentration range. Also, a continuous monitoring and research (4 samples from 4 sampling points in 4 areas) was carried out for soil.

Source: "Dioxins Emission Inventory," Water Environment Division, Dioxins Control Office, Policy Planning Division, Environmental Management Bureau, MOE, the Government of Japan

7.03 Chronological changes in daily intake of dioxins per person in Japan

Convert per 1kg body weight（Unit： pg-TEQ / kg bw / day）

	Air and Soil		FOOD 2)															Tolerable daily intake (TDI)
	Air 3)	Soil 4)	Rice and Processed rice	Grains except rice, Nuts(Fruits), Potatoes	Sugar and Confectionary	Oils and fats	Beans and Processed beans	Fruits, Juice	Green and Yellow Vegetables	Other vegetables, Mushrooms, Sea Weeds	Beverages including alcoholic beverage	Seafood	Meat and Eggs	Milk and Dairy Products	Seasoning	Drinking Water	Total	
FY 2000	0.042	0.0092	0.0002	0.0038	0.011	0.0032	0.0004	0.0002	0.0212	0.0288	0.00	1.107	0.194	0.0794	0.0048	0.00	約1.50	
	0.051		1.453															
FY 2001	0.042	0.0064	0.0004	0.0268	0.004	0.001	0.0028	0.0004	0.0222	0.0028	0.0076	1.335	0.154	0.0698	0.0020	0.00	約1.68	
	0.048		1.629															
FY 2002	0.028	0.0068	0.0002	0.001	0.006	0.001	0.0002	0.00	0.0030	0.001	0.00	1.290	0.150	0.0346	0.0014	0.00	約1.52	
	0.035		1.489															
FY 2003	0.020	0.0052	0.00	0.001	0.002	0.002	0.00	0.00	0.0018	0.001	0.0002	1.147	0.141	0.0322	0.0018	0.00	約1.36	
	0.025		1.330															
FY 2004	0.017	0.0044	0.0004	0.0026	0.002	0.001	0.0004	0.00	0.0028	0.0026	0.001	1.245	0.101	0.0468	0.0020	0.00	約1.43	
	0.021		1.409															
FY 2005	0.015	0.0040	0.0004	0.0022	0.002	0.001	0.0008	0.00	0.0028	0.001	0.000	1.090	0.0686	0.0328	0.0014	0.00	約1.22	
	0.019		1.203															
FY 2006	0.015	0.0038	0.0006	0.0054	0.002	0.001	0.0002	0.00	0.0012	0.001	0.000	0.9400	0.0704	0.0212	0.0012	0.00	約1.06	4 5)
	0.019		1.045															
FY 2007	0.012	0.0054	0.0002	0.001	0.002	0.0004	0.0004	0.00	0.0006	0.001	0.00	1.033	0.0422	0.0226	0.0012	0.00	約1.12	
	0.017		1.106															
FY 2008	0.011	0.0056	0.00	0.0008	0.001	0.0004	0.0002	0.00	0.0008	0.001	0.00	0.8634	0.0396	0.0076	0.0008	0.00	約0.93	
	0.017		0.9152															
FY 2009	0.009	0.0042	0.00	0.0010	0.001	0.0006	0.0002	0.00	0.0004	0.001	0.00	0.7840	0.0398	0.013	0.0012	0.00	約0.86	
	0.014		0.8428															
FY 2010	0.009	0.0042	0.00	0.0004	0.001	0.0004	0.0000	0.00	0.0006	0.0004	0.00	0.7626	0.0416	0.0028	0.0036	0.00	約0.83	
	0.014		0.8134															
FY 2011	0.008	0.0040	0.00	0.0006	0.001	0.0004	0.0002	0.00	0.0002	0.0004	0.00	0.6308	0.0416	0.0008	0.0016	0.00	約0.69	
	0.012		0.6774															

	total (pg-TEQ/kg)	Air and Soil (%		Food (%)						tolerable daily intake (TDI) (pg-TEQ/kg)
		Air 3)	Soil 4)	Seafood	Meat and Eggs	Seasoning	Milk and Dairy Products	Sugar and Confectionary	others	
FY2012	0.7	1.14	0.46	89.52	7.70	0.23	0.40	0.11	0.30	
FY2013	0.59	1.12	0.75	89.39	7.75	0.27	0.10	0.10	0.51	4 5)
FY2014	0.7	0.89	0.46	91.05	6.17	0.20	0.03	0.06	1.14	

Notes:

1: WHO-TEF(1998) is used from FY 2000 to FY 2007 and WHO-TEF(2006) is used after FY2008 to calculate toxic equivalent (TEQ).

2: Effective digit is based on the amount of daily intake of dioxins byfood category and total amount of daily intake of diet.

3: The values calculated by dividing the sum of the multiples of each of the averages and the corresponding numbers of locations by the grand total number of locations is used as for the average values for Ambient Environment and roadside., each average values are added with the value.

4: The average values of ambient environment are used.

5: TDI are set under Act on Special Measures against Dioxins. (Act No. 106 of July 16, 1999)
Reference: http://law.e-gov.go.jp/htmldata/H11/H11HO105.html and http://www1.mhlw.go.jp/houdou/1106/h0621-3_13.html

Source: "Survey on dioxins," Ministry of the Environment, the Government of Japan
"Survey of daily intake of dioxin from diet (Health Labor Sciences Research)," Ministry of Health, Labor and Welfare, the Government of Japan

7.04 Chronological changes in daily intake of dioxins originated from total diet samples

Survey on chronological changes in daily intake of dioxins from stored samples

(Unit : pg-TEQ / kg bw / day)

	Dioxins	Co-planar PCB	PCDDs + PCDFs
FY 1977	8.18	4.43	3.75
1982	5.32	2.96	2.36
1988	5.58	3.14	2.44
1992	2.07	1.23	0.84
1995	2.30	1.15	1.15
1998	2.72	1.80	0.92

Survey on daily intake 2)

(Unit : pg-TEQ / kg bw / day)

	Dioxins	Co-planar PCB	PCDDs + PCDFs
FY 1998	2.00	1.16	0.83
1999	2.25	1.36	0.89
2000	1.45	0.88	0.57
2001	1.63	1.09	0.54
2002	1.49	0.97	0.52
2003	1.33	0.89	0.44
2004	1.41	0.96	0.45
2005	1.20	0.82	0.38
2006	1.04	0.73	0.31
2007	1.11	0.78	0.33
2008	0.92	0.66	0.26
2009	0.84	0.61	0.24
2010	0.81	0.57	0.24
2011	0.68	0.47	0.20
2012	0.69	0.48	0.21
2013	0.58	0.39	0.18
2014	0.69	0.48	0.21

Notes:

1: Estimation of a chronological change in the amount of dioxins intake from an average diet by analyzing Dioxins with total diet samples collected and stored at five time-points in Kansai area between FY 1977 and FY 1995 (six time-points if FY 1998 is included)

2: Estimation of the amount of dioxins intake from an average diet by analyzing Dioxins with total diet samples collected from all over the country.

Source: "Survey of daily intake of dioxins from diet (Health Labor Sciences Research)," Ministry of Health, Labor and Welfare

7.05 Notifications of specified facilities based on the Law concerning Special Measures against Dioxins

(Unit: Facilities)

	Facilities subject to Gas Emission Standards							Facilities subject to Effluent Emission Standards						
	FY 2008 end	FY 2009 end	FY2010 end	FY 2011 end	FY 2012 end	FY 2013 end	FY 2014 end	FY 2008 end	FY 2009 end	FY2010 end	FY 2011 end	FY 2012 end	FY 2013 end	FY 2014 end
Hokkaido	295	292	285	288	278	271	264	86	83	84	88	90	94	92
Aomori	147	140	139	139	138	137	139	55	72	77	73	73	73	73
Iwate	144	142	139	130	126	126	127	8	8	8	9	9	9	19
Miyagi	145	140	136	148	150	123	122	17	17	17	16	16	16	16
Akita	96	94	91	88	84	84	86	11	11	11	11	10	10	10
Yamagata	129	128	123	117	120	116	113	47	47	48	43	43	42	42
Fukushima	167	162	157	156	156	154	150	72	69	61	61	60	60	65
Ibaraki	500	486	458	437	421	411	405	112	114	112	106	98	91	88
Tochigi	292	277	274	248	244	228	220	19	19	21	16	18	20	18
Gunma	211	169	166	135	131	128	121	29	21	21	15	16	15	16
Saitama	420	407	393	375	357	351	339	255	251	253	240	242	239	237
Chiba	426	404	395	384	373	360	344	156	147	142	136	137	136	132
Tokyo	360	343	331	325	326	324	317	262	252	256	259	263	258	250
Kanagawa	153	153	151	144	140	127	122	92	96	103	105	105	87	89
Niigata	268	257	248	246	240	230	225	72	73	73	73	73	71	71
Toyama	135	129	127	124	117	113	111	50	49	51	43	39	40	36
Ishikawa	99	90	89	88	86	84	82	13	11	11	11	11	11	11
Fukui	144	140	137	126	120	111	103	43	41	41	40	37	31	30
Yamanashi	101	99	95	91	88	88	88	14	13	13	10	10	10	11
Nagano	219	207	199	184	181	166	159	114	111	109	102	102	91	95
Gifu	269	261	257	245	240	227	216	49	46	46	42	43	40	40
Shizuoka	428	415	394	377	366	345	336	308	306	304	297	298	290	285
Aichi	461	438	423	413	392	387	386	114	109	104	99	100	93	91
Mie	283	274	267	254	253	256	245	64	64	56	55	54	48	44
Shiga	172	154	149	140	129	121	119	24	19	19	20	19	19	20
Kyoto	96	96	93	92	91	89	88	23	23	22	22	22	22	22
Osaka	187	184	175	166	160	150	132	156	158	153	120	120	115	103
Hyogo	335	293	290	285	272	264	256	117	87	86	87	86	81	82
Nara	198	196	195	194	195	190	187	35	34	38	34	34	33	35
Wakayama	107	100	94	91	89	85	85	23	20	20	19	19	19	18
Tottori	100	97	96	95	94	91	89	39	39	39	39	39	39	35
Shimane	102	91	90	82	79	80	75	30	32	31	29	28	32	30
Okayama	143	135	136	132	141	142	133	31	31	31	31	32	34	34
Hiroshima	188	181	178	165	159	150	149	35	33	33	29	27	27	27
Yamaguchi	202	190	185	176	162	157	146	75	74	69	69	67	67	68
Tokushima	177	173	172	166	162	149	148	49	47	47	41	41	39	39
Kagawa	139	137	132	128	125	121	115	37	37	36	38	37	35	35
Ehime	216	206	203	202	197	189	183	34	37	37	36	36	37	37
Kochi	129	127	127	124	121	114	111	9	9	9	9	7	6	6
Fukuoka	282	278	261	248	236	233	233	71	73	71	70	63	66	61
Saga	131	128	122	118	114	111	109	20	20	21	18	18	20	20
Nagasaki	133	123	124	118	116	116	108	26	26	26	26	24	23	22
Kumamoto	168	159	154	146	137	135	135	10	10	10	12	12	12	12
Oita	65	65	65	66	64	62	62							
Miyazaki	80	78	76	70	70	69	66	4	5	5	6	6	6	6
Kagoshima	168	167	168	166	166	161	160	2	1	1	1	1	1	1
Okinawa	114	110	103	102	102	105	103	34	37	36	36	37	37	36
Sapporo	30	30	30	27	27	26	24	22	22	22	20	20	20	25
Sendai	33	31	30	33	31	27	27	15	13	13	32	32	22	8
Saitama	41	35	30	30	29	29	28	12	12	11	12	12	12	15
Chiba	55	54	52	53	48	46	45	36	36	36	36	35	35	34
Yokohama	93	91	86	85	82	82	80	66	68	68	67	61	61	61
Kawasaki	62	61	59	59	56	54	55	74	74	70	71	71	75	76
Sagamihara	36	24	22	22	20	20	19	50	40	35	35	33	33	29
Niigata	71	72	71	68	59	57	55	25	25	24	23	21	19	18
Shizuoka	89	89	77	74	69	67	64	24	24	22	22	22	22	22
Hamamatsu	67	65	64	61	60	60	54	20	20	20	20	20	20	15
Nagoya	75	74	75	72	66	63	62	41	42	45	45	45	45	44
Kyoto	76	71	73	72	71	68	65	31	31	33	33	31	27	26
Osaka	72	67	65	65	65	60	54	52	51	52	59	57	54	50
Sakai	53	55	56	53	52	50	46	17	17	18	16	16	16	16
Kobe	42	40	37	36	34	35	35	29	22	21	20	21	23	23
Okayama	63	61	58	56	52	51	49	17	17	16	16	15	15	10
Hiroshima	66	61	61	60	53	49	45	52	51	55	53	53	45	40
Kitakyushu	66	66	68	65	65	59	55	74	108	113	111	110	107	105
Fukuoka	23	23	23	23	23	23	22	25	25	25	25	25	25	25
Kumamoto	20	22	22	21	21	22	22	6	6	6	6	6	7	7
Hakodate	9	9	9	9	9	10	10	1	1	1	1	1	1	1
Asahikawa	12	12	12	12	12	10	10	4	4	4	4	4	4	4
Aomori	35	35	36	32	31	27	27	6	6	6	5	5	4	4
Morioka	28	28	29	26	23	23	22	3	3	3	3	3	3	2
Akita	19	18	18	17	17	17	17	15	15	15	14	14	14	14
Koriyama	21	18	18	17	17	18	17	3	3	3	3	5	3	3
Iwaki	37	35	36	34	32	32	32	29	27	34	34	36	36	39
Utsunomiya	27	25	25	24	24	25	24	22	19	19	19	19	20	20
Maebashi		39	33	32	29	30	30		12	10	12	12	12	12
Takasaki				27	27	25	24				6	6	6	6
Kawagoe	16	15	14	12	12	11	11	12	12	9	8	8	7	7
Funabashi	21	21	18	18	16	16	18	2	2	2	2	1	1	2
Kashiwa	22	18	18	17	16	16	15							
Yokosuka	17	17	17	17	19	19	19	21	21	20	20	21	21	21
Toyama	49	47	47	46	46	45	42	15	15	15	15	15	14	14
Kanazawa	31	34	33	30	30	28	26	5	5	9	11	9	9	9
Nagano	26	24	22	20	20	18	19	18	16	14	13	13	11	12
Gifu	29	29	27	26	26	26	26	6	6	6	6	6	6	3
Toyohashi	23	21	22	22	20	21	21	8	7	8	8	8	7	7
Okazaki	35	32	28	26	27	26	25	10	11	7	5	5	5	5
Toyoda	53	52	51	48	48	49	48	51	50	50	51	51	51	51
Otsu		16	15	15	14	13	13		5	5	7	7	7	5
Toyonaka				6	8	8	6				13	10	10	6
Takatsuki	14	14	14	14	14	14	13	19	19	19	18	18	18	18
Hirakata							14							12
Higashi Osaka	17	17	17	16	16	16	18	14	14	14	12	12	12	14
Himeji	74	79	78	74	74	75	75	45	55	56	53	57	57	55
Amagasaki		20	19	18	18	19	18		25	26	25	25	24	24
Nishinomiya	8	8	11	11	8	8	8	4	4	5	8	7	7	7
Nara	29	29	29	27	26	26	26	4	4	4	4	4	4	4
Wakayama	57	53	51	46	45	46	43	11	10	10	10	10	10	10
Kurashiki	70	70	70	68	66	66	63	45	45	45	43	43	43	41
Fukuyama	69	66	64	61	58	56	55	17	15	18	18	16	16	16
Shimonoseki	31	30	28	28	28	28	29	2	2	2	2	2	2	2
Takamatsu	27	26	26	25	25	24	24	7	7	7	7	7	7	7
Matsuyama	36	34	39	37	35	34	34	4	4	4	4	4	4	4
Kochi	28	27	27	27	27	25	23	7	7	7	7	7	6	5
Kurume	23	23	23	23	21	21	22	3	3	3	3	3	3	3
Nagasaki	21	19	18	17	15	15	16	9	9	9	7	7	7	7
Oita	43	44	44	42	41	39	36	23	23	23	23	22	22	22
Miyazaki	17	17	16	15	15	15	14	4	4	4	5	5	5	5
Kagoshima	38	36	35	35	34	34	34	7	7	7	7	7	7	7
Naha	-	-	-	-	-	1	1	-	-	-	-	-	-	-
Nationwide	11,769	11,364	11,058	10,686	10,380	10,054	9,786	4,090	4,083	4,070	3,980	3,943	3,834	3,769

Source:
"Enforcement status of the Law concerning Special Measures against Dioxins," Dioxins Control Office, Policy Planning Division, Environmental Management Bureau, MOE, the Government of Japan
Water Environment Division, Environmental Management Bureau, MOE, the Government of Japan
Soil Environment Management Division, Environmental Management Bureau, MOE, the Government of Japan

Source:
"Enforcement status of the Law concerning Special Measures against Dioxins," Dioxins Control Office, Policy Planning Division, Environmental Management Bureau, MOE, the Government of Japan
Water Environment Division, Environmental Management Bureau, MOE, the Government of Japan
Soil Environment Management Division, Environmental Management Bureau, MOE, the Government of Japan

7.06 Specified facilities subject to Gas Emission Standards, based on the Law Concerning Special Measures against Dioxins(by type of notification)

		March, 31 2008 Number of units installed	March, 31 2009 Number of units installed	March, 31 2010 Number of units installed	March, 31 2011 Number of units installed	March, 31 2012 Number of units installed	March, 31 2013 Number of units installed	March, 31 2014 Number of units installed	March, 31 2015 Number of units installed
Sintering furnace for producing sintered ores		32	32	32	32	31	31	31	31
Electric furnace for steel-making		110	111	112	114	112	112	110	105
Zinc recovery facility	Roasting furnace	7	10	12	13	12	13	12	11
	Sintering furnace	2	2	5	5	5	5	6	6
	Blast furnace	2	2	2	3	2	2	2	2
	Melting furnace	3	3	2	2	2	3	3	4
	Drying furnace	1	2	6	9	8	8	9	10
	Subtotal	15	19	27	32	29	31	32	33
Aluminum alloy facility	Roasting furnace	22	22	27	28	30	30	29	27
	Melting furnace	759	756	748	731	722	689	671	677
	Drying furnace	62	62	60	58	54	53	52	50
	Subtotal	843	840	835	817	806	772	752	754
Waste incinerator	More than 4t/h	1,121	1,125	1,103	1,106	1,112	1,122	1,115	1,117
	More than 2t/h ~ less than 4t/h	1,489	1,481	1,460	1,450	1,431	1,416	1,395	1,381
	Less than 2t/h	8,510	8,161	7,793	7,499	7,165	6,896	6,619	6,365
	More than 200kg/h ~ less than 2t/h	2,955	2,884	2,772	2,673	2,570	2,476	2,357	2,267
	More than 100kg ~ Less than 200kg	3,802	3,602	3,433	3,307	3,178	3,077	2,976	2,888
	More than 50kg/h ~ less than 100kg/h	1,227	1,175	1,109	1,063	987	931	895	839
	Less than 50kg/h (more than 0.5m2)	526	500	479	456	430	412	391	371
	Subtotal	11,120	10,767	10,356	10,055	9,708	9,434	9,129	8,863
Total		12,120	11,769	11,362	11,050	10,686	10,380	10,054	9,786

Note: Tabulated the numbers of units installed in the notified facilities based on the Article 12 & 13 of the Act.

