

**Greenhouse Gas Emission Data of FY 2007 Compiled Under the  
Mandatory Greenhouse Gas Accounting and Reporting System  
based on Act on Promotion of Global Warming Countermeasures**

**April 3, 2009**

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Ministry of the Environment (MOE)**

**and**

**Environmental Economy Office, Industrial Science and Technology Policy and  
Environment Bureau, Ministry of Economy, Trade and Industry (METI)**

## Summary

Pursuant to the Act on promotion of Global Warming Countermeasures, Mandatory Greenhouse Gas Accounting and Reporting System requires entities that emit considerably large amounts of greenhouse gases ("specified emitters") to calculate their greenhouse gas emissions and report the results to the government, which compiles the reported data and announces the results. The aims of this program are that greenhouse gas emitters, by calculating their emissions themselves, will become aware of their own emissions situations and take steps to establish a basis for voluntary actions; and that by the presentation of emissions data in a clearly understandable format, citizens and companies in general will be encouraged and motivated to take voluntary actions.

We have compiled and summarized the data reported by specified emitters regarding their greenhouse gas emissions in FY 2007, the second year after the program was launched, classifying the data by company, industry sector, and prefecture. (It should be noted that the compiled data consists only of the total emissions which are subject to this program; it does not represent the total overall emissions for these companies, industry sectors, or prefectures.)

The number of facilities/companies that submitted reports and the totals of reported emissions are shown below. (Figures in square brackets denote FY 2006 greenhouse gas emissions).

Specified facility emitters (specified emitters who reported emissions separately for each of their facilities):

- Number of facilities/companies submitting reports:  
14,841 facilities(7,813 companies) [14,227 (7,505)]
- Total reported emissions: 614.30 million tons CO<sub>2</sub> [606.35 million]

Specified transportation emitters (specified emitters who reported transport sector emissions):

- Number of companies submitting reports: 1,447 companies [1,439]
- Total reported emissions: 36.11 million tons CO<sub>2</sub> [36.08 million]

All specified emitters:

- Total reported emissions: 650.41 million tons CO<sub>2</sub> [642.43 million]

Beginning on Friday, April 3 at 3 PM, METI and MOE will accept requests for disclosure of reported information regarding all facilities; and the competent ministries and agencies will accept requests for disclosure of reported information regarding industries under their respective jurisdiction.

The compiled data and instructions for requesting the disclosure of information will be available at the following website: <http://www.env.go.jp/earth/ghg-santeikohyo/>

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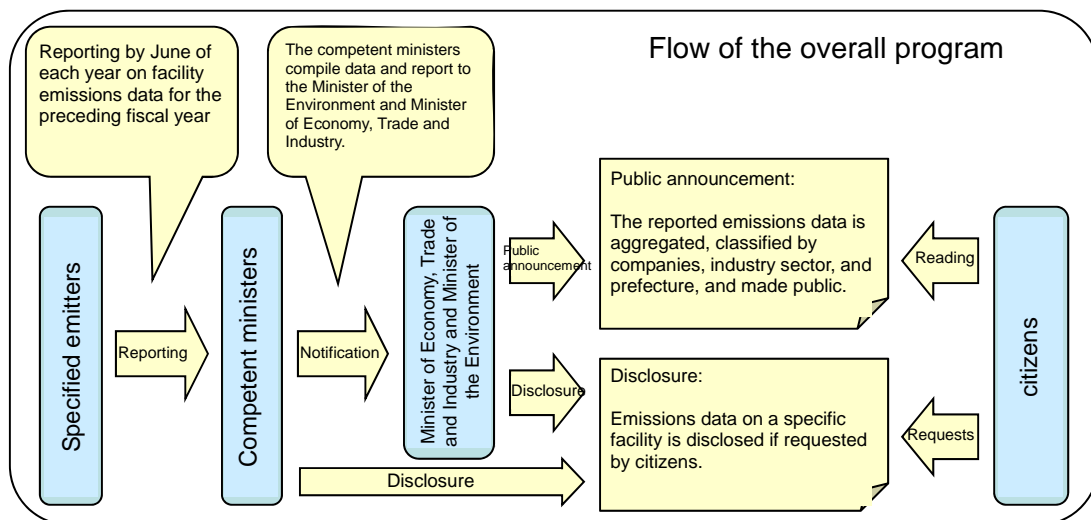
# 1. Summary of the program

## (1) Background

After the Kyoto Protocol was adopted at the Third Session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP3), which was held in Kyoto in 1997, Japan took a first step in addressing global warming in 1998 by enacting and promulgating the Law Concerning the Promotion of Measures to Cope with Global Warming (referred to below as the Global Warming Countermeasures Act) as a framework for integrated efforts to combat global warming on the part of national and local government organizations, companies, and the citizens.

The Global Warming Countermeasures Act was revised in 2005, the year when the Kyoto Protocol came into effect; and the Greenhouse Gas Accounting, Reporting, and Mandatory Greenhouse Gas Accounting and Reporting System was introduced, requiring entities that emit considerably large amounts of greenhouse gases to calculate their greenhouse gas emissions and report the results to the government, which compiles the reported data and announces the results. The aims of this program are that greenhouse gas emitters, by calculating their emissions themselves, will become aware of their own emissions situations and take steps to establish a basis for voluntary actions; and that by the presentation of emissions data in a clearly understandable format, the citizens and companies in general will be encouraged and motivated to take voluntary actions.

## (2) Program summary



Mandatory Greenhouse Gas Accounting and Reporting System was implemented in April 2006, based on the Global Warming Countermeasures Act which was revised in 2005 as stated above. The program is summarized below.

- [1] Entities that emit considerably large amounts of greenhouse gases in connection with their business activities ("specified emitters," including national and local government organizations) are required to report to the competent minister each

fiscal year for each facility (or for each company, in the case of carriers) on matters including greenhouse gas emissions.

- [2] The competent ministers notify the Minister of the Environment and the Minister of Economy, Trade and Industry concerning the reported matters, compile the reported emissions data and classify it by company, by industry sector, and by prefecture, and again notify the Minister of the Environment and the Minister of Economy, Trade and Industry concerning the results.
- [3] The Minister of the Environment and the Minister of Economy, Trade and Industry record the matters reported by the competent ministers in electronic files, aggregate the results of compilations of emissions data by the competent ministers, and publicly announce this information.
- [4] Starting on the day of public announcement under part [3] above, the citizens may submit requests to the Minister of the Environment, the Minister of Economy, Trade and Industry, and the competent ministers for disclosure of the matters reported by each facility recorded in the files.
- [5] If a specified emitter considers that its competitive interests could be harmed by a public announcement of its emissions data, then the specified emitter may submit a request to the competent minister for nondisclosure of such emissions data in order to protect its rights and interests, including a statement of the reasons. If the competent minister finds the request to be justified, he shall provide the Minister of the Environment and the Minister of Economy, Trade and Industry with the total emissions figures, including such emissions and emissions of other gases, for suitable protection of the specified emitter's rights and interests.
- [6] To contribute to a better understanding of the announced or disclosed data, a specified emitter may submit information concerning increases or declines in its reported emissions or other relevant information (referred to below as "related information") along with its reported emissions data. The Minister of the Environment and the Minister of Economy, Trade and Industry record this information in electronic files, and publicly announce related information concerning individual companies, or disclose related information concerning individual facilities upon request.
- [7] Reporting on carbon dioxide emissions in regular reports pursuant to the Law Concerning the Rational Use of Energy (also known as the Energy Conservation Act) is considered to constitute reporting of data concerning the amount of carbon dioxide emitted in connection with the use of energy as required under the Global Warming Countermeasures Act.

### **(3) Greenhouse gases and specified emitters subject to reporting**

The greenhouse gases subject to reporting are the six types specified in the Kyoto Protocol: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulfur hexafluoride (SF<sub>6</sub>). The entities subject to reporting under this program are all companies which emit

considerably large amounts of greenhouse gases, regardless of their type of business. Specifically, the program covers the types of companies indicated in Table 1-1.

Among specified emitters, those companies which report on greenhouse gas emissions separately for each of their facilities are called "specified facility emitters." These emitters submit emissions data for each covered facility and for each greenhouse gas. Meanwhile, the term "specified transportation emitters" refers collectively to specified freight carriers, specified passenger carriers, specified air carriers, and specified consigners under the Energy Conservation Act. These emitters submit energy-derived carbon dioxide emissions data for the transport sector of each company.

Table 1-1. Specified emitters subject to reporting under this program

Specified facility emitters:

Type of greenhouse gas	Reporting entity (specified emitter)
<p>Energy-derived carbon dioxide: Carbon dioxide emitted in connection with fuel combustion or the use of electricity or heat supplied by another party.</p>	<p>Parties establishing factories or workplaces specified as follows in the Energy Conservation Act:</p> <ul style="list-style-type: none"> <li>• Type 1 Designated Energy Management Factory1</li> <li>• Type 2 Designated Energy Management Factory2</li> </ul> <p>(Reporting per facility)</p>
<p>Non-energy derived carbon dioxide (CO<sub>2</sub>): Carbon dioxide other than the above; includes carbon dioxide emitted in connection with crude oil production, cement manufacturing, waste incineration, etc.</p> <p>Methane (CH<sub>4</sub>): Agriculture, fuel combustion, land-filling of waste, etc.</p> <p>Nitrous oxide (N<sub>2</sub>O): Agriculture, fuel combustion, waste incineration, etc.</p> <p>Hydrofluorocarbons (HFC): HCFC-22 manufacturing, coolant HFC encapsulation, etc.</p> <p>Perfluorocarbons (PFC): Semiconductor manufacturing, detergents, solvents, etc.</p> <p>Sulfur hexafluoride (SF<sub>6</sub>): Electric insulating gas, semiconductor manufacturing, metal production, etc.</p>	<p>Parties meeting both conditions below:</p> <p>[1] Parties establishing facilities which engage in business activities subject to calculation, whose emissions of each type of greenhouse gas have a carbon dioxide equivalent of at least 3,000 tons.</p> <p>[2] Parties having at least 21 full-time employees in their overall business.</p> <p>(Reporting per facility)</p> <p>Note: Reporting is not required for facilities which do not meet these conditions, nor for greenhouse gases which are not covered.</p>

Specified transportation emitters:

Type of greenhouse gas	Reporting entity (specified emitter)
Energy-derived carbon dioxide: Carbon dioxide emitted in connection with fuel combustion or the use of electricity or heat supplied by another party.	companies specified as follows in the Energy Conservation Act: <ul style="list-style-type: none"> <li>• Specified freight carriers<sup>3</sup></li> <li>• Specified passenger carriers<sup>4</sup></li> <li>• Specified air carriers<sup>5</sup></li> <li>• Specified consigners<sup>6</sup></li> </ul> (Reporting per company)

Notes:

- 1 Factories and workplaces whose annual energy consumption has a crude oil equivalent of at least 3,000 kiloliters.
- 2 Factories and workplaces whose annual energy consumption has a crude oil equivalent of at least 1,500 kiloliters.
- 3 Companies having freight transport capacity of any of the following: at least 300 railroad cars, at least 200 vehicles (such as trucks), or ships having aggregate tonnage of at least 20,000 tons.
- 4 Companies having passenger transport capacity of any of the following: at least 300 railroad cars, at least 200 buses, at least 350 taxis, or ships having aggregate tonnage of at least 20,000 tons.
- 5 Companies having air transport capacity with total maximum takeoff weight of at least 9,000 tons.
- 6 Companies whose annual shipping of freight in connection with their own business activities is a total of at least 30 million ton-kilometers, whether they consign shipping to others or perform shipping themselves.

**(4) Time period subject to calculation**

In general, this is the one-year period of the fiscal year prior to the fiscal year in which the report is submitted. However, for hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, this period is the preceding calendar year.

**(5) Method of calculation of greenhouse gas emissions in connection with business activities of a specified emitter**

This is calculated by totaling the amounts obtained by the method of calculation specified by government ordinance for each type of greenhouse gas with regard to the covered emissions generating activities. However, in cases where it is possible to determine emissions by another suitable method such as actual measurement of emissions, it is permissible to use different calculation methods or coefficients in the reporting of emissions than the calculation methods or coefficients specified in government ordinances.

**(6) Reporting deadline and report destination**

Specified emitters must submit emissions reports by June 30 of each fiscal year. The report is submitted to the competent minister (or local branch office, etc.) having jurisdiction over the business conducted by the specified emitter or facility in question.

**(7) Content of report, etc.**

Specified emitters must report on the following information.

- [1] Information concerning the specified emitter or facility in question (name, address, business details, etc.)
- [2] Information concerning emissions of each type of greenhouse gas

**(8) Related information**

In addition to the content of item (7) above, if desired by a specified emitter, the following related information may also be provided along with the report. A specified emitter may submit related information concerning either the specified emitter overall (data per company), its facilities only (data per facility), or both.

- [1] Information on changes in reported emissions  

Examples: Increases or decreases in emissions, reasons, and the emitter's own evaluation of the change.
- [2] Information on changes in greenhouse gas discharge rates  

Examples: Increases or decreases in discharge rates concerning determined emissions.
- [3] Information on measures taken regarding the reduction of greenhouse gas emissions  

Examples: Energy-saving steps taken by an individual facility or company; contributing to the reduction of emissions by other parties through manufactured products; or measures by multiple facilities.
- [4] Information on methods used to calculate greenhouse gas emissions  

Example: Details of calculation methods.
- [5] Other information  

Example: Kyoto mechanisms credit acquisition

**(9) Public announcement and disclosure**

The Minister of the Environment and Minister of Economy, Trade and Industry compile the data received from the competent ministers, classifying it by company, by industry sector, and by prefecture, and publicly announce the results, along with related information concerning specified emitters overall. In addition, upon request, the Minister of the Environment, Minister of Economy, Trade and Industry, and competent ministers disclose information concerning a specified emitter (facility), the facility's



emissions volumes by type of greenhouse gas, and related information concerning the facility.

## 2. Reporting on FY 2007 emissions

Of the number of facilities/companies which submitted reports on FY 2007 emissions during the period from April 1 through June 30, 2008, specified facility emitters totaled 14,841 facilities (7,813 companies), and specified transportation emitters totaled 1,447 companies. Meanwhile, of the number of facilities/companies which submitted reports on FY 2006 emissions, specified facility emitters totaled 14,227 facilities (7,505 companies), and specified transportation emitters totaled 1,439 companies.

