

2011 GHGRP DATA HIGHLIGHTS

Table of Contents

GHGRP 2011: REPORTED DATA	3
2011 Data Highlights Reported to GHGRP.....	3
2011 Reporting: Location of direct-emitting facilities.....	3
About 4% of facilities emitted 57% of 2011 reported emissions.	6
Power plants accounted for about 67% of direct emissions reported by stationary sources in 2011.....	7
Suppliers: 2011 Reporting	9
How You Can Obtain the GHGRP Data	10
GHGRP 2011: POWER PLANTS.....	11
Location and emissions range for each reporting facility in the power plant sector (as of 1/16/13).....	11
Other EPA Resources.....	14
GHGRP 2011: PETROLEUM AND NATURAL GAS SYSTEMS	15
Total emissions (CO ₂ e) by geologic basin for onshore petroleum and natural gas production facilities.....	17
Total emissions (CO ₂ e) by natural gas utility service territory for natural gas distribution facilities.....	17
Total emissions (CO ₂ e) by facility for industry types: onshore natural gas processing, onshore natural gas transmission compression, underground natural gas storage, liquefied natural gas storage, LNG import and export equipment.....	18
Facility locations for industry types: onshore natural gas processing, onshore natural gas transmission compression, underground natural gas storage, liquefied natural gas storage, LNG import and export equipment.....	19
Total emissions (CO ₂ e) by facility for offshore petroleum and natural gas production	20
Other EPA Resources.....	20
GHGRP 2011: REFINERIES.....	21
Location and emissions range for each reporting facility in the refinery sector (as of 1/16/13).....	21
Other EPA Resources.....	23
GHGRP 2011: CHEMICALS	24
Total Reported Direct Emissions from Chemicals, by Subsector (as of 1/16/13).....	25
Location and emissions range for each reporting facility in the chemical manufacturing sector (as of 1/16/13).....	25
Other EPA Resources.....	27
GHGRP 2011: WASTE.....	28
Total Reported Direct Emissions from Waste, by Subsector (as of 1/16/13).....	29
Location and emissions range for each reporting facility in the waste sector (as of 1/16/13).....	29
Other EPA Resources.....	31
GHGRP 2011: METALS	32
Total Reported Direct Emissions from Metals Production, by Subsector (as of 1/16/13).....	33

Location and emissions range for each reporting facility in the metals sector (as of 1/16/13).....	33
Other EPA Resources.....	34
GHGRP 2011: MINERALS.....	35
Total Reported Direct Emissions from Minerals, by Subsector (as of 1/16/13).....	36
Location and emissions range for each reporting facility in the minerals sector (as of 1/16/13).....	36
Other EPA Resources.....	37
GHGRP 2011: PULP AND PAPER	38
Total Reported Direct Emissions from Pulp and Paper, by Subsector (as of 1/16/13).....	39
Location and emissions range for each reporting facility in the pulp and paper sector (as of 1/16/13).....	39
Other EPA Resources.....	40
GHGRP 2011: OTHER SECTORS.....	41
Total Reported Direct Emissions from Other, by Subsector (as of 1/16/13).....	42
Location and emissions range for each reporting facility in the other sector (as of 1/16/13).....	42
Other EPA Resources.....	44

GHGRP 2011: Reported Data

For reporting year (RY) 2011, approximately 8,000 facilities in nine industry sectors reported 3.3 billion tons carbon dioxide equivalent (CO₂e) of direct emissions. The facilities reported direct emissions of carbon dioxide, methane, nitrous oxide, and fluorinated gases. Additional facilities reported GHG quantities associated with products supplied. Over 6,200 facilities across 29 source categories reported GHG data for RY2010. In 2011, 12 additional source categories began monitoring GHG data and reported GHG data for the first time in 2012. The addition of these 12 new source categories brings the total coverage of the GHGRP to 41 source categories. [This table](#) lists the nine industrial sectors and includes which of the 41 source categories are included in each sector.

