

**Greenhouse Gas Emission Data of FY 2008 Compiled Under the
Mandatory Greenhouse Gas Accounting and Reporting System based on
the Act on Promotion of Global Warming Countermeasures**

June 18, 2010

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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, the 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 2008, the third 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 2007 greenhouse gas emissions).

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

- Number of facilities/companies submitting reports: 14,842 facilities (7,817 companies) [14,848 (7,813)]
- Total reported emissions: 578.51 million tons CO₂ [614.29 million]

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

- Number of companies submitting reports: 1,425 companies [1,447]
- Total reported emissions: 33.90 million tons CO₂ [36.11 million]

All specified emitters:

- Total reported emissions: 612.40 million tons CO₂ [650.40 million]

Beginning on Friday, June 18 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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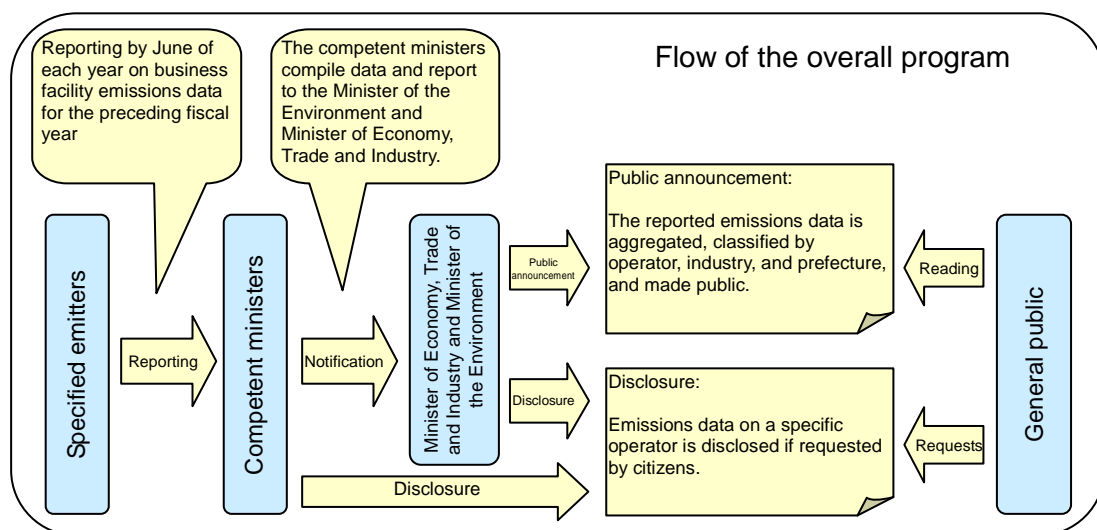
1. Summary of the program

(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 Act on Promotion of Global Warming Countermeasures (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 citizens.

The Global Warming Countermeasures Act was revised in 2005, the year when the Kyoto Protocol came into effect, introducing the Mandatory Greenhouse Gas Accounting and Reporting System, which requires 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 citizens and companies in general will be encouraged and motivated to take voluntary actions by the presentation of emissions data in a clearly understandable format.

(2) Program summary (up to FY 2008)



The 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 date of public announcement under part [3] above, 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 (referred to below 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 (program summary up to FY 2008)

The greenhouse gases subject to reporting are the six types specified in the Kyoto Protocol: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulfur hexafluoride (SF₆). The entities subject to reporting under this program (up to FY 2008) 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 type of 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-originated carbon dioxide emissions data for the transport sector of each company.

Table 1-1. Specified emitters subject to reporting under this program (up to FY 2008)

Specified facility emitters:

Type of greenhouse gas	Reporting entity (specified emitter)
<p>Energy-originated carbon dioxide (CO₂): CO₂ 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"> • Type 1 Designated Energy Management Factory¹ • Type 2 Designated Energy Management Factory² <p>(Reporting per facility)</p>
<p>Non-energy originated carbon dioxide (CO₂): CO₂ other than the above; includes carbon dioxide emitted in connection with crude oil production, cement manufacturing, waste incineration, etc.</p> <p>Methane (CH₄): Agriculture, fuel combustion, land-filling of waste, etc.</p> <p>Nitrous oxide (N₂O): 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 (SF₆): 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-originated carbon dioxide (CO ₂): CO ₂ 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"> • Specified freight carriers³ • Specified passenger carriers⁴ • Specified air carriers⁵ • Specified consigners⁶ (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 emissions 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 or facility, the facility's emissions volumes by type of greenhouse gas, and related information concerning the facility.

2. Reporting on FY 2008 emissions

Of the number of facilities/companies which submitted reports on FY 2008 emissions during the period from April 1 through June 30, 2009, specified facility emitters totaled 14,842 facilities (7,817 companies), and specified transportation emitters totaled 1,425 companies. Meanwhile, of the number of facilities/companies which submitted reports on

FY 2007 emissions, specified facility emitters totaled 14,848 facilities (7,813 companies), and specified transportation emitters totaled 1,447 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-originated carbon dioxide (14,496 reports, 97.7%). Next was non-energy originated carbon dioxide (687 reports, 4.6%), followed by nitrous oxide (297 reports, 2.0%), non-energy originated carbon dioxide from the use of waste as raw material and fuel (191 reports, 1.3%), sulfur hexafluoride (101 reports, 0.7%), perfluorocarbons (99 reports, 0.7%), methane (62 reports, 0.4%), and hydrofluorocarbons (41 reports, 0.3%). All of the reports from specified transportation emitters concerned energy-originated 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-originated CO ₂	14,496 [14,479] ⁴	(97.7%) 7,637 [7,637]	1,425 [1,447]	415 [440]	160 [169]	2 [2]	871 [859]
2. Non-energy originated CO ₂	687 [681]	(4.6%) 492 [484]					
3. Non-energy originated CO ₂ from waste as raw material and fuel ¹	191 [183]	(1.3%) 121 [118]					
4. Methane (CH ₄)	62 [83]	(0.4%) 38 [50]					
5. Nitrous oxide (N ₂ O)	297 [301]	(2.0%) 147 [157]					
6. Hydrofluorocarbons (HFC)	41 [43]	(0.3%) 31 [32]					
7. Perfluorocarbons (PFC)	99 [102]	(0.7%) 67 [68]					
8. Sulfur hexafluoride (SF ₆)	101 [113]	(0.7%) 73 [82]					
9. Energy-originated CO ₂ before allocation to power plants, etc. ²	342 [337]	(2.3%) 170 [165]					
Total ³	14,842 [14,848]	(100.0%) 7,817 [7,813]	1,425 [1,447]	415 [440]	160 [169]	2 [2]	871 [859]

Notes:

¹ This is intended to reduce the amount of greenhouse gas emissions constituting non-energy originated carbon dioxide emissions through activities such as the use of waste materials as fuel in place of fossil fuels or as raw materials for manufacturing products, for purposes including reduction of greenhouse gas emissions.

² Energy-originated 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 2007.

(2) Reporting situation by industry sector

[1] Specified facility emitters

By industry sector (major industrial categories), the highest number of reports concerning specified facility emitters were submitted from facilities in the manufacturing industry (9,206 reports, 62.0%), accounting for about six-tenths of the total number of reporting facilities. Next were the wholesale and retail trade (1,022 reports, 6.9%), electricity, gas, heat supply, and water and sewer services (916 reports, 6.2%), and medical, health care and welfare (622 reports, 4.2%), 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 (1,150 reports, 7.7%), followed by the manufacture of food (1,130 reports, 7.6%), manufacture of transportation equipment (1,005 reports, 6.8%), manufacture of plastic products (705 reports, 4.8%), and manufacture of electronic parts, devices, and electronic circuits (676 reports, 4.6%). (Table 2-2)

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

(Unit: Number of facilities)

Industry		Energy-originated CO ₂	Non- energy originated CO ₂	Non-energy originated CO ₂ from waste as raw material and fuel	CH ₄	N ₂ O	HFC	PFC	SF ₆	Energy-originated CO ₂ before allocation to power plants, etc.	Total
Major category	Intermediate subcategory										
Total		14,496 (97.7%)	687 (4.6%)	191 (1.3%)	62 (0.4%)	297 (2.0%)	41 (0.3%)	99 (0.7%)	101 (0.7%)	342 (2.3%)	14,842 (100.0%)
A	Agriculture and forestry	33			12						45 (0.3%)
	1 Agriculture	33			12						45 (0.3%)
C	Mining and quarrying of stone and gravel	63	6	2	3						63 (0.4%)
	5 Mining and quarrying of stone and gravel	63	6	2	3						63 (0.4%)
D	Construction	12									12 (0.1%)
	6 Construction work, general including public and private construction work	12									12 (0.1%)
E	Manufacturing	9,188	231	180	29	99	39	99	95		9,206 (62.0%)
	9 Manufacture of food	1,130									1,130 (7.6%)
	10 Manufacture of beverages, tobacco and feed	316									316 (2.1%)
	11 Manufacture of textile mill products	333	1	1		1		1			333 (2.2%)
	12 Manufacture of lumber and wood products, except furniture	60	1			2					60 (0.4%)
	13 Manufacture of furniture and fixtures	26									26 (0.2%)
	14 Manufacture of pulp, paper and paper products	384	13	40	10	36			1		385 (2.6%)

Industry		Energy-originated CO ₂	Non- energy originated CO ₂	Non-energy originated CO ₂ from waste as raw material and fuel	CH ₄	N ₂ O	HFC	PFC	SF ₆	Energy-originated CO ₂ before allocation to power plants, etc.	Total
Major category	Intermediate subcategory										
	15	Printing and allied industries	224	1	6						224 (1.5%)
	16	Manufacture of chemical and allied products	1,147	69	37	1	14	16	7	2	1,150 (7.7%)
	17	Manufacture of petroleum and coal products	124	1	3	1	24				124 (0.8%)
	18	Manufacture of plastic products, except otherwise classified	705	1	3			1	1	2	705 (4.8%)
	19	Manufacture of rubber products	157		6		1			1	158 (1.1%)
	20	Manufacture of leather tanning, leather products and fur skins	3								3 (0.0%)
	21	Manufacture of ceramic, stone and clay products	547	92	49	4	10				548 (3.7%)
	22	Manufacture of iron and steel	483	42	19	12	11				484 (3.3%)
	23	Manufacture of non-ferrous metals and products	366	6	14				1	7	370 (2.5%)
	24	Manufacture of fabricated metal products	431							2	433 (2.9%)
	25	Manufacture of general-purpose machinery	193					2	1		193 (1.3%)
	26	Manufacture of production machinery	213								213 (1.4%)
	27	Manufacture of business oriented machinery	112								112 (0.8%)

Industry		Energy-originated CO ₂	Non- energy originated CO ₂	Non-energy originated CO ₂ from waste as raw material and fuel	CH ₄	N ₂ O	HFC	PFC	SF ₆	Energy-originated CO ₂ before allocation to power plants, etc.	Total
Major category	Intermediate subcategory										
	28	Electronic parts, devices, and electronic circuits	673	2		1	16	78	59		676 (4.6%)
	29	Manufacture of electrical machinery, equipment and supplies	333		1		2	4	11		334 (2.3%)
	30	Manufacture of information and communication electronics equipment	126					2	2		127 (0.9%)
	31	Manufacture of transportation equipment	1,005	2	1		2	3	6		1,005 (6.8%)
	32	Miscellaneous manufacturing industries	97					1	2		97 (0.7%)
F	Electricity, gas, heat supply and water		897	2	3	15	167		4	342	916 (6.2%)
	33	Production, transmission and distribution of electricity	233	1	2		40		4	210	237 (1.6%)
	34	Production and distribution of gas	40	1		3					40 (0.3%)
	35	Heat supply	138		1					132	151 (1.0%)
	36	Collection, purification and distribution of water, and sewage collection, processing and disposal	486			12	127				488 (3.3%)
G	Information and communications		408								408 (2.7%)
	37	Communications	235								235 (1.6%)
	38	Broadcasting	26								26 (0.2%)

Industry		Energy-originated CO ₂	Non- energy originated CO ₂	Non-energy originated CO ₂ from waste as raw material and fuel	CH ₄	N ₂ O	HFC	PFC	SF ₆	Energy-originated CO ₂ before allocation to power plants, etc.	Total
Major category	Intermediate subcategory										
	39	Information services	99								99 (0.7%)
	40	Internet based services	16								16 (0.1%)
	41	Video picture, sound information, and character information production and distribution	32								32 (0.2%)
H	Transport and postal activities		92								92 (0.6%)
	42	Railway transport	4								4 (0.0%)
	44	Road freight transport	2								2 (0.0%)
	46	Air transport	10								10 (0.1%)
	47	Warehousing	43								43 (0.3%)
	48	Services incidental to transport	29								29 (0.2%)
	49	Postal activities, including mail delivery	4								4 (0.0%)
I	Wholesale and retail trade		1,022	1		1					1,022 (6.9%)
	50	Wholesale trade, general merchandise	7								7 (0.0%)
	52	Wholesale trade (food and beverages)	4								4 (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%)