### (1) Reporting situation by type of greenhouse gas

Concerning the types of greenhouse gases reported by specified facility emitters, the highest number of reports concerned energy-derived carbon dioxide (14,472 reports, 97.5%). Next was non-energy derived carbon dioxide (681 reports, 4.6%), followed by nitrous oxide (301 reports, 2.0%), non-energy derived carbon dioxide from the use of waste as raw material and fuel (183 reports, 1.2%), sulfur hexafluoride (113 reports, 0.8%), perfluorocarbons (102 reports, 0.7%), methane (83 reports, 0.6%), and hydrofluorocarbons (43 reports, 0.3%). All of the reports from specified transportation emitters concerned energy-derived carbon dioxide only. (Table 2-1)

Table 2-1. Number of companies reporting each type of greenhouse gas

Type of greenhouse gas	Specified facility emitters		Specified transportation emitters				
	Number of facilities	Number of companies	Total	Specified freight carriers	Specified passenger carriers	Specified air carriers	Specified consigners
1. Energy-derived CO <sub>2</sub>	14,472 (97.5%) [13,941]	7,637 [7,366]	1,447 [1,439]	440 [444]	169 [171]	2 [2]	859 [846]
2. Non-energy derived CO <sub>2</sub>	681 (4.6%) [607]	484 [425]					
3. Non-energy derived CO <sub>2</sub> from waste as raw material and fuel 1	183 (1.2%) [175]	118 [117]					
4. Methane (CH <sub>4</sub> )	83 (0.6%) [54]	50 [36]					
5. Nitrous oxide (N <sub>2</sub> O)	301 (2.0%) [283]	157 [139]					
6. Hydrofluorocarbons (HFC)	43 (0.3%) [41]	32 [31]					
7. Perfluorocarbons (PFC)	102 (0.7%) [100]	68 [68]					
8. Sulfur hexafluoride (SF <sub>6</sub> )	113 (0.8%) [117]	82 [91]					
9. Energy-derived CO <sub>2</sub> before allocation to power plants, etc. 2	337 (2.3%) [324]	165 [155]					
Total	14,841 (100.0%) [14,227]	7,813 [7,505]	1,447 [1,439]	440 [444]	169 [171]	2 [2]	859 [846]

Notes:

- 1 Non-energy derived carbon dioxide emissions due to the use of waste materials as fuel in place of fossil fuels, or as raw materials for manufacturing products.
- 2 Energy-derived carbon dioxide emissions due to the use of fuel, including emissions related to electricity or heat supplied from another party in the case of businesses that have established power plants for the electric power industry or heat supply facilities for use in heating services.
- 3 The stated totals are not net totals, because some facilities/companies reported on multiple types of greenhouse gases.
- 4 Figures in brackets on the lower rows are the numbers of facilities/companies which reported emissions for FY 2006.

**(2) Reporting situation by industry sector**

[1] Specified facility emitters

By type of industry sector (major industrial categories), the highest number of reports were submitted from facilities in the manufacturing industry (9,140 reports, 61.6%), accounting for about six-tenths of the total number of reporting facilities. Next were the wholesale and retail trade (1,041 reports, 7.0%), the electricity, gas, heat supply, and water and sewer services (907 reports, 6.1%), and real estate and goods rental and leasing (609 reports, 4.1%), in that order. Within the manufacturing industry, the intermediate subcategory accounting for the highest number of reports was the manufacture of chemical and allied products (1,141 reports, 7.7%), followed by the manufacture of food (1,106 reports, 7.5%), manufacture of transportation equipment (998 reports, 6.7%), manufacture of plastic products (690 reports, 4.6%), and Electronic parts, devices, and electronic circuits (687 reports, 4.6%). (Table 2-2)

Table 2-2. Number of facilities reporting, by industry sector: Specified facility emitters

(Unit: Number of facilities)

Industry sector		Energy-derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub> from waste as raw material and fuel	CH <sub>4</sub>	N <sub>2</sub> O	HFC	PFC	SF <sub>6</sub>	Energy-derived CO <sub>2</sub> before allocation to power plants, etc.	Total
Major category	Intermediate subcategory										
Total		14,472 (97.5%)	681 (4.6%)	183 (1.2%)	83 (0.6%)	301 (2.0%)	43 (0.3%)	102 (0.7%)	113 (0.8%)	337 (2.3%)	14,841 (100.0%)
A	Agriculture and forestry	32			18						50 (0.3%)
1	Agriculture	32			18						50 (0.3%)
C	Mining and quarrying of stone and gravel	62	6	2	7						64 (0.4%)
5	Mining and quarrying of stone and gravel	62	6	2	7						64 (0.4%)
D	Construction	15									15 (0.1%)
6	Construction work, general including public and private construction work	15									15 (0.1%)
E	Manufacturing	9,117	238	173	33	103	43	102	107	0	9,140 (61.6%)
9	Manufacture of food	1,106	1								1,106 (7.5%)
10	Manufacture of beverages, tobacco and feed	314				1					314 (2.1%)
11	Manufacture of textile mill products	336	1	1		2		1			336 (2.3%)
12	Manufacture of lumber and wood products, except furniture	58	1			2					58 (0.4%)
13	Manufacture of furniture and fixtures	30									30 (0.2%)
14	Manufacture of pulp, paper and paper products	387	14	37	10	34			1		388 (2.6%)
15	Printing and allied industries	213	1	4					1		213 (1.4%)

Industry sector		Energy-derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub> from waste as raw material and fuel	CH <sub>4</sub>	N <sub>2</sub> O	HFC	PFC	SF <sub>6</sub>	Energy-derived CO <sub>2</sub> before allocation to power plants, etc.	Total		
Major category	Intermediate subcategory												
	16	Manufacture of chemical and allied products	1,136	73	41	2	16	19	6	2		1,141	(7.7%)
	17	Manufacture of petroleum and coal products	120		3	1	23					120	(0.8%)
	18	Manufacture of plastic products, except otherwise classified	690	1	2			1	1	2		690	(4.6%)
	19	Manufacture of rubber products	131		6		1			1		138	(0.9%)
	20	Manufacture of leather tanning, leather products and fur skins	3									3	(0.0%)
	21	Manufacture of ceramic, stone and clay products	558	92	44	5	10					559	(3.8%)
	22	Manufacture of iron and steel	476	44	17	14	11					477	(3.2%)
	23	Manufacture of non-ferrous metals and products	365	7	14		1		1	6		368	(2.5%)
	24	Manufacture of fabricated metal products	427							2		428	(2.9%)
	25	Manufacture of general-purpose machinery	190					2	3			190	(1.3%)
	26	Manufacture of production machinery	210							1		210	(1.4%)
	27	Manufacture of business oriented machinery	117						1			117	(0.8%)
	28	Electronic parts, devices, and electronic circuits	685	2		1	2	16	77	63		687	(4.6%)

Industry sector		Energy-derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub> from waste as raw material and fuel	CH <sub>4</sub>	N <sub>2</sub> O	HFC	PFC	SF <sub>6</sub>	Energy-derived CO <sub>2</sub> before allocation to power plants, etc.	Total		
Major category	Intermediate subcategory												
	29	Manufacture of electrical machinery, equipment and supplies	335		1			2	6	17	337	(2.3%)	
	30	Manufacture of information and communication electronics equipment	133						2	1	133	(0.9%)	
	31	Manufacture of transportation equipment	998	1	3			3	3	8	998	(6.7%)	
	32	Miscellaneous manufacturing industries	99						1	2	99	(0.7%)	
F	Electricity, gas, heat supply and water		885	2	2	21	165			4	337	907	(6.1%)
	33	Production, transmission and distribution of electricity	230		2		34			4	206	233	(1.6%)
	34	Production and distribution of gas	43	1		3						43	(0.3%)
	35	Heat supply	126				1				131	144	(1.0%)
	36	Collection, purification and distribution of water, and sewage collection, processing and disposal	486	1		18	130					487	(3.3%)
G	Information and communications		410									410	(2.8%)
	37	Communications	241									241	(1.6%)
	38	Broadcasting	27									27	(0.2%)
	39	Information services	95									95	(0.6%)
	40	Internet based services	14									14	(0.1%)

Industry sector		Energy-derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub> from waste as raw material and fuel	CH <sub>4</sub>	N <sub>2</sub> O	HFC	PFC	SF <sub>6</sub>	Energy-derived CO <sub>2</sub> before allocation to power plants, etc.	Total
Major category	Intermediate subcategory										
	41	Video picture, sound information, and character information production and distribution	33								33 (0.2%)
H	Transport and postal activities		114								114 (0.8%)
	42	Railway transport	4								4 (0.0%)
	44	Road freight transport	4								4 (0.0%)
	46	Air transport	10								10 (0.1%)
	47	Warehousing	52								52 (0.4%)
	48	Services incidental to transport	40								40 (0.3%)
	49	Postal activities, including mail delivery	4								4 (0.0%)
I	Wholesale and retail trade		1,041	1		1					1,041 (7.0%)
	50	Wholesale trade, general merchandise	8								8 (0.1%)
	52	Wholesale trade (food and beverages)	3								3 (0.0%)
	53	Wholesale trade (building materials, minerals and metals, etc.)	2								2 (0.0%)
	54	Wholesale trade (machinery and equipment)	5								5 (0.0%)
	55	Miscellaneous wholesale trade	4								4 (0.0%)
	56	Retail trade, general merchandise	1,009			1					1,009 (6.8%)
	57	Retail trade (dry goods, apparel and apparel accessories)	1								1 (0.0%)
	58	Retail trade (food and beverages)	3	1							3 (0.0%)

Industry sector		Energy-derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub> from waste as raw material and fuel	CH <sub>4</sub>	N <sub>2</sub> O	HFC	PFC	SF <sub>6</sub>	Energy-derived CO <sub>2</sub> before allocation to power plants, etc.	Total	
Major category	Intermediate subcategory											
	60	Miscellaneous retail trade	6								6	(0.0%)
J	Finance and insurance		141								141	(1.0%)
	62	Banking	68								68	(0.5%)
	63	Financial institutions for cooperative organizations	6								6	(0.0%)
	64	Non-deposit money corporations, including lending and credit card business	8								8	(0.1%)
	65	Financial products transaction dealers and futures commodity transaction dealers	9								9	(0.1%)
	66	Financial auxiliaries	1								1	(0.0%)
	67	Insurance institutions including insurance agents, brokers and services	49								49	(0.3%)
K	Real estate and goods rental and leasing		609								609	(4.1%)
	69	Real estate lessors and managers	609								609	(4.1%)
L	Scientific research, professional and technical services		105						1		105	(0.7%)
	71	Scientific and development research institutes	84						1		84	(0.6%)
	72	Professional services, N.E.C.	6								6	(0.0%)
	73	Advertising	1								1	(0.0%)
	74	Technical services, N.E.C.	14								14	(0.1%)
M	Accommodations, eating and drinking services		327								327	(2.2%)

Industry sector		Energy-derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub> from waste as raw material and fuel	CH <sub>4</sub>	N <sub>2</sub> O	HFC	PFC	SF <sub>6</sub>	Energy-derived CO <sub>2</sub> before allocation to power plants, etc.	Total
Major category	Intermediate subcategory										
	75 Accommodations	326									326 (2.2%)
	76 Eating and drinking places	1									1 (0.0%)
N	Living-related and personal services and amusement services	134									134 (0.9%)
	78 Laundry, beauty and bath services	44									44 (0.3%)
	79 Miscellaneous living-related and personal services	2									2 (0.0%)
	80 Services for amusement and hobbies	88									88 (0.6%)
O	Education, learning support	370							1		370 (2.5%)
	81 School education	336							1		336 (2.3%)
	82 Miscellaneous education, learning support	34									34 (0.2%)
P	Medical, health care and welfare	594									594 (4.0%)
	83 Medical and other health services	588									588 (4.0%)
	84 Public health and hygiene	1									1 (0.0%)
	85 Social insurance and social welfare	5									5 (0.0%)
Q	Compound services	10									10 (0.1%)
	86 Postal activities	8									8 (0.1%)
	87 Cooperative associations, N.E.C.	2									2 (0.0%)
R	Services, N.E.C.	303	434	6	4	32					607 (4.1%)
	88 Waste disposal business	252	434	6	4	32					556 (3.7%)



Industry sector		Energy-derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub> from waste as raw material and fuel	CH <sub>4</sub>	N <sub>2</sub> O	HFC	PFC	SF <sub>6</sub>	Energy-derived CO <sub>2</sub> before allocation to power plants, etc.	Total
Major category	Intermediate subcategory										
	90	Machine, etc. repair services, except otherwise classified	1								1 (0.0%)
	92	Miscellaneous business services	13								13 (0.1%)
	93	Political, business and cultural organizations	3								3 (0.0%)
	94	Religion	5								5 (0.0%)
	95	Miscellaneous services	29								29 (0.2%)
S	Government, except elsewhere classified		195								195 (1.3%)
	97	National government services	133								133 (0.9%)
	98	Local government services	62								62 (0.4%)
T	Industries unable to classify		8								8 (0.1%)
	99	Industries unable to classify	8								8 (0.1%)

Note: The stated totals are not net totals, because some facilities reported on multiple types of greenhouse gases.

[2] Specified transportation emitters

Among specified freight carriers, the highest number of reports were submitted by companies whose main area of business was transport services (341 reports, 77.5%), followed by the wholesale and retail trade (58 reports, 13.2%) and manufacturing (18 reports, 4.1%).

Among specified passenger carriers and specified air carriers, reports were submitted only by companies whose main area of business was transport services.

Among specified consigners, the highest number of reports were submitted by companies whose main area of business was manufacturing (665 reports, 77.4%), followed by the wholesale and retail trade (135 reports, 15.7%) and the electricity, gas, heat supply, and water and sewer services (18 reports, 2.1%). (Table 2-3)

Table 2-3. Number of companies reporting, by industry sector: Specified transportation emitters

(Unit: Number of companies)

Industry sector		Specified freight carriers	Specified passenger carriers	Specified air carriers	Specified consigners	Total	
Major category	Intermediate subcategory						
Total		440 [100.0%] (30.6%)	169 [100.0%] (11.7%)	2 [100.0%] (0.1%)	859 [100.0%] (59.7%)	1,439 [100.0%] (100.0%)	
C	Mining and quarrying of stone and gravel	1 [0.2%]			12 [1.4%]	13 [0.9%]	
	5 Mining and quarrying of stone and gravel	1 [0.2%]			12 [1.4%]	13 [0.9%]	
D	Construction				10 [1.2%]	10 [0.7%]	
	6 Construction work, general including public and private construction work				9 [1.0%]	9 [0.6%]	
	7 Construction work by specialist contractor, except equipment installation work				1 [0.1%]	1 [0.1%]	
E	Manufacturing	18 [4.1%]			665 [77.4%]	683 [47.5%]	
	9 Manufacture of food	9 [2.0%]			84 [9.8%]	93 [6.5%]	
	10 Manufacture of beverages, tobacco and feed	6 [1.4%]			48 [5.6%]	54 [3.8%]	
	11 Manufacture of textile mill products				7 [0.8%]	7 [0.5%]	
	12 Manufacture of lumber and wood products, except furniture				12 [1.4%]	12 [0.8%]	
	13 Manufacture of furniture and fixtures				5 [0.6%]	5 [0.3%]	

Industry sector		Specified freight carriers	Specified passenger carriers	Specified air carriers	Specified consigners	Total			
Major category	Intermediate subcategory								
	14	Manufacture of pulp, paper and paper products				39	[4.5%]	39	[2.7%]
	15	Printing and allied industries				7	[0.8%]	7	[0.5%]
	16	Manufacture of chemical and allied products				123	[14.3%]	123	[8.5%]
	17	Manufacture of petroleum and coal products				14	[1.6%]	14	[1.0%]
	18	Manufacture of plastic products, except otherwise classified				29	[3.4%]	29	[2.0%]
	19	Manufacture of rubber products				5	[0.6%]	5	[0.3%]
	21	Manufacture of ceramic, stone and clay products				66	[7.7%]	66	[4.6%]
	22	Manufacture of iron and steel				68	[7.9%]	68	[4.7%]
	23	Manufacture of non-ferrous metals and products				24	[2.8%]	24	[1.7%]
	24	Manufacture of fabricated metal products	1	[0.2%]		16	[1.9%]	17	[1.2%]
	25	Manufacture of general-purpose machinery				8	[0.9%]	8	[0.6%]
	26	Manufacture of production machinery	2	[0.5%]		10	[1.2%]	12	[0.8%]
	27	Manufacture of business oriented machinery				8	[0.9%]	8	[0.6%]
	28	Electronic parts, devices, and electronic circuits				1	[0.1%]	1	[0.1%]