All values and graphics presented here were last updated on January 16, 2013. To review the most recent 2011 data reported by each facility, [download summary GHG data](#), [explore FLIGHT](#), or download facility-specific data through [Envirofacts](#).

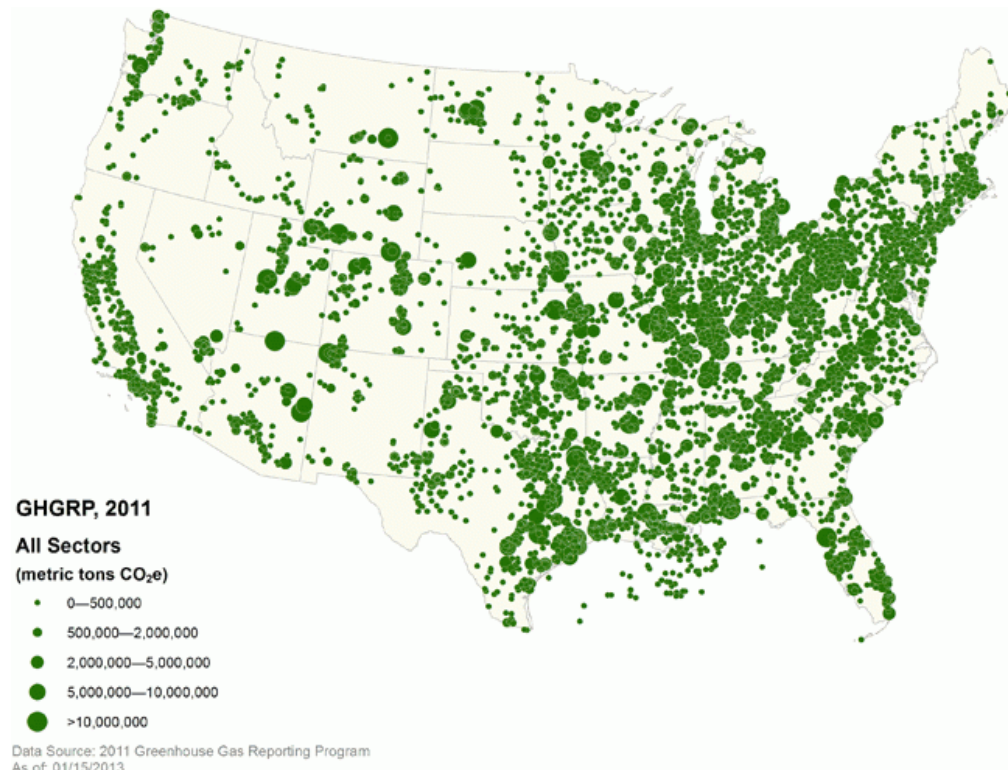
EPA prepares the annual Inventory of U.S. Greenhouse Gas Emissions and Sinks (Inventory) report to track total national emissions of greenhouse gases. The Inventory presents national estimates of GHG emissions starting in 1990 and for each subsequent year. The GHGRP represents a subset of the national estimates and now includes approximately 85-90 percent of total U.S. GHG emissions with the addition of the 12 new source categories in 2011. [More information](#) on the U.S. Greenhouse Gas Inventory. [Learn more about differences between the Inventory and the GHGRP](#).