Industry		Energy-originated CO ₂	Non- energy originated CO ₂	Non-energy originated CO ₂ from waste as raw material and fuel	CH ₄	N ₂ O	HFC	PFC	SF ₆	Energy-originated CO ₂ before allocation to power plants, etc.	Total
Major category	Intermediate subcategory										
	56	Retail trade, general merchandise	988			1					988 (6.7%)
	57	Retail trade (dry goods, apparel and apparel accessories)	1								1 (0.0%)
	58	Retail trade (food and beverages)	5	1							5 (0.0%)
	60	Miscellaneous retail trade	6								6 (0.0%)
J	Finance and insurance		133								133 (0.9%)
	62	Banking	64								64 (0.4%)
	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	7								7 (0.0%)
	67	Insurance institutions including insurance agents, brokers and services	48								48 (0.3%)
K	Real estate and goods rental and leasing		594								594 (4.0%)
	69	Real estate lessors and managers	594								594 (4.0%)
L	Scientific research, professional and technical services		99						1		99 (0.7%)

Industry			Energy- originated CO ₂	Non- energy originated CO ₂	Non-energy originated CO ₂ from waste as raw material and fuel	CH ₄	N ₂ O	HFC	PFC	SF ₆	Energy-originated CO ₂ before allocation to power plants, etc.	Total
Major category	Intermediate subcategory											
	71	Scientific and development research institutes	85							1		85 (0.6%)
	72	Professional services, N.E.C.	3									3 (0.0%)
	74	Technical services, N.E.C.	11									11 (0.1%)
M	Accommodations, eating and drinking services		306									306 (2.1%)
	75	Accommodations	303									303 (2.0%)
	76	Eating and drinking places	3									3 (0.0%)
N	Living-related and personal services and amusement services		131									131 (0.9%)
	78	Laundry, beauty and bath services	46									46 (0.3%)
	79	Miscellaneous living-related and personal services	2									2 (0.0%)
	80	Services for amusement and hobbies	83									83 (0.6%)
O	Education, learning support		373									373 (2.5%)
	81	School education	341									341 (2.3%)
	82	Miscellaneous education, learning support	32									32 (0.2%)
P	Medical, health care and welfare		622									622 (4.2%)
	83	Medical and other health services	617									617 (4.2%)
	84	Public health and hygiene	1									1 (0.0%)
	85	Social insurance and social welfare	4									4 (0.0%)
Q	Compound services		5									5 (0.0%)

Industry		Energy-originated CO ₂	Non- energy originated CO ₂	Non-energy originated CO ₂ from waste as raw material and fuel	CH ₄	N ₂ O	HFC	PFC	SF ₆	Energy-originated CO ₂ before allocation to power plants, etc.	Total
Major category	Intermediate subcategory										
	86 Postal activities	3									3 (0.0%)
	87 Cooperative associations, N.E.C.	2									2 (0.0%)
R	Services, N.E.C.	306	447	6	3	30	2		1		603 (4.1%)
	88 Waste disposal business	258	447	6	3	30	2		1		555 (3.7%)
	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	1									1 (0.0%)
	94 Religion	6									6 (0.0%)
	95 Miscellaneous services	27									27 (0.2%)
S	Government, except elsewhere classified	204									204 (1.4%)
	97 National government services	133									133 (0.9%)
	98 Local government services	71									71 (0.5%)
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

By industry sector (major industrial categories), the highest number of reports concerning specified freight carriers were submitted by companies whose main area of business was transport services (319 reports, 76.9%), followed by the wholesale and retail trade (56 reports, 13.5%) and manufacturing (16 reports, 3.9%).

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

Among specified consigners, the highest number of reports were submitted by companies whose main area of business was manufacturing (670 reports, 76.9%), followed by the wholesale and retail trade (140 reports, 16.1%) and 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 operators)

Industry		Specified freight carriers	Specified passenger carriers	Specified air carriers	Specified consigners	Total	
Major category	Intermediate subcategory						
Total		415 [100.0%] (29.1%)	160 [100.0%] (11.2%)	2 [100.0%] (0.1%)	871 [100.0%] (61.1%)	1,425 [100.0%] (100.0%)	
C	Mining and quarrying of stone and gravel	1 [0.2%]			13 [1.5%]	14 [1.0%]	
	5 Mining and quarrying of stone and gravel	1 [0.2%]			13 [1.5%]	14 [1.0%]	
D	Construction				10 [1.1%]	10 [0.7%]	
	6 Construction work, general including public and private construction work				9 [1.0%]	9 [0.6%]	
	7 Specialized work (excluding equipment work)				1 [0.1%]	1 [0.1%]	
E	Manufacturing	16 [3.9%]			670 [76.9%]	679 [47.6%]	
	9 Manufacture of food	8 [1.9%]			91 [10.4%]	94 [6.6%]	
	10 Manufacture of beverages, tobacco and feed	5 [1.2%]			48 [5.5%]	51 [3.6%]	
	11 Manufacture of textile mill products				6 [0.7%]	6 [0.4%]	
	12 Manufacture of lumber and wood products, except furniture				13 [1.5%]	13 [0.9%]	
	13 Manufacture of furniture and fixtures				5 [0.6%]	5 [0.4%]	
	14 Manufacture of pulp, paper and paper products				39 [4.5%]	39 [2.7%]	

Industry		Specified freight carriers	Specified passenger carriers	Specified air carriers	Specified consigners	Total			
Major category	Intermediate subcategory								
	15	Printing and allied industries				6	[0.7%]	6	[0.4%]
	16	Manufacture of chemical and allied products				124	[14.2%]	124	[8.7%]
	17	Manufacture of petroleum and coal products				12	[1.4%]	12	[0.8%]
	18	Manufacture of plastic products, except otherwise classified				29	[3.3%]	29	[2.0%]
	19	Manufacture of rubber products				5	[0.6%]	5	[0.4%]
	21	Manufacture of ceramic, stone and clay products				65	[7.5%]	65	[4.6%]
	22	Manufacture of iron and steel				66	[7.6%]	66	[4.6%]
	23	Manufacture of non-ferrous metals and products				24	[2.8%]	24	[1.7%]
	24	Manufacture of fabricated metal products	1	[0.2%]		17	[2.0%]	18	[1.3%]
	25	Manufacture of general-purpose machinery				8	[0.9%]	8	[0.6%]
	26	Manufacture of production machinery	2	[0.5%]		10	[1.1%]	12	[0.8%]
	27	Manufacture of business oriented machinery				8	[0.9%]	8	[0.6%]
	28	Electronic parts, devices, and electronic circuits				2	[0.2%]	2	[0.1%]

Industry		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	[2.5%]	22	[1.5%]
	30	Manufacture of information and communication electronics equipment				4	[0.5%]	4	[0.3%]
	31	Manufacture of transportation equipment				58	[6.7%]	58	[4.1%]
	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	[1.8%]	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	319	[76.9%]	160	[100.0%]	2	[100.0%]	482	[33.8%]
	42	Railway transport	1	[0.2%]	25	[15.6%]		26	[1.8%]

Industry		Specified freight carriers	Specified passenger carriers	Specified air carriers	Specified consigners	Total	
Major category	Intermediate subcategory						
	43	Road passenger transport		129 [80.6%]			129 [9.1%]
	44	Road freight transport	283 [68.2%]		1 [0.1%]		283 [19.9%]
	45	Water transport	34 [8.2%]	12 [7.5%]		1 [0.1%]	45 [3.2%]
	46	Air transport			2 [100.0%]		2 [0.1%]
	48	Services incidental to transport	1 [0.2%]			2 [0.2%]	3 [0.2%]
	49	Postal activities, including mail delivery	1 [0.2%]				1 [0.1%]
I	Wholesale and retail trade		56 [13.5%]			140 [16.1%]	185 [13.0%]
	50	Wholesale trade, general merchandise	1 [0.2%]			23 [2.6%]	23 [1.6%]
	51	Wholesale trade (textiles and apparel)	2 [0.5%]				2 [0.1%]
	52	Wholesale trade (food and beverages)	17 [4.1%]			29 [3.3%]	41 [2.9%]
	53	Wholesale trade (building materials, minerals and metals, etc.)	2 [0.5%]			43 [4.9%]	44 [3.1%]
	54	Wholesale trade (machinery and equipment)	8 [1.9%]			3 [0.3%]	11 [0.8%]
	55	Miscellaneous wholesale trade	12 [2.9%]			15 [1.7%]	27 [1.9%]
	56	Retail trade, general merchandise	2 [0.5%]			12 [1.4%]	14 [1.0%]
	57	Retail trade (dry goods, apparel and apparel accessories)	3 [0.7%]			2 [0.2%]	5 [0.4%]
	58	Retail trade (food and beverages)	5 [1.2%]			3 [0.3%]	6 [0.4%]

Industry		Specified freight carriers	Specified passenger carriers	Specified air carriers	Specified consigners	Total
Major category	Intermediate subcategory					
	59	Retail trade (machinery and equipment)	1 [0.2%]		1 [0.1%]	2 [0.1%]
	60	Miscellaneous retail trade	2 [0.5%]		8 [0.9%]	10 [0.7%]
	61	Nonstore retailers	1 [0.2%]		1 [0.1%]	2 [0.1%]
K	Real estate and goods rental and leasing		2 [0.5%]			2 [0.1%]
	70	Goods rental and leasing	2 [0.5%]			2 [0.1%]
M	Accommodations, eating and drinking services				4 [0.5%]	4 [0.3%]
	76	Eating and drinking places			3 [0.3%]	3 [0.2%]
	77	Take-out and delivery service			1 [0.1%]	1 [0.1%]
N	Living-related and personal services and amusement services		5 [1.2%]			5 [0.4%]
	78	Laundry, beauty and bath services	1 [0.2%]			1 [0.1%]
	79	Miscellaneous living-related and personal services	4 [1.0%]			4 [0.3%]
O	Education, learning support		2 [0.5%]		1 [0.1%]	3 [0.2%]
	82	Miscellaneous education, learning support	2 [0.5%]		1 [0.1%]	3 [0.2%]
P	Medical, health care and welfare		2 [0.5%]			2 [0.1%]
	85	Social insurance and social welfare	2 [0.5%]			2 [0.1%]
Q	Compound services		8 [1.9%]		4 [0.5%]	12 [0.8%]
	87	Cooperative associations, N.E.C.	8 [1.9%]		4 [0.5%]	12 [0.8%]
R	Services, N.E.C.		1 [0.2%]		5 [0.6%]	6 [0.4%]
	88	Waste disposal business			2 [0.2%]	2 [0.1%]

Industry		Specified freight carriers	Specified passenger carriers	Specified air carriers	Specified consigners	Total	
Major category	Intermediate subcategory						
	92	Miscellaneous business services	1 [0.2%]			1 [0.1%]	2 [0.1%]
	95	Miscellaneous services				2 [0.2%]	2 [0.1%]
S	Government, except elsewhere classified		2 [0.5%]			1 [0.1%]	3 [0.2%]
	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-originated 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 (1,231 reports, 8.3%), Aichi Prefecture (1,127 reports, 7.6%), Osaka (895 reports, 6.0%), Kanagawa Prefecture (861 reports, 5.8%), Hyogo Prefecture (695 reports, 4.7%), Shizuoka Prefecture (670 reports, 4.5%), Chiba Prefecture (642 reports, 4.3%), Saitama Prefecture (603 reports, 4.1%), Ibaraki Prefecture (540 reports, 3.6%), and Fukuoka Prefecture (502 reports, 3.4%). 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- originated CO ₂	Non-energy originated CO ₂	Non-energy originated CO ₂ from waste as raw material and fuel	CH ₄	N ₂ O	HFC	PFC	SF ₆	Energy- originated CO ₂ before allocation to power plants, etc.	Total
Total		14,496 (97.7%)	687 (4.6%)	191 (1.3%)	62 (0.4%)	297 (2.0%)	41 (0.3%)	99 (0.7%)	101 (0.7%)	342 (2.3%)	14,842 (100.0%)
1	Hokkaido	457	29	11	7	19		1	1	30	480 (3.2%)
2	Aomori Prefecture	110	14	4		3		1	1	3	117 (0.8%)
3	Iwate Prefecture	146	13	2	2		1	2	3	2	154 (1.0%)
4	Miyagi Prefecture	220	15	4	1	5	1	2	3	2	233 (1.6%)
5	Akita Prefecture	119	11	1		5			2	3	124 (0.8%)
6	Yamagata Prefecture	142	13			1		4	3	2	150 (1.0%)
7	Fukushima Prefecture	292	23	7	1	8	1	4	2	7	307 (2.1%)
8	Ibaraki Prefecture	533	14	9	2	9	2	5	7	14	540 (3.6%)
9	Tochigi Prefecture	330	18	7	1	5	1	1	3		342 (2.3%)
10	Gunma Prefecture	315	12	3		1	2	3	4	2	327 (2.2%)
11	Saitama Prefecture	584	33	8	3	8	1	5	3	2	603 (4.1%)
12	Chiba Prefecture	629	40	11	4	14	4	4	6	20	642 (4.3%)
13	Tokyo	1,208	41	3	5	25	1	1	1	68	1,231 (8.3%)
14	Kanagawa Prefecture	836	34	6	3	26	1	4	2	17	861 (5.8%)
15	Niigata Prefecture	260	23	3	2	4	1	2	1	11	271 (1.8%)
16	Toyama Prefecture	195	6	2		3	2	3	3	2	195 (1.3%)
17	Ishikawa Prefecture	155	3	1		2		2	1	2	158 (1.1%)