Industry sector		Specified freight carriers	Specified passenger carriers	Specified air carriers	Specified consigners	Total				
Major category	Intermediate subcategory									
	29	Manufacture of electrical machinery, equipment and supplies				22	[2.6%]	22	[1.5%]	
	30	Manufacture of information and communication electronics equipment				4	[0.5%]	4	[0.3%]	
	31	Manufacture of transportation equipment				57	[6.6%]	57	[4.0%]	
	32	Miscellaneous manufacturing industries				8	[0.9%]	8	[0.6%]	
F	Electricity, gas, heat supply and water		1	[0.2%]		18	[2.1%]	19	[1.3%]	
	33	Production, transmission and distribution of electricity				16	[1.9%]	16	[1.1%]	
	34	Production and distribution of gas				2	[0.2%]	2	[0.1%]	
	36	Collection, purification and distribution of water, and sewage collection, processing and disposal	1	[0.2%]				1	[0.1%]	
G	Information and communications					1	[0.1%]	1	[0.1%]	
	41	Video picture, sound information, and character information production and distribution				1	[0.1%]	1	[0.1%]	
H	Transport and postal activities		341	[77.5%]	177	[104.7%]	2	[100.0%]	523	[36.3%]
	42	Railway transport	1	[0.2%]	26	[15.4%]			27	[1.9%]

Industry sector		Specified freight carriers	Specified passenger carriers	Specified air carriers	Specified consigners	Total	
Major category	Intermediate subcategory						
	43	Road passenger transport		137 [81.1%]			137 [9.5%]
	44	Road freight transport	306 [69.5%]		1 [0.1%]		307 [21.3%]
	45	Water transport	33 [7.5%]	14 [8.3%]		1 [0.1%]	48 [3.3%]
	46	Air transport			2 [100.0%]		2 [0.1%]
	48	Services incidental to transport	1 [0.2%]			1 [0.1%]	2 [0.1%]
I	Wholesale and retail trade		58 [13.2%]			135 [15.7%]	193 [13.4%]
	50	Wholesale trade, general merchandise	2 [0.5%]			23 [2.7%]	25 [1.7%]
	51	Wholesale trade (textiles and apparel)	1 [0.2%]				1 [0.1%]
	52	Wholesale trade (food and beverages)	20 [4.5%]			26 [3.0%]	46 [3.2%]
	53	Wholesale trade (building materials, minerals and metals, etc.)	2 [0.5%]			40 [4.7%]	42 [2.9%]
	54	Wholesale trade (machinery and equipment)	7 [1.6%]			3 [0.3%]	10 [0.7%]
	55	Miscellaneous wholesale trade	8 [1.8%]			14 [1.6%]	22 [1.5%]
	56	Retail trade, general merchandise	4 [0.9%]			15 [1.7%]	19 [1.3%]
	57	Retail trade (dry goods, apparel and apparel accessories)	2 [0.5%]			2 [0.2%]	4 [0.3%]
	58	Retail trade (food and beverages)	8 [1.8%]			3 [0.3%]	11 [0.8%]
	59	Retail trade (machinery and equipment)	1 [0.2%]			1 [0.1%]	2 [0.1%]

Industry sector			Specified freight carriers	Specified passenger carriers	Specified air carriers	Specified consigners	Total		
Major category	Intermediate subcategory								
	60	Miscellaneous retail trade	2	[0.5%]		7	[0.8%]	9	[0.6%]
	61	Nonstore retailers	1	[0.2%]		1	[0.1%]	2	[0.1%]
K	Real estate and goods rental and leasing		2	[0.5%]		1	[0.1%]	3	[0.2%]
	70	Goods rental and leasing	2	[0.5%]		1	[0.1%]	3	[0.2%]
M	Accommodations, eating and drinking services					2	[0.2%]	2	[0.1%]
	76	Eating and drinking places				2	[0.2%]	2	[0.1%]
N	Living-related and personal services and amusement services		4	[0.9%]				4	[0.3%]
	78	Laundry, beauty and bath services	3	[0.7%]				3	[0.2%]
	79	Miscellaneous living-related and personal services	1	[0.2%]				1	[0.1%]
O	Education, learning support					1	[0.1%]	1	[0.1%]
	82	Miscellaneous education, learning support				1	[0.1%]	1	[0.1%]
Q	Compound services		12	[2.7%]		4	[0.5%]	16	[1.1%]
	87	Cooperative associations, N.E.C.	12	[2.7%]		4	[0.5%]	16	[1.1%]
R	Services, N.E.C.		4	[0.9%]		6	[0.7%]	10	[0.7%]
	88	Waste disposal business	2	[0.5%]		2	[0.2%]	4	[0.3%]
	92	Miscellaneous business services	2	[0.5%]		2	[0.2%]	4	[0.3%]
	95	Miscellaneous services				2	[0.2%]	2	[0.1%]
S	Government, except elsewhere classified		2	[0.5%]		1	[0.1%]	3	[0.2%]

Industry sector		Specified freight carriers	Specified passenger carriers	Specified air carriers	Specified consigners	Total
Major category	Intermediate subcategory					
	97	National government services			1 [0.1%]	1 [0.1%]
	98	Local government services	2 [0.5%]			2 [0.1%]

Notes:

1. Specified transportation emitters report on energy-derived carbon dioxide emissions only.
2. The stated totals are not net totals, because some companies reported on multiple transportation categories.



**(3) Reporting situation by prefecture (specified facility emitters only)**

The prefectures having the highest numbers of reporting facilities were, in descending order, Tokyo (1,271 reports, 8.6%), Aichi Prefecture (1,125 reports, 7.6%), Osaka (886 reports, 6.0%), Kanagawa Prefecture (862 reports, 5.8%), Hyogo Prefecture (704 reports, 4.7%), Shizuoka Prefecture (678 reports, 4.6%), Chiba Prefecture (659 reports, 4.4%), Saitama Prefecture (602 reports, 4.1%), Ibaraki Prefecture (545 reports, 3.7%), and Hokkaido (489 reports, 3.3%). More than half of all reporting facilities were located in these ten prefectures. (Table 2-4)

Table 2-4. Number of facilities reporting, by prefecture: Specified facility emitters

(Unit: Number of facilities)

Prefecture		Energy-derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub> from waste as raw material and fuel	CH <sub>4</sub>	N <sub>2</sub> O	HFC	PFC	SF <sub>6</sub>	Energy-derived CO <sub>2</sub> before allocation to power plants, etc.	Total
Total		14,472 (97.5%)	681 (4.6%)	183 (1.2%)	83 (0.6%)	301 (2.0%)	43 (0.3%)	102 (0.7%)	113 (0.8%)	337 (2.3%)	14,841 (100.0%)
1	Hokkaido	456	28	10	9	15				29	489 (3.3%)
2	Aomori Prefecture	108	14	4		3		1	1	3	118 (0.8%)
3	Iwate Prefecture	144	11	2	2		1	3	3	2	154 (1.0%)
4	Miyagi Prefecture	213	13	4	1	5	2	3	3	2	224 (1.5%)
5	Akita Prefecture	116	9	1		5			2	3	122 (0.8%)
6	Yamagata Prefecture	141	12			1		4	3	2	151 (1.0%)
7	Fukushima Prefecture	291	23	7		7	1	5	3	7	309 (2.1%)
8	Ibaraki Prefecture	536	17	11	2	12	5	5	6	14	545 (3.7%)
9	Tochigi Prefecture	319	18	6	1	4	2	2	4		331 (2.2%)
10	Gunma Prefecture	318	13	3			2	3	3	2	328 (2.2%)
11	Saitama Prefecture	585	31	8	3	8	1	5	4	2	602 (4.1%)
12	Chiba Prefecture	647	37	10	4	14	4	3	7	21	659 (4.4%)
13	Tokyo	1,249	39	2	5	23		1	2	68	1,271 (8.6%)
14	Kanagawa Prefecture	840	32	8	3	25	2	4	2	17	862 (5.8%)
15	Niigata Prefecture	259	24	2	7	4	1	2	3	10	273 (1.8%)
16	Toyama Prefecture	193	5	1	1	4	2	3	2	2	194 (1.3%)
17	Ishikawa Prefecture	160	3	2		2		2		2	163 (1.1%)
18	Fukui Prefecture	135	5	2		1	1			2	137 (0.9%)
19	Yamanashi Prefecture	109				1	1	1	4		109 (0.7%)
20	Nagano Prefecture	272	5	4		4	1	4	3	1	277 (1.9%)
21	Gifu Prefecture	310	14	5	1	4		1	2		313 (2.1%)
22	Shizuoka Prefecture	669	18	8	2	7	3	3	4	4	678 (4.6%)

Prefecture	Energy-derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub> from waste as raw material and fuel	CH <sub>4</sub>	N <sub>2</sub> O	HFC	PFC	SF <sub>6</sub>	Energy-derived CO <sub>2</sub> before allocation to power plants, etc.	Total
23 Aichi Prefecture	1,099	43	8	4	16		5	8	18	1,125 (7.6%)
24 Mie Prefecture	347	14	5	1	3	1	4	5	5	352 (2.4%)
25 Shiga Prefecture	304	10	1		2	1	2	1	1	307 (2.1%)
26 Kyoto	244	9	1	1	4		2	2	2	250 (1.7%)
27 Osaka	867	37	2	3	27	3	1	1	14	886 (6.0%)
28 Hyogo Prefecture	694	27	9	1	16	2	4	6	14	704 (4.7%)
29 Nara Prefecture	97	2			1		1	1	1	97 (0.7%)
30 Wakayama Prefecture	82	3	1	1	2				3	82 (0.6%)
31 Tottori Prefecture	54	1	1		1			1		55 (0.4%)
32 Shimane Prefecture	72	3		1	2				4	74 (0.5%)
33 Okayama Prefecture	292	25	13	2	9		3	1	3	296 (2.0%)
34 Hiroshima Prefecture	311	16	4	4	12	3	2	2	5	318 (2.1%)
35 Yamaguchi Prefecture	217	24	9	4	13	1	1	1	10	222 (1.5%)
36 Tokushima Prefecture	93	4	1		2		1		3	94 (0.6%)
37 Kagawa Prefecture	125	7	1	1	1			1	1	129 (0.9%)
38 Ehime Prefecture	165	10	3	3	7		1	1	4	170 (1.1%)
39 Kochi Prefecture	52	9	2	1	2		1	2	1	54 (0.4%)
40 Fukuoka Prefecture	470	38	14	5	11		4	2	14	488 (3.3%)
41 Saga Prefecture	113	1			1					113 (0.8%)
42 Nagasaki Prefecture	85	2			3		2	2	9	86 (0.6%)
43 Kumamoto Prefecture	175	3	2	1	4		5	5	2	176 (1.2%)
44 Oita Prefecture	126	11	5	4	5	1	2	2	4	129 (0.9%)
45 Miyazaki Prefecture	102	2	1	4	5	2	4	3	3	105 (0.7%)
46 Kagoshima Prefecture	121	4					2	5	11	123 (0.8%)
47 Okinawa Prefecture	95	5		1	3				12	97 (0.7%)

Note: The stated totals are not net totals, because some facilities reported on multiple types of greenhouse gases.

#### (4) Provision of related information

There were 371 cases (85 cases of information regarding companies and 286 cases of information regarding facilities) of the voluntary reporting of related information submitted by specified emitters along with their emissions reports (Table 2-5).

Table 2-5. Provision of related information

Category	Information on companies	Information on facilities
Specified facility emitters (reporting per facility)	85	286
Specified transportation emitters (reporting per company)	0	
Specified freight carriers	0	
Specified passenger carriers	0	
Specified air carriers	0	
Specified consigners	0	
Total	85	286

#### (5) Approval of requests for protection of rights and interests

No requests were approved by the competent ministers this time.

### 3. Data compiled on FY 2007 emissions

#### (1) Emissions by type of greenhouse gas

Concerning the categories of specified emitters, emissions from facilities were 614.30 million tons CO<sub>2</sub>, or 94.4% of the total; while emissions from transportation companies were 36.11 million tons CO<sub>2</sub>, or 5.6% of the total.

Concerning the types of greenhouse gases, the highest amount reported was energy-derived carbon dioxide (565.37 million tons CO<sub>2</sub>, 86.9%), followed by non-energy derived carbon dioxide (60.77 million tons CO<sub>2</sub>, 9.3%), non-energy derived carbon dioxide from the use of waste as raw material and fuel (7.16 million tons CO<sub>2</sub>, 1.1%), nitrous oxide (6.16 million tons CO<sub>2</sub>, 0.9%), perfluorocarbons (5.48 million tons CO<sub>2</sub>), sulfur hexafluoride (3.87 million tons CO<sub>2</sub>), hydrofluorocarbons (1.07 million tons CO<sub>2</sub>), and methane (0.53 million tons CO<sub>2</sub>). (Table 3-1, Fig. 3-1, Fig. 3-2).

The FY 2007 emissions reported this time (total of 650.41 million tons CO<sub>2</sub>) account for 47% of the total 2007 emissions of Japan nationwide (inventory; preliminary figures: approximately 1,371.00 million tons CO<sub>2</sub>).

Table 3-1. Total reported emissions by type of greenhouse gas

Type of greenhouse gas		A = B + C		B	C = D + E + F	D	E	F	G
		Specified emitters (excluding specified consigners)		Specified establishment emitters	Total	Specified transportation emitters			
						Specified freight carriers	Specified passenger carriers	Specified air carriers	Specified consigners
1	Energy-derived CO <sub>2</sub>	565,368,827 [555,393,873]	(86.9%)	529,256,327 [519,310,715]	36,112,500 [36,083,158]	12,474,970 [12,807,061]	15,387,530 [14,746,097]	8,250,000 [8,530,000]	18,597,874 [19,274,037]
2	Non-energy derived CO <sub>2</sub>	60,774,546 [61,348,509]	(9.3%)	60,774,546 [61,348,509]					
3	Non-energy derived CO <sub>2</sub> from waste as raw material and fuel	7,158,731 [6,692,435]	(1.1%)	7,158,731 [6,692,435]					
4	Methane (CH <sub>4</sub> )	528,540 [375,590]	(0.1%)	528,540 [375,590]					
5	Nitrous oxide (N <sub>2</sub> O)	6,162,940 [6,210,684]	(0.9%)	6,162,940 [6,210,684]					
6	Hydrofluorocarbons (HFC)	1,067,948 [1,607,874]	(0.2%)	1,067,948 [1,607,874]					
7	Perfluorocarbons (PFC)	5,484,597 [6,421,731]	(0.8%)	5,484,597 [6,421,731]					
8	Sulfur hexafluoride (SF <sub>6</sub> )	3,867,153 [4,378,806]	(0.6%)	3,867,153 [4,378,806]					
1 - 8	Total	650,413,281 [642,429,503]	(100.0%)	614,300,782 (94.4%)	36,112,500 (5.6%)	12,474,970 (1.9%)	15,387,530 (2.4%)	8,250,000 (1.3%)	
9	Energy-derived CO <sub>2</sub> before allocation to power plants, etc.	441,018,130 [391,149,865]		441,018,130 [391,149,865]					

Notes:

1. Percentages indicate the proportion of total emissions by specified emitters.
2. The emissions of specified consigners and the energy-derived CO<sub>2</sub> emissions of specified facility emitters before allocation to power plants, etc. are also included in other emissions. Therefore, these values are not added to the total emissions.
3. Figures in brackets on the lower rows indicate the totals for FY 2006 emissions.