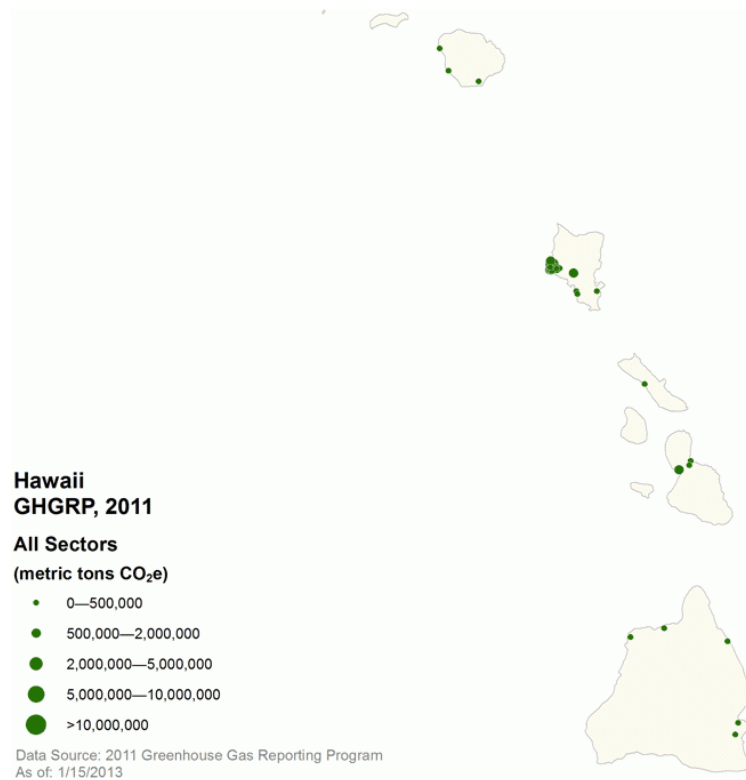
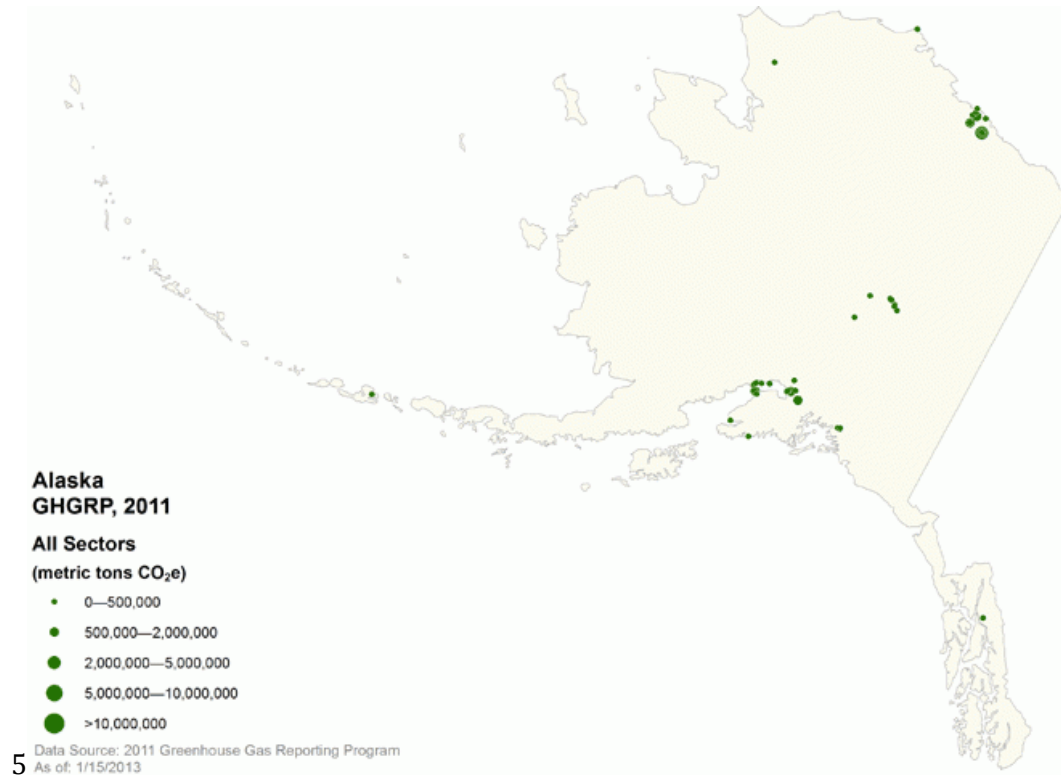
2011 Data Highlights Reported to GHGRP