Prefecture	Energy-originated CO ₂	Non-energy originated CO ₂	Non-energy originated CO ₂ from waste as raw material and fuel	CH ₄	N ₂ O	HFC	PFC	SF ₆	Energy- originated CO ₂ before allocation to power plants, etc.	Total		
18	Fukui Prefecture	136	5	2		2	1			2	138	(0.9%)
19	Yamanashi Prefecture	112				1	1	1	2		112	(0.8%)
20	Nagano Prefecture	271	5	4		4	1	4	1	1	276	(1.9%)
21	Gifu Prefecture	318	16	5	1	3		1	2		321	(2.2%)
22	Shizuoka Prefecture	662	16	10	1	5	3	3	3	4	670	(4.5%)
23	Aichi Prefecture	1,101	44	8	1	16		5	4	19	1,127	(7.6%)
24	Mie Prefecture	348	15	7	1	5	1	4	5	5	352	(2.4%)
25	Shiga Prefecture	305	10	2		2	1	2	2	1	308	(2.1%)
26	Kyoto	248	8	1	1	4		2	2	2	254	(1.7%)
27	Osaka	874	39	2	2	26	4	1	1	16	895	(6.0%)
28	Hyogo Prefecture	687	25	10	1	13	2	4	4	15	695	(4.7%)
29	Nara Prefecture	96	2			1		1	1	1	96	(0.6%)
30	Wakayama Prefecture	83	3	1	1	1				3	83	(0.6%)
31	Tottori Prefecture	54	2	1		1			1		55	(0.4%)
32	Shimane Prefecture	75	3			2				4	76	(0.5%)
33	Okayama Prefecture	295	21	11	1	8		3		3	297	(2.0%)
34	Hiroshima Prefecture	321	16	3	3	12	3	2	3	5	330	(2.2%)
35	Yamaguchi Prefecture	225	20	9	3	12	2	1	1	10	229	(1.5%)
36	Tokushima Prefecture	88	6	1		3		1		3	90	(0.6%)
37	Kagawa Prefecture	127	6	1	1	1			1	1	131	(0.9%)
38	Ehime Prefecture	163	9	5	1	7		1	2	4	168	(1.1%)

Prefecture	Energy- originated CO ₂	Non-energy originated CO ₂	Non-energy originated CO ₂ from waste as raw material and fuel	CH ₄	N ₂ O	HFC	PFC	SF ₆	Energy- originated CO ₂ before allocation to power plants, etc.	Total
39 Kochi Prefecture	51	9	2	1	2		1	2	1	53 (0.4%)
40 Fukuoka Prefecture	490	35	14	5	12		4	2	15	502 (3.4%)
41 Saga Prefecture	116	1		1						116 (0.8%)
42 Nagasaki Prefecture	90	4			3		2	2	9	92 (0.6%)
43 Kumamoto Prefecture	177	3	2	1	3		5	5	2	180 (1.2%)
44 Oita Prefecture	132	11	5	4	4	1	2	2	4	136 (0.9%)
45 Miyazaki Prefecture	103	2	2		4	2	3	3	2	104 (0.7%)
46 Kagoshima Prefecture	124	4				1	2	4	11	126 (0.8%)
47 Okinawa Prefecture	93	5	1	1	2				12	95 (0.6%)

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 379 cases (99 cases of information regarding companies and 280 cases of information regarding facilities) of 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)	99	280
Specified transportation emitters (reporting per company)	0	
Specified freight carriers	0	
Specified passenger carriers	0	
Specified air carriers	0	
Specified consigners	0	
Subtotal	99	280
Total	379	

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

No requests were approved by the competent ministers during this period.

3. Data compiled on FY 2008 emissions

(1) Emissions by type of greenhouse gas

Concerning the categories of specified emitters, emissions from facilities were 578.51 million tons CO₂, or 94.5% of the total; while emissions from transportation companies were 33.90 million tons CO₂, or 5.5% of the total.

Concerning the types of greenhouse gases, the highest amount reported was energy-originated carbon dioxide (532.20 million tons CO₂, 86.9%), followed by non-energy originated carbon dioxide (57.86 million tons CO₂, 9.4%), non-energy originated carbon dioxide from the use of waste as raw material and fuel (7.03 million tons CO₂, 1.1%), N₂O (6.46 million tons CO₂ 1.1%), perfluorocarbons (4.09 million tons CO₂), sulfur hexafluoride (3.21 million tons CO₂), hydrofluorocarbons (1.15 million tons CO₂), and methane (0.40 million tons CO₂). (Table 3-1, Fig. 3-1, Fig. 3-2)

The FY 2008 emissions reported during this period (total of 612.40 million tons CO₂) account for 48% of the total 2008 emissions of Japan nationwide (inventory; approximately 1,282.00 million tons CO₂).

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

(Unit: tons CO₂)

Type of greenhouse gas		A = B + C		B	C = D + E + F	D	E	F	G
		Specified emitters (excluding specified consigners)		Specified facility emitters	Total	Specified transportation emitters			
						Specified freight carriers	Specified passenger carriers	Specified air carriers	Specified consigners
1	Energy-originated CO ₂	532,199,332 [565,447,754]	(86.9%)	498,302,623 [529,335,254]	33,896,709 [36,112,500]	11,698,260 [12,474,970]	14,418,449 [15,387,530]	7,780,000 [8,250,000]	16,878,140 [18,638,633]
2	Non-energy originated CO ₂	57,861,349 [60,774,546]	(9.4%)	57,861,349 [60,774,546]					
3	Non-energy originated CO ₂ from waste as raw material and fuel	7,032,106 [7,069,738]	(1.1%)	7,032,106 [7,069,738]					
4	Methane (CH ₄)	401,777 [528,540]	(0.1%)	401,777 [528,540]					
5	Nitrous oxide (N ₂ O)	6,457,493 [6,162,940]	(1.1%)	6,457,493 [6,162,940]					
6	Hydrofluorocarbons (HFC)	1,148,847 [1,067,948]	(0.2%)	1,148,847 [1,067,948]					
7	Perfluorocarbons (PFC)	4,088,973 [5,484,597]	(0.7%)	4,088,973 [5,484,597]					
8	Sulfur hexafluoride (SF ₆)	3,214,193 [3,867,153]	(0.5%)	3,214,193 [3,867,153]					
1 - 8	Total	612,404,070 [650,403,215]	(100.0%)	587,507,361 (94.5%)	33,896,709 (5.5%)	11,698,260 (1.9%)	14,418,449 (2.4%)	7,780,000 (1.3%)	
9	Energy-originated CO ₂ before allocation to power plants, etc.	419,303,056 [441,018,130]		419,303,056 [441,018,130]					

Notes:

1. Percentages indicate the proportion of total emissions by specified emitters.
2. The emissions of specified consigners and the energy-originated CO₂ 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 2007 emissions.

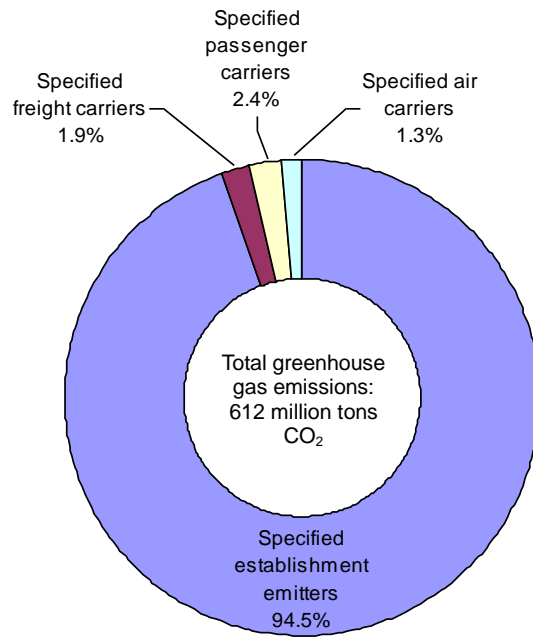


Fig. 3-1. Breakdown of emissions by type of specified emitter (excluding specified consigners)

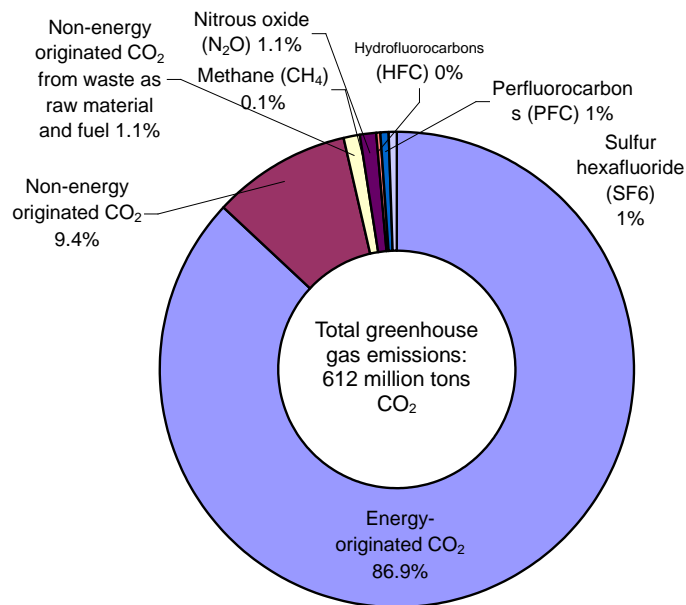


Fig. 3-2. Breakdown of emissions of specified emitters (excluding specified consigners) by type of greenhouse gas

(2) Emissions by industry sector

[1] Specified facility emitters

By industry sector (major industrial categories), the highest emissions were from facilities whose main area of business is manufacturing (502.85 million tons CO₂, 86.9%), representing approximately 90% of emissions from reporting facilities. Next were electricity, gas, heat supply, and water and sewer services (30.42 million tons CO₂, 5.3%), the service industry (15.48 million tons CO₂, 2.7%), and wholesale and retail trade (5.40 million tons CO₂, 0.9%).

Within the manufacturing industry (intermediate industrial categories), the highest emissions were from manufacture of iron and steel (185.65 million tons CO₂, 32.1%), manufacture of chemical and allied products (83.57 million tons CO₂, 14.4%), manufacture of ceramic, stone and clay products (66.43 million tons CO₂, 11.5%), manufacture of petroleum and coal products (35.54 million tons CO₂, 6.1%), manufacture of pulp, paper and paper products (29.33 million tons CO₂, 5.1%), and manufacture of electronic parts, devices, and electronic circuits (20.90 million tons CO₂, 3.6%), in that order.

Meanwhile, energy-originated carbon dioxide emissions from electric power plants, etc. (before allocation to power plants, etc.) were 419.30 million tons CO₂ (Table 3-2, Figs. 3-3 to 3-13).

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

(Unit: tons CO₂)

Industry		Energy- originated CO ₂	Non- energy originated CO ₂	Non-energy originated CO ₂ from waste as raw material and fuel	CH ₄	N ₂ O	HFC	PFC	SF ₆	Total	Energy-originated CO ₂ before allocation to power plants, etc.
Major category	Intermediate subcategory										
Total		498,302,623 (86.1%)	57,861,349 (10.0%)	7,032,106 (1.2%)	401,777 (0.1%)	6,457,493 (1.1%)	1,148,847 (0.2%)	4,088,973 (0.7%)	3,214,193 (0.6%)	578,507,361 (100.0%)	419,303,056
A	Agriculture and forestry	279,902			63,330					343,232 (0.1%)	
1	Agriculture	279,902			63,330					343,232 (0.1%)	
C	Mining and quarrying of stone and gravel	894,165	533,084	32,429	14,751					1,474,429 (0.3%)	
5	Mining and quarrying of stone and gravel	894,165	533,084	32,429	14,751					1,474,429 (0.3%)	
D	Construction	41,505								41,505 (0.0%)	
6	Construction work, general including public and private construction work	41,505								41,505 (0.0%)	
E	Manufacturing	439,302,423	44,230,742	6,878,767	244,360	3,801,748	1,141,848	4,088,973	3,158,204	502,847,065 (86.9%)	
9	Manufacture of food	12,065,960								12,065,960 (2.1%)	
10	Manufacture of beverages, tobacco and feed	3,966,017								3,966,017 (0.7%)	
11	Manufacture of textile mill products	7,787,695	46,400	15,300		3,050		43,200		7,895,645 (1.4%)	
12	Manufacture of lumber and wood products, except furniture	530,073	3,520			18,100				551,693 (0.1%)	
13	Manufacture of furniture and fixtures	118,153								118,153 (0.0%)	

Industry		Energy- originated CO ₂	Non- energy originated CO ₂	Non-energy originated CO ₂ from waste as raw material and fuel	CH ₄	N ₂ O	HFC	PFC	SF ₆	Total	Energy-originated CO ₂ before allocation to power plants, etc.
Major category	Intermediate subcategory										
14	Manufacture of pulp, paper and paper products	25,667,120	258,129	2,108,221	46,376	1,246,915			5,162	29,331,923 (5.1%)	
15	Printing and allied industries	1,964,593	4,590	59,842						2,029,025 (0.4%)	
16	Manufacture of chemical and allied products	71,881,981	6,312,898	862,848	4,200	1,475,256	944,642	797,725	1,287,752	83,567,302 (14.4%)	
17	Manufacture of petroleum and coal products	35,223,190	4,384	15,659	9,427	287,538				35,540,198 (6.1%)	
18	Manufacture of plastic products, except otherwise classified	6,485,982	867	18,278			6,000	3,800	27,470	6,542,397 (1.1%)	
19	Manufacture of rubber products	2,677,847		77,902		6,171			7,170	2,679,090 (0.5%)	
20	Manufacture of leather tanning, leather products and fur skins	17,704								17,704 (0.0%)	
21	Manufacture of ceramic, stone and clay products	32,365,707	30,971,251	2,556,751	16,657	516,162				66,426,528 (11.5%)	
22	Manufacture of iron and steel	178,085,274	6,462,139	694,153	163,400	248,556				185,653,522 (32.1%)	
23	Manufacture of non-ferrous metals and products	10,458,353	131,108	452,528				15,000	316,340	11,373,329 (2.0%)	
24	Manufacture of fabricated metal products	4,321,775							8,963	4,330,738 (0.7%)	
25	Manufacture of general-purpose machinery	2,154,207					10,600	15,000		2,179,807 (0.4%)	
26	Manufacture of production machinery	1,854,783								1,854,783 (0.3%)	