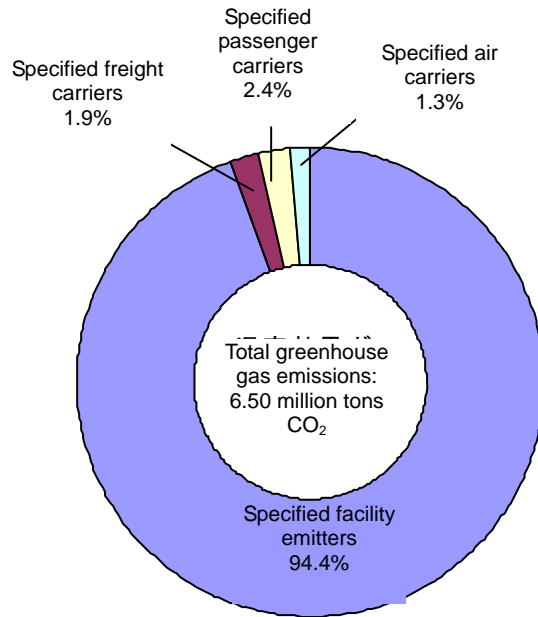


Fig. 3-1. Breakdown of emissions by type of specified emitter (excluding specified consigners)

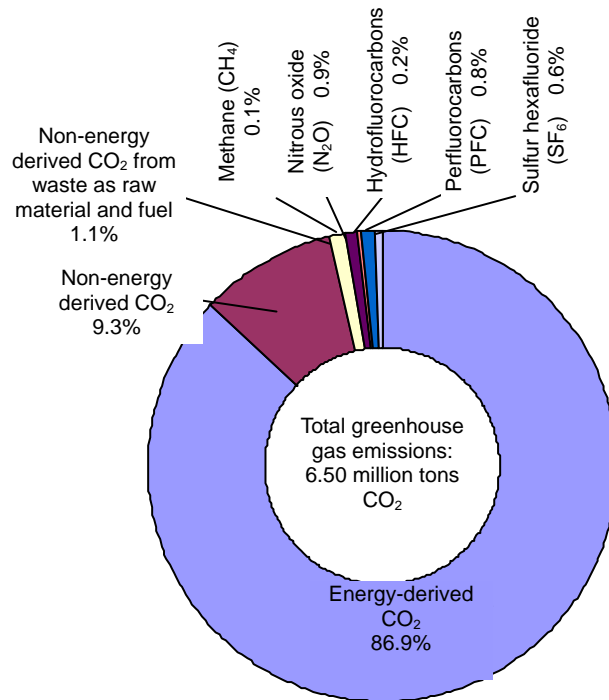


Fig. 3-2. Breakdown of emissions of specified emitters (excluding specified consigners) by type of greenhouse gas

## (2) Emissions by type of industry sector

### [1] Specified facility emitters

Concerning industry sector types, the highest emissions were from facilities whose main area of business is manufacturing (539.14 million tons CO<sub>2</sub>, 87.8%), representing approximately 90% of emissions from reporting facilities. Next were the electricity, gas, heat supply, and water and sewer services (30.93 million tons CO<sub>2</sub>, 5.0%), the service industry (15.45 million tons CO<sub>2</sub>, 2.5%), and wholesale and retail trade (5.38 million tons CO<sub>2</sub>, 0.9%).

Within the manufacturing industry, the highest emissions were from manufacture of iron and steel (24.34 million tons CO<sub>2</sub>, 33.3%), manufacture of chemical and allied products (90.03 million tons CO<sub>2</sub>, 14.7%), manufacture of ceramic, stone and clay products (70.66 million tons CO<sub>2</sub>, 11.5%), manufacture of petroleum and coal products (35.71 million tons CO<sub>2</sub>, 5.8%), manufacture of pulp, paper and paper products (31.15 million tons CO<sub>2</sub>, 5.1%), and manufacture of electronic parts and devices (21.74 million tons CO<sub>2</sub>, 3.5%), in that order.

Meanwhile, energy-derived carbon dioxide emissions from electric power plants, etc. (before allocation to power plants, etc.) were 441.02 million tons CO<sub>2</sub> (Table 3-2, Figs. 3-3 to 3-13).

Table 3-2. Reported emissions by industry sector: Specified facility emitters

(Unit: tons CO<sub>2</sub>)

Industry sector		Energy-derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub> from waste as raw material and fuel	CH <sub>4</sub>	N <sub>2</sub> O	HFC	PFC	SF <sub>6</sub>	Total	Energy-derived CO <sub>2</sub> before allocation to power plants, etc.
Major category	Intermediate subcategory										
Total		529,256,327 (86.2%)	60,774,546 (9.9%)	7,158,731 (1.2%)	528,540 (0.1%)	6,162,940 (1.0%)	1,067,948 (0.2%)	5,484,597 (0.9%)	3,867,153 (0.6%)	614,300,782 (100.0%)	441,018,130 (71.8%)
A	Agriculture and forestry	270,004			109,168					379,172 (0.1%)	
1	Agriculture	270,004			109,168					379,172 (0.1%)	
C	Mining and quarrying of stone and gravel	836,667	543,405	28,577	50,258					1,458,907 (0.2%)	
5	Mining and quarrying of stone and gravel	836,667	543,405	28,577	50,258					1,458,907 (0.2%)	
D	Construction	44,755								44,755 (0.0%)	
6	Construction work, general including public and private construction work	44,755								44,755 (0.0%)	
E	Manufacturing	470,358,947	47,468,874	7,029,227	269,253	3,649,259	1,067,948	5,484,597	3,808,333	539,136,437 (87.8%)	
9	Manufacture of food	11,972,618	4,558							11,977,176 (1.9%)	
10	Manufacture of beverages, tobacco and feed	4,013,366				44,842				4,058,208 (0.7%)	
11	Manufacture of textile mill products	8,633,140	51,000	15,600		4,080		24,900		8,728,720 (1.4%)	
12	Manufacture of lumber and wood products, except furniture	539,397	4,890			19,000				563,287 (0.1%)	



Industry sector		Energy-derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub> from waste as raw material and fuel	CH <sub>4</sub>	N <sub>2</sub> O	HFC	PFC	SF <sub>6</sub>	Total	Energy-derived CO <sub>2</sub> before allocation to power plants, etc.
Major category	Intermediate subcategory										
	13	175,385								175,385 (0.0%)	
	14	27,632,297	508,374	1,845,909	46,263	1,112,768			5,736	31,151,346 (5.1%)	
	15	1,881,141	5,061	51,791					5,277	1,943,270 (0.3%)	
	16	77,102,811	7,063,697	1,055,846	4,819	1,357,492	812,037	1,434,789	1,200,521	90,032,012 (14.7%)	
	17	35,398,624		17,920	9,923	284,615				35,711,082 (5.8%)	
	18	6,627,969	1,210	15,129			22,000	38,000	33,300	6,737,608 (1.1%)	
	19	1,192,981		81,410		6,208			4,780	1,285,379 (0.2%)	
	20	23,410								23,410 (0.0%)	
	21	34,855,890	32,654,953	2,597,380	18,960	535,314				70,662,497 (11.5%)	
	22	196,114,487	6,988,188	781,996	185,688	273,100				204,343,459 (33.3%)	
	23	11,050,592	151,715	541,720		3,570		15,000	344,810	12,107,407 (2.0%)	
	24	4,422,339							17,567	4,439,906 (0.7%)	

Industry sector		Energy-derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub> from waste as raw material and fuel	CH <sub>4</sub>	N <sub>2</sub> O	HFC	PFC	SF <sub>6</sub>	Total	Energy-derived CO <sub>2</sub> before allocation to power plants, etc.	
Major category	Intermediate subcategory											
	25	Manufacture of general-purpose machinery	2,285,811				13,030	95,600		2,394,441 (0.4%)		
	26	Manufacture of production machinery	1,941,838						6,000	1,947,838 (0.3%)		
	27	Manufacture of business oriented machinery	1,273,645					17,420		1,291,065 (0.2%)		
	28	Electronic parts, devices, and electronic circuits	16,743,604	27,258		3,600	8,270	196,564	3,620,382	1,143,596	21,743,274 (3.5%)	
	29	Manufacture of electrical machinery, equipment and supplies	4,644,897		4,033			12,800	158,846	376,223	5,196,799 (0.8%)	
	30	Manufacture of information and communication electronics equipment	1,698,033						11,100	100,000	1,809,133 (0.3%)	
	31	Manufacture of transportation equipment	19,457,350	7,970	20,493			11,517	58,860	546,592	20,102,783 (3.3%)	
	32	Miscellaneous manufacturing industries	677,320						9,700	23,930	710,950 (0.1%)	
F		Electricity, gas, heat supply and water	28,494,313	0	25,290	42,751	2,348,426			20,870	30,931,650 (5.0%)	441,018,130
	33	Production, transmission and distribution of electricity	23,450,307		25,290		672,072			20,870	24,168,539 (3.9%)	438,564,752
	34	Production and distribution of gas	649,525	0		278					649,803 (0.1%)	
	35	Heat supply	678,614				3,038				681,652 (0.1%)	2,453,378

Industry sector		Energy-derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub> from waste as raw material and fuel	CH <sub>4</sub>	N <sub>2</sub> O	HFC	PFC	SF <sub>6</sub>	Total	Energy-derived CO <sub>2</sub> before allocation to power plants, etc.	
Major category	Intermediate subcategory											
	36	Collection, purification and distribution of water, and sewage collection, processing and disposal	3,715,868	0		42,473	1,673,316				5,431,657 (0.9%)	
G	Information and communications		2,831,858							2,831,858 (0.5%)		
	37	Communications	1,533,600							1,533,600 (0.2%)		
	38	Broadcasting	255,226							255,226 (0.0%)		
	39	Information services	699,701							699,701 (0.1%)		
	40	Internet based services	144,660							144,660 (0.0%)		
	41	Video picture, sound information, and character information production and distribution	198,671							198,671 (0.0%)		
H	Transport and postal activities		905,446							905,446 (0.1%)		
	42	Railway transport	17,214							17,214 (0.0%)		
	44	Road freight transport	19,940							19,940 (0.0%)		
	46	Air transport	83,980							83,980 (0.0%)		
	47	Warehousing	263,773							263,773 (0.0%)		
	48	Services incidental to transport	501,279							501,279 (0.1%)		
	49	Postal activities, including mail delivery	19,260							19,260 (0.0%)		
I	Wholesale and retail trade		5,370,728	4,300			6,200			5,381,228 (0.9%)		

Industry sector		Energy-derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub> from waste as raw material and fuel	CH <sub>4</sub>	N <sub>2</sub> O	HFC	PFC	SF <sub>6</sub>	Total	Energy-derived CO <sub>2</sub> before allocation to power plants, etc.	
Major category	Intermediate subcategory											
	50	Wholesale trade, general merchandise	42,050								42,050 (0.0%)	
	52	Wholesale trade (food and beverages)	11,520								11,520 (0.0%)	
	53	Wholesale trade (building materials, minerals and metals, etc.)	15,010								15,010 (0.0%)	
	54	Wholesale trade (machinery and equipment)	18,089								18,089 (0.0%)	
	55	Miscellaneous wholesale trade	10,270								10,270 (0.0%)	
	56	Retail trade, general merchandise	5,237,295			6,200					5,243,495 (0.9%)	
	57	Retail trade (dry goods, apparel and apparel accessories)	2,331								2,331 (0.0%)	
	58	Retail trade (food and beverages)	12,760	4,300							17,060 (0.0%)	
	60	Miscellaneous retail trade	21,403								21,403 (0.0%)	
J	Finance and insurance		773,507								773,507 (0.1%)	
	62	Banking	435,125								435,125 (0.1%)	
	63	Financial institutions for cooperative organizations	35,490								35,490 (0.0%)	

Industry sector		Energy-derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub> from waste as raw material and fuel	CH <sub>4</sub>	N <sub>2</sub> O	HFC	PFC	SF <sub>6</sub>	Total	Energy-derived CO <sub>2</sub> before allocation to power plants, etc.
Major category	Intermediate subcategory										
	64	23,544								23,544 (0.0%)	
	65	39,710								39,710 (0.0%)	
	66	2,120								2,120 (0.0%)	
	67	237,518								237,518 (0.0%)	
K	Real estate and goods rental and leasing	3,897,383								3,897,383 (0.6%)	
	69	3,897,383								3,897,383 (0.6%)	
L	Scientific research, professional and technical services	1,512,028						26,000		1,538,028 (0.3%)	
	71	1,404,427						26,000		1,430,427 (0.2%)	
	72	25,206								25,206 (0.0%)	
	73	4,760								4,760 (0.0%)	
	74	77,635								77,635 (0.0%)	

Industry sector		Energy-derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub> from waste as raw material and fuel	CH <sub>4</sub>	N <sub>2</sub> O	HFC	PFC	SF <sub>6</sub>	Total	Energy-derived CO <sub>2</sub> before allocation to power plants, etc.
Major category	Intermediate subcategory										
M	Accommodations, eating and drinking services	2,259,686								2,259,686 (0.4%)	
	75 Accommodations	2,256,446								2,256,446 (0.4%)	
	76 Eating and drinking places	3,240								3,240 (0.0%)	
N	Living-related and personal services and amusement services	913,794								913,794 (0.1%)	
	78 Laundry, beauty and bath services	242,202								242,202 (0.0%)	
	79 Miscellaneous living-related and personal services	6,600								6,600 (0.0%)	
	80 Services for amusement and hobbies	664,992								664,992 (0.1%)	
O	Education, learning support	3,383,175						11,950		3,395,125 (0.6%)	
	81 School education	3,181,687						11,950		3,193,637 (0.5%)	
	82 Miscellaneous education, learning support	201,488								201,488 (0.0%)	
P	Medical, health care and welfare	3,648,626								3,648,626 (0.6%)	
	83 Medical and other health services	3,617,441								3,617,441 (0.6%)	
	84 Public health and hygiene	4,640								4,640 (0.0%)	
	85 Social insurance and social welfare	26,545								26,545 (0.0%)	
Q	Compound services	56,620								56,620 (0.0%)	
	86 Postal activities	40,680								40,680 (0.0%)	
	87 Cooperative associations, N.E.C.	15,940								15,940 (0.0%)	

Industry sector		Energy-derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub> from waste as raw material and fuel	CH <sub>4</sub>	N <sub>2</sub> O	HFC	PFC	SF <sub>6</sub>	Total	Energy-derived CO <sub>2</sub> before allocation to power plants, etc.
Major category	Intermediate subcategory										
R	Services, N.E.C.	2,402,522	12,757,967	75,637	57,110	159,055				15,452,291 (2.5%)	
	88 Waste disposal business	2,041,120	12,757,967	75,637	57,110	159,055				15,090,889 (2.5%)	
	90 Machine, etc. repair services, except otherwise classified	2,550								2,550 (0.0%)	
	92 Miscellaneous business services	117,915								117,915 (0.0%)	
	93 Political, business and cultural organizations	12,899								12,899 (0.0%)	
	94 Religion	44,180								44,180 (0.0%)	
	95 Miscellaneous services	183,858								183,858 (0.0%)	
S	Government, except elsewhere classified	1,250,135								1,250,135 (0.2%)	
	97 National government services	943,917								943,917 (0.2%)	
	98 Local government services	306,218								306,218 (0.0%)	
T	Industries unable to classify	46,134								46,134 (0.0%)	
	99 Industries unable to classify	46,134								46,134 (0.0%)	

Note: Energy-derived CO<sub>2</sub> emissions before allocation to power plants, etc. are also included in other energy-derived CO<sub>2</sub> emissions. Therefore, these values are not added to the total emissions.