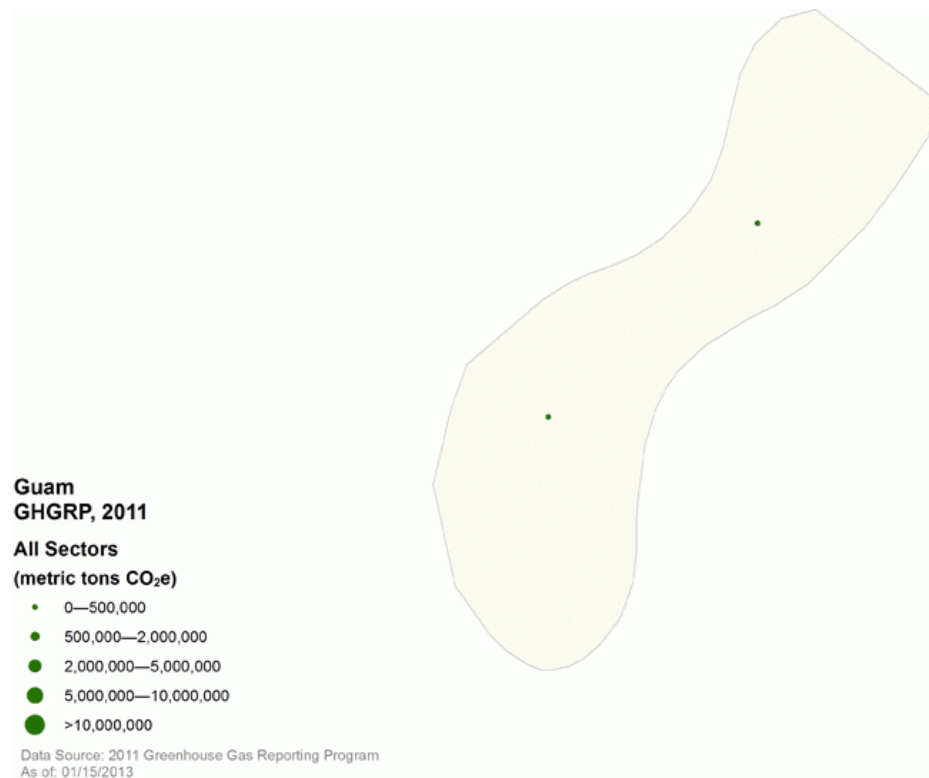
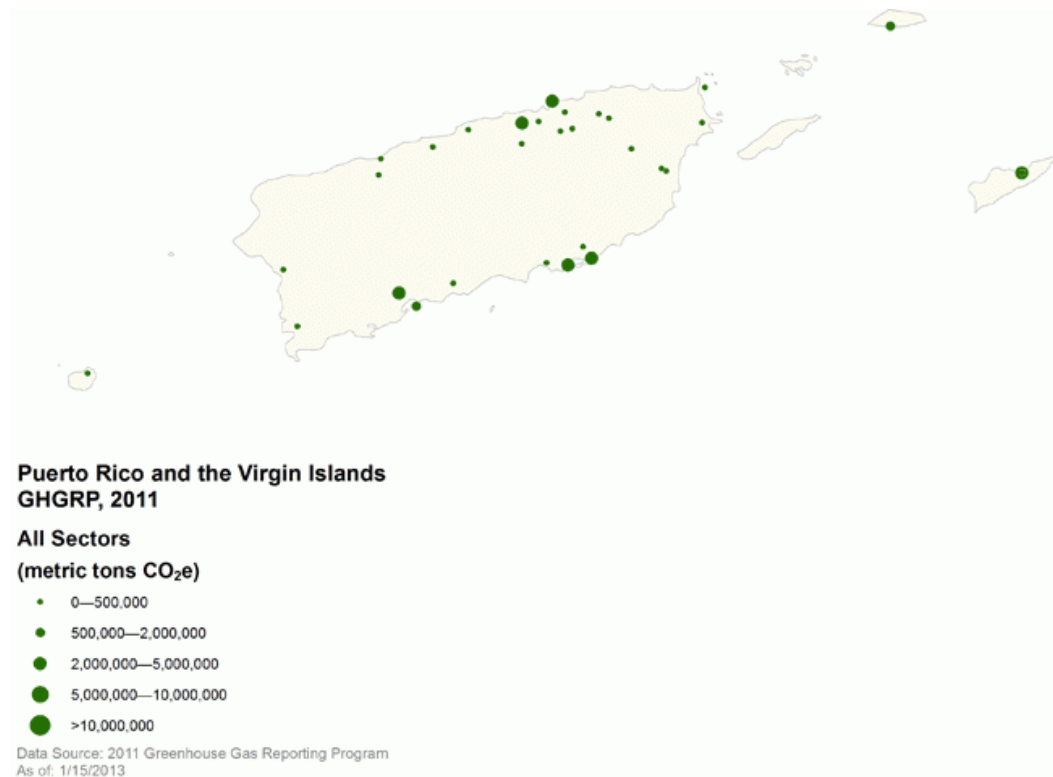
All 2011 data presented here reflects data reported to the GHGRP as of 1/16/13.