Source: "Enforcement status of the Law concerning Special Measures against Dioxins,"
Dioxins Control Office, Policy Planning Division, Water Environment Division, and Soil Management Division,
Environmental Management Bureau, MOE, the Government of Japan

7.07 Notifications from facilities subject to Effluent Emission Standards, based on the Act on Special Measures against Dioxins (by contents of notification)

		Number of facilities at the end of Fiscal Year							
		FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Bleaching using chlorine or chlorine compound to produce sulfate cellulose (craft pulp) or sulfite cellulose (sulfite pulp.)		91	89	75	76	77	76	72	72
Acetylene cleaning to produce acetylene from calcium carbide.		57	56	55	55	55	57	57	57
Cleaning waste gas to produce sulfuric acid potassium.		0	0	0	0	0	0	0	0
Cleaning waste gas to produce alumina fiber.		21	22	22	22	23	27	26	26
Cleaning waste gas f to process gas generated from a baking furnace to produce a catalyst with a carrier.		6	7	7	7	7	7	9	10
Cleaning Dichloro- ethylene to produce vinyl chloride monomer.		32	32	32	32	32	32	32	32
Sulfuric-acid concentration, cyclohexane separation, waste gas cleaning to produce caprolactm.		5	5	3	5	5	5	5	5
Water cleaning facility and waste gas cleaning facility to produce chlorobenzene or dichlorobenzene.		4	2	2	2	2	2	2	5
Filtering treatment facility, drying facility and waste gas cleaning facility to produce 4-Chlorophthalic acid.		6	6	3	3	3	3	3	3
Filtering treatment facility, and waste gas cleaning facility to produce 2, 3-dichloro-1, 4-naphthoquinone.		3	3	3	3	3	3	3	3
Nitration derivative separation facility, nitration-reduction derivative separation facility, nitration derivative cleaning facility, nitration-reduction derivative cleaning facility, dioxazine purple cleaning facility, Hot-air drying facility used to produce dioxazine purple.		7	7	7	7	7	7	7	7
Roasting furnace, melting furnace, or drying furnace used to produce aluminum or the alloy thereof that are related to waste gas cleaning facility and wet-type dust collection facility.		82	80	79	80	73	72	72	64
Refinement facility, waste gas cleaning facility and wet-type dust collection facility that are used in collection of zinc.		16	19	38	44	45	43	43	44
Filtering treatment facility, refinement facility and waste gas cleaning facility used in metallic collection from a catalyst with a carrier.		254	253	252	251	249	255	246	247
Waste gas cleaning facility, wet-type dust collection facility and ash collection facility related to waste incinerator that discharge polluted water or waste fluid.	Waste gas cleaning facility, wet-type dust collection facility	2,215	2,199	2,137	2,110	2,003	1,976	1,899	1,825
	Ash collection facility	849	834	877	875	893	879	862	873
	Subtotal	3,064	3,033	3,014	2,985	2,896	2,855	2,761	2,698
Decomposition of waste PCB or process of PCB, and cleaning and decomposition of PCB polluted materials and processed PCB.		130	128	127	126	128	130	129	128
Plasma reaction, waste gas cleaning and wet-type dust collection for destruction of CFC.		54	59	61	62	61	61	61	63
Terminal processing of sewage		252	252	256	258	258	253	249	249
Treatment of water discharged from a factory or business establishment with a facility subject to the Effluent Emission Standards		55	54	54	58	56	55	57	58
total		4,139	4,107	4,090	4,076	3,980	3,943	3,834	3,769

Note: Notifications based on the Act on Special Measures against Dioxins and permissions and the like based on the Act on Special Measures concerning Conservation of the Environment of the Seto Inland Sea are tabulated together.

Source: "Enforcement status of the Act on Special Measures against Dioxins," Dioxins Control Office, Policy Planning Division, Water Environment Division, Soil Management Division, Environmental Management Bureau, MOE, the Government of Japan

7.08 Number of notifications for new chemical compounds based on Act on the Evaluation of Chemical Substances and Regulation of their Manufacture, etc.

(Unit: Case)

	New: Regular	Fiscal Year	New: Small-quantity		
				Produced	Imported
1975	82	1975	773	469	304
1980	253	1980	1,833	937	896
1985	376	1985	3,893	2,177	1,716
1990	272	1990	6,848	4,799	2,049
1995	296	1995	8,050	5,951	2,099
2000	373	2000	10,032	7,222	2,810
2001	322	2001	10,669	7,559	3,110
2002	292	2002	11,763	8,153	3,610
2003	362	2003	13,087	8,973	4,114
2004	121	2004			

(Unit: Case)

	New: Regular	Low production amount	Intermediates			Intermediates: small quantity			New: Small quantity		
				Produced	Imported		Produced	Imported		Produced	Imported
FY 2004	238	191	425	281	144	-	-	-	14,823	9,889	4,934
FY 2005	225	194	202	102	100	-	-	-	15,923	10,650	5,273
FY 2006	284	219	170	98	72	-	-	-	17,687	11,718	5,969
FY 2007	384	242	226	113	113	-	-	-	19,641	12,694	6,947
FY 2008	378	298	172	98	74	-	-	-	21,356	13,551	7,805
FY 2009	306	271	213	114	99	-	-	-	22,860	14,111	8,749
FY 2010	321	339	266	140	126	-	-	-	25,848	-	-
FY 2011	453	311	265	120	145	-	-	-	28,547	-	-
FY 2012	454	248	259	116	143	-	-	-	31,672	-	-
FY 2013	315	234	204	80	124	-	-	-	34,056	-	-
FY 2014	367	233	231	103	128	124	42	82	36,053	-	-
FY 2015	347	220	205	87	118	203	85	118	35,357	-	-

Note: For 2004 (calendar year), from Jan. to Mar.

Source: For 1975 to 2000, materials from Chemical Management Policy Division, Manufacturing Industries Bureau, METI, and for 2001 to 2015, material of Chemicals Evaluation Office, Environmental Health Department, Environmental Policy Bureau, MOE

7.09 Result of the Initial Environmental Survey in FY2014

Water quality

No.	Substance registry number	Name of substances	Detection frequency Number of samples where the chemical is detected /Number of samples	Detection frequency Number of study areas where substances are detected /Number of study areas	Detection range (ng/L)	Detection limit (ng/L)
1	1	6-Acetyl-1,1,2,4,4,7-hexamethyltetralin	14/16	14/16	nd～230	0.85
2	3	Erythromycin, Clarithromycin and other Macrolide compounds				
3	3-1	Erythromycin	6/17	6/17	nd～30	4.9
4	3-2	Clarithromycin	13/17	13/17	nd～490	0.80
5	3-3	Oleandomycin	0/17	0/17	nd	36
6	3-4	Josamycin	0/17	0/17	nd	5.5
7	3-5	Tylosin	0/17	0/17	nd	5.6
8	3-6	Tacrolimus	0/17	0/17	nd	1.2
9	3-7	12-Deoxyerythromycin (synonym: Erythromycin B)	0/17	0/17	nd	6.9
10	3-8	Leucomycin A5	0/17	0/17	nd	5.8
11	3-9	Roxythromycin	6/17	6/17	nd～47	6.5
12	3-10	Clindamycin	2/17	2/17	nd～11	6.2
13	3-11	Lincomycin	5/17	5/17	nd～17	5.0
14	4	Oxytetracycline, Chlortetracycline, other Tetracycline compounds and their metabolites				
15	4-1	Oxytetracycline	0/14	0/14	nd	2.9
16	4-2	Chlortetracycline	0/16	0/16	nd	4.6
17	4-3	Tetracycline	0/16	0/16	nd	8.3
18	4-4	Doxycycline	0/16	0/16	nd	20
19	4-5	Isochlortetracycline	0/16	0/16	nd	6.4
20	5	5-Chloro-2-(2,4-dichlorophenoxy)phenol (synonym: Triclosan)	16/16	16/16	0.76～93	0.13
21	8	1,2-Dichloro-4-nitrobenzene	0/16	0/16	nd	8.0
22	12	2,4-Dimethylaniline	0/17	0/17	nd	14
23	13	Sulfamethoxazole, other Sulfanilamide compounds and 2,4-Diaminopyrimidine compounds				
24	13-1	Sulfamethoxazole	11/16	11/16	nd～190	5.0
25	13-2	Sulfaethoxypyridazine	0/16	0/16	nd	5.0
26	13-3	Sulfaquinoxaline	0/16	0/16	nd	5.0
27	13-4	Sulfaguanidine	0/16	0/16	nd	5.0
28	13-5	Sulfachlorpyridazine	0/16	0/16	nd	5.0
29	13-6	Sulfadiazine	1/16	1/16	nd～29	5.0
30	13-7	Sulfadimethoxine	0/16	0/16	nd	5.0
31	13-8	Sulfathiazole	0/16	0/16	nd	5.0
32	13-9	Sulfadoxine	0/16	0/16	nd	5.0
33	13-10	Sulfatroxazole	0/16	0/16	nd	5.0
34	13-11	Sulfanitran	0/16	0/16	nd	20
35	13-12	Sulfanilamide	10/14	10/14	nd～210	3.6
36	13-13	Sulfapyridine	11/16	11/16	nd～290	5.0
37	13-14	Sulfabromomethazine	0/16	0/16	nd	5.0
38	13-15	Sulfabenzamide	0/16	0/16	nd	5.0
39	13-16	sulfadimidine	0/16	0/16	nd	5.0
40	13-17	Sulfamethoxypyridiazine	0/16	0/16	nd	5.0
41	13-18	Sulfamerazine	0/16	0/16	nd	5.0
42	13-19	Sulfamonomethoxine	0/16	0/16	nd	5.0
43	13-20	Sulfisoxazole	0/16	0/16	nd	5.0
44	13-21	Sulfisozole	0/16	0/16	nd	5.0
45	13-22	Sulfisomidine	1/16	1/16	nd～13	5.0
46	13-23	Ormetoprim	1/16	1/16	nd～11	5.0
47	13-24	Diaveridine	1/16	1/16	nd～10	5.0
48	13-25	Trimethoprim	6/16	6/16	nd～61	5.0
49	13-26	Pyrimethamine	0/16	0/16	nd	3.8
50	14	2,2',4,4'-Tetrahydroxybenzophenone	1/21	1/21	nd～13	12

Note: Detection range refers to maximum and minimum values of detected sample substance.

Source: "Environmental Survey and Monitoring of Chemicals in 2015," Environmental Health and Safety Division, Environmental Health Department, Environmental Policy Bureau, MOE, the Government of Japan

Air

No.	Substance registry number	Name of substances	Number of detected substance/Number of samples	Number of study areas where substances are detected /Number of study areas	Detection range (ng/m³)	Detection limit (ng/m³)
1	2	3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate*	0/30	0/10	nd	2.0
2	6	2-Methoxyethyl acetate*	0/42	0/14	nd	20
3	7	Methyl-1,3-phenylene diisocyanate (synonym: m-Tolylene diisocyanate)*				
4	7-1	2-Methyl-1,3-phenylene diisocyanate	0/24	0/8	nd	0.33
2	7-2	4-Methyl-1,3-phenylene diisocyanate	2/27	1/9	nd～1.3	0.24
3	9	Divinylbenzenes (Total of m-Divinylbenzene and p-Divinylbenzene)*	0/30	0/10	nd	13
5	11	N,N-Dimethylacetamide*	19/27	7/9	nd～400	2.2
6	15	Butan-2-one oxime	0/30	0/10	nd	13

Note: Detection range refers to maximum and minimum values of detected sample substance.
* indicate that surveyed areas include the vicinity of points with high emissions that were notified based on PRTR.

Source: "Environmental Survey and Monitoring of Chemicals in 2015," Environmental Health and Safety Division, Environmental Health Department, Environmental Policy Bureau, MOE, the Government of Japan

Bottom sediments

No.	Substance registry number	Name of substances	Number of detected substance/Number of samples	Number of study areas where substances are detected /Number of study areas	Detection range (ng/m³)	Detection limit (ng/m³)
1	8	1,2-Dichloro-4-nitrobenzene	0/33	0/11	nd	0.61
2	10	6,6'-Di-tert-butyl-4,4'-dimethyl-2,2'-methylenediphenol	24/36	9/12	nd～1.9	0.008
3	12	2,4-Dimethylaniline	0/39	0/13	nd	3.3

Note: Detection range refers to maximum and minimum values of detected sample substance.

Source: "Environmental Survey and Monitoring of Chemicals in 2015," Environmental Health and Safety Division, Environmental Health Department, Environmental Policy Bureau, MOE, the Government of Japan

7.10 Environmental survey details of the chemical environment in fiscal year 2014

Water quality

No.	Substance registry number	Name of substances	Detection frequeny Number of samples where the chemical is detected /Number of samples	Detection frequency Number of study areas where substances are detected /Number of study areas	Detection range (ng/L)	Detection limit (ng/L)
1	1	Acrylic acid *	17/17	17/17	100～3,200	30
2	3	2-Aminoethanol *	19/21	19/21	nd～19,000	60
3	7	Chlorobenzene *	12/20	12/20	nd～370	0.17
4	8	4-Chloro-2-methylphenol	0/21	0/21	nd	3.2
5	10	2,4-Dichlorophenoxy acetic acid (synonym: 2,4-D or 2,4-PA)	19/20	19/20	nd～7.7	0.08
6	11	poly(oxyethylene)s (polymerization degree =1-15) (synonym: Poly(oxyethylene) nonylphenyl ethers (polymerization degree = 1-15))				
7		Polymerization degree = 1-15	16/27	16/27	nd～1,300	**43
8		Mono(oxyethylene)=nonylphenyl ethers	3/27	3/27	nd～48	34
9		Di(oxyethylene)=nonylphenyl ethers	25/27	25/27	nd～220	0.4
10		Tri(oxyethylene)=nonylphenyl ethers	13/27	13/27	nd～210	8.1
11		Tetra(oxyethylene)=nonylphenyl ethers	21/27	21/27	nd～220	1.9
12		Penta(oxyethylene)=nonylphenyl ethers	23/27	23/27	nd～160	0.6
13		Hexa(oxyethylene)=nonylphenyl ethers	20/27	20/27	nd～120	1.8
14		Hepta(oxyethylene)=nonylphenyl ethers	16/27	16/27	nd～86	2.8
15		Octa(oxyethylene)=nonylphenyl ethers	19/27	19/27	nd～73	1.2
16		Nona(oxyethylene)=nonylphenyl ethers	20/27	20/27	nd～74	1.6
17		Deca(oxyethylene)=nonylphenyl ethers	14/27	14/27	nd～72	2.4
18		Undeca(oxyethylene)=nonylphenyl ethers	24/27	24/27	nd～69	0.9
19		Dodeca(oxyethylene)=nonylphenyl ethers	17/27	17/27	nd～70	1.4
20		Trideca(oxyethylene)=nonylphenyl ethers	16/27	16/27	nd～42	1.1
21		Tetradeca(oxyethylene)=nonylphenyl ethers	13/27	13/27	nd～31	1.7
22		Pentadeca(oxyethylene)=nonylphenyl ethers	8/27	8/27	nd～28	2.7
23	12	Nonylphenols*	16/30	16/30	nd～320	***18
24	13	Bis (2,2,6,6-tetramethyl-4-piperidyl) sebacate	7/21	7/21	nd～690	4.9
25	14	4-(2-Phenylpropane-2-yl) phenol	10/20	10/20	nd～94	2.5
26	15	4,4'-(Propane-2,2-diyl) diphenol (synonym: 4,4'-Isopropylidenediphenol or Bisphenol A)	18/20	18/20	nd～280	1.7
27	16	Poly(oxyethylene) octylphenylethers (polymerization degree = 1-10)	17/20	17/20	nd～110	**1.7
28		Mono(oxyethylene)=octylphenylethers	16/20	16/20	nd～20	0.53
29		Di(oxyethylene)=octylphenylethers	18/20	18/20	nd～43	0.14
30		Tri(oxyethylene)=octylphenylethers	15/20	15/20	nd～10	0.11
31		Tetra(oxyethylene)=octylphenylethers	13/20	13/20	nd～11	0.16
32		Penta(oxyethylene)=octylphenylethers	12/20	12/20	nd～14	0.17
33		Hexa(oxyethylene)=octylphenylethers	14/20	14/20	nd～16	0.15
34		Hepta(oxyethylene)=octylphenylethers	10/20	10/20	nd～15	0.10
35		Octa(oxyethylene)=octylphenylethers	11/20	11/20	nd～14	0.09
36		Nona(oxyethylene)=octylphenylethers	10/20	10/20	nd～11	0.12
37		Deca(oxyethylene)=octylphenylethers	9/20	9/20	nd～8.2	0.08
38	17	Morpholine	4/21	4/21	nd～300	84

Note: Detection range refers to maximum and minimum values of detected sample substance.
*: Indicate that surveyed areas include the vicinity of points with high emissions that were notified based on PRTR.
**: The sum of lower detection limits of a homolog.
***: For the water quality in FY2014, measuring target chemicals were typical isomers, thus the total values of detection ranges and the lower detection limits are shown.

Source: "Environmental Survey and Monitoring of Chemicals in 2015," Environmental Health and Safety Division, Environmental Health Department, Environmental Policy Bureau, MOE, the Government of Japan

Bottom sediment

No.	Substance registry number	Name of substances	Number of detected substance/Number of samples	Number of study areas where substances are detected /Number of study areas	Detection range (ng/g-dry)	Detection limit (ng/g-dry)
1	10	2,4-Dichlorophenoxy acetic acid (synonym: 2,4-D or 2,4-PA)	3/66	1/22	nd～0.044	0.014
2	15	4,4'-(Propane-2,2-diyl) diphenol (synonym: 4,4'-Isopropylidenediphenol or Bisphenol A)	52/69	20/23	nd～190	2.4

Note: Detection range refers to maximum and minimum values of detected sample substance.

Source: "Environmental Survey and Monitoring of Chemicals in 2015," Environmental Health and Safety Division, Environmental Health Department, Environmental Policy Bureau, MOE, the Government of Japan

Living organism

No.	Substance registry number	Name of substances	Number of detected substance/Number of samples	Number of study areas where substances are detected /Number of study areas	Detection range (ng/g-wet)	Detection limit (ng/g-wet)
1	2	*n*-Butyl acrylate	0/36	0/12	nd	0.38
2	12	Nonylphenols*	25/39	9/13	nd～25	5.5
3	15	4,4'-(Propane-2,2-diyl) diphenol (synonym: 4,4'-Isopropylidenediphenol or Bisphenol A)	20/36	9/12	nd～3.4	0.18

Note: Detection range refers to maximum and minimum values of detected sample substance.
*: Indicate that surveyed areas include the vicinity of points with high emissions that were notified based on PRTR.

Source: "Environmental Survey and Monitoring of Chemicals in 2015," Environmental Health and Safety Division, Environmental Health Department, Environmental Policy Bureau, MOE, the Government of Japan

Air

No.	Substance registry number	Name of substances	Number of detected substance/Number of samples	Number of study areas where substances are detected /Number of study areas	Detection range (ng/g-wet)	Detection limit (ng/g-wet)
1	3	2-Aminoethanol *	34/45	13/15	nd～8.3	0.42
2	4	Epichlorohydrin*	47/47	16/16	0.65～150	0.26
3	5	Glyoxal	45/45	15/15	4.1～140	0.4
4	6	Gluataraldehyde	43/43	15/15	1.0～10	0.89
5	7	Chlorobenzene *	12/45	6/15	nd～580	39

Note: Detection range refers to maximum and minimum values of detected sample substance.
*: Indicate that surveyed areas include the vicinity of points with high emissions that were notified based on PRTR.