Industry		Energy- originated CO ₂	Non- energy originated CO ₂	Non-energy originated CO ₂ from waste as raw material and fuel	CH ₄	N ₂ O	HFC	PFC	SF ₆	Total	Energy-originated CO ₂ before allocation to power plants, etc.	
Major category	Intermediate subcategory											
	27	Manufacture of business oriented machinery	1,319,092							1,319,092	(0.2%)	
	28	Electronic parts, devices, and electronic circuits	16,671,286	24,736	4,300		163,748	3,107,306	926,114	20,897,490	(3.6%)	
	29	Manufacture of electrical machinery, equipment and supplies	4,447,007		5,164		11,500	53,254	278,390	4,795,315	(0.8%)	
	30	Manufacture of information and communication electronics equipment	1,379,771					11,700	68,700	1,460,171	(0.3%)	
	31	Manufacture of transportation equipment	17,173,070	10,720	12,121		5,358	28,988	204,218	17,434,475	(3.0%)	
	32	Miscellaneous manufacturing industries	685,783					13,000	27,925	726,708	(0.1%)	
F	Electricity, gas, heat supply and water		27,668,030	146,000	32,420	48,287	2,507,974		18,569	30,421,280	(5.3%)	419,303,056
	33	Production, transmission and distribution of electricity	22,546,674	146,000	15,120		889,025		18,569	23,615,388	(4.1%)	416,872,831
	34	Production and distribution of gas	655,892			2,467				658,359	(0.1%)	
	35	Heat supply	489,604		17,300					506,904	(0.1%)	2,430,225
	36	Collection, purification and distribution of water, and sewage collection, processing and disposal	3,975,860			45,820	1,618,949			5,640,629	(1.0%)	

Industry		Energy-originated CO ₂	Non- energy originated CO ₂	Non-energy originated CO ₂ from waste as raw material and fuel	CH ₄	N ₂ O	HFC	PFC	SF ₆	Total	Energy-originated CO ₂ before allocation to power plants, etc.
Major category	Intermediate subcategory										
G Information and communications		3,212,233								3,212,233 (0.6%)	
37	Communications	1,737,750								1,737,750 (0.3%)	
38	Broadcasting	244,790								244,790 (0.0%)	
39	Information services	832,992								832,992 (0.1%)	
40	Internet based services	196,030								196,030 (0.0%)	
41	Video picture, sound information, and character information production and distribution	200,671								200,671 (0.0%)	
H Transport and postal activities		830,249								830,249 (0.1%)	
42	Railway transport	16,990								16,990 (0.0%)	
44	Road freight transport	11,010								11,010 (0.0%)	
46	Air transport	78,372								78,372 (0.0%)	
47	Warehousing	255,065								255,065 (0.0%)	
48	Services incidental to transport	449,112								449,112 (0.1%)	
49	Postal activities, including mail delivery	19,700								19,700 (0.0%)	
I Wholesale and retail trade		5,391,257	4,440			5,500				5,401,197 (0.9%)	
50	Wholesale trade, general merchandise	41,537								41,537 (0.0%)	
52	Wholesale trade (food and beverages)	13,780								13,780 (0.0%)	
53	Wholesale trade (building materials, minerals and metals, etc.)	14,780								14,780 (0.0%)	

Industry		Energy- originated CO ₂	Non- energy originated CO ₂	Non-energy originated CO ₂ from waste as raw material and fuel	CH ₄	N ₂ O	HFC	PFC	SF ₆	Total	Energy-originated CO ₂ before allocation to power plants, etc.
Major category	Intermediate subcategory										
	54	Wholesale trade (machinery and equipment)	20,885							20,885 (0.0%)	
	55	Miscellaneous wholesale trade	18,580							18,580 (0.0%)	
	56	Retail trade, general merchandise	5,238,541			5,500				5,244,041 (0.9%)	
	57	Retail trade (dry goods, apparel and apparel accessories)	2,260							2,260 (0.0%)	
	58	Retail trade (food and beverages)	14,132	4,440						18,572 (0.0%)	
	60	Miscellaneous retail trade	26,762							26,762 (0.0%)	
J	Finance and insurance		832,373							832,373 (0.1%)	
	62	Banking	460,134							460,134 (0.1%)	
	63	Financial institutions for cooperative organizations	43,253							43,253 (0.0%)	
	64	Non-deposit money corporations, including lending and credit card business	27,673							27,673 (0.0%)	
	65	Financial products transaction dealers and futures commodity transaction dealers	37,968							37,968 (0.0%)	
	67	Insurance institutions including insurance agents, brokers and services	263,345							263,345 (0.0%)	
K	Real estate and goods rental and leasing		3,907,602							3,907,602 (0.7%)	

Industry			Energy- originated CO ₂	Non- energy originated CO ₂	Non-energy originated CO ₂ from waste as raw material and fuel	CH ₄	N ₂ O	HFC	PFC	SF ₆	Total	Energy-originated CO ₂ before allocation to power plants, etc.
Major category	Intermediate subcategory											
	69	Real estate lessors and managers	3,907,602								3,907,602 (0.7%)	
L	Scientific research, professional and technical services		1,991,747							34,000	2,025,747 (0.4%)	
	71	Scientific and development research institutes	1,897,829							34,000	1,931,829 (0.3%)	
	72	Professional services, N.E.C.	30,900								30,900 (0.0%)	
	74	Technical services, N.E.C.	63,018								63,018 (0.0%)	
M	Accommodations, eating and drinking services		2,024,241								2,024,241 (0.3%)	
	75	Accommodations	1,994,821								1,994,821 (0.3%)	
	76	Eating and drinking places	29,420								29,420 (0.0%)	
N	Living-related and personal services and amusement services		922,116								922,116 (0.2%)	
	78	Laundry, beauty and bath services	238,613								238,613 (0.0%)	
	79	Miscellaneous living-related and personal services	6,224								6,224 (0.0%)	
	80	Services for amusement and hobbies	677,279								677,279 (0.1%)	
O	Education, learning support		3,511,973								3,511,973 (0.6%)	
	81	School education	3,331,059								3,331,059 (0.6%)	
	82	Miscellaneous education, learning support	180,914								180,914 (0.0%)	
P	Medical, health care and welfare		3,846,574								3,846,574 (0.7%)	
	83	Medical and other health services	3,828,574								3,828,574 (0.7%)	

Industry			Energy- originated CO ₂	Non- energy originated CO ₂	Non-energy originated CO ₂ from waste as raw material and fuel	CH ₄	N ₂ O	HFC	PFC	SF ₆	Total	Energy-originated CO ₂ before allocation to power plants, etc.
Major category	Intermediate subcategory											
	84	Public health and hygiene	4,230								4,230 (0.0%)	
	85	Social insurance and social welfare	13,770								13,770 (0.0%)	
Q	Compound services		30,737								30,737 (0.0%)	
	86	Postal activities	15,460								15,460 (0.0%)	
	87	Cooperative associations, N.E.C.	15,277								15,277 (0.0%)	
R	Services, N.E.C.		2,260,423	12,947,083	88,490	31,049	142,271	6,999		3,420	15,479,735 (2.7%)	
	88	Waste disposal business	1,908,070	12,947,083	88,490	31,049	142,271	6,999		3,420	15,127,382 (2.6%)	
	90	Machine, etc. repair services, except otherwise classified	2,650								2,650 (0.0%)	
	92	Miscellaneous business services	120,951								120,951 (0.0%)	
	93	Political, business and cultural organizations	8,420								8,420 (0.0%)	
	94	Religion	46,850								46,850 (0.0%)	
	95	Miscellaneous services	173,482								173,482 (0.0%)	
S	Government, except elsewhere classified		1,313,877								1,313,877 (0.2%)	
	97	National government services	953,086								953,086 (0.2%)	
	98	Local government services	360,791								360,791 (0.1%)	
T	Industries unable to classify		41,196								41,196 (0.0%)	
	99	Industries unable to classify	41,196								41,196 (0.0%)	

Note: Energy-originated CO₂ emissions before allocation to power plants, etc. are also included in other energy-originated CO₂ emissions. Therefore, these values are not added to the total emissions.

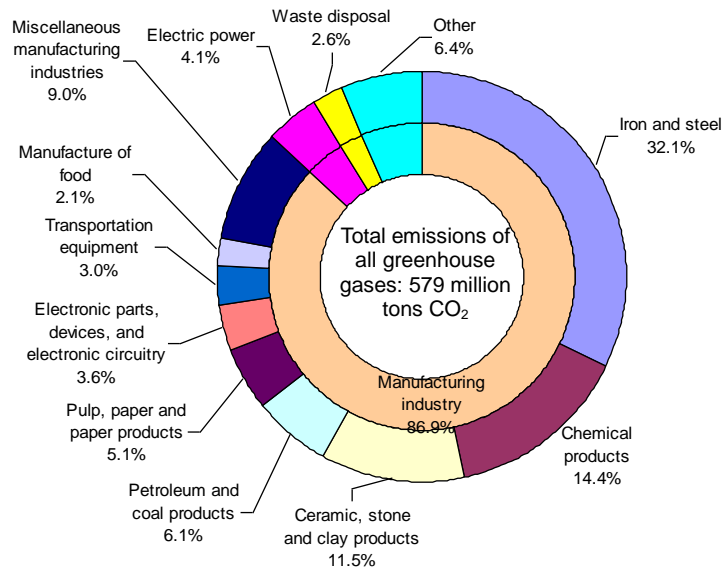


Fig. 3-3. Total emissions of all greenhouse gases

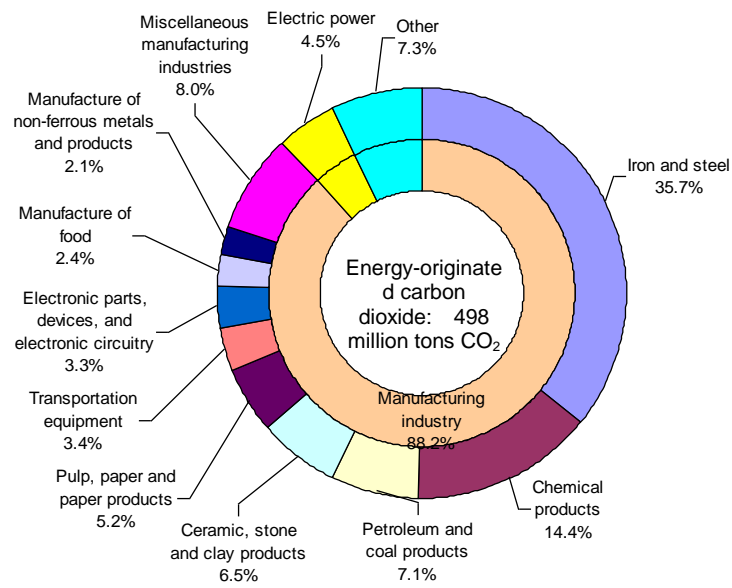


Fig. 3-4. Energy-originate d carbon dioxide

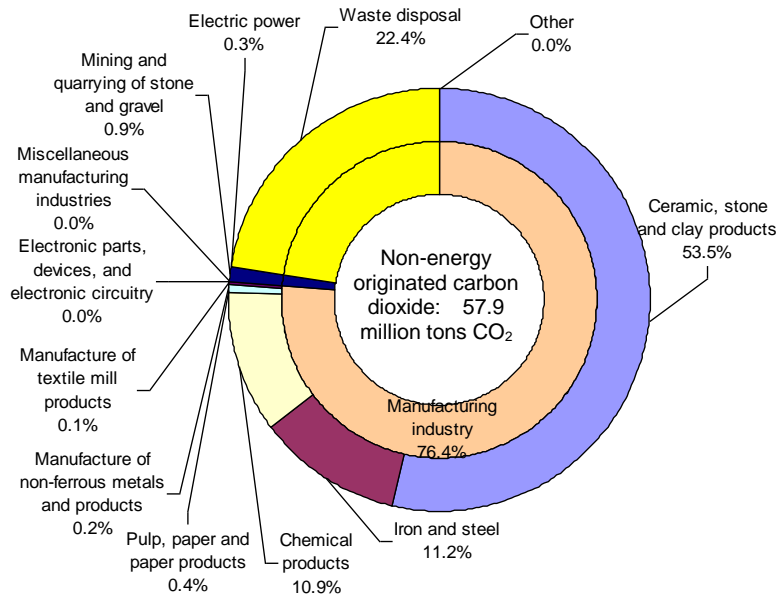


Fig. 3-5. Non-energy originated carbon dioxide

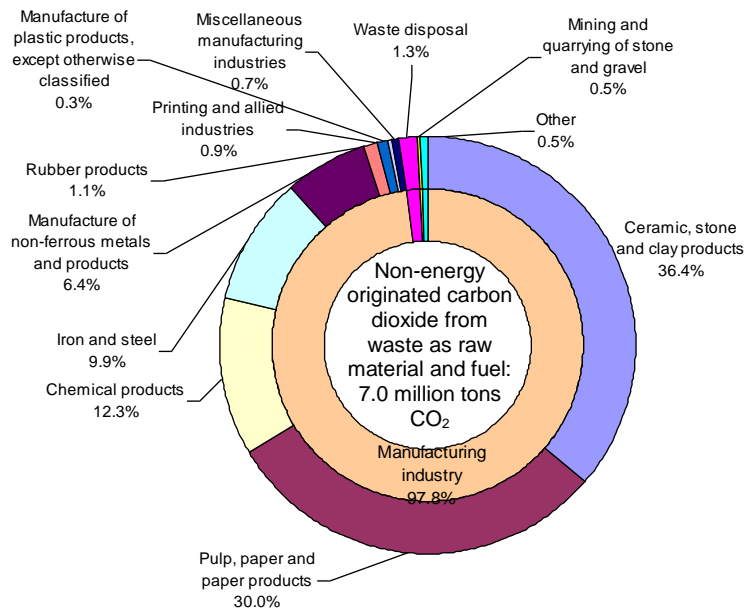


Fig. 3-6. Non-energy originated carbon dioxide from the use of waste as raw material and fuel