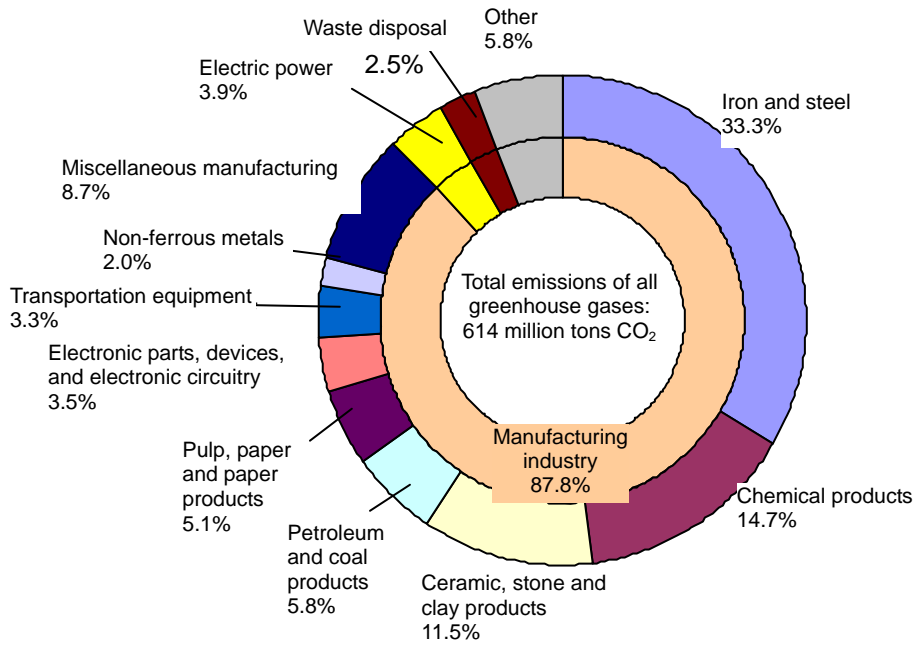


Fig. 3-3. Total emissions of all greenhouse gases

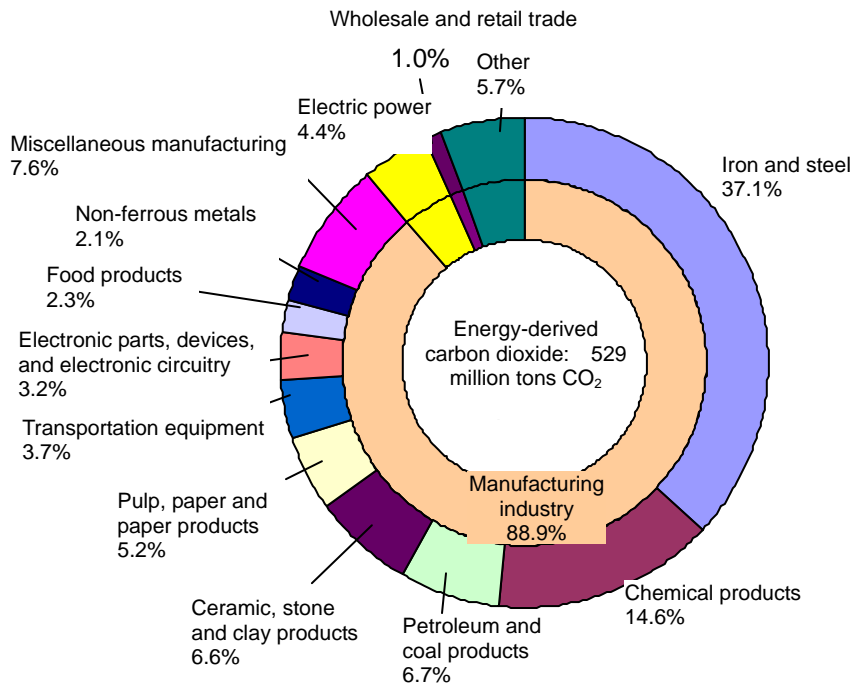


Fig. 3-4. Energy-derived carbon dioxide



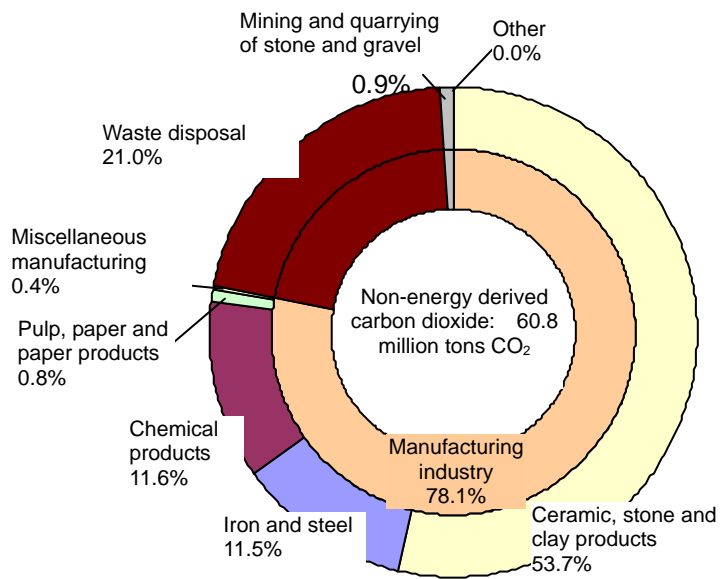


Fig. 3-5. Non-energy derived carbon dioxide

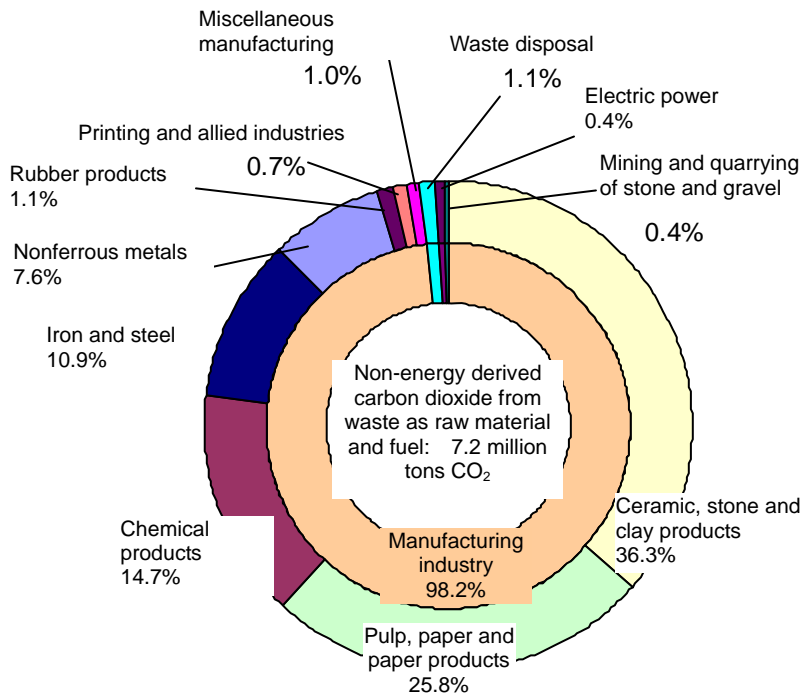


Fig. 3-6. Non-energy derived carbon dioxide from the use of waste as raw material and fuel

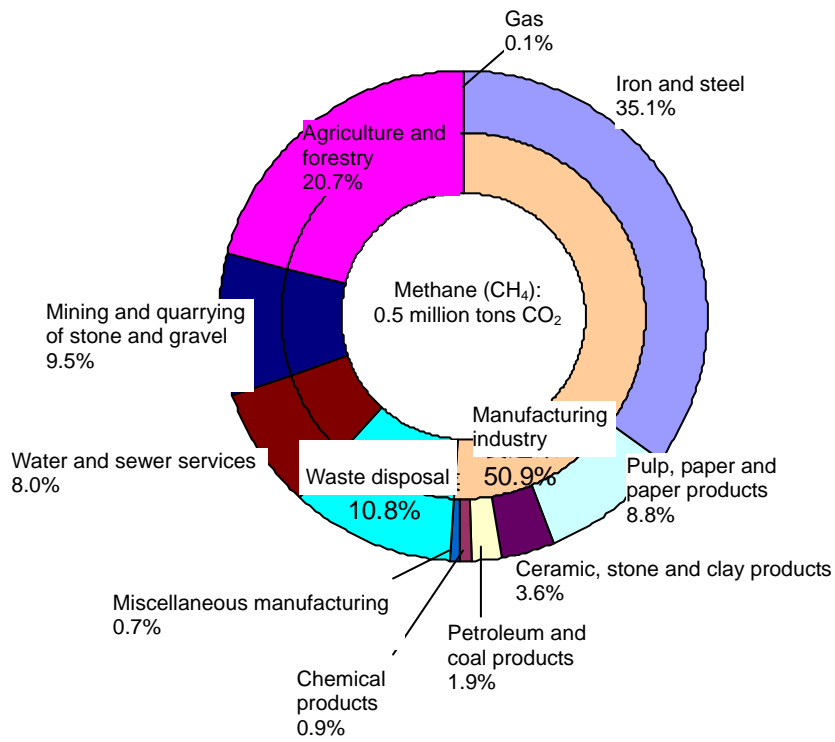


Fig. 3-7. Methane (CH<sub>4</sub>)

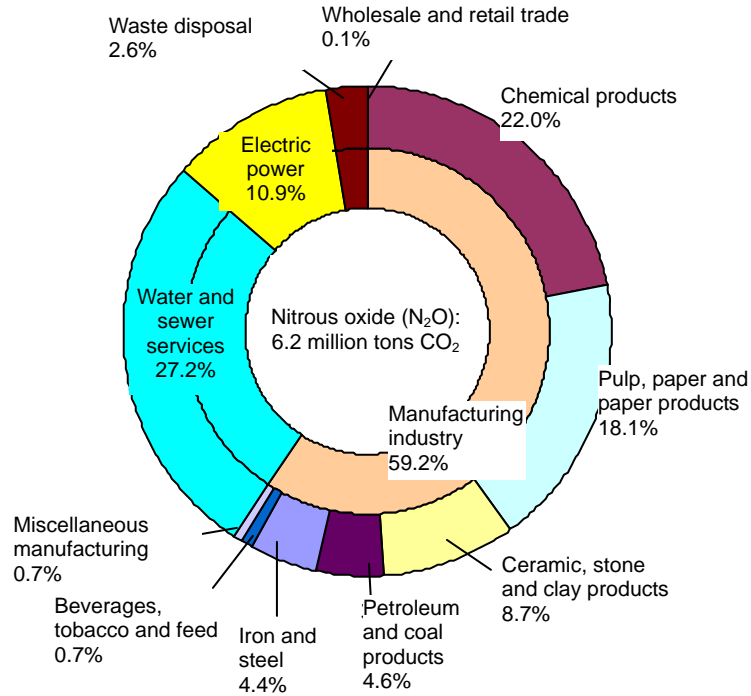


Fig. 3-8. Nitrous oxide (N<sub>2</sub>O)

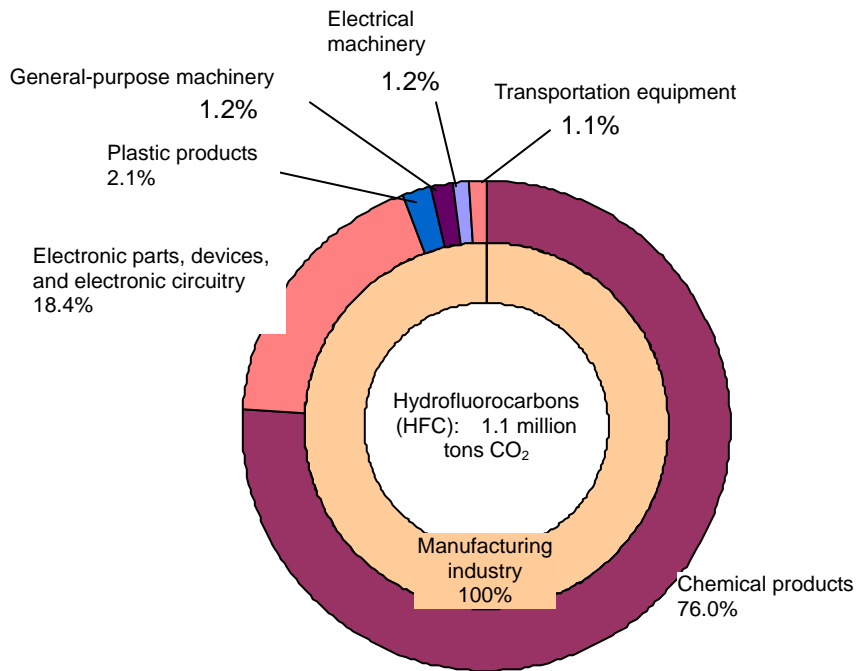


Fig. 3-9. Hydrofluorocarbons (HFC)

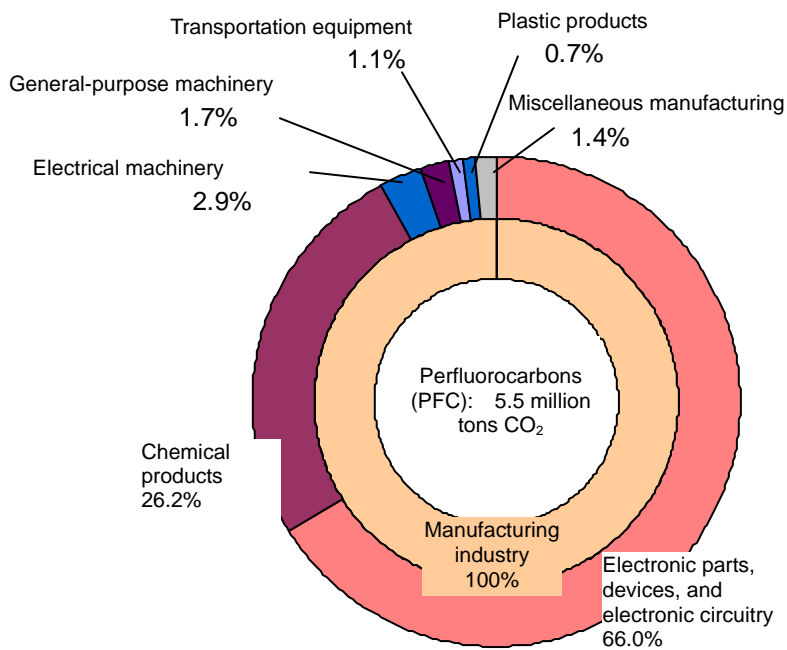


Fig. 3-10. Perfluorocarbons (PFC)

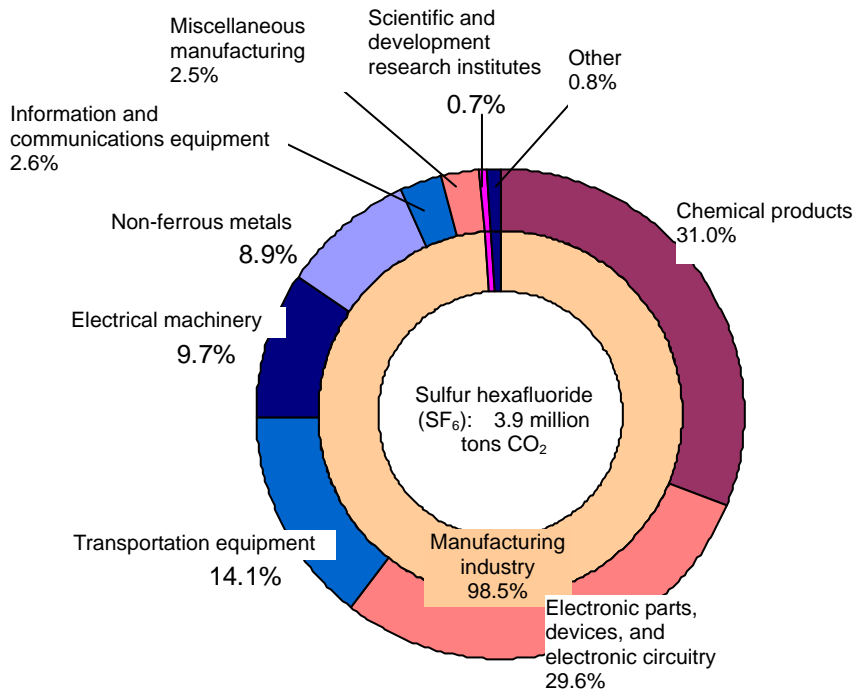


Fig. 3-11. Sulfur hexafluoride (SF<sub>6</sub>)

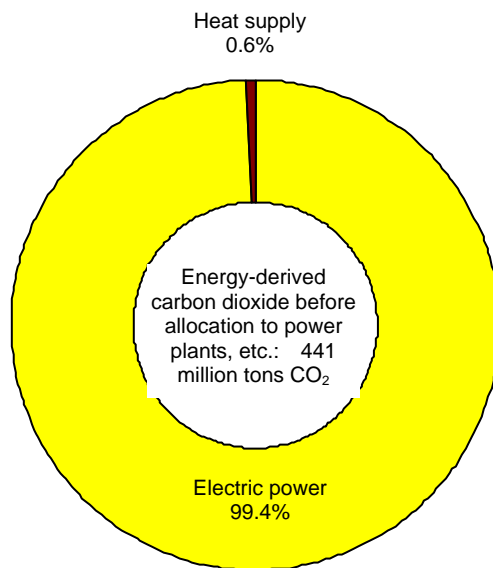


Fig. 3-12. Energy-derived carbon dioxide before allocation to power plants, etc.