Source: "Environmental Survey and Monitoring of Chemicals in 2015," Environmental Health and Safety Division, Environmental Health Department, Environmental Policy Bureau, MOE, the Government of Japan

7.11 Results of Environmental Monitoring in FY 2014

Registry Numbers	Target substance	Water quality (pg/L)		Bottom sediment (pg/g-dry)		Organism (pg/g-wet)						Air (pg/m³)	
						Seashells		Fish		Birds		1st (Warm season)	
		Range (Detection Frequency)	Average	Range (Detection Frequency)	Average	Range (Detection Frequency)	Average	Range (Detection Frequency)	Average	Range (Detection Frequency)	Average	Range (Detection Frequency)	Average
1	PCBs	16～4,800 (48/48)	150	tr(35)～440,000 (63/63)	4,900	600～15,000 (3/3)	2,900	940～230,000 (19/19)	13,000	15,000～140,000 (2/2)	46,000	28～1,300 (36/36)	140
2	HCB	2.7～200 (48/48)	12	tr(4)～5,600 (63/63)	95	15～100 (3/3)	34	37～1,900 (19/19)	280	32～5,600 (2/2)	420	84～240 (36/36)	150
3	Aldrin					nd (0/3)	nd	nd～2.4 (4/19)	nd	nd (0/2)	nd	nd～17 (6/34)	nd
4	Dieldrin	2.7～200 (48/48)	28	—		41～490 (3/3)	180	27～1,000 (19/19)	270	190～530 (2/2)	320	0.89～160 (36/36)	11
5	Endrin	tr(0.4)～25 (48/48)	2.5	— —	—	8～84 (3/3)	23	nd～140 (18/19)	16	4～5 (2/2)	4.5	nd～2.9 (32/36)	0.39
6	DDT and its derivatives												
6-1	*p,p'*-DDT	nd～380 (47/48)	4.4	tr(0.2)～12,000 (63/63)	140								
6-2	*p,p'*-DDE	1.9～610 (48/48)	16	11～64,000 (63/63)	530								
6-3	*p,p'*-DDD	1.0～87 (48/48)	9.0	4.9～21,000 (63/63)	330								
6-4	*o,p'*-DDT	nd～63 (42/48)	1.0	nd～2,400 (62/63)	26								
6-5	*o,p'*-DDE	nd～560 (36/48)	0.6	tr(0.5)～41,000 (63/63)	30								
6-6	*o,p'*-DDD	0.33～38 (48/48)	3.7	tr(0.7)～3,200 (63/63)	74								
7	Chlordane derivatives												
7-1	cis-Chlordane												
7-2	trans-Chlordane												
7-3	Oxychlordane												
7-4	*cis*-Nonachlor												
7-5	*trans*-Nonachlor												
8	Heptachlor derivatives												
8-1	Heptachlor	nd～1.5 (28/48)	tr(0.2)	nd～49 (38/63)	tr(1.0)								
8-2	*cis-Heptachlor epoxide*	0.7～56 (48/48)	4.9	nd～310 (59/63)	2.1								
8-3	*trans*-Heptachlor epoxide	nd (0/48)	nd	nd～3.6 (1/63)	nd								
9	Toxaphenes												
9-1	Parlar-26												
9-2	Parlar-50												
9-3	Parlar-62												
10	Mirex												
11	HCHs												
11-1	*α*-HCH	7.3～700 (48/48)	47	nd～4,300 (62/63)	84	7～39 (3/3)	16	nd～210 (18/19)	26	17～220 (2/2)	61	14～650 (36/36)	44
11-2	*β*-HCH	11～1,100 (48/48)	100	2.9～7,200 (63/63)	140	28～64 (3/3)	40	4.4～460 (19/19)	75	24～3,600 (2/2)	290	0.57～74 (36/36)	5.4
11-3	*γ-HCH(synonym : Lindane)*	3.5～350 (48/48)	18	nd～2,600 (61/63)	27	4.6～18 (3/3)	7.4	nd～45 (16/19)	8.4	4.4～24 (2/2)	10	1.7～100 (36/36)	14
11-4	*δ*-HCH	0.7～590 (48/48)	7.1	0.4～3,900 (63/63)	27	nd～3 (2/3)	tr(1)	nd～23 (14/19)	tr(2)	tr(1)～3 (2/2)	tr(2)	tr(0.07)～50 (36/36)	1.2
12	Chlordecone												

7.11 Results of Environmental Monitoring in FY 2014

Registry Numbers	Target substance	Water quality (pg/L)		Bottom sediment (pg/g-dry)		Organism (pg/g-wet)						Air (pg/m³)	
						Seashells		Fish		Birds		1st (Warm season)	
		Range (Detection Frequency)	Average	Range (Detection Frequency)	Average	Range (Detection Frequency)	Average	Range (Detection Frequency)	Average	Range (Detection Frequency)	Average	Range (Detection Frequency)	Average
13	Hexabromobiphenyl derivatives												
14	Polybrominated diphenyl ether derivatives (4-10 bromide)												
14-1	Tetrabromodiphenyl ether derivatives	tr(4)～51 (48/48)	tr(6)	nd～550 (44/63)	tr(24)	33～140 (3/3)	56	18～1,300 (19/19)	150	78～480 (2/2)	190	tr(0.09)～2.3 (36/36)	0.53
14-2	Pentabromodiphenyl ether derivatives	nd～39 (19/48)	nd	nd～570 (53/63)	16	18～41 (3/3)	30	nd～570 (18/19)	41	31～320 (2/2)	100	nd～0.80 (25/36)	tr(0.13)
14-3	Hexabromodiphenyl ether derivatives	nd～8 (10/48)	nd	nd～730 (50/63)	21	11～52 (3/3)	23	nd～1,100 (18/19)	60	42～680 (2/2)	170	nd～0.4 (5/36)	nd
14-4	Heptabromodiphenyl ether derivatives	nd～8 (3/48)	nd	nd～680 (41/63)	19	nd～13 (1/3)	nd	nd～280 (10/19)	tr(10)	nd～150 (1/2)	19	nd～tr(0.4) (2/36)	nd
14-5	Octabromodiphenyl ether derivatives	nd～38 (33/48)	2.5	nd～2,000 (55/63)	52	tr(5)～14 (3/3)	tr(9.2)	nd～540 (15/19)	14	nd～140 (1/2)	17	nd～0.7 (22/36)	tr(0.11)
14-6	Nonabromodiphenyl ether derivatives	nd～590 (47/48)	37	nd～42,000 (60/63)	470	tr(20)～110 (3/3)	40	nd～40 (16/19)	tr(10)	tr(10)～tr(20) (2/2)	tr(10)	nd～tr(3) (7/36)	nd
14-7	Decabromodiphenyl ether	tr(14)～5,600 (48/48)	200	nd～980,000 (61/63)	5600	tr(120)～570 (3/3)	220	nd～300 (13/19)	tr(75)	nd～tr(140) (1/2)	tr(65)	nd～64 (24/36)	tr(4.7)
15	Perfluorooctane sulfonic acid (PFOS)	nd～7,500 (47/48)	460	nd～980 (62/63)	59	nd～93 (2/3)	8	nd～4,600 (18/19)	82	190～110,000 (2/2)	4600	0.52～8.6 (36/36)	3.1
16	Perfluorooctane acid (PFOA)	140～26,000 (48/48)	1400	tr(6)～190 (63/63)	44	nd～10 (2/3)	tr(4)	nd～85 (11/19)	tr(6)	nd～2,600 (1/2)	62	5.4～210 (36/36)	28
17	Pentachlorobenzene	2.8～180 (48/48)	10	tr(1.2)～3,600 (63/63)	70	10～23 (3/3)	14	nd～280 (18/19)	38	tr(5.6)～560 (2/2)	56	39～210 (36/36)	83
18	Endosulfans												
18-1	α-Endosulfan					nd～130 (1/3)	tr(20)	nd～tr(30) (1/19)	nd	nd (0/2)	nd	2.6～90 (36/36)	20
18-2	β-Endosulfan					nd～23 (1/3)	nd	nd～tr(8) (3/19)	nd	nd～tr(8) (1/2)	nd	nd～6.1 (33/36)	1.3
19	1,2,5,6,9,10-Hexabromocyclododecane derivatives												
19-1	α-1,2,5,6,9,10-Hexabromocyclododecane	nd～1,600 (1/48)	nd	— —	—	200～380 (3/3)	270	nd～15,000 (18/19)	240	130～1,800 (2/2)	480	nd～3.1 (25/36)	tr(0.56)
19-2	β-1,2,5,6,9,10-Hexabromocyclododecane	nd～tr(300) (1/48)	nd	— —	—	tr(10)～tr(20) (3/3)	tr(10)	nd～30 (5/19)	nd	nd (0/2)	nd	nd～tr(0.8) (8/36)	nd
19-3	γ-1,2,5,6,9,10-Hexabromocyclododecane	nd (0/48)	nd	— —	—	30～110 (3/3)	60	nd～2,800 (12/19)	tr(30)	tr(10) (2/2)	tr(10)	nd～tr(1.2) (4/36)	nd
19-4	δ-1,2,5,6,9,10-Hexabromocyclododecane	nd (0/48)	nd	— —	—	nd (0/3)	nd	nd (0/19)	nd	nd (0/2)	nd	nd (0/36)	nd
19-5	ε-1,2,5,6,9,10-Hexabromocyclododecane	nd (0/48)	nd	— —	—	nd～tr(20) (1/3)	nd	nd～80 (3/19)	nd	nd (0/2)	nd	nd (0/36)	nd
20	N,N-dimethylformamid					— —	—	— —	—	— —	—	5.4～1,600 (36/36)	110

Notes:

・"Average" menas a geometric mean. "nd (less than the lower limit of detection value)" was calculated as 1/2 of the lower limit of a detection value.

・Detection rage is based on the number of samples and detection frequency is based on the number of surveyed areas/sites, therefore can be shown as "nd ～"even if a target substance is detected in all areas/sites.

・ Shaded areas refer to media out of scope of the survey

Source: "Chemicals in the Environment FY2015" by Environmental Health and Safety Division, Environmental Health Department, Environmental Policy Bureau, MOE, the Government of Japan. “Report on Environmental Survey and Monitoring of Chemicals FY 2014" (A list of values of detection limit)

7.11 Results of Environmental Monitoring in FY 2014

Registry Number	Target substance	Water quality (pg/L)	Bottom Sediment (pg/g-dry)	Organism (pg/g-wet)	Air (pg/m³)
1	PCBs	8.2	61	95	4.1
		2.9	21	31	1.4
2	HCB	0.9	6	10	1.4
		0.4	2	3	0.5
3	Aldrin			1.8	12
				0.7	4
4	Dieldrin	0.5		3	0.34
		0.2		1	0.11
5	Endrin	0.5		3	0.2
		0.2		1	0.07
6	DDTs				
6-1	p,p'-DDT	0.4	0.4		
		0.1	0.2		
6-2	p,p'-DDE	0.5	1.8		
		0.2	0.6		
6-3	p,p'-DDD	1.0	4.2		
		0.4	1.4		
6-4	o,p'-DDT	0.4	0.4		
		0.2	0.2		
6-5	o,p'-DDE	0.3	0.8		
		0.1	0.3		
6-6	o,p'-DDD	0.20	1.2		
		0.08	0.5		
7	Chlordane derivatives （Reference）				
7-1	cis-Chlordane （Reference）				
7-2	trans-Chlordone （Reference）				
7-3	Oxychlordane （Reference）				
7-4	cis-Nonachlor （Reference）				
7-5	trans-Nonachlor （Reference）				
8	Heptachlors				
8-1	Heptachlor	0.5	1.5		
		0.2	0.5		
8-2	cis-Heptachlor epoxide	0.5	0.5		
		0.2	0.2		
8-3	trans-Heptachlor epoxide	0.8	0.7		
		0.3	0.3		
9	Toxaphenes （Reference）				
9-1	Parlar-26 （refernce）				
9-2	Parlar-50 （refernce）				
9-3	Parlar-62 （refernce）				
10	Mirex （refernce）				
11	HCHs				
11-1	α-HCH	4.5	2.4	3	0.19
		1.5	0.8	1	0.06
11-2	β-HCH	1.0	0.9	2.4	0.24
		0.4	0.3	0.9	0.08
11-3	γ-HCH （Synonym: Lindane）	1.2	2.7	2.2	0.17
		0.4	0.9	0.8	0.06
11-4	δ-HCH	0.4	0.4	3	0.19
		0.2	0.1	1	0.06

Registry Number	Target substance	Water quality (pg/L)	Bottom Sediment (pg/g-dry)	Organism (pg/g-wet)
12	Chlordecone (Reference)			
13	Hexabromobiphenyl derivatives (Reference)			
14	Polybrominated diphenyl ether derivatives (4～10 bromide)			
14-1	Tetrabromodiphenyl ether derivatives	8	27	15
		3	9	6
14-2	Pentabromodiphenyl ether derivatives	4	6	12
		2	2	5
14-3	Hexabromodiphenyl ether derivatives	4	5	10
		1	2	4
14-4	Heptabromodiphenyl ether derivatives	8	16	12
		3	6	5
14-5	Octabromodiphenyl ether derivatives	1.6	12	11
		0.6	4	4
14-6	Nonabromodiphenyl ether derivatives	6	60	30
		2	20	10
14-7	Decabromodiphenyl ether	22	240	170
		9	80	60
15	Perfluorooctane sulfonic acid (PFOS)	50	5	5
		20	2	2
16	Perfluorooctane acid (PFOA)	50	11	10
		20	5	3
17	Pentachlorobenzene	0.8	2.4	9.3
		0.3	0.8	3.1
18	Endosulfans			
18-1	α-Endosulfan			60
				20
18-2	β-Endosulfan			19
				6
19	1,2,5,6,9,10-Hexabromocyclododecane derivatives			
19-1	α-1,2,5,6,9,10-Hexabromocyclododecane	1,500		30
		600		10
19-2	β-1,2,5,6,9,10-Hexabromocyclododecane	500		30
		200		10
19-3	ε-1,2,5,6,9,10-Hexabromocyclododecane	700		30
		300		10
19-4	ε-1,2,5,6,9,10-Hexabromocyclododecane	600		30
		200		10
19-5	ε-1,2,5,6,9,10-Hexabromocyclododecane	400		30
		200		10
20	Perfluorooctane acid (PFOA)*			
21	hexachlorobutadiene, HCBD （Reference）			

Notes:

・ Upper row refers to lower limit of quantification and lower row refers to detection limit.

・ * refers to the total of lower limits of quantification by each homologue or relevant substance.

・ Shaded areas refer to media out of the scope of the survey.

Source: "Chemicals in the Environment FY2015" by Environmental Health and Safety Division, Environmental Health Department, Environmental Policy Bureau, MOE, the Government of Japan. “Report on Environmental Survey and Monitoring of Chemicals FY 2014" (A list of values of detection limit)

7.12 Amount of releases and transfers based on PRTR by industry (FY 2014)

Industry	Reported numbers	Releases (kg/year)					Transfers (kg/year)			Total amount of Releases and transfers (kg/year)	Rate
		Air	Public waters	Soil	Landfill	Total	Waste transfer	Transfer to sewage	Total		
Mining and smelting	16	67	98,121	920	181,706	280,814	1,410	0	1,410	282,224	0.07%
oil and natural gas industry	27	21,248	142,165	0	0	163,413	55	0	55	163,468	0.04%
Manufacturing	13,160	137,940,063	2,759,413	409	7,686,681	148,386,566	219,836,370	1,137,064	220,973,434	369,360,000	96.42%
Manufacture of food	453	2,845,651	1,657	0	0	2,847,308	177,562	1,544	179,106	3,026,414	0.79%
Manufacture of beverages, tobacco and feed	140	7,843	49	1	0	7,893	40,041	0	40,041	47,934	0.01%
Manufacture of textile mill products	173	2,008,223	170,532	1	0	2,178,755	1,166,677	88,265	1,254,942	3,433,697	0.90%
Manufacture of apparel and other finished products made from fabrics and similar materials	29	102,439	4,525	0	0	106,964	152,224	470	152,694	259,658	0.07%
Manufacture of lumber and wood products	198	1,549,470	698	154	0	1,550,322	56,449	26	56,475	1,606,797	0.42%
Manufacture of furniture and fixtures	88	720,676	6	0	0	720,683	176,912	18	176,930	897,612	0.23%
Manufacture of pulp, paper and paper products	428	6,036,757	201,453	0	13	6,238,223	1,629,374	6,514	1,635,887	7,874,110	2.06%
Publishing, printing and allied industries	325	6,905,861	24	0	0	6,905,885	2,433,866	35	2,433,901	9,339,786	2.44%
Manufacture of chemical and allied products	2,322	17,763,470	1,251,022	220	92	19,014,804	78,957,074	731,961	79,689,035	98,703,839	25.77%
Manufacture of petroleum and coal products	630	1,082,046	64,781	0	0	1,146,827	580,916	19,343	600,259	1,747,086	0.46%
Manufacture of plastic products	1,070	19,449,565	9,260	23	0	19,458,848	11,398,237	21,533	11,419,770	30,878,618	8.06%
Manufacture of rubber products	303	6,296,363	4,605	1	0	6,300,968	1,251,019	1,428	1,252,447	7,553,415	1.97%
Manufacture of leather tanning, leather products and fur skins	24	89,372	58	0	0	89,430	43,466	11,752	55,218	144,648	0.04%
Manufacture of ceramic, stone and clay products	575	3,600,713	35,793	3	0	3,636,509	16,356,980	20,697	16,377,677	20,014,187	5.22%
Manufacture of iron and steel	370	3,026,812	349,803	0	36,800	3,413,415	62,654,917	7,162	62,662,079	66,075,494	17.25%
Manufacture of non-ferrous metals and products	552	1,934,340	304,275	2	7,649,742	9,888,359	10,399,347	32,311	10,431,658	20,320,017	5.30%
Manufacture of fabricated metal products	1,812	12,704,053	88,684	2	34	12,792,773	11,037,571	26,005	11,063,576	23,856,348	6.23%
Manufacture of general machinery	822	8,362,853	1,816	3	0	8,364,673	2,414,937	6,718	2,421,655	10,786,327	2.82%
Manufacture of electrical machinery, equipment and supplies	1,327	5,216,609	163,019	0	0	5,379,628	12,316,825	114,982	12,431,806	17,811,434	4.65%
Manufacture of transportation equipment	1,186	36,078,519	66,246	0	0	36,144,765	4,888,725	40,153	4,928,878	41,073,643	10.72%
Manufacture of precision instruments and machinery	236	954,654	40,917	0	0	995,570	1,245,001	5,567	1,250,568	2,246,138	0.59%
Manufacture of ordnance and accessories	6	12,318	0	0	0	12,318	1,515	0	1,515	13,832	0.00%
Miscellaneous manufacturing industries	91	1,191,457	190	0	0	1,191,647	456,738	580	457,318	1,648,965	0.43%
Electricity industry	210	356,226	2,388	0	0	358,615	284,820	3,061	287,880	646,495	0.17%
Gas industry	45	26,569	0	0	0	26,569	48,130	0	48,130	74,699	0.02%
Heat supply industry	15	2,526	1,800	0	0	4,326	8,800	0	8,800	13,126	0.00%
Sewage industry	2,019	1,095	4,004,742	2	0	4,005,840	56,231	2,106	58,337	4,064,177	1.06%
Railway industry	56	69,307	0	0	0	69,307	89,006	185	89,191	158,498	0.04%
Warehouse industry	124	816,518	12,014	0	0	828,532	68,027	0	68,027	896,559	0.23%
Petroleum wholesale industry	501	978,762	0	0	0	978,762	4,207	0	4,207	982,969	0.26%
Scrap iron wholesale industry	8	34	0	0	0	34	5,348	0	5,348	5,382	0.00%
Automobile maintenance industry	7	5,681	0	0	0	5,681	502	0	502	6,183	0.00%
Fuel retail industry	16,184	2,824,282	0	154	0	2,824,436	757	0	757	2,825,193	0.74%
Laundry industry	154	203,538	97	0	0	203,635	209,539	1,339	210,878	414,514	0.11%
Photography industry	2	7,400	0	0	0	7,400	1,900	0	1,900	9,300	0.00%
Automobile maintenance industry	169	333,482	0	0	0	333,482	36,466	0	36,466	369,947	0.10%
Machinery and equipment repair industry	30	88,689	55	0	0	88,744	58,536	2,800	61,336	150,080	0.04%
Product testing industry	30	5,879	0	0	0	5,879	83,032	0	83,032	88,911	0.02%
Measurement certification industry	35	8,697	0	0	0	8,697	101,070	75	101,146	109,842	0.03%
Household waste disposal industry	1,781	1,307	78,555	1	0	79,863	29,036	41	29,077	108,940	0.03%
Industrial waste disposal industry	476	65,000	157,082	0	33	222,115	590,389	0	590,389	812,504	0.21%
Medical and other health services	124	11,316	0	0	0	11,316	54,010	0	54,010	65,326	0.02%
Higher educational institutions	138	84,474	299	0	0	84,773	648,753	1,421	650,174	734,947	0.19%
Research institutes for natural science	262	42,459	121	9	0	42,589	704,157	419	704,576	747,165	0.20%
Industry covered	35,573	143,894,618	7,256,854	1,495	7,868,420	159,021,387	222,920,552	1,148,511	224,069,063	383,090,449	100%
Rate (%)		37.56%	1.89%	0.00%	2.05%	41.51%	58.19%	0.30%	58.49%	100%	

Note:

"Total amount of Releases and transfers", being sums of the data (having 1 digit after the decimal place except Dioxins) reported by each business entities, are represented in an integer format by rounding off at the first decimal digit. Thus, the sums of each row or columns in this table may not foot.