These maps show the locations of direct-emitting facilities. The size of a circle corresponds to the quantity of emissions reported by that facility.

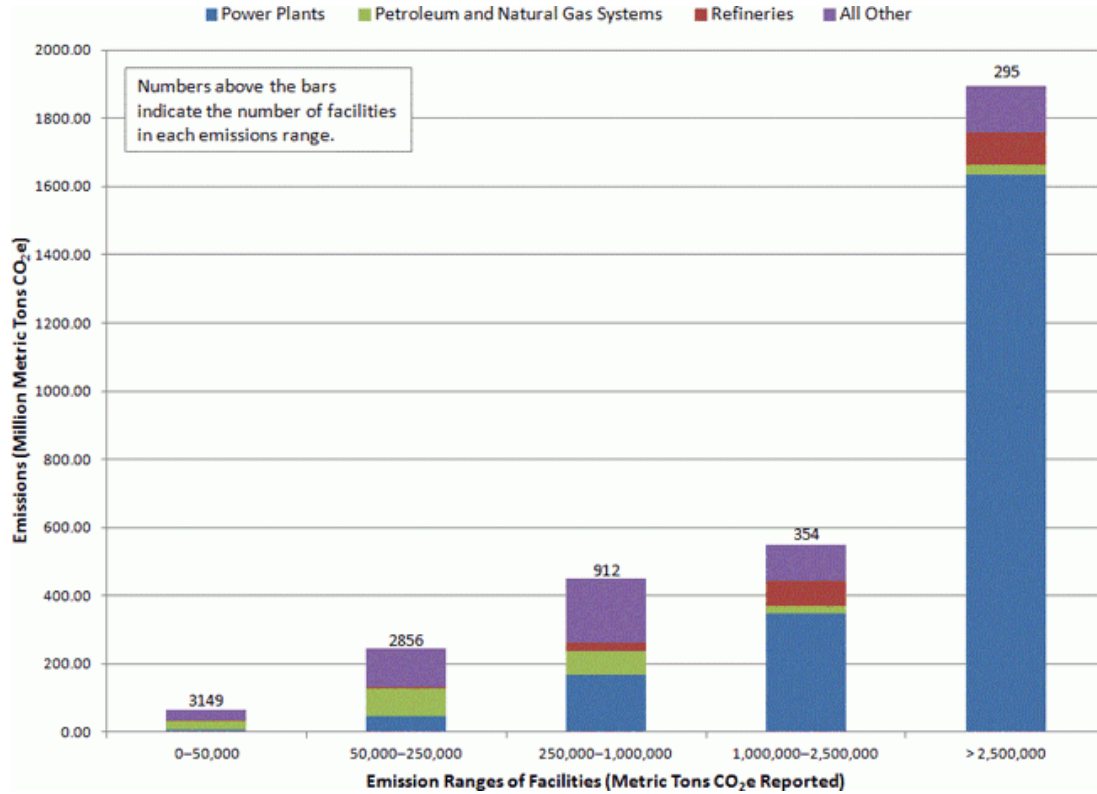
2011 Reporting: Location of direct-emitting facilities