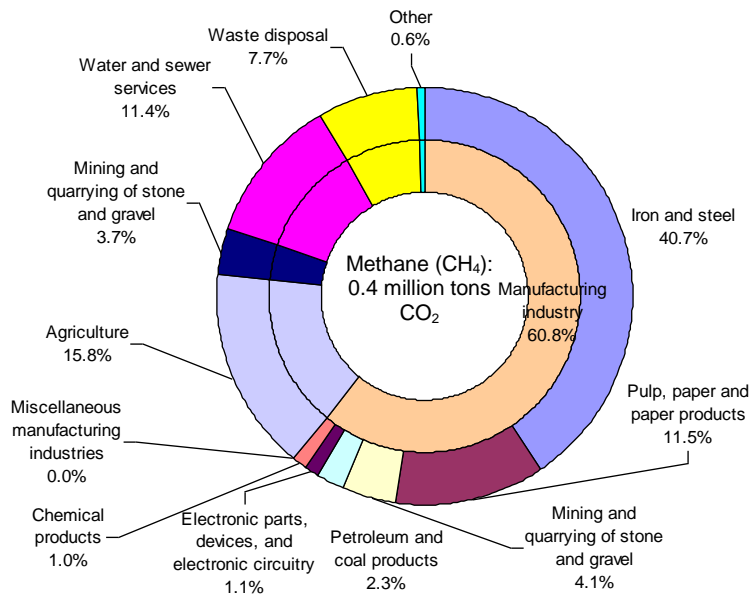


Fig. 3-7. Methane (CH₄)

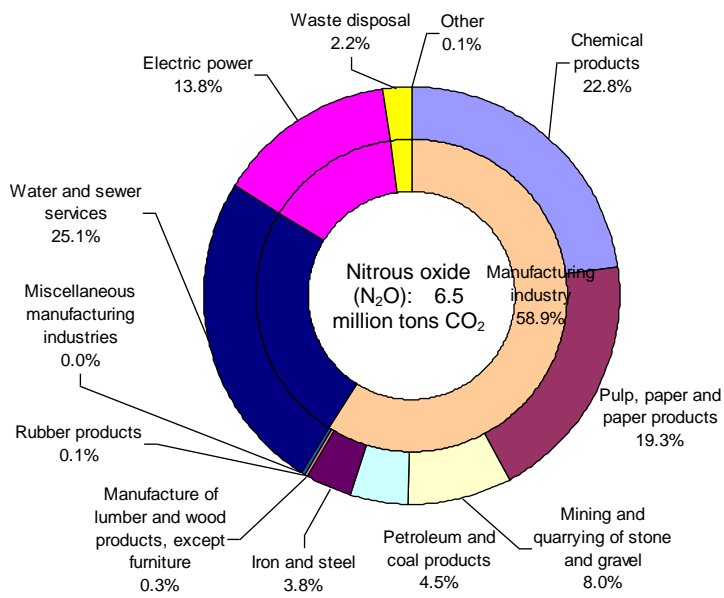


Fig. 3-8. Nitrous oxide (N₂O)

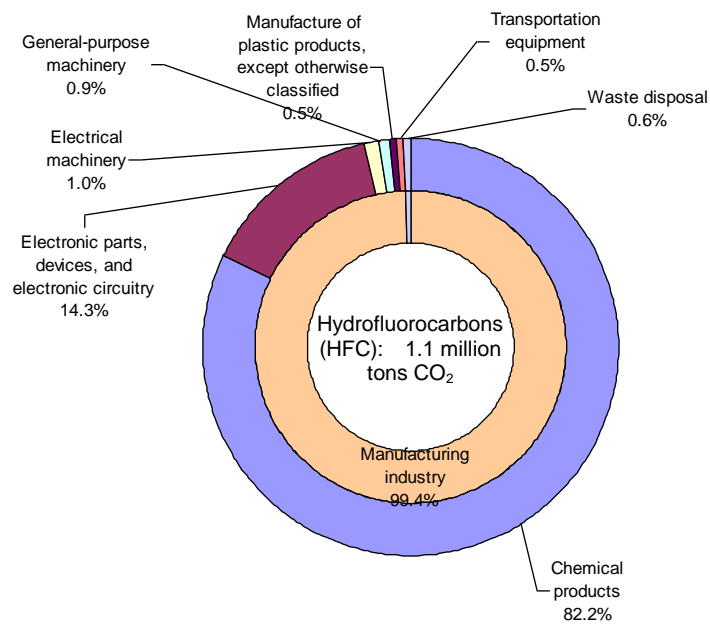


Fig. 3-9. Hydrofluorocarbons (HFC)

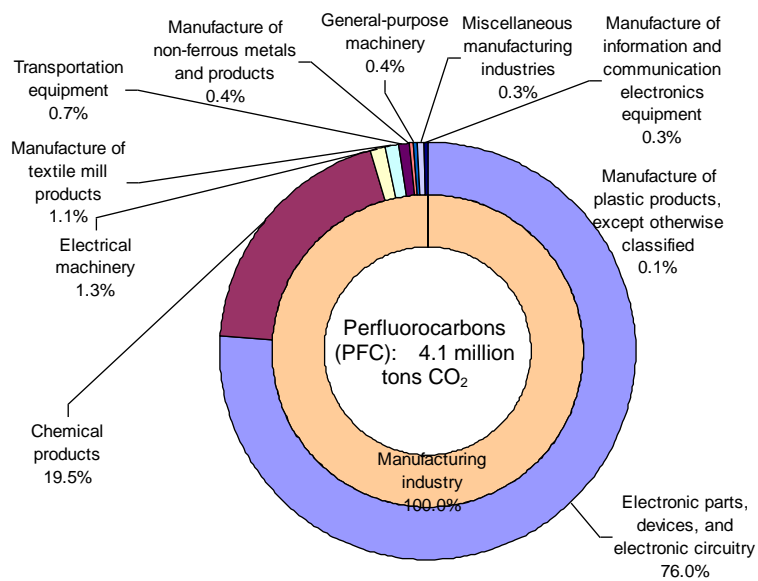


Fig. 3-10. Perfluorocarbons (PFC)

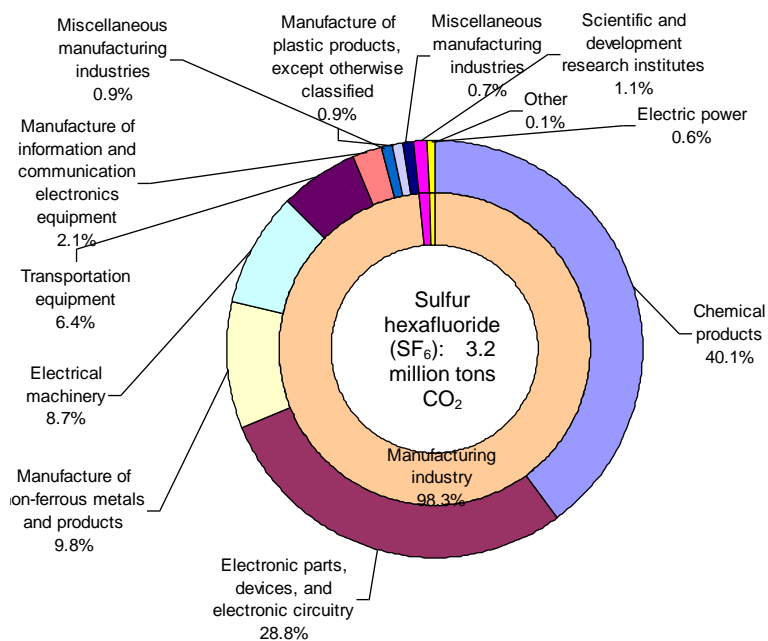


Fig. 3-11. Sulfur hexafluoride (SF₆)

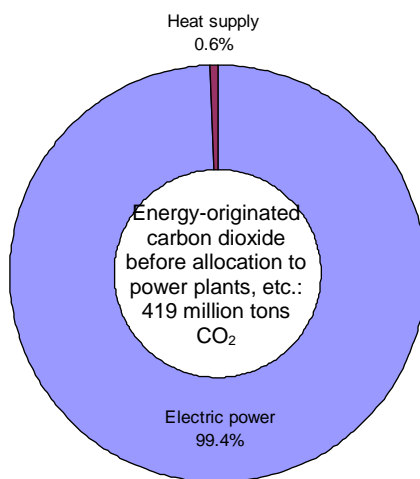


Fig. 3-12. Energy-originated carbon dioxide before allocation to power plants, etc.

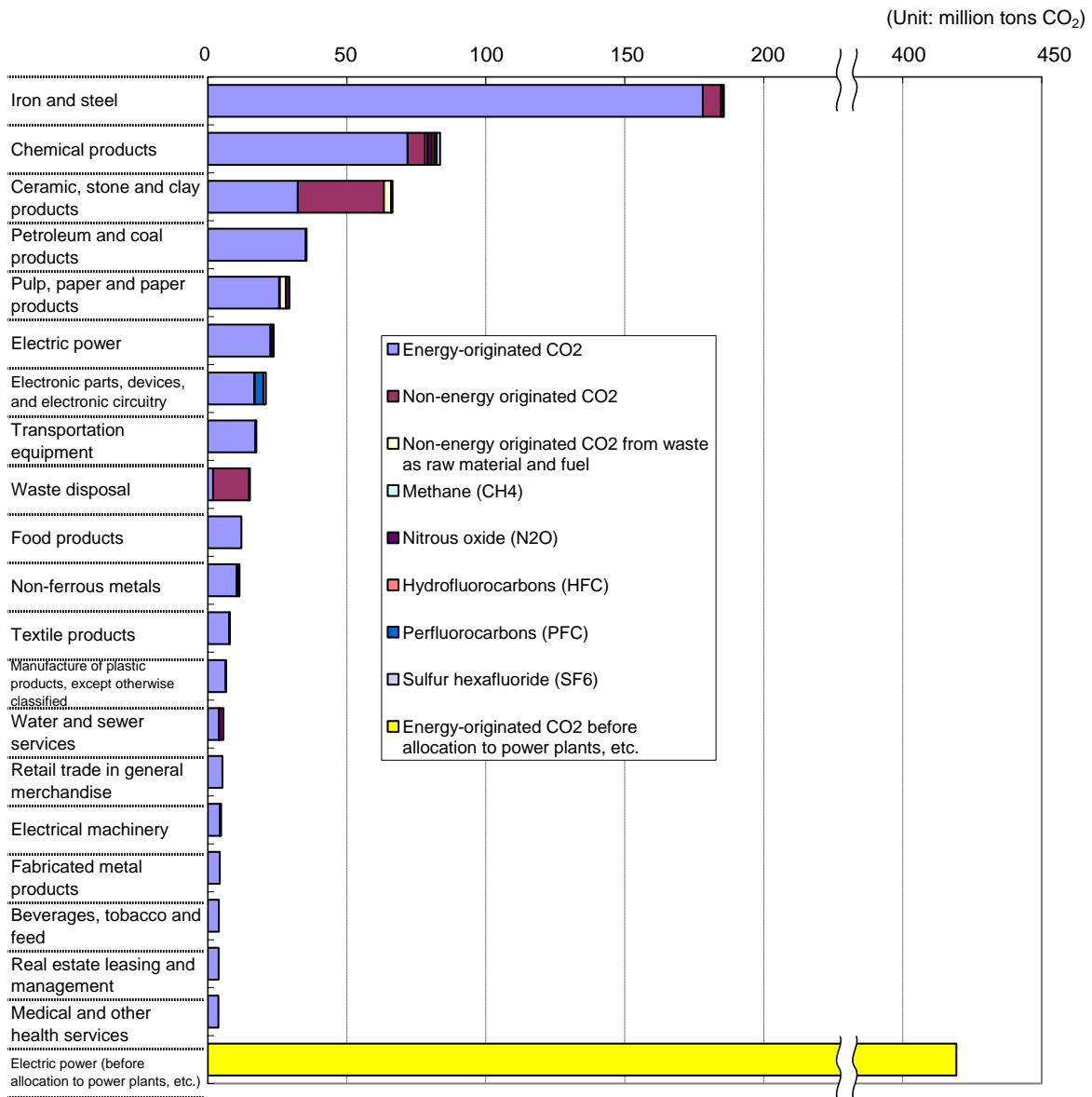


Fig. 3-13. Top 20 industries for emissions reported by industry sector (intermediate industrial categories): Specified facility emitters

[2] Specified transportation emitters

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

By industry sector (major industrial categories), the highest emissions among specified freight carriers were from companies whose main business was transport and postal services (11.25 million tons CO₂, 96.1%), followed by the wholesale and retail trade (0.21 million tons CO₂, 1.8%) and the manufacturing industry (0.14 million tons CO₂, 1.2%).