Source: "Overview of the PRTR system in FY 2014," Environmental Health and Safety Division, Environmental Health Department, Environmental Policy Bureau, MOE, the Government of Japan

7.13 Amounts of releases and transfers based on PRTR by prefecture (FY 2014)

	Reported numbers	Releases (kg/year)					Transfers (kg/year)			Total of Releases and transfers (kg/year)	Rate
		Air	Public waters	Soil	Landfill	Total	Waste transfer	Transfer to sewage	Total		
Hokkaido	1,987	1,771,226	377,534	4	46	2,148,810	2,233,015	1,698	2,234,713	4,383,523	1.14%
Aomori	477	419,198	103,503	0	1	522,702	652,359	190	652,549	1,175,251	0.31%
Iwate	513	1,326,452	55,392	9	0	1,381,853	1,010,914	4,076	1,014,989	2,396,842	0.63%
Miyagi	718	995,463	116,532	0	137,791	1,249,786	775,615	3,448	779,063	2,028,849	0.53%
Akita	467	466,865	90,835	2	2,742,120	3,299,822	1,635,029	1	1,635,030	4,934,852	1.29%
Yamagata	498	710,701	41,088	5	0	751,793	1,476,356	12,770	1,489,126	2,240,919	0.58%
Fukushima	912	3,122,856	262,775	0	0	3,385,631	4,474,954	0	4,474,954	7,860,585	2.05%
Ibaraki	1,137	6,853,321	134,793	0	10,131	6,998,245	6,589,089	416,080	7,005,169	14,003,414	3.66%
Tochigi	731	5,441,559	68,256	0	0	5,509,815	4,784,151	11,243	4,795,394	10,305,208	2.69%
Gunma	787	4,520,116	64,923	0	92	4,585,131	4,835,034	120,438	4,955,472	9,540,603	2.49%
Saitama	1,518	7,392,918	240,185	0	0	7,633,102	8,643,310	57,484	8,700,794	16,333,896	4.26%
Chiba	1,281	6,130,946	321,818	71	0	6,452,834	14,472,001	1,315	14,473,317	20,926,151	5.46%
Tokyo	1,147	1,482,458	537,972	0	0	2,020,430	2,559,857	19,232	2,579,089	4,599,519	1.20%
Kanagawa	1,402	5,254,529	287,862	1	0	5,542,391	6,755,903	65,535	6,821,438	12,363,829	3.23%
Niigata	1,005	2,248,067	228,663	97	200,000	2,676,827	3,191,277	873	3,192,150	5,868,977	1.53%
Toyama	520	1,749,157	140,275	0	0	1,889,432	3,793,780	202	3,793,982	5,683,414	1.48%
Ishikawa	465	1,992,320	195,037	0	0	2,187,358	2,254,216	17,447	2,271,663	4,459,021	1.16%
Fukui	360	1,994,296	90,464	0	0	2,084,760	5,136,249	27,722	5,163,971	7,248,731	1.89%
Yamanashi	333	1,472,456	18,399	0	0	1,490,856	629,897	1,267	631,164	2,122,019	0.55%
Nagano	1,161	1,808,849	106,809	0	0	1,915,658	1,240,369	11,166	1,251,535	3,167,194	0.83%
Gifu	871	4,643,676	58,839	0	1,453,100	6,155,615	3,243,334	2,600	3,245,934	9,401,549	2.45%
Shizuoka	1,540	8,252,436	182,575	2	0	8,435,012	5,565,234	18,075	5,583,309	14,018,321	3.66%
Aichi	2,059	11,027,025	346,387	0	25,600	11,399,012	24,699,613	55,303	24,754,915	36,153,928	9.44%
Mie	779	4,975,684	171,066	3	0	5,146,753	6,508,114	408	6,508,522	11,655,275	3.04%
Shiga	640	3,530,077	37,097	0	0	3,567,174	4,598,002	19,092	4,617,093	8,184,267	2.14%
Kyoto	569	1,950,033	125,937	0	0	2,075,970	1,083,350	108,191	1,191,541	3,267,511	0.85%
Osaka	1,591	3,748,835	584,169	0	0	4,333,003	16,258,009	69,913	16,327,923	20,660,926	5.39%
Hyogo	1,538	6,686,610	346,262	0	2,183	7,035,055	17,710,047	57,880	17,767,927	24,802,982	6.47%
Nara	292	524,352	18,989	0	0	543,341	781,586	151	781,737	1,325,077	0.35%
Wakayama	274	1,000,788	47,940	1	0	1,048,729	1,789,548	1,501	1,791,049	2,839,778	0.74%
Tottori	249	601,719	6,222	0	0	607,940	222,933	1,308	224,241	832,182	0.22%
Shimane	260	1,871,360	91,960	0	0	1,963,321	830,088	33	830,121	2,793,441	0.73%
Okayama	814	4,112,925	175,163	0	0	4,288,088	9,233,317	15,051	9,248,368	13,536,456	3.53%
Hiroshima	902	6,359,746	224,817	170	3,290,380	9,875,113	4,918,562	6,361	4,924,923	14,800,037	3.86%
Yamaguchi	557	3,460,069	373,250	1	0	3,833,320	9,350,919	215	9,351,134	13,184,455	3.44%
Tokushima	280	423,232	47,067	0	0	470,299	677,372	0	677,372	1,147,671	0.30%
Kagawa	386	4,100,064	71,265	0	0	4,171,329	1,181,179	2,653	1,183,832	5,355,161	1.40%
Ehime	518	4,585,860	94,952	0	6,977	4,687,789	6,040,081	0	6,040,081	10,727,870	2.80%
Kochi	187	398,901	13,011	0	0	411,912	149,095	2,720	151,815	563,727	0.15%
Fukuoka	1,205	5,842,380	217,201	155	0	6,059,736	17,101,547	5,286	17,106,833	23,166,569	6.05%
Saga	337	1,738,729	27,044	0	0	1,765,773	769,080	68	769,148	2,534,921	0.66%
Nagasaki	353	2,552,711	46,794	0	0	2,599,505	311,725	3,243	314,968	2,914,472	0.76%
Kumamoto	557	2,076,281	119,706	0	0	2,195,987	3,605,127	4,585	3,609,712	5,805,699	1.52%
Oita	389	1,379,799	86,998	54	0	1,466,851	2,514,207	721	2,514,929	3,981,780	1.04%
Miyazaki	333	306,553	141,354	0	0	447,907	6,240,774	960	6,241,734	6,689,642	1.75%
Kagoshima	456	416,411	107,835	920	0	525,166	135,790	4	135,794	660,960	0.17%
Okinawa	218	174,612	9,841	0	0	184,453	258,545	0	258,545	442,998	0.12%
nationwide	35,573	143,894,618	7,256,854	1,495	7,868,420	159,021,387	222,920,552	1,148,511	224,069,063	383,090,449	100%
Rate (%)		38.56%	1.95%	0.00%	2.12%	42.64%	57.01%	0.35%	57.36%	100%	

Note:

"Total amount of Releases and transfers", being sums of the data (having 1 digit after the decimal place except Dioxins) reported by each business entities, are represented in an integer format by rounding off at the first decimal digit. Thus, the sums of each row or columns in this table may not foot.

Source: "Overview of the PRTR system in FY 2014," Environmental Health and Safety Division, Environmental Health Department, Environmental Policy Bureau, MOE, the Government of Japan

7.14 Reported releases and estimated releases by prefecture (FY 2014)

	Reported numbers	Reported releases (kg / year)	Estimated releases (kg/year)					Total of Reported releases and estimated releases (kg/year)	Rate
			From Industries subject to reporting	From Industries NOT subject to reporting	From Households	From mobile sources	Subtotal		
Hokkaido	1,987	2,148,810	1,792,108	6,380,461	1,250,142	2,973,615	12,396,325	14,545,135	3.65%
Aomori	477	522,702	474,794	2,601,186	891,139	906,674	4,873,793	5,396,495	1.35%
Iwate	513	1,381,853	413,042	1,283,484	759,642	991,032	3,447,199	4,829,052	1.21%
Miyagi	718	1,249,786	710,871	1,127,315	798,087	1,226,678	3,862,952	5,112,738	1.28%
Akita	467	3,299,822	452,190	870,545	621,205	692,382	2,636,322	5,936,144	1.49%
Yamagata	498	751,793	499,807	1,056,590	465,533	802,992	2,824,921	3,576,715	0.90%
Fukushima	912	3,385,631	1,099,558	1,210,796	1,074,554	1,188,536	4,573,444	7,959,075	2.00%
Ibaraki	1,137	6,998,245	1,609,708	3,878,618	1,496,122	1,928,235	8,912,683	15,910,927	3.99%
Tochigi	731	5,509,815	855,862	1,254,350	923,710	1,451,528	4,485,450	9,995,265	2.51%
Gunma	787	4,585,131	1,012,264	3,083,254	1,159,734	1,381,362	6,636,614	11,221,745	2.81%
Saitama	1,518	7,633,102	2,483,608	1,852,655	2,326,828	2,537,417	9,200,507	16,833,609	4.22%
Chiba	1,281	6,452,834	1,641,361	4,243,260	2,338,758	2,472,732	10,696,111	17,148,946	4.30%
Tokyo	1,147	2,020,430	3,997,750	7,877,631	1,643,580	2,910,174	16,429,135	18,449,565	4.63%
Kanagawa	1,402	5,542,391	2,336,460	3,803,208	1,521,503	2,406,885	10,068,056	15,610,447	3.92%
Niigata	1,005	2,676,827	978,695	1,640,160	1,125,824	1,412,223	5,156,903	7,833,730	1.96%
Toyama	520	1,889,432	482,423	768,122	392,439	617,581	2,260,566	4,149,998	1.04%
Ishikawa	465	2,187,358	583,349	687,405	438,773	656,343	2,365,871	4,553,229	1.14%
Fukui	360	2,084,760	424,155	723,788	314,674	587,481	2,050,098	4,134,858	1.04%
Yamanashi	333	1,490,856	440,179	532,690	425,607	743,474	2,141,950	3,632,806	0.91%
Nagano	1,161	1,915,658	913,408	1,628,275	751,785	1,673,190	4,966,657	6,882,316	1.73%
Gifu	871	6,155,615	936,252	1,099,430	922,592	1,339,515	4,297,788	10,453,403	2.62%
Shizuoka	1,540	8,435,012	1,679,772	2,516,129	1,857,592	1,961,436	8,014,930	16,449,942	4.13%
Aichi	2,059	11,399,012	3,276,626	3,753,130	2,896,830	2,807,058	12,733,644	24,132,656	6.05%
Mie	779	5,146,753	724,386	838,922	969,926	1,415,267	3,948,500	9,095,253	2.28%
Shiga	640	3,567,174	444,182	365,245	432,255	958,066	2,199,748	5,766,922	1.45%
Kyoto	569	2,075,970	1,036,727	657,307	626,199	1,161,482	3,481,715	5,557,685	1.39%
Osaka	1,591	4,333,003	3,373,393	3,278,295	1,774,602	2,257,421	10,683,712	15,016,715	3.77%
Hyogo	1,538	7,035,055	1,803,868	1,400,007	1,272,438	1,976,511	6,452,824	13,487,879	3.38%
Nara	292	543,341	419,178	329,003	545,099	815,719	2,108,998	2,652,339	0.67%
Wakayama	274	1,048,729	372,194	1,203,986	804,127	684,658	3,064,965	4,113,694	1.03%
Tottori	249	607,940	185,947	491,798	307,633	494,201	1,479,580	2,087,520	0.52%
Shimane	260	1,963,321	254,493	527,673	482,206	576,568	1,840,940	3,804,261	0.95%
Okayama	814	4,288,088	670,973	986,693	936,669	1,129,406	3,723,741	8,011,829	2.01%
Hiroshima	902	9,875,113	1,136,722	1,638,482	1,187,804	1,493,626	5,456,634	15,331,748	3.85%
Yamaguchi	557	3,833,320	477,661	2,716,546	661,420	943,944	4,799,570	8,632,891	2.17%
Tokushima	280	470,299	457,869	912,481	627,491	520,092	2,517,933	2,988,232	0.75%
Kagawa	386	4,171,329	358,008	560,558	576,290	652,407	2,147,263	6,318,592	1.58%
Ehime	518	4,687,789	583,521	1,360,967	853,662	878,494	3,676,645	8,364,434	2.10%
Kochi	187	411,912	268,193	1,020,058	501,179	492,642	2,282,072	2,693,983	0.68%
Fukuoka	1,205	6,059,736	1,633,322	2,784,205	1,657,654	1,922,355	7,997,536	14,057,272	3.53%
Saga	337	1,765,773	289,028	889,570	465,134	704,547	2,348,279	4,114,051	1.03%
Nagasaki	353	2,599,505	610,370	1,370,877	763,213	898,943	3,643,403	6,242,908	1.57%
Kumamoto	557	2,195,987	653,349	2,085,265	803,348	1,157,619	4,699,579	6,895,566	1.73%
Oita	389	1,466,851	403,912	738,678	751,427	876,075	2,770,093	4,236,944	1.06%
Miyazaki	333	447,907	410,377	2,241,816	596,130	790,488	4,038,811	4,486,718	1.13%
Kagoshima	456	525,166	586,467	3,059,562	939,040	1,007,110	5,592,178	6,117,344	1.53%
Okinawa	218	184,453	527,053	767,569	696,598	712,777	2,703,996	2,888,449	0.72%
Nationwide	35,573	159,021,387	46,775,434	86,098,042	45,628,199	61,188,847	239,690,522	398,711,908	100%
Rate(%)		39.97%	10.17%	20.23%	12.75%	16.88%	60.03%	100%	

Notes:

・ Part of mobile sources can't be allocated to each prefecture, thus the total of all prefectures and "Total" are not consistent.

・ "Total amount of Releases and transfers", being sums of the data (having 1 digit after the decimal place except Dioxins) reported by each business entities, are represented in an integer format by rounding off at the first decimal digit. Thus, the sums of each row or columns in this table may not foot.

Source: "Overview of the PRTR system in FY 2014," Environmental Health and Safety Division, Environmental Health Department, Environmental Policy Bureau, MOE, the Government of Japan,

7.15 PRTR top ten substances of reported releases and transfers (FY 2014)

(Unit: t / year)

PRTR chemicals	Releases	Transfers	Releases and transfers in total
Toluene	54,473	33,743	88,216
Manganese and its compounds	2,846	50,930	53,776
Xylene	28,403	7,406	35,809
Chromium and chromium(III) compounds	176	18,949	19,124
Hydrogen fluoride and its water-soluble salts	1,977	16,307	18,284
Ethylbenzene	14,600	3,360	17,959
Methyl chlorides	10,501	6,234	16,735
n-Hexane	10,294	3,727	14,022
N,N-dimethylformamide	2,300	6,537	8,838
Ferric chlorides	1	8,593	8,594

※ Due to rounding off, total may not be consistent with the sum of a row.

Source: "Overview of the PRTR system in FY 2014," Environmental Health and Safety Division, Environmental Health Department, Environmental Policy Bureau, MOE, the Government of Japan

7.16 PRTR top ten substances of reported releases and estimated releases (FY 2014)

(Unit: t / year)

PRTR chemicals	Reported releases	Estimated Releases	Reported releases and releases outside notification in total
Toluene	54,473	43,271	97,744
Xylene	28,403	40,946	69,349
Ethylbenzene	14,600	19,196	33,796
Polyoxyethylene alkyl ether (C=12-15)	100	22,147	22,247
n-Hexane	10,294	7,220	17,514
Dichloromethane (alias: methylene dichloride)	10,501	1,588	12,089
Linear alkylbenzene sulfonate (C=10-14)	13	11,436	11,449
Chlorodifluoromethane (alias HCFC-22)	220	9,876	10,096
D-D	4	8,939	8,943
Dichlorobenzene	90	8,697	8,787

Source: "Overview of the PRTR system in FY 2014," Environmental Health and Safety Division, Environmental Health Department, Environmental Policy Bureau, MOE, the Government of Japan

8.01 ① Budget for competitive funding on environmental research and development of environmental technology

(Unit: million yen)

	Name of competitive fund systems					
	Global Environment Research Fund 1)	Environmental Research・Environmental Technology Development Fund 1), 2)	Environment Research Fund	Grant-in-Aid for Scientific Research about Establishing a Sound Material-cycle Society 3)	Project of Developing Countermeasures against Global Warming (energy-related expenditures) 4)	Total
Budget amount of FY2004	3,015	815	-	1,150	1634	6,614
FY 2005	3,015	815	-	1,150	2,676	7,656
FY 2006	3,256	881	-	1,300	2,716	8,153
FY 2007	2,960	881	-	1,261	3,302	8,404
FY 2008	3,197	836	-	1,135	3,710	8,878
FY 2009	3,955	1,160	-	1,803	3,805	10,723
FY 2010	-	-	5,269	1,738	5,022	12,029
FY 2011	-	-	8,007	-	6,200	14,207
FY 2011	-	-	6,670	-	6,720	13,390
FY 2012	-	-	6,160	-	-	6,160
FY 2013	-	-	5,510	-	-	5,510
FY 2014	-	-	5,300	-	-	5,300
FY 2015	-	-	5,510	-	-	5,510

Note:
1) In FY 2010, integrated in 'Environment Research and Technology Fund.'
2) Up to FY 2008, called as "Promotional fund for Environmental Technology Development."
3) Up to FY 2008, called as "Promotional Subsidies for Scientific Research on Waste Treatment ." In FY 2011, integrated in 'Environmental Research.'
4) Up to FY 2012, 'Competitive fund.'