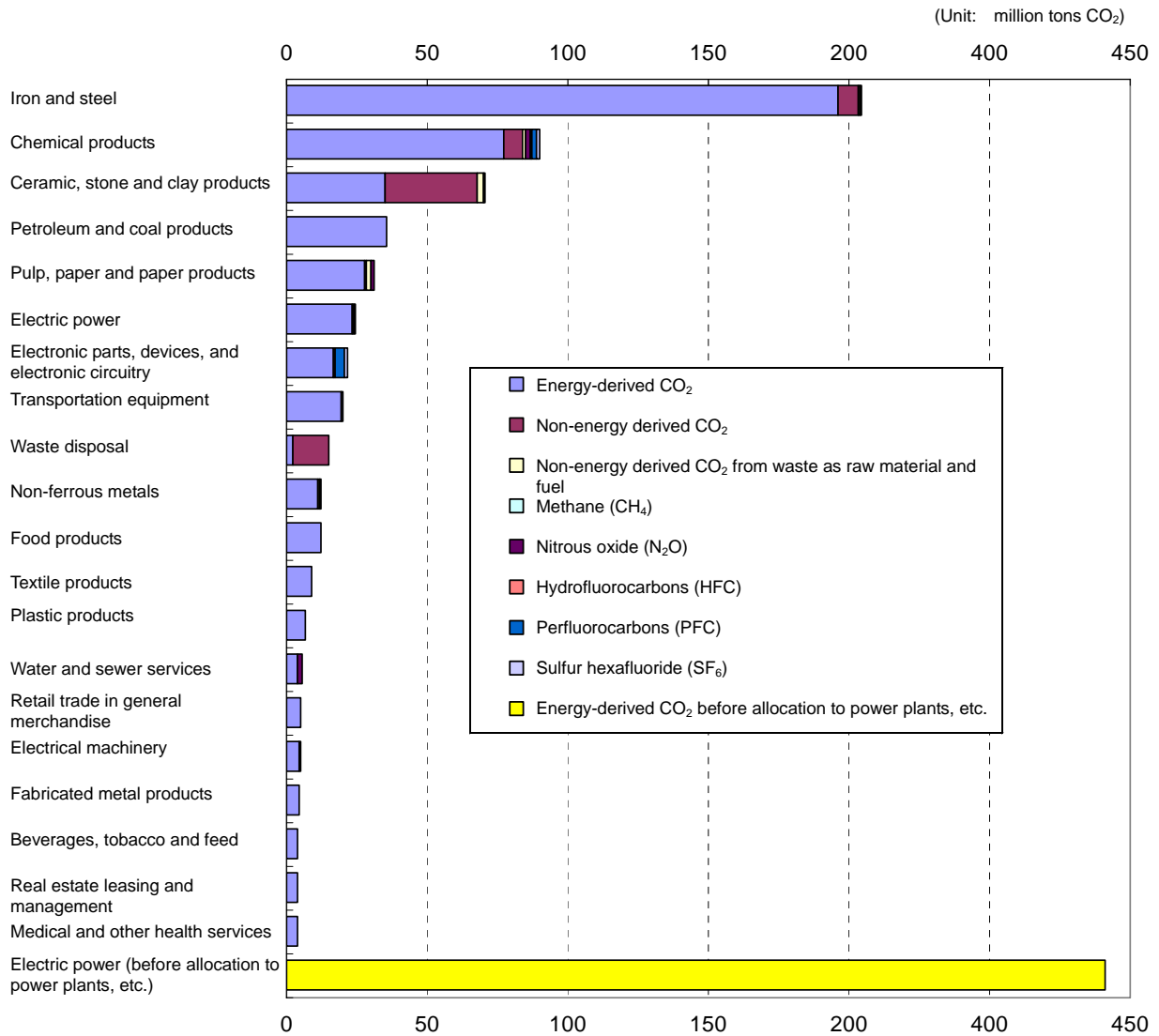


Fig. 3-13. Top 20 industries for emissions reported by industry sector:  
Specified facility emitters

[2] Specified transportation emitters

Specified transportation emitters reported emissions of energy-derived carbon dioxide only.

Among specified freight carriers, the highest emissions were from companies whose main business was transport services (11.97 million tons CO<sub>2</sub>, 96.0%), followed by the wholesale and retail trade (0.23 million tons CO<sub>2</sub>, 1.8%) and the manufacturing industry (0.15 million tons CO<sub>2</sub>, 1.2%).

Among specified passenger carriers, the highest emissions were from companies whose main business was railway transport (10.03 million tons CO<sub>2</sub>, 65.2%), followed by road passenger transport (2.73 million tons CO<sub>2</sub>, 17.8%) and water transport (2.62 million tons CO<sub>2</sub>, 17.1%).

Among specified air carriers, the main business was air transport in each case, and emissions were 8.25 million tons CO<sub>2</sub>.

Among specified consigners, the highest emissions were from companies whose main business was the manufacturing industry (14.66 million tons CO<sub>2</sub>, 78.8%), followed by the wholesale and retail trade (2.69 million tons CO<sub>2</sub>, 14.4%) and compound services (0.36 million tons CO<sub>2</sub>, 1.9%). (Table 3-3, Figs. 3-14 to 3-16)

Table 3-3. Reported emissions by industry sector: Specified transportation emitters

(Unit: tons CO<sub>2</sub>)

Industry sector		Specified freight carriers	Specified passenger carriers	Specified air carriers	Total for specified transportation emitters	Specified consigners
Major category	Intermediate subcategory					
Total		12,474,970 [100.0%] (34.5%)	15,387,530 [100.0%] (42.6%)	8,250,000 [100.0%] (22.8%)	36,112,500 [100.0%] (100.0%)	18,597,874 [100.0%]
C	Mining and quarrying of stone and gravel	6,060 [0.0%]			6,060 [0.0%]	151,094 [0.8%]
	5 Mining and quarrying of stone and gravel	6,060 [0.0%]			6,060 [0.0%]	151,094 [0.8%]
D	Construction					176,916 [1.0%]
	6 Construction work, general including public and private construction work					168,406 [0.9%]
	7 Construction work by specialist contractor, except equipment installation work					8,510 [0.0%]
E	Manufacturing	146,012 [1.2%]			146,012 [0.4%]	14,663,478 [78.8%]
	9 Manufacture of food	99,112 [0.8%]			99,112 [0.3%]	2,194,420 [11.8%]
	10 Manufacture of beverages, tobacco and feed	38,510 [0.3%]			38,510 [0.1%]	974,340 [5.2%]
	11 Manufacture of textile mill products					142,660 [0.8%]
	12 Manufacture of lumber and wood products, except furniture					99,696 [0.5%]
	13 Manufacture of furniture and fixtures					77,714 [0.4%]
	14 Manufacture of pulp, paper and paper products					1,076,916 [5.8%]
	15 Printing and allied industries					73,310 [0.4%]

Industry sector		Specified freight carriers	Specified passenger carriers	Specified air carriers	Total for specified transportation emitters	Specified consigners			
Major category	Intermediate subcategory								
	16	Manufacture of chemical and allied products				2,078,679	[11.2%]		
	17	Manufacture of petroleum and coal products				1,015,402	[5.5%]		
	18	Manufacture of plastic products, except otherwise classified				339,577	[1.8%]		
	19	Manufacture of rubber products				181,140	[1.0%]		
	21	Manufacture of ceramic, stone and clay products				1,129,995	[6.1%]		
	22	Manufacture of iron and steel				2,371,310	[12.8%]		
	23	Manufacture of non-ferrous metals and products				288,140	[1.5%]		
	24	Manufacture of fabricated metal products	4,440	[0.0%]		4,440	[0.0%]	287,551	[1.5%]
	25	Manufacture of general-purpose machinery						155,966	[0.8%]
	26	Manufacture of production machinery	3,950	[0.0%]		3,950	[0.0%]	125,510	[0.7%]
	27	Manufacture of business oriented machinery						104,337	[0.6%]
	28	Electronic parts, devices, and electronic circuits						5,070	[0.0%]
	29	Manufacture of electrical machinery, equipment and supplies						451,210	[2.4%]



Industry sector		Specified freight carriers	Specified passenger carriers	Specified air carriers	Total for specified transportation emitters	Specified consigners						
Major category	Intermediate subcategory											
	30	Manufacture of information and communication electronics equipment				65,141	[0.4%]					
	31	Manufacture of transportation equipment				1,332,774	[7.2%]					
	32	Miscellaneous manufacturing industries				92,620	[0.5%]					
F	Electricity, gas, heat supply and water		627	[0.0%]		627	[0.0%]	218,640	[1.2%]			
	33	Production, transmission and distribution of electricity						208,146	[1.1%]			
	34	Production and distribution of gas						10,494	[0.1%]			
	36	Collection, purification and distribution of water, and sewage collection, processing and disposal	627	[0.0%]		627	[0.0%]					
G	Information and communications							14,100	[0.1%]			
	41	Video picture, sound information, and character information production and distribution						14,100	[0.1%]			
H	Transport and postal activities		11,974,874	[96.0%]	15,387,530	[100.0%]	8,250,000	[100.0%]	35,612,404	[98.6%]	29,390	[0.2%]
	42	Railway transport	666,000	[5.3%]	10,031,302	[65.2%]			10,697,302	[29.6%]		
	43	Road passenger transport			2,731,891	[17.8%]			2,731,891	[7.6%]		
	44	Road freight transport	6,387,454	[51.2%]					6,387,454	[17.7%]	7,980	[0.0%]
	45	Water transport	4,912,300	[39.4%]	2,624,337	[17.1%]			7,536,637	[20.9%]	4,310	[0.0%]
	46	Air transport					8,250,000	[100.0%]	8,250,000	[22.8%]		
	48	Services incidental to transport	9,120	[0.1%]					9,120	[0.0%]	17,100	[0.1%]
I	Wholesale and retail trade		227,280	[1.8%]					227,280	[0.6%]	2,686,786	[14.4%]

Industry sector		Specified freight carriers	Specified passenger carriers	Specified air carriers	Total for specified transportation emitters		Specified consigners	
Major category	Intermediate subcategory							
	50	Wholesale trade, general merchandise	5,238 [0.0%]			5,238 [0.0%]	435,498 [2.3%]	
	51	Wholesale trade (textiles and apparel)	1,750 [0.0%]			1,750 [0.0%]		
	52	Wholesale trade (food and beverages)	76,248 [0.6%]			76,248 [0.2%]	598,751 [3.2%]	
	53	Wholesale trade (building materials, minerals and metals, etc.)	6,940 [0.1%]			6,940 [0.0%]	847,968 [4.6%]	
	54	Wholesale trade (machinery and equipment)	41,184 [0.3%]			41,184 [0.1%]	29,240 [0.2%]	
	55	Miscellaneous wholesale trade	34,109 [0.3%]			34,109 [0.1%]	225,129 [1.2%]	
	56	Retail trade, general merchandise	8,510 [0.1%]			8,510 [0.0%]	402,984 [2.2%]	
	57	Retail trade (dry goods, apparel and apparel accessories)	4,381 [0.0%]			4,381 [0.0%]	19,140 [0.1%]	
	58	Retail trade (food and beverages)	40,150 [0.3%]			40,150 [0.1%]	30,570 [0.2%]	
	59	Retail trade (machinery and equipment)	4,810 [0.0%]			4,810 [0.0%]	11,600 [0.1%]	
	60	Miscellaneous retail trade	2,920 [0.0%]			2,920 [0.0%]	81,156 [0.4%]	
	61	Nonstore retailers	1,040 [0.0%]			1,040 [0.0%]	4,750 [0.0%]	
K	Real estate and goods rental and leasing		26,150 [0.2%]			26,150 [0.1%]	16,500 [0.1%]	
	70	Goods rental and leasing	26,150 [0.2%]			26,150 [0.1%]	16,500 [0.1%]	
M	Accommodations, eating and drinking services						38,600 [0.2%]	
	76	Eating and drinking places					38,600 [0.2%]	
N	Living-related and personal services and amusement services		17,898 [0.1%]			17,898 [0.0%]		

Industry sector		Specified freight carriers	Specified passenger carriers	Specified air carriers	Total for specified transportation emitters	Specified consigners	
Major category	Intermediate subcategory						
	78	Laundry, beauty and bath services	8,400 [0.1%]			8,400 [0.0%]	
	79	Miscellaneous living-related and personal services	9,498 [0.1%]			9,498 [0.0%]	
O	Education, learning support					8,280 [0.0%]	
	82	Miscellaneous education, learning support				8,280 [0.0%]	
Q	Compound services		41,919 [0.3%]			41,919 [0.1%]	355,970 [1.9%]
	87	Cooperative associations, N.E.C.	41,919 [0.3%]			41,919 [0.1%]	355,970 [1.9%]
R	Services, N.E.C.		21,560 [0.2%]			21,560 [0.1%]	221,820 [1.2%]
	88	Waste disposal business	16,650 [0.1%]			16,650 [0.0%]	14,220 [0.1%]
	92	Miscellaneous business services	4,910 [0.0%]			4,910 [0.0%]	178,800 [1.0%]
	95	Miscellaneous services					28,800 [0.2%]
S	Government, except elsewhere classified		12,590 [0.1%]			12,590 [0.0%]	16,300 [0.1%]
	97	National government services					16,300 [0.1%]
	98	Local government services	12,590 [0.1%]			12,590 [0.0%]	

Notes:

1. The only type of emissions reported by specified transportation emitters was energy-derived carbon dioxide.
2. Emissions from specified consigners are also included in other emissions. Therefore, these values are not added to the total figures for specified transportation emitters.