By industry sector (intermediate industrial categories), the highest emissions among specified passenger carriers were from companies whose main business was railway transport (9.70 million tons CO₂, 67.3%), followed by road passenger transport (2.41 million tons CO₂, 16.7%) and water transport (2.31 million tons CO₂, 16.0%).

By industry sector (intermediate industrial categories), the main business among specified air carriers was air transport in each case, and emissions were 7.78 million tons CO₂.

By industry sector (major industrial categories), the highest emissions among specified consigners were from companies whose main business was the manufacturing industry (13.03 million tons CO₂, 77.2%), followed by the wholesale and retail trade (2.55 million tons CO₂, 15.1%) and compound services (0.37 million tons CO₂, 2.2%). (Table 3-3, Figs. 3-14 to 3-16)

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

(Unit: tons CO₂)

Industry		Specified freight carriers	Specified passenger carriers	Specified air carriers	Total for specified transportation emitters	Specified consigners
Major category	Intermediate subcategory					
Total		11,698,260 [100.0%] (34.5%)	14,418,449 [100.0%] (42.5%)	7,780,000 [100.0%] (23.0%)	33,896,709 [100.0%] (100.0%)	16,878,140 [100.0%]
C	Mining and quarrying of stone and gravel	5,940 [0.1%]			5,940 [0.0%]	144,924 [0.9%]
	5 Mining and quarrying of stone and gravel	5,940 [0.1%]			5,940 [0.0%]	144,924 [0.9%]
D	Construction					171,360 [1.0%]
	6 Construction work, general including public and private construction work					162,390 [1.0%]
	7 Specialized work (excluding equipment work)					8,970 [0.1%]
E	Manufacturing	138,827 [1.2%]			138,827 [0.4%]	13,025,596 [77.2%]
	9 Manufacture of food	93,280 [0.8%]			93,280 [0.3%]	2,211,004 [13.1%]
	10 Manufacture of beverages, tobacco and feed	36,837 [0.3%]			36,837 [0.1%]	922,121 [5.5%]
	11 Manufacture of textile mill products					92,720 [0.5%]
	12 Manufacture of lumber and wood products, except furniture					97,713 [0.6%]
	13 Manufacture of furniture and fixtures					65,070 [0.4%]
	14 Manufacture of pulp, paper and paper products					1,029,867 [6.1%]

Major category	Industry		Specified freight carriers	Specified passenger carriers	Specified air carriers	Total for specified transportation emitters	Specified consigners		
	Intermediate subcategory								
	15	Printing and allied industries					70,680	[0.4%]	
	16	Manufacture of chemical and allied products					1,823,003	[10.8%]	
	17	Manufacture of petroleum and coal products					642,860	[3.8%]	
	18	Manufacture of plastic products, except otherwise classified					286,686	[1.7%]	
	19	Manufacture of rubber products					156,729	[0.9%]	
	21	Manufacture of ceramic, stone and clay products					1,037,794	[6.1%]	
	22	Manufacture of iron and steel					2,018,091	[12.0%]	
	23	Manufacture of non-ferrous metals and products					251,356	[1.5%]	
	24	Manufacture of fabricated metal products	4,940	[0.0%]		4,940	[0.0%]	268,135	[1.6%]
	25	Manufacture of general-purpose machinery					117,623	[0.7%]	
	26	Manufacture of production machinery	3,770	[0.0%]		3,770	[0.0%]	106,118	[0.6%]
	27	Manufacture of business oriented machinery					98,110	[0.6%]	
	28	Electronic parts, devices, and electronic circuits					11,223	[0.1%]	

Industry		Specified freight carriers	Specified passenger carriers	Specified air carriers	Total for specified transportation emitters	Specified consigners					
Major category	Intermediate subcategory										
	29	Manufacture of electrical machinery, equipment and supplies				435,453	[2.6%]				
	30	Manufacture of information and communication electronics equipment				54,954	[0.3%]				
	31	Manufacture of transportation equipment				1,142,976	[6.8%]				
	32	Miscellaneous manufacturing industries				85,310	[0.5%]				
F	Electricity, gas, heat supply and water	611	[0.0%]			611	[0.0%]	199,112	[1.2%]		
	33	Production, transmission and distribution of electricity						188,802	[1.1%]		
	34	Production and distribution of gas						10,310	[0.1%]		
	36	Collection, purification and distribution of water, and sewage collection, processing and disposal	611	[0.0%]			611	[0.0%]			
G	Information and communications							13,600	[0.1%]		
	41	Video picture, sound information, and character information production and distribution						13,600	[0.1%]		
H	Transport and postal activities	11,247,627	[96.1%]	14,418,449	[100.0%]	7,780,000	[100.0%]	33,446,076	[98.7%]	231,350	[1.4%]
	42	Railway transport	666,000	[5.7%]	9,701,712	[67.3%]		10,367,712	[30.6%]		
	43	Road passenger transport			2,406,581	[16.7%]		2,406,581	[7.1%]		

Industry		Specified freight carriers	Specified passenger carriers	Specified air carriers	Total for specified transportation emitters	Specified consigners	
Major category	Intermediate subcategory						
	44	Road freight transport	5,876,637 [50.2%]			5,876,637 [17.3%]	7,840 [0.0%]
	45	Water transport	4,686,900 [40.1%]	2,310,156 [16.0%]		6,997,056 [20.6%]	3,210 [0.0%]
	46	Air transport			7,780,000 [100.0%]	7,780,000 [23.0%]	
	48	Services incidental to transport	13,900 [0.1%]			13,900 [0.0%]	220,300 [1.3%]
	49	Postal activities, including mail delivery	4,190 [0.0%]			4,190 [0.0%]	
I	Wholesale and retail trade		208,680 [1.8%]			208,680 [0.6%]	2,551,718 [15.1%]
	50	Wholesale trade, general merchandise	1,610 [0.0%]			1,610 [0.0%]	363,775 [2.2%]
	51	Wholesale trade (textiles and apparel)	4,114 [0.0%]			4,114 [0.0%]	
	52	Wholesale trade (food and beverages)	64,730 [0.6%]			64,730 [0.2%]	625,263 [3.7%]
	53	Wholesale trade (building materials, minerals and metals, etc.)	9,740 [0.1%]			9,740 [0.0%]	961,224 [5.7%]
	54	Wholesale trade (machinery and equipment)	30,140 [0.3%]			30,140 [0.1%]	27,840 [0.2%]
	55	Miscellaneous wholesale trade	47,358 [0.4%]			47,358 [0.1%]	244,297 [1.4%]
	56	Retail trade, general merchandise	4,260 [0.0%]			4,260 [0.0%]	155,989 [0.9%]
	57	Retail trade (dry goods, apparel and apparel accessories)	6,360 [0.1%]			6,360 [0.0%]	19,190 [0.1%]
	58	Retail trade (food and beverages)	31,496 [0.3%]			31,496 [0.1%]	38,210 [0.2%]
	59	Retail trade (machinery and equipment)	4,620 [0.0%]			4,620 [0.0%]	7,300 [0.0%]
	60	Miscellaneous retail trade	3,260 [0.0%]			3,260 [0.0%]	104,840 [0.6%]

Industry			Specified freight carriers	Specified passenger carriers	Specified air carriers	Total for specified transportation emitters	Specified consigners		
Major category	Intermediate subcategory								
	61	Nonstore retailers	992	[0.0%]		992	[0.0%]	3,790	[0.0%]
K	Real estate and goods rental and leasing		26,190	[0.2%]		26,190	[0.1%]		
	70	Goods rental and leasing	26,190	[0.2%]		26,190	[0.1%]		
M	Accommodations, eating and drinking services							52,120	[0.3%]
	76	Eating and drinking places						45,760	[0.3%]
	77	Take-out and delivery service						6,360	[0.0%]
N	Living-related and personal services and amusement services		17,840	[0.2%]		17,840	[0.1%]		
	78	Laundry, beauty and bath services	4,130	[0.0%]		4,130	[0.0%]		
	79	Miscellaneous living-related and personal services	13,710	[0.1%]		13,710	[0.0%]		
O	Education, learning support		4,280	[0.0%]		4,280	[0.0%]	10,800	[0.1%]
	82	Miscellaneous education, learning support	4,280	[0.0%]		4,280	[0.0%]	10,800	[0.1%]
P	Medical, health care and welfare		15,700	[0.1%]		15,700	[0.0%]		
	85	Social insurance and social welfare	15,700	[0.1%]		15,700	[0.0%]		
Q	Compound services		17,795	[0.2%]		17,795	[0.1%]	367,350	[2.2%]
	87	Cooperative associations, N.E.C.	17,795	[0.2%]		17,795	[0.1%]	367,350	[2.2%]
R	Services, N.E.C.		3,080	[0.0%]		3,080	[0.0%]	100,420	[0.6%]
	88	Waste disposal business						15,320	[0.1%]
	92	Miscellaneous business services	3,080	[0.0%]		3,080	[0.0%]	56,000	[0.3%]

Industry		Specified freight carriers	Specified passenger carriers	Specified air carriers	Total for specified transportation emitters	Specified consigners	
Major category	Intermediate subcategory						
	95 Miscellaneous services					29,100	[0.2%]
S	Government, except elsewhere classified	11,690 [0.1%]			11,690 [0.0%]	9,790	[0.1%]
	97 National government services					9,790	[0.1%]
	98 Local government services	11,690 [0.1%]			11,690 [0.0%]		

Notes:

1. The only type of emissions reported by specified transportation emitters was energy-originated 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.

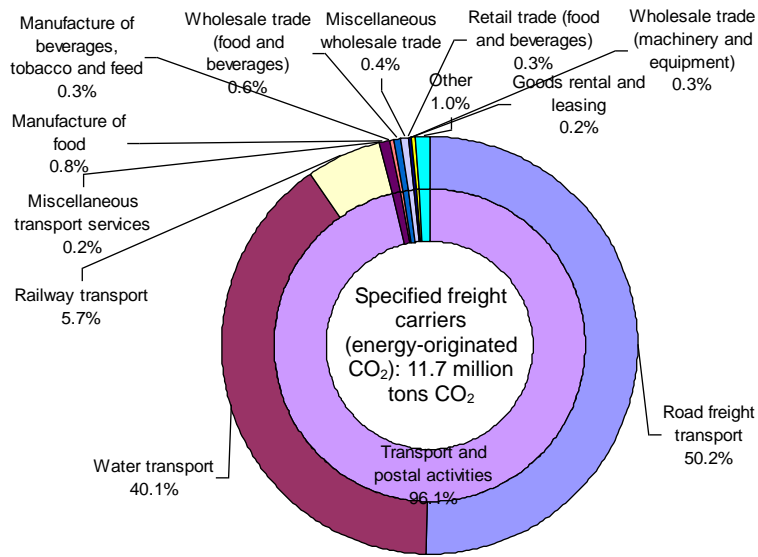


Fig. 3-14. Reported emissions by industry sector: Specified freight carriers

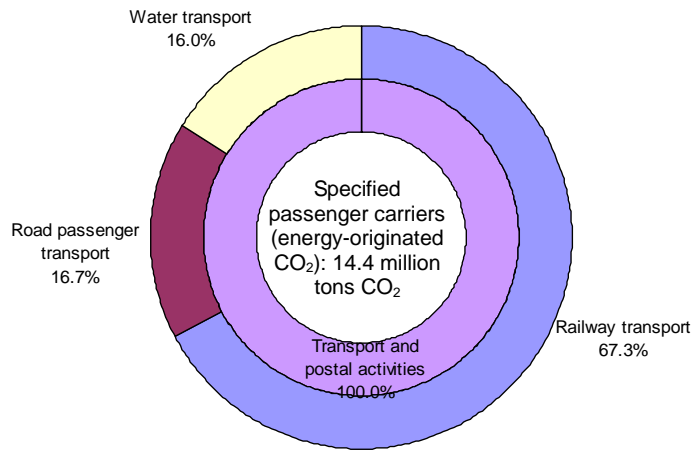


Fig. 3-15. Reported emissions by industry sector: Specified passenger carriers

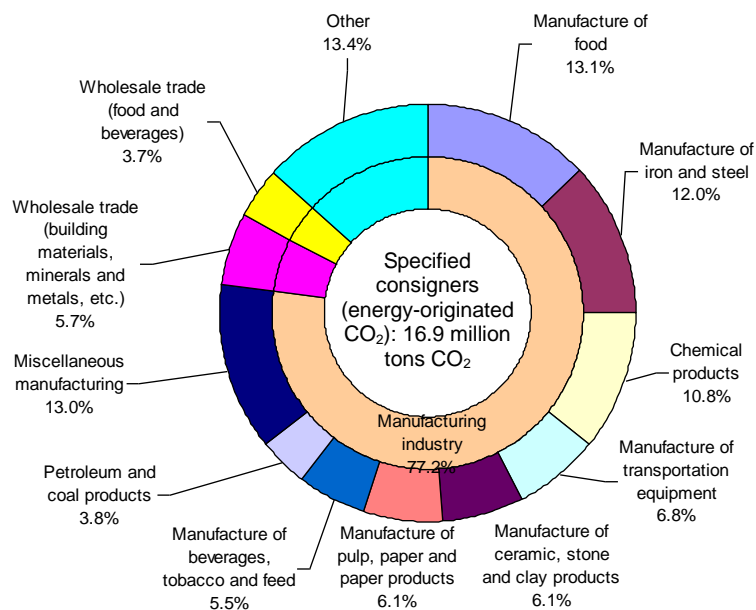


Fig. 3-16. Reported emissions by industry sector: Specified consigners

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

The prefectures whose reporting facilities had the highest reported emissions were, in descending order, Chiba Prefecture (52.14 million tons CO₂, 9.0%), Aichi Prefecture (40.35 million tons CO₂, 7.0%), Hiroshima Prefecture (36.03 million tons CO₂, 6.2%), Hyogo Prefecture (35.89 million tons CO₂, 6.2%), Okayama Prefecture (35.32 million tons CO₂, 6.1%), Yamaguchi Prefecture (34.67 million tons CO₂, 6.0%), Ibaraki Prefecture (32.09 million tons CO₂, 5.5%), Kanagawa Prefecture (30.62 million tons CO₂, 5.3%), Fukuoka Prefecture (29.08 million tons CO₂, 5.0%), Oita Prefecture (25.42 million tons CO₂, 4.4%), Hokkaido (22.08 million tons CO₂, 3.8%), Osaka Prefecture (16.38 million tons CO₂, 2.8%), Mie Prefecture (16.33 million tons CO₂, 2.8%), Tokyo (12.55 million tons CO₂, 2.2%), and Saitama Prefecture (12.22 million tons CO₂, 2.1%). Emissions from facilities located in these 15 prefectures accounted for 74.5% 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 CO₂)