Source: referential materials from Ministry of the Environment, the Government of Japan

8.01 ② Number of employees in environmental divisions of local governments by prefecture

	2011			2012			2013		
	Pollutions control	Waste management	Environmental conservation	Pollutions control	Waste management	Environmental conservation	Pollutions control	Waste management	Environmental conservation
Hokkaido	241	740	293	240	684	294	232	654	300
Aomori	81	240	44	82	233	45	81	219	46
Iwate	47	201	67	52	196	61	51	184	59
Miyagi	87	114	83	114	141	82	107	136	76
Akita	25	238	72	23	227	67	25	215	62
Yamagata	63	141	115	65	143	119	62	139	121
Fukushima	83	326	195	206	311	205	283	302	221
Ibaraki	193	505	136	217	484	155	214	464	155
Tochigi	102	435	165	132	391	169	135	379	179
Gunma	124	446	119	133	419	130	130	391	127
Saitama	350	1,195	298	357	1,157	298	345	1,135	296
Chiba	294	1,337	296	345	1,304	282	334	1,272	282
Tokyo	710	5,541	660	712	5,360	663	696	5,232	662
Kanagawa	266	1,806	293	260	1,745	325	255	1,698	303
Niigata	89	309	126	93	272	127	101	264	125
Toyama	74	311	48	72	290	47	71	269	47
Ishikawa	110	336	95	110	324	93	105	351	100
Fukui	69	107	74	70	104	74	69	100	74
Yamanashi	32	170	108	32	163	106	32	155	111
Nagano	128	258	252	130	258	259	128	249	267
Gifu	55	711	129	51	700	124	58	677	119
Shizuoka	154	882	120	138	644	111	142	616	112
Aichi	468	1,233	215	473	1,414	235	468	1,360	241
Mie	124	686	75	120	652	75	116	612	76
Shiga	100	242	119	101	235	116	98	240	116
Kyoto	75	359	87	73	347	89	70	346	86
Osaka	348	2,222	261	332	2,115	252	325	2,035	243
Hyogo	222	1,727	177	221	1,677	179	216	1,610	177
Nara	58	962	68	60	918	74	63	903	77
Wakayama	52	464	46	54	424	46	54	412	48
Tottori	26	73	45	27	67	42	27	67	45
Shimane	45	173	52	51	170	54	52	163	49
Okayama	77	390	46	73	378	49	73	349	48
Hiroshima	153	552	97	155	517	100	154	484	97
Yamaguchi	74	762	63	73	749	68	68	722	68
Tokushima	56	532	54	55	516	49	54	506	48
Kagawa	70	411	49	69	401	49	70	389	49
Ehime	103	373	82	104	363	81	102	350	80
Kochi	31	256	77	29	241	84	80	242	81
Fukuoka	123	583	188	127	548	197	120	526	199
Saga	37	195	46	37	181	43	36	182	23
Nagasaki	95	611	114	93	588	109	98	546	54
Kumamoto	110	474	138	108	120	86	108	117	88
Oita	75	533	67	75	502	72	72	479	72
Miyazaki	45	331	86	45	309	89	45	291	86
Kagoshima	87	397	115	86	381	119	79	366	117
Okinawa	58	153	58	57	153	62	60	152	59
Sapporo City	20	828	46	20	819	47	19	805	51
Sendai City	17	265	22	17	270	22	17	261	22
Saitama City	23	467	17	23	453	18	22	430	19
Chiba City	27	200	33	26	184	32	25	165	30
Yokohama City	115	1,846	144	117	1,803	139	117	1,756	145
Kawasaki City	107	1,200	76	109	1,148	74	107	1,121	74
Sagamihara City	25	372	13	24	366	13	26	360	13
Niigata City	16	257	11	15	228	14	16	215	16
Shizuoka City	12	281	26	12	273	25	12	262	25
Hamamatsu City	13	234	38	12	2,312	31	12	214	31
Nagoya City	168	1,498	45	166	1,462	44	166	1,420	42
Kyoto City	93	1,154	11	98	1,141	10	95	1,116	9
Osaka City	168	2,971	0	157	2,862	0	154	2,696	0
Sakai City	40	224	26	40	207	25	40	203	25
Kobe City	70	1,264	0	70	1,216	0	70	1,166	0
Okayama City	12	427	11	12	419	11	11	409	12
Hiroshima City	16	460	25	15	446	21	15	442	21
Kitakyushu City	36	371	53	37	368	50	36	354	45
Fukuoka City	12	316	24	11	303	29	13	309	30
Kumamoto City				4	350	49	4	322	49
Partial-affairs associations, etc.	5	7,728	5	5	7,484	4	5	7,200	4
Subtotal	7,084	53,406	6,839	7,322	53,630	6,913	7,346	49,776	6,834
Total	67,329			67,865			63,956		

Note:

- Special wards, and also cities, towns and villages are included in prefectures (excluding ordinance-designated cities.)
- Figures show the number of staffs on April 1st in each year.

Source: "Survey on the Total Number of Civil Servants in Local Governments" by Local Administration Bureau, Ministry of Internal Affairs and Communications

8.01 ② Number of employees in environmental divisions of local governments by prefecture

(Unit : Person)

	2014			2015		
	Pollutions control	Waste management	Environmental conservation	Pollutions control	Waste management	Environmental conservation
Hokkaido	235	632	311	232	602	306
Aomori	79	210	45	79	148	46
Iwate	52	164	63	50	158	65
Miyagi	112	113	81	113	103	85
Akita	24	198	65	23	190	62
Yamagata	62	131	119	60	75	116
Fukushima	346	288	240	358	275	180
Ibaraki	202	446	161	196	431	158
Tochigi	129	370	179	121	360	178
Gunma	125	380	123	123	365	118
Saitama	335	1,113	295	340	1,098	306
Chiba	309	1,242	290	294	1,220	304
Tokyo	684	5,160	668	680	5,096	676
Kanagawa	255	1,658	302	253	1,616	307
Niigata	104	246	121	104	216	121
Toyama	70	250	48	70	235	49
Ishikawa	111	330	78	106	320	80
Fukui	63	96	81	65	94	82
Yamanashi	30	149	111	31	143	119
Nagano	124	254	262	124	243	267
Gifu	55	659	123	57	637	120
Shizuoka	141	611	110	139	582	117
Aichi	459	1,343	244	457	1,312	223
Mie	120	583	78	119	574	79
Shiga	100	235	113	97	234	112
Kyoto	71	343	94	70	337	92
Osaka	315	1,979	236	302	1,941	226
Hyogo	209	1,525	168	211	1,486	174
Nara	59	873	77	56	846	81
Wakayama	51	394	48	51	376	46
Tottori	27	58	42	27	56	39
Shimane	54	159	48	55	150	52
Okayama	72	361	49	71	355	51
Hiroshima	151	447	95	144	423	98
Yamaguchi	70	693	66	68	679	69
Tokushima	53	491	51	53	480	55
Kagawa	69	380	50	68	368	48
Ehime	106	338	73	104	319	75
Kochi	30	239	76	28	234	78
Fukuoka	120	500	197	120	478	194
Saga	37	182	42	36	172	43
Nagasaki	95	526	107	96	516	110
Kumamoto	101	111	84	100	108	83
Oita	74	459	69	73	438	70
Miyazaki	44	279	82	44	262	83
Kagoshima	82	343	117	82	331	110
Okinawa	41	144	79	40	143	81
Sapporo City	20	790	52	20	775	51
Sendai City	18	239	24	18	236	24
Saitama City	22	416	21	22	387	21
Chiba City	26	159	29	24	154	30
Yokohama City	124	1,803	148	126	1,793	153
Kawasaki City	108	1,088	61	106	1,038	60
Sagamihara City	26	346	13	26	346	13
Niigata City	15	203	14	15	197	14
Shizuoka City	12	249	26	12	239	25
Hamamatsu City	12	214	30	12	206	32
Nagoya City	169	1,416	47	163	1,378	42
Kyoto City	105	1,052	10	106	1,008	11
Osaka City	121	2,692	0	116	2,157	0
Sakai City	19	200	47	19	190	47
Kobe City	66	1,129	0	67	1,101	0
Okayama City	12	398	11	12	390	11
Hiroshima City	15	438	21	15	437	22
Kitakyushu City	37	343	48	51	332	44
Fukuoka City	14	295	27	15	288	30
Kumamoto City	4	317	49	4	312	48
Partial-affairs associations, etc.	1	7,063	6	0	7,326	5
Subtotal	7,203	48,535	6,945	7,139	47,115	6,917
Total	62,683			61,171		

Note:

- Special wards, and also cities, towns and villages are included in prefectures (excluding ordinance-designated cities.)
- Figures show the number of staffs on April 1st in each year.

Source: "Survey on the Total Number of Civil Servants in Local Governments" by Local Administration Bureau, Ministry of Internal Affairs and Communications

8.02 Trainees at the National Environmental Research and Training Institute, Ministry of the Environment

(Unit: persons)

FY	Administrative Training courses				Analytical Training courses				Total
	National government staff	Local public entity staff	Staff in public corporations, etc.	Subtotal	National government staff	Local public entity staff	Staff in public corporations, etc.	Subtotal	
1975	107	468	4	579	36	277	5	318	897
1976	110	472	7	589	34	204	5	243	832
1977	123	451	7	581	33	196	3	232	813
1978	184	512	13	709	25	210	3	238	947
1979	187	499	22	708	24	206	6	236	944
1980	190	517	37	744	18	175	2	195	939
1981	194	601	34	829	22	212	5	239	1,068
1982	198	551	35	784	10	168	2	180	964
1983	191	571	41	803	9	163	2	174	977
1984	195	519	61	775	6	152	7	165	940
1985	173	507	63	743	13	165	3	181	924
1986	234	650	135	1,019	14	167	2	183	1,202
1987	235	680	144	1,059	16	161	2	179	1,238
1988	209	639	125	973	21	148	3	172	1,145
1989	208	633	115	956	24	170	3	197	1,153
1990	211	628	103	942	19	172	4	195	1,137
1991	197	660	116	973	22	156	2	180	1,153
1992	199	639	109	947	16	162	0	178	1,125
1993	208	674	125	1,007	18	196	0	214	1,221
1994	160	614	113	887	16	221	0	237	1,124
1995	220	692	101	1,013	22	234	0	256	1,269
1996	209	661	114	984	25	199	0	224	1,208
1997	227	720	103	1,050	23	205	0	228	1,278
1998	231	766	48	1,045	21	208	0	229	1,274
1999	235	727	46	1,008	26	184	0	210	1,218
2000	233	867	57	1,157	22	201	0	223	1,380
2001	345	993	94	1,432	16	218	4	238	1,670
2002	332	1,003	76	1,411	8	236	7	251	1,662
2003	400	1,014	74	1,488	7	238	7	252	1,740
2004	375	1,096	72	1,543	11	236	10	257	1,800
2005	435	1,238	65	1,738	13	246	11	270	2,008
2006	387	1,303	60	1,750	10	232	12	254	2,004
2007	397	1,343	59	1,799	15	263	13	291	2,090
2008	345	975	52	1,372	13	259	14	286	1,658
2009	388	1,311	56	1,755	12	270	6	288	2,043
2010	295	945	43	1,283	1	211	5	217	1,500
2011	243	1,194	44	1,481	4	254	4	262	1,743
2012	238	1,268	42	1,548	7	274	7	288	1,836
2013	240	1,277	34	1,551	5	279	5	289	1,840
2014	272	1,299	39	1,610	4	267	9	280	1,890
2015	261	1,349	44	1,654	5	273	10	288	1,942

Notes:

・ In addition, 58 participants completed Environmental Administration Internship program (practical trainings) in FY2015.

・ Besides, accepted 11 trainees through environmental aquatic monitoring project, a group training program, conducted from September 16 to October 17, 2015, in cooperation with the Japan International Cooperation Agency (JICA).

Source: Training Center for Environmental Survey, Ministry of the Environment "Annual Report of Training Courses"

8.03 Changes in number of arrests for environmental crimes grouped by law

(Unit: incident)

	Total	Waste Management and Public Cleansing Law	Water Pollution Control Law	Others
2006	6,030	5,301	5	724
2007	7,076	6,107	10	959
2008	7,173	6,124	5	1,044
2009	7,164	6,128	11	1,025
2010	7,179	6,183	5	991
2011	6,503	5,700	1	802
2012	6,503	5,655	4	844
2013	5,923	5,169	2	752
2014	5,628	4,909	2	717
2015	5,741	4,979	0	762

Note:
"Others" includes Act on Conservation of Endangered Species of Wild Fauna and Flora, Wildlife Protection and Hunting Law, and Natural Parks Act, etc.

Source: Materials from National Police Agency

8.04 Number of arrests for violation of Waste Disposal Act by type

(2014) (Unit: case)

	Illegal dumping	Violation of commission (note 1)	Unauthorized business (note 2)	Others	Total
Total number of incidents	2,531	24	24	2,330	4,409
Industrial waste	205	22	8	604	839
Municipal waste	2,326	2	16	1,726	4,070

(2015) (Unit: case)

	Illegal dumping	Violation of commission (note 1)	Unauthorized business (note 2)	Others	Total
Total number of incidents	2,479	15	23	2,462	4,979
Industrial waste	202	13	8	526	749
Municipal waste	2,277	2	15	1,936	4,230

Notes:

1. Violations against commissioning standards are included, but violations against re-commissioning between authorized businesses are not included.
2. Refers to Unauthorized businesses for collection and transportation of waste, and for the disposal of waste.

Source: Materials from National Police Agency

8.05 Changes in numbers of offenders normally accepted / processed

Year	Ordinary accepted		Processed			Prosecution rate (%)
			Prosecuted ~~ion~~	Not prosecuted	Total	
2008	9,739	(100)	5,994	3,494	9,488	63.2
2009	9,688	(99)	5,598	3,719	9,317	60.1
2010	9,518	(98)	5,305	3,903	9,208	57.6
2011	8,862	(89)	4,821	3,740	8,561	56.3
2012	9,155	(94)	4,936	3,875	8,811	56.0
2013	8,699	(89)	4,767	3,719	8,486	56.2
2014	8,172	(84)	4,508	3,498	8,006	56.3
2015	8,170	(84)	4,425	3,480	7,905	56.0

Notes:

- Figures in parentheses indicates the indices based on the figure in 2008 deemed to be 100.
- Prosecution rate is calculated by the following formula:

  Prosecution rate= (# of prosecuted persons ÷ (# of prosecuted + # of not prosecuted)) × 100.

Source: Materials of Ministry of Justice

8.06 Local governments' expenses for measures against pollutions

(Unit : 100 million yen, %)

	Settlement amount of FY 2010						Settlement amount of FY 2011						Increase / decrease	Growth rate
	Prefectures		Municipalities		Total (A)		Prefectures		Municipalities		Total (B)		(A) - (B)	(A) - (B) / (B)
		Breakdown ratio		Breakdown ratio		Breakdown ratio		Breakdown ratio		Breakdown ratio		Breakdown ratio		
General expense	930	15.3	918	5.4	1,848	8.0	932	14.7	913	4.7	1,845	7.1	3	0.2
Pollution regulation and research expense	195	3.2	158	0.9	354	1.5	228	3.6	178	0.9	406	1.6	▲ 52	▲ 12.8
Expense for Pollution Control Works	4,074	67.2	15,335	89.6	19,409	83.7	4,771	75.4	17,727	90.8	22,499	87.0	▲ 3,090	▲ 13.7
Sewage works	3,194	52.7	12,369	72.3	15,563	67.1	3,757	59.4	14,351	73.5	18,109	70.1	▲ 2,546	▲ 14.1
Improvement of waste management facilities	248	4.1	2,535	14.8	2,784	12.0	291	4.6	2,827	14.5	3,118	12.1	▲ 334	▲ 10.7
Compensation for expense and loss of pollution-related health damage	117	1.9	510	3.0	628	2.7	98	1.5	524	2.7	622	2.4	6	1.0
Others	747	12.3	194	1.1	941	4.1	301	4.8	177	0.9	478	1.8	463	96.9
Total	6,064	100.0	17,116	100.0	23,180	100.0	6,330	100.0	19,520	100.0	25,850	100.0	▲ 2,670	▲ 10.3

Notes:
- Subsidies and allotted charges that are double-counted among prefectures and municipalities are deducted.
- Totals may not foot due to rounding.
- Shaded figures in "Sewage works" and "Improvement of waste management facilities" are included in the Expense of Public Pollution Control Works.