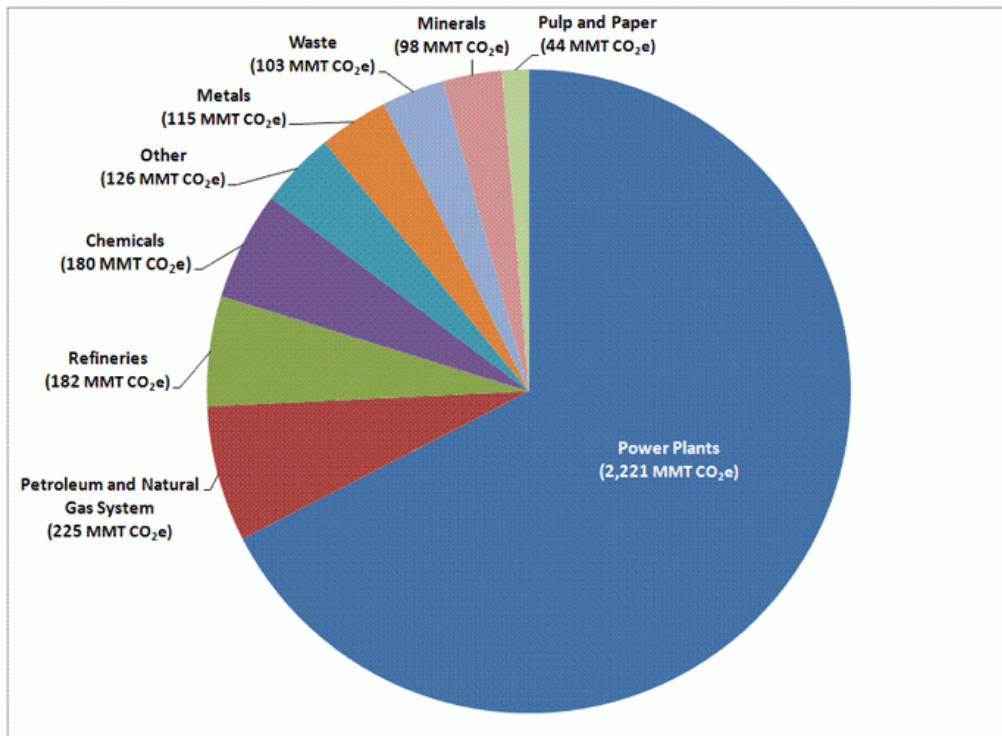
About 4% of facilities emitted 57% of 2011 reported emissions.



In 2011, the 295 largest-emitting facilities — those emitting more than 2.5 million metric tons CO₂e — accounted for almost 1.9 billion metric tons CO₂e. These emissions represent about 57% of the total 3.3 billion metric tons CO₂e reported.

These high-emitting facilities are mainly power plants, petroleum refineries, and facilities in the metals and chemicals industry sectors.

Power plants accounted for about 67% of direct emissions reported by stationary sources in 2011.



Power plants accounted for 2.2 billion metric tons CO₂e, which represents about 67% of the 3.3 billion metric tons CO₂e reported for 2011.

Emissions reported by power plants represent 33% of total U.S. GHG emissions. See the [U.S. GHG Inventory](#) report for more information about total U.S. emissions from 1990-2011.

Select an industry sector in the table below to view a profile of sector emissions in another section of this document.

[Archived GHGRP data is available for download from all reporting years.](#) All 2011 data presented here reflects data reported to the GHGRP as of January 16, 2013.