Prefecture		Energy- originated CO ₂	Non-energy originated CO ₂	Non-energy originated CO ₂ from waste as raw material and fuel	CH ₄	N ₂ O	HFC	PFC	SF ₆	Total	Energy-originated CO ₂ before allocation to power plants, etc.
Total		498,302,623 (86.1%)	57,861,349 (10.0%)	7,032,106 (1.2%)	401,777 (0.1%)	6,457,493 (1.1%)	1,148,847 (0.2%)	4,088,973 (0.7%)	3,214,193 (0.6%)	578,507,361 (100.0%)	419,303,056
1	Hokkaido	18,701,166	2,429,712	379,112	33,286	521,767		11,000	3,900	22,079,943 (3.8%)	18,665,615
2	Aomori Prefecture	4,104,456	1,448,170	169,755		37,130		22,000	4,700	5,786,211 (1.0%)	330,300
3	Iwate Prefecture	2,728,623	1,204,991	42,234	14,485		4,800	164,000	76,900	4,236,033 (0.7%)	40,813
4	Miyagi Prefecture	5,777,266	252,306	149,339	4,660	133,200	4,400	146,437	148,653	6,616,261 (1.1%)	1,474,770
5	Akita Prefecture	2,327,662	339,770	89,100		86,410			41,800	2,884,742 (0.5%)	8,954,773
6	Yamagata Prefecture	1,897,318	171,143			8,100		97,047	15,453	2,189,061 (0.4%)	4,124,910
7	Fukushima Prefecture	8,327,069	664,494	360,326	3,086	180,144	10,000	452,900	40,170	10,038,189 (1.7%)	43,979,100
8	Ibaraki Prefecture	29,048,169	1,832,147	190,658	26,500	82,400	476,000	219,772	218,847	32,094,493 (5.5%)	23,858,762
9	Tochigi Prefecture	5,417,573	1,196,944	270,766	5,900	39,181	6,000	18,000	12,782	6,967,146 (1.2%)	
10	Gunma Prefecture	4,039,380	210,976	34,933		3,110	32,146	191,338	1,200,390	5,712,273 (1.0%)	48,150
11	Saitama Prefecture	7,955,819	3,563,473	353,864	7,902	251,755	4,500	39,089	45,526	12,221,928 (2.1%)	75,800
12	Chiba Prefecture	48,991,799	2,285,390	314,996	35,960	199,097	55,510	98,453	154,223	52,135,428 (9.0%)	42,763,796
13	Tokyo	10,335,333	1,701,524	45,401	41,607	380,504	3,039	37,000	5,200	12,549,608 (2.2%)	5,760,494
14	Kanagawa Prefecture	28,130,089	1,646,749	114,143	10,853	295,022	72,000	299,821	47,800	30,616,477 (5.3%)	25,107,920
15	Niigata Prefecture	6,141,998	2,330,056	135,700	9,333	76,640	3,700	46,300	13,000	8,756,727 (1.5%)	10,032,045

Prefecture		Energy-originated CO ₂	Non-energy originated CO ₂	Non-energy originated CO ₂ from waste as raw material and fuel	CH ₄	N ₂ O	HFC	PFC	SF ₆	Total	Energy-originated CO ₂ before allocation to power plants, etc.
16	Toyama Prefecture	4,342,518	111,740	37,310		210,600	15,000	102,900	99,200	4,919,268 (0.9%)	4,237,000
17	Ishikawa Prefecture	2,058,850	61,400	3,621		18,820		28,100	3,400	2,174,191 (0.4%)	6,299,220
18	Fukui Prefecture	3,440,079	351,943	55,932		12,378	23,000			3,883,332 (0.7%)	6,118,000
19	Yamanashi Prefecture	1,022,707				5,407	15,000	10,476	53,679	1,107,269 (0.2%)	
20	Nagano Prefecture	2,582,823	78,730	25,032		17,890	14,000	76,879	120,000	2,915,354 (0.5%)	8,451
21	Gifu Prefecture	4,398,919	1,499,505	287,230	4,070	55,320		7,713	60,189	6,312,946 (1.1%)	
22	Shizuoka Prefecture	11,224,974	212,208	237,126	4,600	223,755	78,440	27,559	27,353	12,036,015 (2.1%)	85,580
23	Aichi Prefecture	37,653,877	1,887,811	307,517	16,000	314,360		44,197	129,230	40,352,992 (7.0%)	43,277,780
24	Mie Prefecture	14,239,626	1,398,649	289,615	4,900	34,919	35,000	249,300	79,840	16,331,849 (2.8%)	12,024,000
25	Shiga Prefecture	4,659,748	204,297	14,050		19,120	5,100	56,434	37,730	4,996,479 (0.9%)	1,873
26	Kyoto	3,062,554	250,500	7,810	3,910	60,670		32,120	14,195	3,431,759 (0.6%)	5,509,860
27	Osaka	14,049,705	1,734,191	4,196	9,894	269,469	58,560	250,000	7,170	16,383,185 (2.8%)	8,074,132
28	Hyogo Prefecture	31,920,487	2,805,751	642,076	4,800	284,733	6,376	56,670	172,156	35,893,049 (6.2%)	19,067,342
29	Nara Prefecture	809,576	65,810			10,200		14,000	3,500	903,086 (0.2%)	2,060
30	Wakayama Prefecture	10,155,948	523,390	13,300	9,700	3,920				10,706,258 (1.9%)	7,570,000
31	Tottori Prefecture	776,490	29,328	171,000		56,000			6,800	1,039,618 (0.2%)	
32	Shimane Prefecture	1,777,706	39,259			15,000				1,831,965 (0.3%)	5,474,700
33	Okayama Prefecture	33,338,504	1,636,498	188,505	21,000	96,148		34,644		35,315,299 (6.1%)	7,520,000
34	Hiroshima Prefecture	32,992,825	2,012,838	74,130	31,300	435,755	171,435	251,025	60,697	36,030,005 (6.2%)	12,955,466

Prefecture		Energy-originated CO ₂	Non-energy originated CO ₂	Non-energy originated CO ₂ from waste as raw material and fuel	CH ₄	N ₂ O	HFC	PFC	SF ₆	Total	Energy-originated CO ₂ before allocation to power plants, etc.
35	Yamaguchi Prefecture	26,231,795	7,454,116	513,132	11,587	385,827	8,537	53,000	11,000	34,668,994 (6.0%)	16,415,990
36	Tokushima Prefecture	2,842,208	83,928	38,000		93,000		11,000		3,068,136 (0.5%)	16,191,000
37	Kagawa Prefecture	3,121,159	115,080	96,600	9,427	5,000			5,098	3,352,364 (0.6%)	1,800,000
38	Ehime Prefecture	11,280,055	128,827	148,130	7,200	240,600		34,000	27,420	11,866,232 (2.1%)	5,894,000
39	Kochi Prefecture	2,156,844	2,351,841	94,900	3,800	194,800		13,200	25,323	4,840,708 (0.8%)	791,000
40	Fukuoka Prefecture	20,825,057	7,331,608	528,237	23,110	259,786		105,586	10,662	29,084,046 (5.0%)	7,936,144
41	Saga Prefecture	1,480,983	13,600							1,494,583 (0.3%)	
42	Nagasaki Prefecture	2,256,728	68,290			41,400		38,000	18,000	2,422,418 (0.4%)	21,035,740
43	Kumamoto Prefecture	3,171,771	23,080	8,890	5,900	26,451		360,160	105,080	3,701,332 (0.6%)	8,785,200
44	Oita Prefecture	21,089,264	3,615,146	426,560	33,307	80,572	12,000	147,000	18,200	25,422,049 (4.4%)	7,793,860
45	Miyazaki Prefecture	2,362,570	39,080	168,840		682,433	30,604	176,553	45,267	3,505,347 (0.6%)	1,294,000
46	Kagoshima Prefecture	1,269,864	146,400				3,700	65,300	43,660	1,528,924 (0.3%)	862,690
47	Okinawa Prefecture	1,782,689	308,660	40	3,700	8,700				2,103,789 (0.4%)	7,060,720

Note: Energy-originated CO₂ emissions before allocation to power plants, etc. are also included in other energy-originated CO₂ emissions. Therefore, these values are not added to the total emissions.

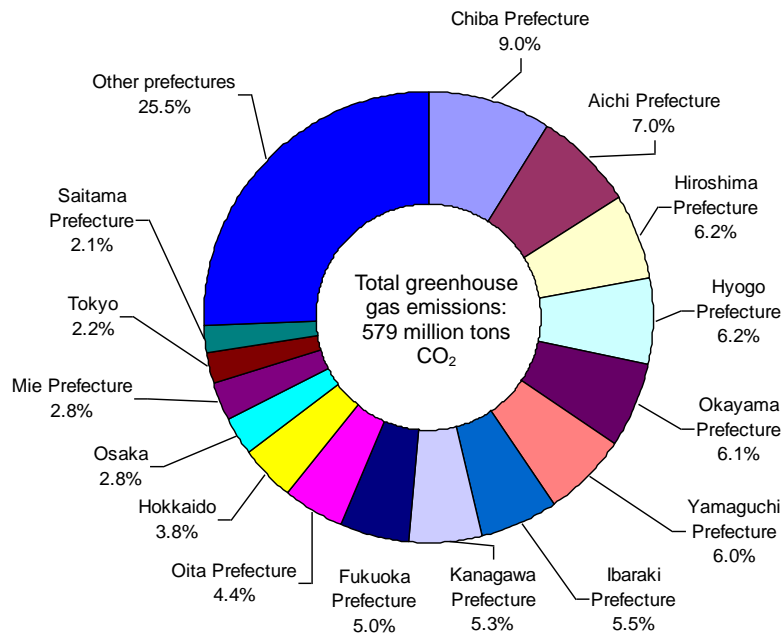
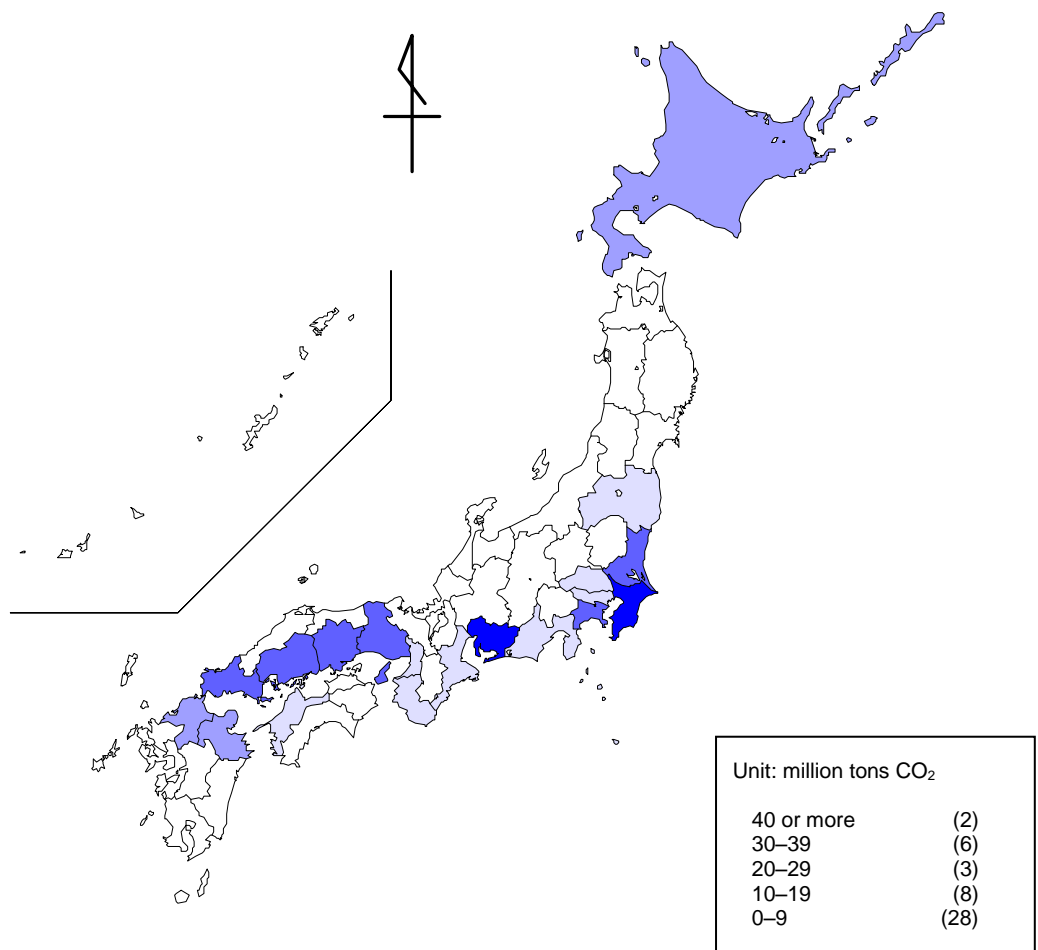


Fig. 3-17. Reported emissions by prefecture: Specified facility emitters



Figures in parentheses indicate the number of prefectures in each category.