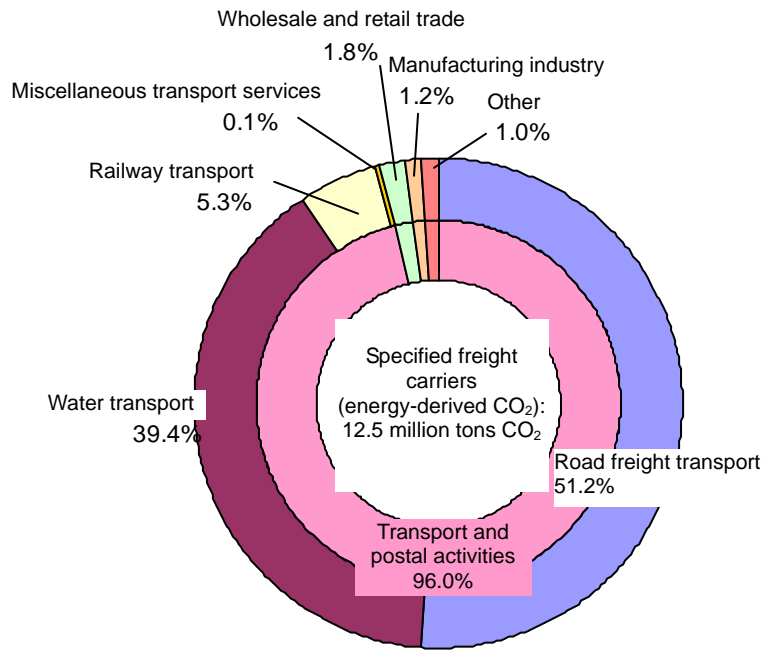


Fig. 3-14. Reported emissions by industry sector: Specified freight carriers

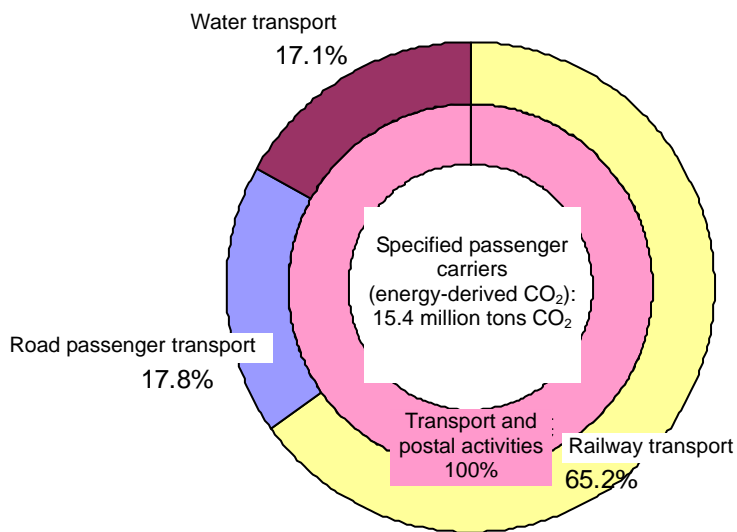


Fig. 3-15. Reported emissions by industry sector: Specified passenger carriers

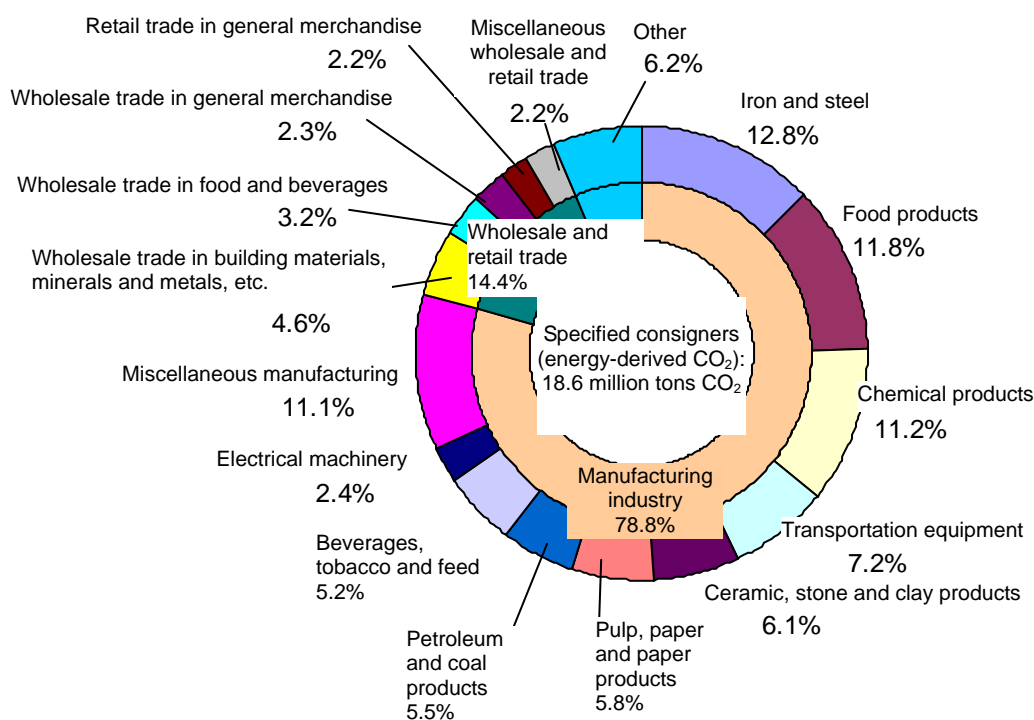


Fig. 3-16. Reported emissions by industry sector: Specified consigners

### (3) Emissions by prefecture (specified facility emitters only)

The prefectures whose business facilities had the highest reported emissions were, in descending order, Chiba Prefecture (56.22 million tons CO<sub>2</sub>, 9.2%), Aichi Prefecture (44.55 million tons CO<sub>2</sub>, 7.3%), Hiroshima Prefecture (40.20 million tons CO<sub>2</sub>, 6.5%), Okayama Prefecture (40.03 million tons CO<sub>2</sub>, 6.5%), Hyogo Prefecture (37.66 million tons CO<sub>2</sub>, 6.1%), Yamaguchi Prefecture (37.44 million tons CO<sub>2</sub>, 6.1%), Ibaraki Prefecture (32.69 million tons CO<sub>2</sub>, 5.3%), Fukuoka Prefecture (31.62 million tons CO<sub>2</sub>, 5.1%), Kanagawa Prefecture (30.90 million tons CO<sub>2</sub>, 5.0%), Oita Prefecture (28.18 million tons CO<sub>2</sub>, 4.6%), Hokkaido (23.08 million tons CO<sub>2</sub>, 3.8%), Osaka (17.28 million tons CO<sub>2</sub>, 2.8%), Mie Prefecture (17.03 million tons CO<sub>2</sub>, 2.8%), Shizuoka Prefecture (13.13 million tons CO<sub>2</sub>, 2.1%), Ehime Prefecture (12.90 million tons CO<sub>2</sub>, 2.1%), Tokyo (11.73 million tons CO<sub>2</sub>, 1.9%), Saitama Prefecture (11.40 million tons CO<sub>2</sub>, 1.9%), and Wakayama Prefecture (11.20 million tons CO<sub>2</sub>, 1.8%). Emissions from establishments located in these 18 prefectures accounted for 80% of emissions from reporting facilities. (Table 3-4, Figs. 3-17, 3-18)

Table 3-4. Reported emissions by prefecture: Specified facility emitters

(Unit: tons CO<sub>2</sub>)

Prefecture		Energy-derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub> from waste as raw material and fuel	CH <sub>4</sub>	N <sub>2</sub> O	HFC	PFC	SF <sub>6</sub>	Total	Energy-derived CO <sub>2</sub> before allocation to power plants, etc.
Total		529,256,327 (86.2%)	60,774,546 (9.9%)	7,158,731 (1.2%)	528,540 (0.1%)	6,162,940 (1.0%)	1,067,948 (0.2%)	5,484,597 (0.9%)	3,867,153 (0.6%)	614,300,782 (100.0%)	441,018,130
1	Hokkaido	19,172,255	2,998,284	398,338	52,451	460,045				23,081,373 (3.8%)	15,268,984
2	Aomori Prefecture	3,834,942	1,629,137	179,730		44,659		27,000	5,800	5,721,268 (0.9%)	490,530
3	Iwate Prefecture	2,884,289	1,226,674	47,308	17,456		5,000	181,600	92,300	4,454,627 (0.7%)	47,316
4	Miyagi Prefecture	6,039,744	240,315	101,518	3,720	195,000	8,331	171,193	200,450	6,960,271 (1.1%)	1,578,380
5	Akita Prefecture	2,353,517	360,170	89,000		48,774			36,000	2,887,461 (0.5%)	10,415,693
6	Yamagata Prefecture	2,042,106	169,807			9,300		105,351	16,972	2,343,536 (0.4%)	4,426,100
7	Fukushima Prefecture	8,350,586	537,528	274,053		179,499	6,300	353,800	28,780	9,730,546 (1.6%)	47,315,600
8	Ibaraki Prefecture	29,784,080	1,928,600	256,579	27,948	95,231	203,277	255,200	138,100	32,689,015 (5.3%)	25,784,732
9	Tochigi Prefecture	5,396,159	1,273,166	337,166	3,800	27,718	28,520	22,850	28,117	7,117,496 (1.2%)	
10	Gunma Prefecture	3,941,149	244,861	35,708			32,703	267,527	1,044,848	5,566,796 (0.9%)	61,400
11	Saitama Prefecture	7,885,493	2,731,810	295,213	10,210	286,910	6,500	127,541	56,443	11,400,120 (1.9%)	67,300
12	Chiba Prefecture	52,627,263	2,421,392	397,103	36,319	198,435	127,192	177,700	235,871	56,221,275 (9.2%)	45,273,988
13	Tokyo	9,805,652	1,445,541	24,993	30,213	372,053		31,000	20,700	11,730,152 (1.9%)	6,545,373
14	Kanagawa Prefecture	28,336,077	1,628,976	108,896	8,050	299,201	64,490	390,353	59,535	30,895,578 (5.0%)	23,075,340
15	Niigata Prefecture	6,252,065	2,526,910	126,200	51,158	83,510	4,300	50,000	20,500	9,114,643 (1.5%)	10,071,140

Prefecture		Energy-derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub> from waste as raw material and fuel	CH <sub>4</sub>	N <sub>2</sub> O	HFC	PFC	SF <sub>6</sub>	Total		Energy-derived CO <sub>2</sub> before allocation to power plants, etc.
16	Toyama Prefecture	4,901,519	115,620	32,900	4,090	258,510	10,900	212,000	103,000	5,638,539	(0.9%)	4,526,000
17	Ishikawa Prefecture	2,123,235	46,400	7,513		19,330		25,800		2,222,278	(0.4%)	7,118,300
18	Fukui Prefecture	3,557,048	379,280	69,394		14,000	29,000			4,048,722	(0.7%)	8,517,000
19	Yamanashi Prefecture	979,761				5,257	28,000	12,057	110,088	1,135,163	(0.2%)	
20	Nagano Prefecture	2,916,547	111,260	26,301		17,920	17,000	81,214	212,895	3,383,137	(0.6%)	8,565
21	Gifu Prefecture	4,890,011	1,600,145	325,735	4,190	60,850		8,195	63,948	6,953,074	(1.1%)	
22	Shizuoka Prefecture	12,294,489	247,326	240,193	6,685	184,602	78,160	26,845	56,088	13,134,387	(2.1%)	57,296
23	Aichi Prefecture	41,524,063	1,873,242	313,955	19,279	299,353		74,360	445,153	44,549,405	(7.3%)	45,813,792
24	Mie Prefecture	14,961,690	1,399,664	242,243	4,900	25,835	24,195	315,227	58,814	17,032,568	(2.8%)	15,832,000
25	Shiga Prefecture	4,819,398	208,677	8,880		14,170	5,900	108,562	34,800	5,200,387	(0.8%)	5,810
26	Kyoto	3,146,197	287,340	7,470	3,800	57,650		42,326	15,114	3,559,897	(0.6%)	4,155,700
27	Osaka	14,461,126	1,674,197	5,370	8,444	285,951	133,030	700,000	13,000	17,281,118	(2.8%)	7,923,350
28	Hyogo Prefecture	33,382,330	2,885,611	773,521	3,051	314,973	11,492	56,244	228,235	37,655,457	(6.1%)	20,409,704
29	Nara Prefecture	872,588	71,620			10,000		26,000	27,000	1,007,208	(0.2%)	2,060
30	Wakayama Prefecture	10,563,422	615,135	11,100	9,400	0				11,199,057	(1.8%)	7,700,000
31	Tottori Prefecture	828,522	32,400	191,000		63,000			7,300	1,122,222	(0.2%)	
32	Shimane Prefecture	1,910,815	37,930		5,884	16,800				1,971,429	(0.3%)	6,847,000
33	Okayama Prefecture	37,451,807	2,198,242	214,659	25,105	88,374		45,120	3,200	40,026,507	(6.5%)	8,180,000

Prefecture		Energy-derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub> from waste as raw material and fuel	CH <sub>4</sub>	N <sub>2</sub> O	HFC	PFC	SF <sub>6</sub>	Total		Energy-derived CO <sub>2</sub> before allocation to power plants, etc.
34	Hiroshima Prefecture	37,012,226	2,081,756	155,566	34,447	336,429	188,240	321,632	71,515	40,201,811	(6.5%)	11,484,570
35	Yamaguchi Prefecture	28,151,999	8,032,984	498,060	13,409	452,488	7,000	220,000	67,000	37,442,940	(6.1%)	16,992,850
36	Tokushima Prefecture	3,145,869	74,058	53,300		34,200		11,600		3,319,027	(0.5%)	18,740,000
37	Kagawa Prefecture	3,220,887	239,580	109,000	9,923	4,800			5,026	3,589,216	(0.6%)	2,190,000
38	Ehime Prefecture	12,295,630	119,150	139,054	43,760	245,100		37,000	21,000	12,900,694	(2.1%)	5,990,000
39	Kochi Prefecture	2,335,759	2,540,008	101,000	3,300	202,000		20,300	29,141	5,231,508	(0.9%)	860,000
40	Fukuoka Prefecture	22,852,791	7,742,346	527,449	25,614	292,700		168,572	12,736	31,622,208	(5.1%)	7,650,090
41	Saga Prefecture	1,500,602	21,900			3,000				1,525,502	(0.2%)	
42	Nagasaki Prefecture	2,383,335	42,950			45,100		43,000	19,000	2,533,385	(0.4%)	23,885,730
43	Kumamoto Prefecture	3,191,101	16,570	6,720	8,700	42,772		366,050	165,737	3,797,650	(0.6%)	7,631,700
44	Oita Prefecture	23,403,882	4,056,575	389,500	35,800	84,879	9,370	171,000	32,600	28,183,606	(4.6%)	8,370,697
45	Miyazaki Prefecture	2,485,514	180,059	37,043	10,734	371,262	39,048	155,778	32,376	3,311,814	(0.5%)	1,437,800
46	Kagoshima Prefecture	1,201,894	140,400					74,600	47,970	1,464,864	(0.2%)	1,275,620
47	Okinawa Prefecture	1,784,895	338,950		6,700	11,300				2,141,845	(0.3%)	6,990,620

Note: Energy-derived CO<sub>2</sub> emissions before allocation to power plants, etc. are also included in other energy-derived CO<sub>2</sub> emissions. Therefore, these values are not added to the total emissions.