Source: materials of Ministry of Internal Affairs and Communications

8.07 Regions under the Regional Environmental Pollution Control Programs

(as of March 31, 2016)

Region (Prefecture)	Designated municipalities					
Kashima	Kashimashi	Kamisushi				
(Ibaraki)						
Saitama	Saitamashi	Kumagayashi	Kawaguchishi	Gyodashi	Tokorozawashi	Kasukabeshi
(Saitama)	Sayamashi	Kounosushi	Ageoshi	Soukashi	Koshigayashi	Yashioshi
	Hasudashi	Sakadoshi	Tsurugashimashi	Inamachi		
Chiba	Chibashi	Ichikawashi	Funabashishi	Matsudoshi	Nodashi	Naritashi
(Chiba)	Sakurashi	Narashinoshi	Kashiwashi	Ichiharashi	Nagareyamashi	Yachiyoshi
	Abikoshi	Kamagayashi	Kimitsushi	Yotsukaidoshi	Inzaishi	Shiraishi
Tokyo	Chuo-ku	Minato-ku	Sumida-ku	Koto-ku	Shinagawa-ku	Ohta-ku
(Tokyo)	Setagaya-ku	Kita-ku	Itabashi-ku	Adachi-ku	Hachiojishi	Machidashi
Kanagawa	Yokohamashi	Kawasakishi	Yokosukashi			
(Kanagawa)						
Niigata	Niigatashi					
(Niigata)						
Gifu	Gifushi	Kakamigaharashi				
(Gifu)						
Fuji	Fujishi					
(Shizuoka)						
Aichi	Nagoyashi	Toyohashishi	Okazakishi	Hekinanshi	Anjyoshi	Komakishi
(Aichi)						
Kyoto	Kyotoshi	Ujishi	Mukoshi	Nagaokakyoshi	Oyamazaki-cho	
(Kyoto)						
Osaka	Osakashi	Sakaishi	Kishiwadashi	Toyonakashi	Ikedashi	Suitashi
(Osaka)	Izumiotsushi	Takatsukishi	Kaizukashi	Hirakatashi	Ibarakishi	Yaoshi
	Izumisanoshi	Tondabayashishi	Neyagawashi	Kawachinaganoshi	Matsubarashi	Daitoushi
	Izumishi	Minohshi	Kashiwarashi	Habikinoshi	Kadomashi	Settsushi
	Fujiiderashi	Higashiosakashi	Shijyonawateshi	Katanoshi	Osakasayamashi	Tadaoka-cho
Hyogo	Kobeshi	Amagasakishi	Nishinomiyashi	Itamishi	Kakogawashi	Takarazukashi
(Hyogo)	Kawanishishi					
Nara	Narashi	Yamatokoriyamashi	Yamatokoriyamashi	Tenrishi	Ikomashi	Ohji-cho
(Nara)						
Wakayama	Wakayamashi					
(Wakayama)						
Okayama/Kurashiki	Okayamashi	Kurashikishi	Tamanoshi	Hayashima-cho		
(Okayama)						
Bingo	Fukuyamashi	Kasaokashi				
(Okayama/Hiroshima)						
Hiroshima	Hiroshimashi					
(Hiroshima)						
Kagawa	Sakaideshi					
(Kagawa)						
Fukuoka	Fukuokashi					
(Fukuoka)						
Kitak y ushu	Kitakyushushi					
(Fukuoka)						
Ohmuta	Ohmutashi					
(Fukuoka)						
	21 regions, 18 prefectures, 121 cities and towns (106 cities, 5 towns, 10 wards)					

Source: Ministry of the Environment

8.08 The Costs relating to the Pollution Prevention Projects, and Additional Subsidies

（Unit: 100 million yen）

	FY2011		FY2012		FY2013		FY2014		FY2015	
	Project	Subsidies	Project	Subsidies	Project	Subsidies	Project	Subsidies	Project	Subsidies
Sewage （terminal treatment facilities）	1,853	1	1,875	1	1,687	0	1,706	1	1,821	1
Dredging/water conveyance	24	6	25	9	26	8	26	9	23	7
Land improvement for contaminated farmland etc.	4	0	3	0	2	0	0	0	0	0
Measures for soil contamination by Dioxins	0	0	0	0	0	0	0	0	0	0
Total	1,881	8	1,903	10	1,715	9	1,732	10	1,843	8

Note: The sum of the costs in each column may not match the total value due to rounding.

Source: Ministry of the Environment

8.09 Existing number of Patients by Region, subject to Law Concerning Pollution-Related Health Damage Compensation and other Measures

(As of the end of March, 2015)

Group		Area			Municipalities	Designation date	Certified patients
Former Class I Region / Nonspecific disease	Chronic bronchitis Asthma Asthmatic bronchitis, Emphysema and their sequelae	Chiba	Southern Sea front	Area	Chiba-shi	November 30, 1974	246
		Tokyo	Chiyoda-ku	All area	Chiyoda-ku	November 30, 1974	123
		〃	Chuo-ku	〃	Chuo-ku	December 19, 1975	200
		〃	Minato-ku	〃	Minato-ku	November 30, 1974	334
		〃	Shinjuku	〃	Shinjuku	〃	908
		〃	Bunkyo-ku	〃	Bunkyo-ku	〃	405
		〃	Taito-ku	〃	Taito-ku	December 19, 1975	377
		〃	Shinagawa-ku	〃	Shinagawa-ku	November 30, 1974	729
		〃	Ota-ku	〃	Ota-ku	〃	1,557
		〃	Meguro-ku	〃	Meguro-ku	December 19, 1975	463
		〃	Shibuya-ku	〃	Shibuya-ku	November 30, 1974	435
		〃	Toshima-ku	〃	Toshima-ku	December 19, 1975	565
		〃	Kita-ku	〃	Kita-ku	〃	838
		〃	Itabashi-ku	〃	Itabashi-ku	〃	1,479
		〃	Sumida-ku	〃	Sumida-ku	〃	555
		〃	Koto-ku	〃	Koto-ku	November 30, 1974	1,161
		〃	Arakawa-ku	〃	Arakawa-ku	December 19, 1975	616
		〃	Adachi-ku	〃	Adachi-ku	〃	1,490
		〃	Katsushika-ku	〃	Katsushika-ku	〃	979
		〃	Edogawa-ku	〃	Edogawa-ku	〃	1,375
				Tokyo / Total			14,589
		Yokohama	Tsurumi Sea front areas		Yokohama	February 1, 1972	405
		Kawasaki	Kawasaki-ku, Saiwai-ku		Kawasaki	December 27, 1969	1,396
		〃				February 1, 1972	
		〃				November 30, 1974	
		Fuji	Midland areas		Fuji	February 1, 1972	373
		〃				January 13, 1977	
		Nagoya	South-central areas		Nagoya	February 1, 1973	2,001
		〃				December 19, 1975	
		〃				June 02, 1978	
		Thokai	North, Midland areas		Aichi (Pref.)	February 1, 1973	337
		Yokkaichi	Rinkai areas		Yokkaichi	December 27, 1969	394
						November 30, 1974	
		Osaka	All area		Osaka	December 27, 1969	6,255
						November 30, 1974	
						December 19, 1975	
		Toyonaka	South areas		Toyonaka	February 1, 1973	180
		Suita	South areas		Suita	November 30, 1974	191
		Moriguchi	All area		Moriguchi	January 13, 1977	1,114
		Higashiosaka	West-central areas		Higashiosaka	June 02, 1978	1,195
		Yao	West-central areas		Yao	〃	680
		Sakai	West areas		Sakai	August 1, 1973	1,438
						January 13, 1977	
		Kobe	Sea front areas		Kobe	〃	656
		Amagasaki	East, South areas		Amagasaki	December 1, 1970	1,880
						November 30, 1974	
		Kurashiki	Mizushima areas		Kurashiki	December 19, 1975	1,148
		Tamano	Southern sea front areas		Okayama (Pref.)	〃	28
		Bizen	Around Katagamiwan areas			〃	36
		Kitakyushu	Dokaiwan areas		Kitakyushu	February 1, 1973	848
		Omuta	Midland areas		Omuta	August 1, 1973	738
				Total			36,128
Class II region / specific ~~Common~~ disease	Minamata disease	Agano river	Downstream areas		Niigata (Pref.)	December 27, 1969	67
	〃		〃		Niigata	〃	105
	〃	Minamata bay	Coastal areas		Kagoshima (Pref.)	〃	117
	〃		〃		Kumamoto (Pref	〃	305
	Itai-itai disease	Jinzu river	Downstream areas		Toyama (Pref.)	〃	5
	Chronic arsenic	Shimane	Sasagatani areas		Shimane (Pref.)	July 4, 1974	3
	〃	Miyazaki	Toroku areas		Miyazaki (Pref.)	February 1, 1973	49
				Total			651
				Total			36,779

Notes:
・ The names of the former designated areas in this table are based on political sub-divisions at the time of designation.
* Kusu-cho was merged with Yokkaichi in February, 2005. Since 2004, the number of certified patients of Yokkaichi has included that of Kusu-cho.

Source: Compiled from an article by Planning Division, Environmental Health Department, Integrated Environmental Policy Bureau, Ministry of the Environment

8.10 Changes in Existing number of Patients by Region, subject to the Pollution Damage Compensation Act (1)

Region	End of FY	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Class I Areas	Chiba	765	778	751	747	736	705	707	694	662	633	606	579	560	540	518	492	475
	Chiyoda-ku	234	257	266	287	293	313	309	313	296	288	267	250	239	231	220	214	206
	Chuo-ku	372	381	425	477	498	498	546	513	473	431	418	397	374	353	326	323	300
	Minato-ku	937	991	1,041	1,062	1,069	1,056	1,091	1,144	1,067	988	922	858	808	766	746	707	670
	Shinjuku	1,364	1,472	1,585	1,760	2,008	2,218	2,475	2,550	2,409	2,282	2,188	2,084	2,003	1,950	1,883	1,795	1,758
	Bunkyo-ku	1,021	1,078	1,116	1,158	1,220	1,214	1,278	1,323	1,231	1,152	1,096	1,037	968	920	871	821	780
	Taito-ku	818	876	950	995	1,046	1,105	1,151	1,112	1,048	988	943	891	860	820	782	733	704
	Shinagawa-ku	1,504	1,626	1,696	1,831	1,950	2,053	2,146	2,118	1,997	1,899	1,804	1,703	1,614	1,549	1,483	1,422	1,380
	Ota-ku	3,491	3,699	3,795	4,036	4,282	4,459	4,703	4,853	4,539	4,250	4,059	3,926	3,719	3,562	3,361	3,160	3,073
	Meguro-ku	1,105	1,143	1,227	1,263	1,307	1,338	1,423	1,414	1,317	1,212	1,126	1,048	970	929	869	806	773
	Shibuya-ku	944	1,028	1,095	1,201	1,314	1,451	1,572	1,520	1,412	1,329	1,258	1,176	1,102	1,043	973	904	854
	Toshima-ku	1,086	1,159	1,267	1,345	1,427	1,523	1,632	1,677	1,603	1,478	1,402	1,339	1,211	1,103	1,051	999	946
	Kita-ku	1,981	2,108	2,167	2,251	2,283	2,352	2,525	2,610	2,485	2,304	2,188	2,088	1,990	1,905	1,810	1,707	1,626
	Itabashi-ku	2,043	2,213	2,361	2,492	2,620	2,726	3,036	3,162	3,004	2,822	2,716	2,623	2,519	2,471	2,428	2,332	2,305
	Sumida-ku	884	1,011	1,114	1,225	1,301	1,406	1,620	1,583	1,512	1,411	1,333	1,238	1,155	1,085	1,053	999	961
	Koto-ku	2,004	2,199	2,384	2,589	2,828	2,985	3,368	3,490	3,250	2,968	2,813	2,652	2,499	2,412	2,306	2,165	2,089
	Arakawa	1,148	1,305	1,401	1,490	1,585	1,679	1,920	1,892	1,791	1,688	1,592	1,500	1,425	1,378	1,322	1,263	1,224
	Adachi-ku	4,231	4,511	4,770	4,926	5,099	5,294	5,589	5,393	4,893	4,403	4,170	3,926	3,586	3,412	3,251	3,071	2,892
	Katsushika-ku	1,815	1,978	2,136	2,298	2,468	2,562	2,787	2,850	2,691	2,467	2,338	2,219	2,076	1,967	1,841	1,701	1,649
	Edogawa-ku	2,211	2,429	2,688	2,994	3,301	3,677	4,086	4,085	3,836	3,591	3,438	3,261	3,006	2,865	2,696	2,533	2,449
	(Total of Tokyo)	29,193	31,464	33,484	35,680	37,899	39,909	43,257	43,602	40,854	37,951	36,071	34,216	32,124	30,721	29,272	27,655	26,639
	Yokohama	874	899	912	938	947	950	1,003	977	919	885	851	805	767	739	715	690	675
	Kawasaki	3,286	3,332	3,299	3,290	3,273	3,319	3,455	3,478	3,318	3,190	3,041	2,933	2,828	2,746	2,663	2,584	2,495
	Fuji	950	944	896	886	883	879	876	843	783	740	711	661	634	605	582	563	555
	Nagoya	4,718	4,887	4,927	5,055	5,157	5,285	5,747	5,852	5,525	5,229	4,974	4,699	4,407	4,207	4,009	3,763	3,627
	Toukai	788	816	809	849	884	900	1,067	1,048	991	936	903	853	804	768	739	696	669
	Yokkaichi	903	896	866	876	864	836	907	867	829	801	783	746	722	701	674	650	626
	Kusunoki	101	95	89	89	88	85	90	90	87	84	83	81	73	71	67	63	62
	Osaka	19,015	18,719	18,682	18,743	18,769	19,064	19,639	19,973	18,890	17,912	16,885	16,011	15,125	14,318	13,651	12,965	12,342
	Toyonaka	547	548	547	570	587	570	601	577	545	524	505	469	446	420	395	369	348
	Suita	363	391	405	431	432	435	494	512	494	462	430	415	399	380	366	353	336
	Moriguchi	3,198	3,290	3,274	3,248	3,166	3,080	3,107	3,001	2,843	2,678	2,547	2,428	2,319	2,213	2,115	2,018	1,942
	Higashiosaka	2,078	2,425	2,635	2,916	3,190	3,569	3,696	3,887	3,563	3,359	3,186	3,036	2,940	2,697	2,601	2,409	2,290
	Yao	1,242	1,382	1,516	1,617	1,645	1,720	1,796	1,854	1,785	1,727	1,586	1,511	1,445	1,363	1,310	1,260	1,209
	Sakai	3,470	3,567	3,613	3,710	3,831	3,922	4,242	4,305	4,145	3,983	3,821	3,626	3,446	3,309	3,158	3,023	2,907
	Kobe	1,569	1,658	1,788	1,899	1,965	1,990	2,066	2,302	2,161	2,076	1,955	1,850	1,741	1,662	1,601	1,510	1,427
	Amagasaki	5,128	5,249	5,235	5,306	5,380	5,494	5,682	5,633	5,380	5,104	4,809	4,563	4,334	4,117	3,939	3,741	3,584
	Kurashiki	1,920	2,019	2,060	2,123	2,182	2,273	2,545	2,910	2,824	2,717	2,592	2,518	2,450	2,342	2,253	2,173	2,086
	Tamano	80	79	80	86	88	96	98	97	95	92	90	86	84	81	79	75	75
	Bizen	116	127	134	138	137	136	141	143	139	133	128	124	119	112	106	103	99
	Kitakyushu	1,681	1,712	1,736	1,814	1,867	1,954	2,108	2,124	2,032	1,932	1,868	1,777	1,678	1,615	1,541	1,487	1,431
	Omuta	1,226	1,298	1,315	1,339	1,421	1,523	1,703	2,438	2,394	2,314	2,166	2,065	2,006	1,915	1,839	1,772	1,703
	Total of Class I Areas	83,211	86,575	89,053	92,350	95,391	98,694	105,027	107,207	101,258	95,462	90,591	86,052	81,451	77,642	74,195	70,414	67,602
Class II Areas	Niigata (Pref.)	305	296	284	276	267	257	245	237	229	224	214	208	198	191	184	177	172
	Niigata	273	270	263	256	248	247	240	232	227	223	218	212	209	207	206	203	200
	Kumamoto (Pref.)	1,049	1,077	1,082	1,082	1,065	1,058	1,028	996	962	936	908	874	838	812	789	752	718
	Kagoshima (Pref.)	269	283	287	302	309	315	318	310	310	308	300	296	287	276	271	263	251
	(Sub-total)	1,896	1,926	1,916	1,916	1,889	1,877	1,831	1,775	1,728	1,691	1,640	1,590	1,532	1,486	1,450	1,395	1,341
	Shimane (Pref.)	11	10	9	9	8	7	7	7	6	6	6	6	6	6	6	6	6
	Miyazaki (Pref.)	110	107	103	101	99	96	94	86	84	79	78	79	73	75	77	74	75
	(Sub-total)	121	117	112	110	107	103	101	93	90	85	84	85	79	81	83	80	81
	Toyama (Pref.)	37	39	37	29	22	20	18	16	12	13	13	15	15	14	12	10	7
	Total of Class II Area	2,054	2,082	2,065	2,055	2,018	2,000	1,950	1,884	1,830	1,789	1,737	1,690	1,626	1,581	1,545	1,485	1,429
Total		85,265	88,657	91,118	94,405	97,409	100,694	106,977	109,091	103,088	97,251	92,328	87,742	83,077	79,223	75,740	71,899	69,031

Notes:

* Kusu-cho was merged with Yokkaichi in February, 2005. Since 2004, the number of certified patients of Yokkaichi has included that of Kusu-cho.

Source: Article of Planning Division, Environmental Health Department, Integrated Environmental Policy Bureau, Ministry of the Environment