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

(4) Emissions by company (appendix)

Listed in the appendix (beginning on p. 39).

4. Comparison with prior years

The compiled data from FY 2008 and prior years are compared below.

(1) Specified emitters overall

The FY 2008 emissions of specified facility emitters totaled 578.51 million tons CO₂, a decrease of approximately 35.78 million tons CO₂ from FY 2007 emissions, which totaled 614.29 million tons CO₂ (down 5.8% from the previous year).

Concerning the categories of greenhouse gases, energy-originated carbon dioxide decreased by approximately 31.03 million tons CO₂ (down 5.9%), while non-energy originated carbon dioxide decreased by approximately 2.91 million tons CO₂ (down 4.8%), and energy-originated carbon dioxide before allocation to power plants, etc. decreased by approximately 21.72 million tons CO₂ (down 4.9%). (Table 4-1)

Among specified transportation emitters, emissions from specified freight carriers were 11.70 million tons CO₂ in FY 2008, a decrease of approximately 0.78 million tons CO₂ (down 6.2% from the previous year) from FY 2007 emissions, which were 12.48 million tons CO₂. Meanwhile, emissions from specified air carriers decreased by approximately 0.47 million tons CO₂ (down 5.7%), emissions from specified passenger carriers decreased by approximately 0.97 million tons CO₂ (down 6.3%), and emissions from specified consigners decreased by approximately 1.76 million tons CO₂ (down 9.4%). (Table 4-2)

Table 4-1. Yearly comparison for specified facility emitters

Upper rows: Emissions (unit: tons CO₂)
Lower rows: Number of facilities reporting

Type of gas	2006 Reported figure	2007		2008	
		Reported figure	Compared with previous year	Reported figure	Compared with previous year
1 Energy-originated CO ₂	519,333,703 [13,941]	529,335,254 [14,479]	(+1.9%) [+3.9%]	498,302,623 [14,496]	(▲5.9%) [+0.1%]
2 Non-energy originated CO ₂	61,345,359 [607]	60,774,546 [681]	(▲0.9%) [+12.2%]	57,861,349 [687]	(▲4.8%) [+0.9%]
3 Non-energy originated CO ₂ from waste as raw material and fuel	6,695,585 [176]	7,069,738 [183]	(+5.6%) [+4.0%]	7,032,106 [191]	(▲0.5%) [+4.4%]
4 Methane (CH ₄)	375,590 [54]	528,540 [83]	(+40.7%) [+53.7%]	401,777 [62]	(▲24.0%) [▲25.3%]
5 Nitrous oxide (N ₂ O)	6,210,684 [283]	6,162,940 [301]	(▲0.8%) [+6.4%]	6,457,493 [297]	(+4.8) [▲1.3%]
6 Hydrofluorocarbons (HFC)	1,607,874 [41]	1,067,948 [43]	(▲33.6%) [+4.9%]	1,148,847 [41]	(+7.6%) [▲4.7%]
7 Perfluorocarbons (PFC)	6,421,731 [100]	5,484,597 [102]	(▲14.6%) [+2.0%]	4,088,973 [99]	(▲25.4%) [▲2.9%]
8 Sulfur hexafluoride (SF ₆)	4,378,806 [117]	3,867,153 [113]	(▲11.7%) [▲3.4%]	3,214,193 [101]	(▲16.9%) [▲10.6%]
1 - 8 Total	606,369,333 [14,227]	614,290,716 [14,848]	(+1.3%) [+4.4%]	578,507,361 [14,842]	(▲5.8%) [▲0.0%]
9 Energy-originated CO ₂ before allocation to power plants, etc.	391,149,865 [324]	441,018,130 [337]	(+12.7%) [+4.0%]	419,303,056 [342]	(▲4.9%) [+1.5%]

Note: Energy-originated CO₂ emissions before allocation to power plants, etc. are also included in other energy-originated CO₂ emissions. Therefore, these values are not added to the total emissions.

Table 4-2. Yearly comparison for specified transportation emitters

Upper rows: Emissions (unit: tons CO₂)
 Lower rows: Number of companies reporting

	2006 Reported figure	2007		2008	
		Reported figure	Compared with previous year	Reported figure	Compared with previous year
Total for specified transportation emitters (excluding specified consigners)	36,083,158 [616]	36,112,500 [616]	(+0.1%) [0.0%]	33,896,709 [609]	(▲6.1%) [▲1.1%]
Specified freight carriers	12,807,061 [444]	12,474,970 [440]	(▲2.6%) [▲0.9%]	11,698,260 [415]	(▲6.2%) [▲5.7%]
Specified passenger carriers	14,746,097 [171]	15,387,530 [169]	(+4.3%) [▲1.2%]	14,418,449 [160]	(▲6.3%) [▲5.3%]
Specified air carriers	8,530,000 [2]	8,250,000 [2]	(▲3.3%) [0.0%]	7,780,000 [2]	(▲5.7%) [0.0%]
Specified consigners	19,274,037 [846]	18,638,633 [859]	(▲3.3%) [+1.5%]	16,878,140 [871]	(▲9.4%) [+1.4%]

(2) Specified facility emitters

[1] Comparison by industry sector

Concerning changes from FY 2007 to FY 2008 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 a decrease of approximately 3.62 million tons CO₂ (down 7% from the previous year), followed by electricity, gas, heat supply, and water and sewer services with a decrease of approximately 0.48 million tons CO₂ (down 2%), and scientific research, professional and technical services with an increase of approximately 0.39 million tons CO₂ (up 24%). (Table 4-3)

For energy-originated carbon dioxide emissions, there was a decrease of approximately 31.05 million tons CO₂ (down 7%) in the manufacturing industry, and a decrease of approximately 0.80 million tons CO₂ in electricity, gas, heat supply, and water and sewer services (down 3%).

Meanwhile, for energy-originated carbon dioxide emissions before allocation to power plants, etc., there was a decrease of approximately 21.72 million tons CO₂ (down 5%) in the electricity, gas, heat supply, and water industry.

Table 4-3. Specified facility emitters by industry sector (major industrial category)

Upper rows: FY 2008 emissions (unit: tons CO₂)
 Middle rows: FY 2007 emissions (unit: tons CO₂)
 Lower rows: Change from the previous year

Industry (major category)	Energy- originated CO ₂	Non-energy originated CO ₂	Non-energy originated CO ₂ from waste as raw material and fuel	CH ₄	N ₂ O	HFC	PFC	SF ₆	Total	Energy-originated CO ₂ before allocation to power plants, etc.
Total	498,302,623 [529,335,254] (▲6%)	57,861,349 [60,774,546] (▲5%)	7,032,106 [7,069,738] (▲1%)	401,777 [528,540] (▲24%)	6,457,493 [6,162,940] (+5%)	1,148,847 [1,067,948] (+8%)	4,088,973 [5,484,597] (▲25%)	3,214,193 [3,867,153] (▲17%)	578,507,361 [614,290,716] (▲6%)	419,303,056 [441,018,130] (▲5%)
A Agriculture and forestry	279,902 [270,004] (+4%)			63,330 [109,168] (▲42%)					343,232 [379,172] (▲9%)	
C Mining and quarrying of stone and gravel	894,165 [836,667] (+7%)	533,084 [543,405] (▲2%)	32,429 [28,577] (+13%)	14,751 [50,258] (▲71%)					1,474,429 [1,458,907] (+1%)	
D Construction	41,505 [44,755] (▲7%)								41,505 [44,755] (▲7%)	
E Manufacturing	439,302,423 [470,354,803] (▲7%)	44,230,742 [47,468,874] (▲7%)	6,878,767 [6,940,234] (▲1%)	244,360 [269,253] (▲9%)	3,801,748 [3,649,259] (+4%)	1,141,848 [1,067,948] (+7%)	4,088,973 [5,484,597] (▲25%)	3,158,204 [3,808,333] (▲17%)	502,847,065 [539,043,300] (▲7%)	
F Electricity, gas, heat supply and water	27,668,030 [28,465,263] (▲3%)	146,000 - -	32,420 [25,290] (+28%)	48,287 [42,751] (+13%)	2,507,974 [2,348,426] (+7%)			18,569 [20,870] (▲11%)	30,421,280 [30,902,600] (▲2%)	419,303,056 [441,018,130] (▲5%)
G Information and communications	3,212,233 [2,831,858] (+13%)								3,212,233 [2,831,858] (+13%)	

Industry (major category)	Energy-originated CO ₂	Non-energy originated CO ₂	Non-energy originated CO ₂ from waste as raw material and fuel	CH ₄	N ₂ O	HFC	PFC	SF ₆	Total	Energy-originated CO ₂ before allocation to power plants, etc.
H Transport and postal activities	830,249 [905,446] (▲8%)								830,249 [905,446] (▲8%)	
I Wholesale and retail trade	5,391,257 [5,370,728] (+0%)	4,440 [4,300] (+3%)			5,500 [6,200] (▲11%)				5,401,197 [5,381,228] (+0%)	
J Finance and insurance	832,373 [773,507] (+8%)								832,373 [773,507] (+8%)	
K Real estate and goods rental and leasing	3,907,602 [3,897,383] (+0%)								3,907,602 [3,897,383] (+0%)	
L Scientific research, professional and technical services	1,991,747 [1,613,168] (+23%)							34,000 [26,000] (+31%)	2,025,747 [1,639,168] (+24%)	
M Accommodations, eating and drinking services	2,024,241 [2,259,686] (▲10%)								2,024,241 [2,259,686] (▲10%)	
N Living-related and personal services and amusement services	922,116 [913,794] (+1%)								922,116 [913,794] (+1%)	
O Education, learning support	3,511,973 [3,385,225] (+4%)							0 [11,950] (▲100%)	3,511,973 [3,397,175] (+3%)	
P Medical, health care and welfare	3,846,574 [3,648,627] (+5%)								3,846,574 [3,648,627] (+5%)	
Q Compound services	30,737 [56,620] (▲46%)								30,737 [56,620] (▲46%)	

Industry (major category)	Energy-originated CO ₂	Non-energy originated CO ₂	Non-energy originated CO ₂ from waste as raw material and fuel	CH ₄	N ₂ O	HFC	PFC	SF ₆	Total	Energy-originated CO ₂ before allocation to power plants, etc.
R Services, N.E.C.	2,260,423 [2,402,522] (▲6%)	12,947,083 [12,757,967] (+1%)	88,490 [75,637] (+17%)	31,049 [57,110] (▲46%)	142,271 [159,055] (▲11%)	6,999 - -		3,420 -	15,479,735 [15,452,291] (+0%)	
S Government, except elsewhere classified	1,313,877 [1,259,065] (+4%)								1,313,877 [1,259,065] (+4%)	
T Industries unable to classify	41,196 [46,134] (▲11%)								41,196 [46,134] (▲11%)	

Note: Energy-originated CO₂ emissions before allocation to power plants, etc. are also included in other energy-originated CO₂ emissions. Therefore, these values are not added to the total emissions.

Industry sectors (intermediate subcategories) which had a change of at least 1 million tons CO₂ between their total FY 2007 emissions and total FY 2008 emissions were iron and steel (down 18.69 million tons CO₂), chemical products (down 6.46 million tons CO₂), stone and clay products (down 4.24 million tons CO₂), manufacture of transportation equipment (down 2.67 million tons CO₂), manufacture of pulp, paper and paper products (down 1.82 million tons CO₂), and manufacture of rubber products (up 1.48 million tons CO₂).

Emissions of energy-originated carbon dioxide changed by at least 1 million tons in the areas of iron and steel (down 18.03 million tons CO₂), chemical products (down 5.22 million tons CO₂), ceramic, stone and clay products (down 2.49 million tons CO₂), manufacture of transportation equipment (down 2.28 million tons CO₂), manufacture of pulp, paper and paper products (down 1.97 million tons CO₂), and manufacture of rubber products (up 1.48 million tons CO₂).

Emissions of non-energy originated carbon dioxide in the area of ceramic, stone and clay products decreased by 1.68 million tons CO₂.

Appendices

- Emissions by company
 1. Specified facility emitters
 - 1-1. Specified facility emitters
 - 1-2. Specified facility emitters (energy-originated carbon dioxide, before allocation to power plants, etc.)
 2. Specified transportation emitters
 - 2-1. Specified freight carriers
 - 2-2. Specified passenger carriers
 - 2-3. Specified air carriers
 - 2-4. Specified consigners
- Emissions-related information (Global Warming Countermeasures Act, Form No. 2)

Note: Energy-originated CO₂ emissions before allocation to power plants, etc. are also included in other energy-originated CO₂ emissions. Therefore, these values are not added to the total emissions.

(The appendices are provided only in Japanese.)