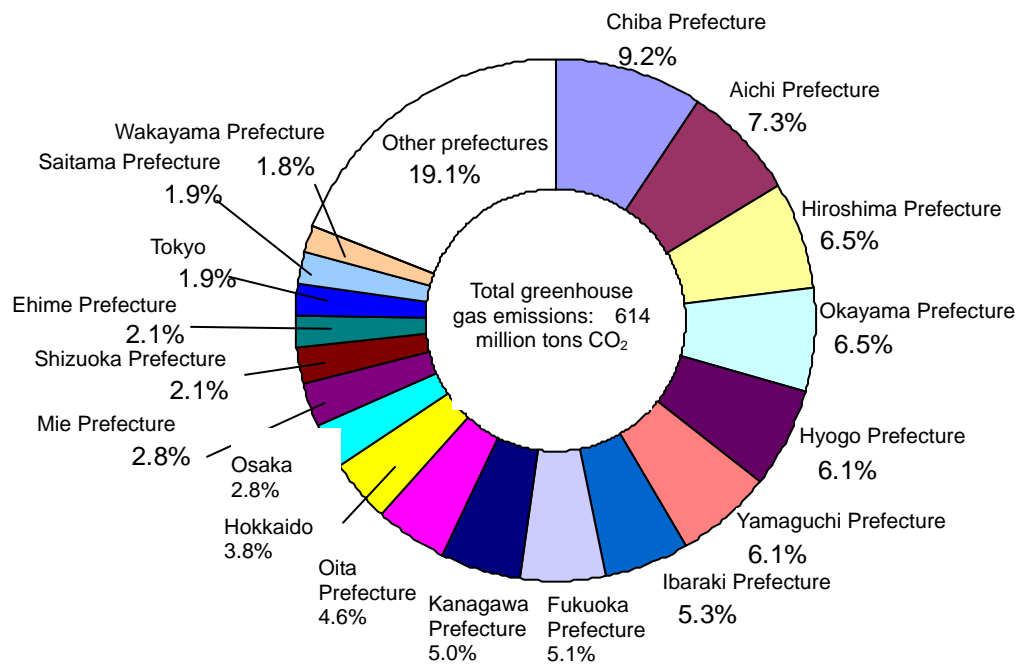


Fig. 3-17. Reported emissions by prefecture: Specified facility emitters

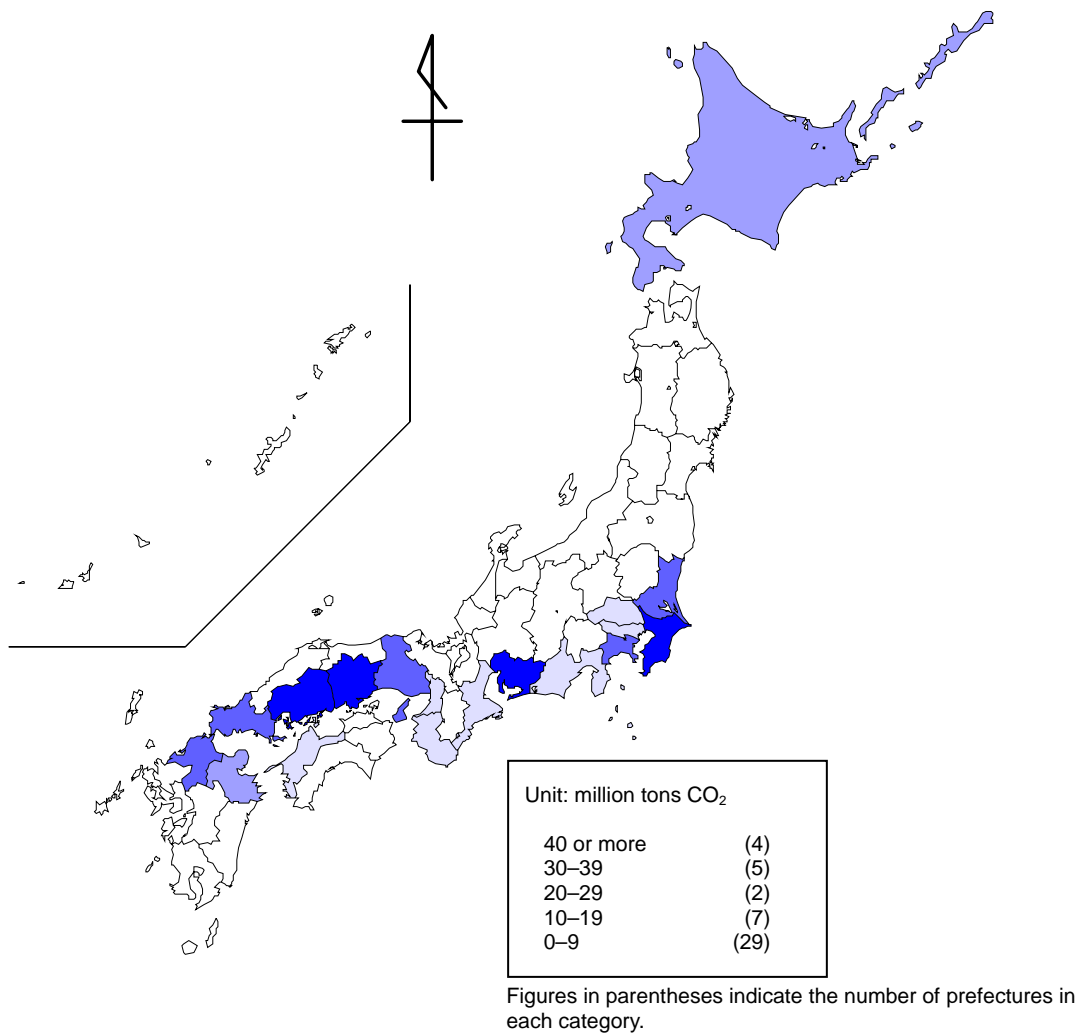


Fig. 3-18. Reported emissions by prefecture: Specified facility emitters

**(4) Emissions by company (appendix)**

Listed in the appendix (beginning on p. 62).

#### 4. Comparison with prior years

The compiled data from FY 2007 and prior years are compared below. Since this was the second year of emissions reporting under this program, the comparison is with FY 2006 data.

##### (1) Specified emitters overall

The FY 2007 emissions of specified facility emitters totaled 614.30 million tons CO<sub>2</sub>, an increase of approximately 7.95 million tons CO<sub>2</sub> from FY 2006 emissions, which totaled 606.35 million tons CO<sub>2</sub> (up 1% from the previous year).

Concerning the categories of greenhouse gases, energy-derived carbon dioxide increased by approximately 9.94 million tons CO<sub>2</sub> (up 2%), while non-energy derived carbon dioxide decreased by approximately 570,000 tons CO<sub>2</sub> (down 1%). (Table 4-1)

Emissions of energy-derived carbon dioxide before allocation to power plants, etc. rose from 391.15 million tons CO<sub>2</sub> in FY 2006 to 441.02 million tons CO<sub>2</sub> in FY 2007, an increase of approximately 49.87 million tons CO<sub>2</sub> (up 13% from the previous year).

Among specified transportation emitters, emissions from specified freight carriers were 12.48 million tons CO<sub>2</sub> in FY 2007, an decrease of approximately 330,000 tons CO<sub>2</sub> (down 3% from the previous year) from FY 2006 emissions, which were 12.81 million tons CO<sub>2</sub>. Meanwhile, emissions from specified passenger carriers increased by approximately 640,000 tons CO<sub>2</sub> (up 4%). (Table 4-2)

Table 4-1. Yearly comparison for specified facility emitters

Upper rows: Emissions (unit: 1,000 tons CO<sub>2</sub>)

Lower rows: Number of facilities reporting

Type of gas		FY 2006	FY 2007	Change from previous year
1	Energy-derived CO <sub>2</sub>	519,311 [13,941]	529,256 [14,472]	(+2%) [+4%]
2	Non-energy derived CO <sub>2</sub>	61,349 [607]	60,775 [681]	(▲1%) [+12%]
3	Non-energy derived CO <sub>2</sub> from waste as raw material and fuel	6,692 [175]	7,159 [183]	(+7%) [+5%]
4	Methane (CH <sub>4</sub> )	376 [54]	529 [83]	(+41%) [+54%]
5	Nitrous oxide (N <sub>2</sub> O)	6,211 [283]	6,163 [301]	(▲1%) [+6%]
6	Hydrofluorocarbons (HFC)	1,608 [41]	1,068 [43]	(▲34%) [+5%]
7	Perfluorocarbons (PFC)	6,422 [100]	5,485 [102]	(▲15%) [+2%]
8	Sulfur hexafluoride (SF <sub>6</sub> )	4,379 [117]	3,867 [113]	(▲12%) [▲3%]
1 - 8	Total	606,346 [14,227]	614,301 [14,841]	(+1%) [+4%]
9	Energy-derived CO <sub>2</sub> before allocation to power plants, etc.	391,150 [324]	441,018 [337]	(+13%) [+4%]

Table 4-2. Yearly comparison for specified transportation emitters

Upper rows: Emissions (unit: 1,000 tons CO<sub>2</sub>)  
 Lower rows: Number of companies reporting

	FY 2006	FY 2007	Change from previous year
Total for specified transportation emitters (excluding specified consigners)	36,083 [616]	36,112 [609]	(+0%) [▲ 1%]
Specified freight carriers	12,807 [444]	12,475 [440]	(▲ 3%) [▲ 1%]
Specified passenger carriers	14,746 [171]	15,388 [169]	(+4%) [▲ 1%]
Specified air carriers	8,530 [2]	8,250 [2]	(▲ 3%) [0%]
Specified consigners	19,274 [846]	18,598 [859]	(▲ 4%) [+2%]

**(2) Specified facility emitters**

[1] Comparison by industry sector

Concerning changes from FY 2006 to FY 2007 in emissions by industry sector (major industrial category) as reported by specified facility emitters, the greatest change in total emissions occurred in the manufacturing industry with an increase of approximately 3.59 million tons CO<sub>2</sub>, followed by the electricity, gas, heat supply, and water and sewer services with an increase of approximately 2.56 million tons CO<sub>2</sub>, and the service industry with an increase of approximately 1.42 million tons CO<sub>2</sub>. (Table 4-3)

For energy-derived carbon dioxide emissions, there was an increase of approximately 6.87 million tons CO<sub>2</sub> in the manufacturing industry, and an increase of approximately 2.74 million tons CO<sub>2</sub> in the electricity, gas, heat supply, and water and sewer services .

Meanwhile, for energy-derived carbon dioxide emissions before allocation to power plants, etc., there was an increase of approximately 49.87 million tons CO<sub>2</sub> in the electricity, gas, heat supply, and water industry.

Table 4-3. Specified facility emitters by major industrial category

Upper rows: FY 2007 emissions (unit: 1,000 tons CO<sub>2</sub>)

Middle rows: FY 2006 emissions (unit: 1,000 tons CO<sub>2</sub>)

Lower rows: Change from the previous year

Industry sector (major category)	Energy-derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub> from waste as raw material and fuel	CH <sub>4</sub>	N <sub>2</sub> O	HFC	PFC	SF <sub>6</sub>	Total	Energy-derived CO <sub>2</sub> before allocation to power plants, etc.
Total	529,256 [519,311] (+2%)	60,775 [61,349] (▲1%)	7,159 [6,692] (+7%)	529 [376] (+41%)	6,163 [6,211] (▲1%)	1,068 [1,608] (▲34%)	5,485 [6,422] (▲15%)	3,867 [4,379] (+12%)	614,301 [606,346] (+1%)	441,018 [391,150] (+13%)
A Agriculture and forestry	270 [273] (▲1%)			109 [19] (+472%)					379 [292] (+30%)	
C Mining and quarrying of stone and gravel	837 [821] (+2%)	543 [305] (+78%)	29 [13] (+120%)	50 [31] (+60%)					1,459 [1,170] (+25%)	
D Construction	45 [73] (▲39%)								45 [73] (▲39%)	
E Manufacturing	470,359 [463,492] (+1%)	47,469 [49,397] (▲4%)	7,029 [6,577] (+7%)	269 [255] (+6%)	3,649 [3,493] (+4%)	1,068 [1,608] (▲34%)	5,485 [6,422] (▲15%)	3,808 [4,302] (▲11%)	539,136 [535,545] (+1%)	
F Electricity, gas, heat supply and water	28,494 [25,755] (+11%)	0	25 [36] (▲30%)	43 [42] (+3%)	2,348 [2,528] (▲7%)			21 [14] (+49%)	30,932 [28,375] (+9%)	441,018 [391,150] (+13%)
G Information and communications	2,832 [2,711] (+4%)								2,832 [2,711] (+4%)	
H Transport and postal activities	905 [1,093] (▲17%)								905 [1,093] (▲17%)	

Industry sector (major category)	Energy-derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub> from waste as raw material and fuel	CH <sub>4</sub>	N <sub>2</sub> O	HFC	PFC	SF <sub>6</sub>	Total	Energy-derived CO <sub>2</sub> before allocation to power plants, etc.
I Wholesale and retail trade	5,371 [5,460] (▲2%)	4 [4] (+8%)			6 [6] (▲2%)				5,381 [5,470] (▲2%)	
J Finance and insurance	774 [790] (▲2%)								774 [790] (▲2%)	
K Real estate and goods rental and leasing	3,897 [3,686] (+6%)			[6] (▲100%)					3,897 [3,692] (+6%)	
L Scientific research, professional and technical services	1,512 [1,582] (▲4%)							26 [50] (▲48%)	1,538 [1,632] (▲6%)	
M Accommodations, eating and drinking services	2,260 [2,293] (▲1%)								2,260 [2,293] (▲1%)	
N Living-related and personal services and amusement services	914 [906] (+1%)								914 [906] (+1%)	
O Education, learning support	3,383 [3,342] (+1%)							12 [7] (+73%)	3,395 [3,349] (+1%)	
P Medical, health care and welfare	3,649 [3,437] (+6%)								3,649 [3,437] (+6%)	
Q Compound services	57 [58] (▲2%)								57 [58] (▲2%)	
R Services, N.E.C.	2,403 [2,110] (+14%)	12,758 [11,643] (+10%)	76 [66] (+14%)	57 [23] (+152%)	159 [184] (▲13%)			[6] (▲100%)	15,452 [14,031] (+10%)	

Industry sector (major category)	Energy-derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub>	Non-energy derived CO <sub>2</sub> from waste as raw material and fuel	CH <sub>4</sub>	N <sub>2</sub> O	HFC	PFC	SF <sub>6</sub>	Total	Energy-derived CO <sub>2</sub> before allocation to power plants, etc.
S Government, except elsewhere classified	1,250 [1,387] (▲10%)								1,250 [1,387] (▲10%)	
T Industries unable to classify	46 [43] (+7%)								46 [43] (+7%)	

Note: Industry categories in the table above are taken from the Japan Standard Industrial Classification as revised in April 2008. Concerning industry categories for FY 2006 emissions, we determined the total emissions for the intermediate subcategories which correspond to each of the revised industrial categories.

Industries (intermediate subcategories) which had a change of at least 1 million tons CO<sub>2</sub> between their total FY 2006 emissions and total FY 2007 emissions were iron and steel (up 7.81 million tons CO<sub>2</sub>), electric power (up 2.81 million tons CO<sub>2</sub>), waste disposal (up 1.41 million tons CO<sub>2</sub>), ceramic, stone and clay products (down 1.96 million tons CO<sub>2</sub>), chemical products (down 2.16 million tons CO<sub>2</sub>), and petroleum and coal products (down 2.25 million tons CO<sub>2</sub>). This does not include industries whose categorization was changed in the revised Japan Standard Industrial Classification.

Emissions of energy-derived carbon dioxide changed by at least 1 million tons in the areas of iron and steel (up 7.75 million tons CO<sub>2</sub>), textiles (up 5.61 million tons CO<sub>2</sub>), electric power (up 2.86 million tons CO<sub>2</sub>), and petroleum and coal products (down 2.14 million tons CO<sub>2</sub>).

Emissions of non-energy derived carbon dioxide changed by at least 1 million tons in the areas of waste disposal (up 1.11 million tons CO<sub>2</sub>) and ceramic, stone and clay products (down 1.13 million tons CO<sub>2</sub>).