8.10 Changes in Existing number of Patients by Region, subject to the Pollution Damage Compensation Act (2)

Region		End of FY 1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Class I Areas	Chiba	457	441	429	407	390	380	368	359	346	333	326	316	303	280	271	257	246
	Chiyoda-ku	194	184	177	172	165	158	150	146	147	139	141	143	138	133	126	126	123
	Chuo-ku	286	284	276	274	263	259	252	251	244	240	229	225	227	214	209	204	200
	Minato-ku	621	584	559	534	510	485	470	445	421	410	405	388	373	362	351	341	334
	Shinjuku	1,708	1,652	1,615	1,513	1,399	1,330	1,278	1,222	1,181	1,135	1,098	1,065	1,056	1,009	971	942	908
	Bunkyo-ku	730	680	651	621	587	560	536	517	498	490	468	457	443	427	414	408	405
	Taito-ku	670	629	604	584	550	527	514	495	475	468	460	447	432	410	401	391	377
	Shinagawa-ku	1,327	1,302	1,166	1,126	1,102	1,063	1,038	988	948	910	882	849	833	804	779	753	729
	Ota-ku	2,988	2,903	2,868	2,822	2,748	2,699	2,232	2,123	2,064	1,998	1,941	1,889	1,784	1,714	1,654	1,609	1,557
	Meguro-ku	739	705	689	661	627	616	601	581	563	551	534	521	510	496	487	473	463
	Shibuya-ku	817	790	774	725	702	676	654	621	590	572	548	516	499	481	465	452	435
	Toshima-ku	909	856	817	793	773	751	736	707	697	682	664	650	638	639	626	589	565
	Kita-ku	1,533	1,442	1,409	1,355	1,268	1,227	1,191	1,148	1,122	1,098	1,077	1,062	1,047	1,028	1,014	862	838
	Itabashi-ku	2,260	2,219	2,013	1,925	1,863	1,828	1,797	1,770	1,733	1,699	1,664	1,617	1,581	1,561	1,534	1,493	1,479
	Sumida-ku	943	894	849	829	758	744	736	688	665	655	627	616	601	580	574	562	555
	Koto-ku	2,004	1,880	1,831	1,757	1,718	1,676	1,637	1,589	1,546	1,503	1,453	1,394	1,377	1,344	1,275	1,177	1,161
	Arakawa	1,158	1,075	1,015	983	942	927	910	881	838	820	760	727	697	671	643	626	616
	Adachi-ku	2,778	2,530	2,445	2,308	2,167	2,056	1,984	1,886	1,817	1,774	1,719	1,678	1,635	1,608	1,545	1,522	1,490
	Katsushika-ku	1,579	1,489	1,437	1,379	1,318	1,296	1,263	1,212	1,170	1,153	1,120	1,100	1,070	1,030	1,015	999	979
	Edogawa-ku	2,392	2,303	2,173	2,085	1,998	1,964	1,905	1,812	1,756	1,704	1,634	1,599	1,559	1,517	1,463	1,418	1,375
	(Total of Tokyo)	25,636	24,401	23,368	22,446	21,458	20,842	19,884	19,082	18,475	18,001	17,424	16,943	16,500	16,028	15,546	14,947	14,589
	Yokohama	657	647	633	610	591	579	553	534	522	517	503	487	464	440	426	416	405
	Kawasaki	2,397	2,304	2,245	2,179	2,091	2,036	1,984	1,913	1,831	1,786	1,739	1,700	1,604	1,549	1,503	1,455	1,396
	Fuji	551	539	530	518	514	510	485	473	463	459	450	445	434	425	416	407	373
	Nagoya	3,505	3,320	3,204	3,074	2,917	2,828	2,730	2,615	2,533	2,435	2,360	2,278	2,216	2,159	2,107	2,055	2,001
	Toukai	628	586	567	549	521	504	476	452	432	419	399	391	380	371	359	347	337
	Yokkaichi	589	574	553	532	515	501	523	513	499	488	476	462	450	433	422	411	394
	Kusunoki	58	56	53	51	49	49	*	*	*	*	*	*	*	*	*	*	*
	Osaka	11,815	11,214	10,718	10,289	9,960	9,543	9,139	8,790	8,468	8,142	7,819	7,468	7,204	6,890	6,674	6,471	6,255
	Toyonaka	327	314	299	291	281	270	260	251	237	235	226	217	206	197	193	187	180
	Suita	325	310	297	287	274	264	255	250	243	235	230	225	219	209	205	199	191
	Moriguchi	1,848	1,754	1,687	1,641	1,581	1,493	1,454	1,398	1,360	1,335	1,293	1,261	1,223	1,206	1,177	1,146	1,114
	Higashiosaka	2,237	2,123	2,000	1,909	1,846	1,801	1,749	1,676	1,570	1,514	1,453	1,402	1,358	1,322	1,274	1,234	1,195
	Yao	1,176	1,139	1,103	1,073	1,035	1,015	981	938	913	887	856	814	776	756	721	704	680
	Sakai	2,813	2,727	2,583	2,452	2,339	2,250	2,170	2,100	2,021	1,968	1,911	1,835	1,765	1,703	1,655	1,509	1,438
	Kobe	1,390	1,331	1,273	1,250	1,207	1,186	1,145	1,095	1,024	959	916	863	830	786	758	681	656
	Amagasaki	3,428	3,258	3,119	3,015	2,876	2,764	2,674	2,570	2,456	2,357	2,298	2,221	2,157	2,108	2,022	1,944	1,880
	Kurashiki	2,014	1,956	1,894	1,829	1,773	1,721	1,675	1,614	1,548	1,490	1,449	1,392	1,340	1,293	1,240	1,190	1,148
	Tamano	66	65	64	63	59	54	50	47	45	44	41	39	36	33	32	30	28
	Bizen	97	92	88	80	75	71	70	66	62	60	55	52	51	49	46	43	36
	Kitakyushu	1,372	1,331	1,255	1,212	1,156	1,114	1,087	1,060	1,037	1,012	987	958	937	912	895	864	848
	Omuta	1,629	1,572	1,453	1,381	1,311	1,249	1,192	1,149	1,108	1,063	1,012	963	919	866	825	776	738
	Total of Class I Areas	65,015	62,054	59,415	57,138	54,819	53,024	50,904	48,945	47,193	45,739	44,223	42,732	41,372	40,015	38,767	37,273	36,128
Class II Areas	Niigata (Pref.)	162	156	145	139	129	122	114	109	101	97	92	85	82	74	75	73	67
	Niigata	196	195	189	186	175	169	159	149	145	138	132	129	125	119	112	110	105
	Kumamoto (Pref.)	678	645	616	595	570	549	521	502	468	448	426	410	382	357	334	315	305
	Kagoshima (Pref.)	240	234	221	215	204	199	192	186	181	172	168	163	150	144	132	126	117
	(Sub-total)	1,276	1,230	1,171	1,135	1,078	1,039	986	946	895	855	818	787	739	694	653	624	594
	Shimane (Pref.)	6	5	5	5	5	5	5	5	4	3	3	3	3	3	3	3	3
	Miyazaki (Pref.)	74	73	68	65	63	58	56	55	54	50	51	49	53	50	50	47	49
	(Sub-total)	80	78	73	70	68	63	61	60	58	53	54	52	56	53	53	50	52
	Toyama (Pref.)	9	6	5	4	4	4	3	2	4	5	5	5	5	4	4	3	5
	Total of Class II Area	1,365	1,314	1,249	1,209	1,150	1,106	1,050	1,008	957	913	877	844	800	751	710	677	651
合計		66,380	63,368	60,664	58,347	55,969	54,130	51,954	49,953	48,150	46,652	45,100	43,576	42,172	40,766	39,477	37,950	36,779

Notes:

* Kusu-cho was merged with Yokkaichi in February, 2005. Since 2004, the number of certified patients of Yokkaichi has included that of Kusu-cho.

Source: Article of Planning Division, Environmental Health Department, Integrated Environmental Policy Bureau, Ministry of the Environment

8.11 ① Number of certified persons by Act on Compensation, etc. for pollution related health damage (Status of application process for Minamata disease certification)

(As of the end of April, 2016)

		Applied	Withdrawn	Processed		Unprocessed
				Certified	Rejected	
Kumamoto	Old legislation	3,312	92	1,500	1,720	0
	New legislation	18,377	6,684	287	10,139	1,267
	Total	21,689	6,776	1,787	11,859	1,267
Kagoshima	Old legislation	230	3	114	113	0
	New legislation	9,111	4,251	379	3,626	855
	Total	9,341	4,254	493	3,739	855
Niigata	Old legislation	644	10	335	299	0
	New legislation	833	153	39	540	101
	Total	1,477	163	374	839	101
City of Niigata	Old legislation	588	38	309	241	0
	New legislation	517	126	22	308	61
	Total	1,105	164	331	549	61
Total	Old legislation	4,774	143	2,258	2,373	0
	New legislation	28,838	11,214	727	14,613	2,284
	Total	33,612	11,357	2,985	16,986	2,284
Act on Temporary Measures		495	80	33	360	22

Source: Materials from Special Environmental Diseases, Environmental Health Department, Environmental Policy Bureau, MOE, the Government of Japan

8.11 ② Judgment on relief measures based on the Law Concerning Special Measures for Compensation of Minamata Disease

(Unit: person)

	The number of applicants for lump-sum payment, etc.				number of switched cases (*1)
	① accepted (for lump-sum)	② accepted (for cost of medical care)	③ number of cases fall under neither ① nor ②	④ total	
Kumamoto	19,306	3,510	5,144	27,960	14,797
Kagoshima	11,127	2,418	4,428	17,973	1,998
Nigata (*2)	1,811	85	77	1,973	29

Notes:

(※1) The number of people who switched to the Handbook of the Minamata Disease Victims (stipulated by the Law Concerning Special Measures for Compensation of Minamata Disease) from their National Health Insurance card that they possessed befroe the law was enforced.

(※2) For Niigata Prefecture, provisional values as of August 22, 2014, are shown.

Source: Materials from Special Environmental Diseases, Environmental Health Department, Environmental Policy Bureau, MOE, the Government of Japan

8.12 Acceptance and approval applications based on the Act on Asbestos Health Damage Relief

1. Acceptance of applications (As of the end of FY2014)

	Mesothelioma	Pulmonary	Asbestosis	Diffuse pleural thickening	Others	Total
Patients in case	6,138	1,968	163	144	189	8,602
Bereaved families of the deceased before enforcement	3,644	642	55	16	72	4,429
Bereaved families of the unclaimed deceased	784	276	32	28	23	1,143
Total	10,566	2,886	250	188	284	14,174

2. Approval (As of the end of FY2014)

	Mesothelioma	Pulmonary	Asbestosis	Diffuse pleural thickening	Total
Patients in case	4,799	1,042	22	54	5,917
Bereaved families of the deceased before enforcement	3,375	147	36	10	3,568
Bereaved families of the unclaimed deceased	530	148	2	5	685
Total	8,704	1,337	60	69	10,170

Source: " Acceptance and approval of applications based on the Act on Asbestos Health Damage Relief" by Environmental Restoration and Conservation Agency

8.13 Implementation Rate of Green Procurement in Local Governments and Enterprises

(Unit : %)

	Local Governments	Enterprises
FY 2002	38.7	56.0
2003	38.4	60.5
2004	41.5	57.4
2005	44.2	56.0
2006	76.1	60.8
2007	76.2	73.3
2008	76.0	73.6
2009	73.1	74.1
2010	73.8	71.9
2011	78.6	62.6
2012	81.3	66.1
2013	82.5	64.0
2014	69.0	60.9

Notes:

・Regarding "Local Governments", rates are sourced from the "Survey of Green Purchasing of Local Public Entities" by the Environment and Economy Division, Environmental Policy Bureau, Ministry of the Environment (MOE).

・Regarding "Local Governments", we have changed the question form of the questionnaire by items such as paper and stationery, etc. from fiscal year 2006 and considered it as being implemented if any one was applicable.

・The data relates to the ratio of local governments that are "systematically working" on green procurement. From FY2004, it has been deemed that green procurement is implemented in the case of initiatives based on policies, plans, etc., if targets and target items are described in them, and in the case of measures not based on policies, plans, etc., if green procurement is substantially promoted.

・Regarding "Enterprises", rates are sourced from the "Survey Results of Environmentally Friendly Corporate Behaviors" by the Environment and Economy Division, Environmental Policy Bureau, MOE.

・From fiscal 2007 (biennial), the figures equal to the total percentage of "Create and select guidelines, etc.", "Selection by utilizing guidelines etc. created by industry groups" and "Taking environmental consideration into account, though not using guidelines etc."

・For "Enterprises", survey items have been changed since FY2012.

Source:

For the local government: "Survey of green purchasing of local public entities" by Environment and Economy Division, Environmental Policy Bureau, MOE, the Government of Japan

For the enterprise: 'Survey Results of Environmentally Friendly Corporate Behaviors' by Environment and Economy Division, Environmental Policy Bureau, MOE, the Government of Japan

8.14 Enforcement of performed environmental impact assessment under Environmental Impact Assessment Law

(Unit: Case) (As of the end of FY2014)

	Road	River	Railroad	Airport	Power plant	Disposal site	Land fill/ Reclamation	Surface improvement	Total
Procedures started	81	8	18	10	201	6	17	21	355
	(21)	(0)	(4)	(0)	(85)	(1)	(3)	(9)	(122)
In the process	10	0	3	1	113	1	3	2	132
	(0)	(0)	(1)	(0)	51	(0)	(0)	(0)	(52)
Procedures completed	62	7	13	8	65	5	12	14	181
	(20)	(0)	(3)	(0)	(20) 1)	(1)	(2) 1)	(7)	(52)
Procedures halted	9	1	2	1	23	0	2	5	42
	(1)	(0)	(0)	(0)	(14)	(0)	(1)	(2)	(18)
Comments from the Minister of the Environment	64	7	14	8	114	0	5	15	224
	(21)	(0)	(3)	(0)	(37)	(0)	(0)	(8)	(69)
Impact Statement	1	0	1	0	32	0	1	1	36
	(0) 3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Scoping 1)	-	-	-	-	-	-	-	-	-
Evaluation 2)	63	7	13	8	82	0	4	14	188
	(21)	(0)	(3)	(0)	(37) 2)	(0)	(0)	(8)	(69)
Report	0	0	0	0	0	0	0	0	0
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

Notes:

・Parenthesized figures refer to businesses that have changed procedures to procedures based on the law in the middle of the process."

・ When two business projects were merged, they were counted as one.

1: Including 7 business projects (that are determined as assessment procedures unnecessary as a result of the screening) that the notifications based on Article 4, Paragraph 3, Item 2 of The Environmental Impact Assessment Law have been completed.

2:There are 12 other business projects to which Ministry of the Environment submit comments, based on Environmental Assessment Enforcement Outline in regard to Wind Energy project (Agency for Natural Resources and Energy, Ministry of Economy, Trade and Industry, June 6th, 2012).

3: Including 1 project on which comments by the Minister of the Environment was submitted (a transitory measure).

Source: materials by Office of Environmental Impact Assessment Review, Environmental Impact Assessment Division, Environmental Health Department, MOE, the Government of Japan

8.15 The number of cases that completed environmental impact assessment procedures under Environmental Impact Assessment Law (as of the end of FY2014)

(Unit: case) (As of the end of FY2014)

	Project type																	
	Road		River		Railroad		Airport		Power plant		Disposal site		Land fill/Reclamation		Surface improvement		Total	
	Completed	Suspended	Completed	Suspended	Completed	Suspended	Completed	Suspended	Completed	Suspended	Completed	Suspended	Completed	Suspended	Completed	Suspended	Completed	Suspended
FY 1999	8(8)	-	-	-	1(1)	-	-	-	3(3)	-	1(1)*	-	1(1)*	-	1(1)	-	14(14)*	-
2000	8(7)	-	-	-	1(1)	-	1(0)*	-	10(8)	-	-	-	2(1)*	-	6(6)	1(1)	27(23)*	1(1)
2001	5(5)	-	-	-	6(1)	-	1(0)	-	3(1)	-	-	-	1(0)	-	1(0)	-	17(7)	-
2002	1(0)	-	1(0)	1(0)	-	-	1(0)	-	2(0)	2(0)	1(0)	-	-	-	-	-	6(0)	3(0)
2003	-	2(0)	-	-	-	-	-	-	2(0)	-	-	-	-	-	4(0)	-	6(0)	2(0)
2004	7(0)	4(0)	1(0)	-	-	-	1(0)	-	1(0)	-	-	-	-	-	-	-	10(0)	4(0)
2005	6(0)	1(1)	1(0)	-	2(0)	-	2(0)	-	2(0)	-	1(0)*	-	1(0)*	-	-	1(0)	14(0)*	2(1)
2006	5(0)	2(0)	-	-	-	2(0)	1(0)*	-	6(0)	1(0)	-	-	2(0)*	-	-	1(0)	13(0)*	6(0)
2007	5(0)	-	1(0)	-	-	-	-	1(0)*	2(0)	-	1(0)	-	1(0)	1(0)*	2(0)	-	12(0)	1(0)*
2008	5(0)	-	1(0)	-	-	-	-	-	-	-	-	-	-	-	-	-	6(0)	-
2009	2(0)	-	-	-	-	-	-	-	5(0)	1(0)	-	-	-	-	-	-	7(0)	1(0)
2010	2(0)	-	-	-	-	-	-	-	3(0)	1(0)	-	-	-	-	-	1(1)	5(0)	2(1)
2011	2(0)	-	-	-	-	-	-	-	2(0)		-	-	1(0)	1(1)	-	-	5(0)	1(1)
2012	-	-	1(0)	-	2(0)	-	-	-	9(4)	1(0)	-	-	1(0)	-	-	-	13(4)	1(0)
2013	3(0)	-	-	-	-	-	1(0)	-	5(0)	9(6)	-	-	2(0)	-	-	1(0)	10(0)	10(6)
2014	3(0)	-	1(0)	-	1(0)	-	-	-	10(4)	8(8)	1(0)	-	-	-	-	-	16(4)	8(8)
Total	62(20)	9(1)	7(0)	1(0)	13(3)	2(0)	8(0)*	1(0)*	65(20)	23(14)	5(1)*	0(0)	12(2)*	2(1)*	14(7)	5(2)	181(52)*	42(18)*

Notes:

- Parenthesized figures refer to businesses that have changed the procedures to procedures based on the law in the middle of the procedures, and included in "Total."
- Figures with * indicate that two business projects merged were included, but they are counted as one.

Source: materials of Office of Environmental Impact Assessment Review, Environmental Impact Assessment Division, Environmental Health Department, MOE, the Government of Japan

8.16 Status of formulating basic ordinances of Environmental Policy

By Basic Property (Unit : %)

Status of formulating basic ordinances of Environmental Policy	Nationwide ~~al~~	Prefecture	ordinance-designated city	Municipality
	(n=1023)	(n=41)	(n=17)	(n=965)
Dealt with/Completed	75.3	97.6	100.0	73.9
Work in progress	0.2	0.0	0.0	0.2
Under consideration	3.8	0.0	0.0	4.0
No plan at the moment	20.4	2.4	0.0	21.6
No response	0.3	0.0	0.0	0.3

By Population Size (Unit : %)

Status of formulating basic articles of Environmental Policy	Less than 10 thousand	10 thousand or more ~ less than 100 thousand	100 thousand or more ~ less than 300 thousand	300 thousand or more ~ less than 500 thousand	500 thousand or more
	(n=157)	(n=581)	(n=171)	(n=44)	(n=70)
Completed	40.1	74.9	95.3	93.2	97.1
Work in progress	0.0	0.3	0.0	0.0	0.0
Under consideration	7.0	4.8	0.0	0.0	0.0
No plan at the moment	51.6	19.8	4.7	6.8	2.9
No response	1.3	0.2	0.0	0.0	0.0

Source: Materials of "Survey questionnaire for local governments in regard to the Basic Environmental Plan 2015" by Environmental Strategy Division, Environmental Policy Bureau, MOE, the Government of Japan

8.17 Status of formulating basic plans of Environmental Policies

By Basic Property (Unit : %)

Status of formulating basic plans of Environmental Policy	National	Prefecture	Ordinance-designated city	Municipality
	(n=1023)	(n=41)	(n=17)	(n=965)
Completed	76.5	100.0	100.0	75.1
Work in progress	1.8	0.0	0.0	1.9
Under consideration	4.9	0.0	0.0	5.2
No plan at the moment	16.6	0.0	0.0	17.6
No response	0.2	0.0	0.0	0.2

By Population size (Unit : %)

Status of formulating basic plans of Environmental Policy	Less than 10 thousand	10 thousand or more ~ less than 100 thousand	100 thousand or more ~ less than 300 thousand	300 thousand or more ~ less than 500 thousand	500 thousand or more
	(n=157)	(n=581)	(n=171)	(n=43)	(n=71)
Completed	40.8	75.6	97.7	100.0	98.6
Work in progress	1.9	2.4	0.6	0.0	0.0
Under consideration	8.3	6.4	0.0	0.0	0.0
No plan at the moment	48.4	15.5	1.8	0.0	1.4
No response	0.6	0.2	0.0	0.0	0.0

Source: materials of "Survey questionnaire for local governments in regard to the Basic Environmental Plan 2015," Environmental Strategy Division, Environmental Policy Bureau, MOE, the Government of Japan

8.18 Status of environmental policies local governments are focusing on

(Unit : %)

Item	Total (n = 3,513) Environmental Policies that are currently emphasized and carried out (multiple answers allowed)
a. Conservation of global environment	28.3
b. Initiatives regarding to conservation and sustainable use of biodiversity	14.6
c. Initiatives to ensure circulation of material and a creation of a sound material-cycle society	23.2
d. Initiatives regarding to conservation of aquatic, soil and ground environment	10.3
e. Initiatives regarding to conservation of the atmospheric environment	4.5
f. Initiatives to establish and promote comprehensive hazardous chemical control	0.2
g. Promoting green economy and society	1.7
h. Enrichment of developing technologies, R&D, Monitoring and observing, etc.	0.7
i. Policies on International initiatives	0.1
h. Promoting development of local communities and human resources	10.7
k. Improvement of and providing environmental information and enrichment of publicity	1.0
i. Evaluation of environmental impacts, etc.	0.2
m. Measures for environmental health, settlement of environmental pollution disputes, and against environmental crimes	2.2
Others	2.3
No response	0.0

Source: materials of "Survey questionnaire for local governments in regard to the Basic Environmental plan 2015," Environmental Strategy Division, Environmental Policy Bureau, MOE, the Government of Japan

8.19 Business confidence in Environmental business in Japan

(DI : "Good"-"Bad", %point)

	Present	6 months from now	10 years from now
Average	25	25	41
Previous survey	(26)	(25)	(41)
Big enterprise	29	29	51
Medium-sized enterprise	27	27	42
Small- and medium-sized enterprise	20	18	31
Manufacturing	27	26	46
Non-manufacturing	24	24	39

Source: "Economic Survey of Environmental Industries in December 2015," Environmental Strategy Division, Environmental Policy Bureau, MOE, the Government of Japan

8.20 Top 5 Environmental business that are expected to grow (total of all enterprise scale)

Present (Percentage in total %)

1	Energy-saving vehicles	26.7
2	Air pollution prevention equipment/facility	17.1
3	Waste water treatment equipment and facility	10.0
4	Solar generation system (manufacturing of related equipment)	10.0
5	Renewable energy Note)	9.1

Note:
Renewable energy refers to new energy sources such as Wind power, hydrogeneration, hydroelectric power generation, geothermal power generation, solar thermal application, biomass power system, medium and small hydroelectric generation, etc. and equipment manufacturing and sales business of thereof.

6 months from now (Percentage in total %)

1	Energy-saving vehicles	28.6
2	Renewable energy ※)	12.5
3	Air pollution prevention equipment/facility	11.8
4	Solar generation system (manufacturing of related equipment)	7.3
5	Waste water treatment equipment and facility	5.4

10 years from now (Percentage in total %)

1	Renewable energy	24.0
2	Energy-saving vehicles	17.7
3	Air pollution prevention equipment/facility	7.8
4	Other businesses for counter-measures against global warming	6.4
5	Battery	5.7

Source: "Economic Survey of Environmental Industries in December 2015" by Environmental Strategy Division, Environmental Policy Bureau, MOE, the Government of Japan

8.21 Business outlook (Diffusion Index)

(DI: Good-Bad、% Point)

	2014	2015				2016		→ Forecast ~ 10 years from now
	Dec.	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	
Environmental Business	22		22		21		22	21
Forecast made 6 months ago	(24)		(23)		(23)			(22)
A Environmental pollution control	12		12		15		19	19
B Prevention of global warming	31		29		28		28	27
C Waste disposal/Effective Utilization of Resources	14		17		12		11	4
D Natural Conservation	5		12		1		15	37
All business	11		14		15		15	8
Forecast made 6 months ago	(15)		(12)		(15)			(7)
Of which carries out environmental business	22		25		22		24	17
Of which carries out NO environmental business	8		10		13		12	5
"BOJ's Tankan Survey" (The Bank of Japan's Short-Term Economic Survey of Enterprises in Japan including all scales of business and all industries)	5	7	7	8	9	3		

Notes:
- 1,581 valid responses were returned from Environmental business entities and 4,855 responses from all business as of December 2015.
- Figure of March 2016 in "BOJ's Tankan Survey" is Index of Leading Economic Indicators.

Source: "Economic Survey of Environmental Industries in December 2015," Environmental Strategy Division, Environmental Policy Bureau, MOE, the Government of Japan

8.22 Environmental business outlook (by type of environmental business)

(DI: Good - Bad、%Point)

	Total of all scales and sizes					
	Present		6 months from now		10 years from now	
	Valid response	DI	Valid response	DI	Valid response	DI
Environmental business total	1,581	21	1,568	22	1,531	21
Previous survey	1,495	22	1,484	23	1,459	22
A. Environmental pollution control	367	15	363	19	356	19
Previous survey	333	12	330	14	323	16
B. Prevention of global warming	835	28	830	28	805	27
Previous survey	812	29	807	30	792	29
C. Waste disposal/Effective utilization of resources	325	12	321	11	316	4
Previous survey	318	17	315	18	312	10
D. Conservation of natural environment	54	1	54	15	54	37
Previous survey	32	12	32	12	32	28
A-1 Air pollution prevention equipment/facility	43	21	43	35	42	29
A-2 Waste water treatment equipment/facility	64	9	63	13	61	20
A-3 Soil and water purifier/facility (including underground water clean-up)	21	19	20	20	19	16
A-4 Noise, vibration prevention equipment/facility	17	24	17	18	17	17
A-5 Environmental analysis, measurement, monitoring equipment	11	0	11	9	11	37
A-6 Other environmental pollution control products/equipment/facility	75	11	74	18	72	29
A-7 Waste water treatment service	40	20	39	18	38	-16
A-8 Soil and water purification service (including underground water purification)	22	9	22	13	21	14
A-9 Environmental analysis, measurement, monitoring, assessment	24	17	24	21	24	16
A-10 Research and development on environment/engineering	11	18	11	18	12	42
A-11 Environmental education, environmental finance and consulting	23	26	23	30	23	44
A-12 Other environmental pollution control service	16	6	16	0	16	-12
B-1 Renewable energy	214	46	212	47	201	42
B-2 Photovoltaic (PV) power system (production of related machinery)	72	4	72	3	72	-2
B-3 Photovoltaic (PV) power system (installation/maintenance)	110	24	110	11	107	-25
B-4 Smart grid	17	18	17	35	17	41
B-5 Energy-saving vehicle	68	25	67	27	65	43
B-6 Energy-saving home appliance	63	17	62	25	61	30
B-7 High-efficiency hot water heater	103	29	103	29	100	35
B-8 Consultancy in the field of energy-saving	35	20	35	17	33	33
B-9 Storage battery	37	21	37	21	37	38
B-10 Energy saving housing construction	44	43	44	48	43	39
B-11 Other business related to global warming countermeasures	72	17	71	17	69	42
C-1 Waste disposal equipment/facility	28	21	28	25	28	0
C-2 Household waste disposal	43	17	43	14	42	-9
C-3 Industrial waste disposal	101	18	101	16	100	-10
C-4 Renovation/repairing	24	25	24	17	23	18
C-5 Lease/rental	25	4	25	4	25	16
C-6 Secondhand goods	16	19	15	6	14	7
C-7 Recycled material	73	-3	70	0	69	16
C-8 Other resource use	15	13	15	13	15	53
D-1 Water resource use	8	***	8	***	8	***
D-2 Sustainable agricultural forestry industries and fisheries/tree planting	34	11	34	17	34	32
D-3 Other conservation of natural environment	12	8	12	17	12	50

Source: "Economic Survey of Environmental Industries in December 2015," Environmental Strategy Division, Environmental Policy Bureau, MOE, the Government of Japan

8.23 Initiatives toward environmental management (Listed companies)

		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Formulate management policies related to environment	(%)	82.9	86.5	83.6	83.9	85.6	87.1	-	-	-	-
Set up specific goals	(%)	82.6	87.3	84.7	84.7	86.9	93.2	89.8	91.7	92.8	84.0
Formulate specific action plans	(%)	80.0	-	-	-	-	-	-	-	-	-
Number of valid responses	(case)	1,213	1,138	1,151	1,227	1,142	1,034	949	374	483	425

Note:
- Since FY2011, "Formulate management policies related to environment" question is no longer on the questionnaire.
- Since FY2011, rates of the number of entities that grasp the data of environmental load in their business area were used.

Source: "Survey on Environmentally Friendly Activities of Businesses," Environment and Economy Division, Environmental Policy Bureau, MOE, the Government of Japan

8.24 Companies that disclose environmental information

(Unit : case)

	FY1999	2000	2001	2002	2003	2004	2005	2006	2008	2010	2011	2012	2013	2014
States in securities reports	105	134	136	171	166	277	375	359	168	120	266	-	144	-
States in some parts of annual reports	-	-	-	-	-	-	-	-	324	224	-	-	-	-
States in IR materials (Annual reports, etc.)	-	-	-	-	-	-	-	-	-	-	337	-	228	-
States in website	335	607	848	1,084	1,176	977	1,180	1,317	1,329	1,254	1,320	-	768	-
Disclose in brochure	360	365	293	275	248	228	216	293	258	210	864	-	477	-
Publish environmental reports	270	430	515	633	714	801	933	1,049	1,160	1,068	1,015	514	593	551
Hold a meeting for local residents	-	-	161	174	197	264	288	303	310	259	-	-	-	-
Hold a meeting for stakeholders	-	-	-	-	-	-	-	-	-	-	244	-	157	-
Valid response	886	1,036	1,351	1,564	1,571	1,399	1,585	1,671	1,701	1,672	1,620	-	900	-

Note:
- Data refers to total numbers. Since multiple answers are allowed, valid response and total numbers do not much.
- Starting in FY 2008, a choice of "States in some parts of annual reports" was included in the survey.
- Starting in FY 2009, the survey is conducted biennially.
- Starting in FY 2011, the survey is conducted every year since the questionnaire was incorporated into White paper.
- Starting in FY 2011, a choice of "State in some parts of annual reports" was simplified to "State in IR materials (IR reports, etc.).
- Starting in FY 2011, "Hold a meeting to report to the residents" was merged into "Hold a meeting to explain to stakeholders."
- Only "Published environmental reports" question was asked in FY 2012 in another survey. (added up the number of entities that made environmental report(s) and the number of entities that made a part of CSR report(s), and so forth.)
- In FY2013, "Publish environmental reports" shows the number that is added up the number of entities that made environmental report(s) and the number of entities that made CSR report(s) showing environmental data.

" securities reports" = "securities report(s)" + "business report bound by the Companies Act," "brochure" = "production catalogue(s)" + "business prospectus(es)."
- In 2014, "Publish environmental reports" only. Survey was conducted with other questions.

Source: "Survey on Environmentally Friendly Activities of Businesses," Environment and Economy Division, Environmental Policy Bureau, MOE, the Government of Japan

8.25 Status of compiling and disclosing of environmental reports

	FY2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Compile and disclose environmental reports	933	1,049	1,011	1,160	1,091	1,068	1,015	514	593	551
Plan to compile and disclose environment reports next Fiscal Year	99	98	97	71	63	54	-	20	-	-
Compile but do not disclose	-	-	-	-	-	-	54	-	36	23
To be discussed	-	-	-	-	-	-	98	-	43	24
Not compiling	547	488	518	458	598	549	451	157	227	135
No response	6	9	5	12	8	1	2	0	1	1
Valid responses	1,585	1,644	1,631	1,701	1,760	1,672	1,620	691	900	734

Notes:
- Valid responses refer to the number of companies that disclose environmental information.
- "Compile and disclose" refer to publishing ~~ed~~ as parts of CSR reports and Sustainability reports.
- Starting in FY2011, "Plan to compile and disclose next Fiscal Year" was divided into "Compile but not disclose" and "To be discussed", but they were deleted from the Survey in FY 2012.

Source: "Survey on Environmentally Friendly Activities of Businesses" by Environment and Economy Division, Environmental Policy Bureau, MOE, the Government of Japan

8.26 Conditions of introduction of environmental accounting

(Unit : case)

	FY2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Already introduced	491	573	661	712	790	819	761	805	771	730	652	304	395	301
Under discussion to be introduced	580	461	387	440	369	363	345	290	277	206	275	73	95	-
No plan to be introduced	1,451	1,521	1,433	1,144	1,270	1,336	1,437	1,584	1,679	1,666	1,484	627	811	832
Unaware of the term "Environmental accounting"	248	246	162	209	235	231	258	323	297	312	376	157	179	178
No response	16	25	38	19	27	25	18	26	12	9	7	0	16	89
Not interested in Environmental accounting	64	76	58											
Others	48	65	56											
Valid responses	2,898	2,967	2,795	2,524	2,691	2,774	2,819	3,028	3,036	2,923	2,794	1,161	1,496	1,400

Starting in FY 2004, survey methods were changed and ※questions were deleted.

Source: "Survey on Environmentally Friendly Activities of Businesses," Environment and Economy Division, Environmental Policy Bureau, MOE, the Government of Japan

8.27 Changes in results of National examinations for Pollution Control Manager and Others

	# of Applicants	# of Examinees	The ratio of applicants to the number of examinees (%)	# of successful applicants	Examination pass rate(%)	Total number of successful applicants between FY 1971 and FY 2015	
FY 1971	115,951	95,197	82.1	36,385	38.2	Air Pollution Control Manager First grade	69,964
1972	139,558	108,487	77.7	35,667	32.9	Air Pollution Control Manage Second grade	5,152
1973	119,700	90,138	75.3	29,946	33.2	Air Pollution Control Manager Third grade	8,107
1974	116,917	86,973	74.4	21,443	24.7	Air Pollution Control Manager Fourth grade	8,334
1975	96,223	71,741	74.6	15,710	21.9		
1976	76,345	55,550	72.8	10,698	19.3	Subtotal	91,557
1977	68,680	50,153	73.0	13,308	26.5		
1978	54,731	39,320	71.8	8,402	21.4	Water Pollution Control Manager First grade	114,396
1979	43,108	30,095	69.8	6,572	21.8	Water Pollution Control Manager Second grade	21,275
1980	38,301	27,542	71.9	5,322	19.3	Water Pollution Control Manager Third grade	10,937
1981	33,853	24,205	71.5	5,460	22.6	Water Pollution Control Manager Fourth grade	24,234
1982	30,780	21,790	70.8	5,137	23.6		
1983	26,764	18,834	70.4	3,328	17.7	Subtotal	170,842
1984	23,070	17,385	75.4	3,508	20.2		
1985	21,542	16,330	75.8	3,322	20.3	Noise and Vibration Abatement Manager	3,954
1986	20,441	15,848	77.5	3,010	19.0	* Noise Abatement Manager	46,403
1987	17,727	14,173	80.0	3,413	24.1	* Vibration Abatement Manager	13,696
1988	17,881	14,253	79.7	2,885	20.2	Specific Dust Pollution Control Manager	720
1989	18,853	15,233	80.8	4,071	26.7	General Dust Pollution Control Manager	5,741
1990	20,545	16,382	79.7	3,480	21.2	Dioxins Pollution Control Manager	12,801
1991	22,741	18,352	80.7	4,283	23.3	Chief Manager of Pollution Control	12,496
1992	24,141	19,803	82.0	3,868	19.5		
1993	25,342	20,866	82.3	4,589	22.0		
1994	25,681	21,161	82.4	5,250	24.8		
1995	25,950	21,475	82.8	4,221	19.7		
1996	26,101	21,336	81.7	3,119	14.6		
1997	26,405	21,619	81.9	4,336	20.1		
1998	27,419	22,555	82.3	4,858	21.5		
1999	28,176	23,009	81.7	5,107	22.2		
2000	34,853	28,737	82.5	8,307	28.9		
2001	31,257	25,613	81.9	6,055	23.6		
2002	30,379	24,684	81.3	6,005	24.3		
2003	31,003	25,174	81.2	5,417	21.5		
2004	28,553	23,201	81.3	5,805	25.0	Total	358,210
2005	29,489	24,016	81.4	7,376	30.7		
2006	25,899	21,351	82.4	5,134	24.0		
2007	29,504	25,237	85.5	3,132	12.4		
2008	33,945	29,564	87.1	6,127	20.7		
2009	33,649	29,437	87.5	6,446	21.9		
2010	33,516	29,456	87.9	6,691	22.7		
2011	31,952	28,045	87.8	6,220	22.2		
2012	30,952	27,248	88.0	6,364	23.4		
2013	31,319	27,328	87.3	5,407	19.8		
2014	29,862	25,989	87.0	6,501	25.0		
2015	29,129	25,562	87.8	6,525	25.5		

Notes:

・ * refers to the accumulated subtotal of successful applicants up to FY2005. After FY 2006, they were merged into Noise and Vibration Abatement Manager.

・ Since FY2006, "System to pass by each subject" was introduced.

Source: "Result of National exam for Pollution Control Managers (each FY)," Ministry of Economy, Trade and Industry, as well as Ministry of Environment, the Government of Japan

8.28 Number of Environmental NGOs and the like

●Number of organizations by prefecture

Prefecture	# of organizations	Ratio(%)
Hokkaido	327	0.07
Aomori	49	0.01
Iwate	69	0.02
Miyagi	97	0.02
Akita	54	0.01
Yamagata	47	0.01
Fukushima	95	0.02
Ibaraki	68	0.02
Tochigi	51	0.01
Gunma	62	0.01
Saitama	106	0.02
Chiba	129	0.03
Tokyo	504	0.12
Kanagawa	178	0.04
Niigata	84	0.02
Toyama	62	0.01
Ishikawa	53	0.01
Fukui	41	0.01
Yamanashi	45	0.01
Nagano	112	0.03
Gifu	82	0.02
Shizuoka	137	0.03
Aichi	185	0.04
Mie	88	0.02
Shiga	66	0.02
Kyoto	111	0.03
Osaka	203	0.05
Hyogo	149	0.03
Nara	49	0.01
Wakayama	46	0.01
Tottori	37	0.01
Shimane	62	0.01
Okayama	64	0.01
Hiroshima	97	0.02
Yamaguchi	48	0.01
Tokushima	52	0.01
Kagawa	49	0.01
Ehime	59	0.01
Kochi	58	0.01
Fukuoka	126	0.03
Saga	30	0.01
Nagasaki	38	0.01
Kumamoto	66	0.02
Oita	44	0.01
Miyazaki	47	0.01
Kagoshima	59	0.01
Okinawa	40	0.01
No response	53	0.01
Nationwide total	4,378	100.00

●Corporate status

Kind of corporate status	# of organizations	Ratio(%)
Specified Nonprofit organization (NPO)	2,687	0.61
Foundation	209	0.05
Incorporated association	160	0.04
Others	11	0.00
None (non-statutory body)	730	0.17
No response	581	0.13
Total	4,378	100.00

●Fields of activity (Multiple answers allowed)

Field of activities	# of organizations	Ratio(%)
Forest conservation, Tree planting	1,614	36.87%
Prevention of desertification	110	2.51%
Recycling and waste management	970	22.16%
Prevention of global warming	1,081	24.69%
Conservation of fauna, flora and biodiversity	1,494	34.13%
Measures for alien species	495	11.31%
Toxic chemicals control	227	5.19%
Protection of air quality	391	8.93%
Noise, Vibration, and Odor control	151	3.45%
Conservation of water and ground environment	1,096	25.03%
Environmental education	2,374	54.23%
Community development and revitalization	2,497	57.04%
Environmentally-friendly consumption and life	781	17.84%
Cleanup operation	1,248	28.51%
Others	773	17.66%

●Budget range

Budget range of organization	# of organizations	Ratio(%)
0 ~ less than 1 million yen	1,705	38.94%
1 million yen or more, and less than 10 million yen	1,452	33.17%
10 million yen or more, and less than 100 million yen	840	19.19%
100 million yen or more	241	5.50%
No response	140	3.20%
Total	4,378	100.00

●Number of staff

<Total staff number>

Total staff number (regardless of being paid or not paid)	Number of organizations	Ratio (%)
0	138	5.32%
5 or less	665	25.66%
6 ～10	370	14.27%
11 ～ 20	333	12.85%
21 ～ 50	199	7.68%
51 or more	81	3.13%
No response	2,592	100.00%
Total	4,378	100.00

Notes:

- Survey was conducted among 22,613 organizations in 2015, and 4,378 organizations with valid responses were compiled.
- Ratio refers to the ratio to the total number of organizations with valid responses (4,378 organizations.)
- In FY2015, a survey on the membership numbers (individual and corporate members) was not conducted.

Source: Compiled from "Overview of Environmental NGO and NPO online data base FY2015," Environmental Restoration and Conservation Agency

8.29 Funding from Japan Fund for Global Environment

	Adopted (Number)	Grants (Million yen)
FY2004	203	715
2005	202	704
2006	170	579
2007	174	593
2008	205	679
2009	168	513
2010	153	458
2011	179	514
2012	190	600
2013	189	578
2014	197	605
2015	206	599
2016	223	660

Note: Grants for FY 2016 refer to the determined amounts to be granted.

Source: materials of Japan Fund Global Environment by Environmental Restoration and Conservation Agency (incorporated administrative agency).