Table 1: GHGRP Sector Classifications

Industry Sector	Number of Reporters	Emissions (million metric tons CO ₂ e)
Power Plants	1,594	2,221
Petroleum and Natural Gas Systems	1,880	225
Onshore Petroleum & Nat. Gas Prod.	448	94
Offshore Petroleum & Nat. Gas Prod.	99	6.3
Natural Gas Processing	372	62
Natural Gas Trans./Compression	424	24

Industry Sector	Number of Reporters	Emissions (million metric tons CO ₂ e)
Underground Natural Gas Storage	44	1.4
Natural Gas Local Distribution Co.	168	14
Liquefied Natural Gas Imp./Exp. Eq.	7	0.7
Liquefied Natural Gas Storage	5	**
Other Petroleum & Nat. Gas Systems	331	23
<u>Refineries</u>	145	182
<u>Chemicals</u>	458	180
Adipic Acid Production	3	12
Ammonia Manufacturing	22	25
Fluorinated GHG Production	16	6.6
HCFC-22 Prod./HFC-23 Dest.	5	6.9
Hydrogen Production	103	34
Nitric Acid Production	36	12
Petrochemical Production	64	53
Phosphoric Acid Production	13	2.0
Silicon Carbide Production	1	0.1
Soda Ash	4	5.1
Titanium Dioxide Production	7	2.4
Other Chemicals	213	21
<u>Waste</u>	1,593	103
Industrial Waste Landfills	173	8.5
Municipal Landfills	1,208	81
Solid Waste Combustion	68	10
Wastewater Treatment	151	3.7
<u>Metals</u>	297	115
Aluminum Production	10	6.7
Ferroalloy Production	10	2.3
Iron and Steel Production	128	91

Industry Sector	Number of Reporters	Emissions (million metric tons CO ₂ e)
Lead Production	13	1.0
Magnesium Production	9	2.5
Zinc Production	6	0.9
Other Metals Production	121	10
<u>Minerals</u>	362	98
Cement Production	96	56
Glass Production	110	8.4
Lime Manufacturing	73	31
Other Minerals	83	3.6
<u>Pulp and Paper</u>	230	44
Pulp and Paper Manufacturing	110	31
Other Paper Producers	120	13
<u>Other</u>	1,377	126
Food Processing	299	30
Ethanol Production	162	18
Manufacturing	280	17
Universities	109	9.4
Military	43	2.7
Other	156	11
Underground Coal Mines	175	28
Electronics Manufacturing	49	5.4
Electrical Equipment Manufacturers	5	0.3
Electrical Equipment Use	102	3.9

** Total reported emissions are less than 0.05 million metric tons CO₂e.

Note: Biogenic emissions are NOT included in the total emissions.

Suppliers: 2011 Reporting

Suppliers are those entities that supply products into the economy which if combusted, released or oxidized emit greenhouse gases into the atmosphere. Emissions associated with these fuels and industrial gases do not occur at the supplier's facility but instead throughout the country, where

used. An example of this is gasoline, which is supplied into the U.S. economy by a relatively small number of entities and consumed by many individual vehicles throughout the country.

The majority of GHG emissions associated with the transportation, residential and commercial sectors are accounted for by these suppliers.

The GHG quantity reported by suppliers may not always result in GHG emissions, and the emissions may not take place during the reporting year. However, the data from suppliers provide important information on the structure and flow of products through the economy, because these products may ultimately result in greenhouse gas emissions. In addition, reporting by fossil fuel and industrial gas suppliers can account for greenhouse gas emissions by the many low-emitting sources that are not required to report emissions under the GHGRP. Emissions reported by suppliers can be accessed through the [suppliers section](#) of FLIGHT.

How You Can Obtain the GHGRP Data

Use [FLIGHT](#) to view maps of facility locations, obtain summary data for individual facilities, create customized searches, and display search results graphically.

All non-CBI GHG data submitted to the GHGRP is now available on [Envirofacts](#) in a format that allows users to easily search, sort, and download data. Users have access to all reporting year 2010 data and the majority of reporting year 2011 data. The remaining reporting year 2011 data will be made available shortly.

GHGRP 2011: Power Plants

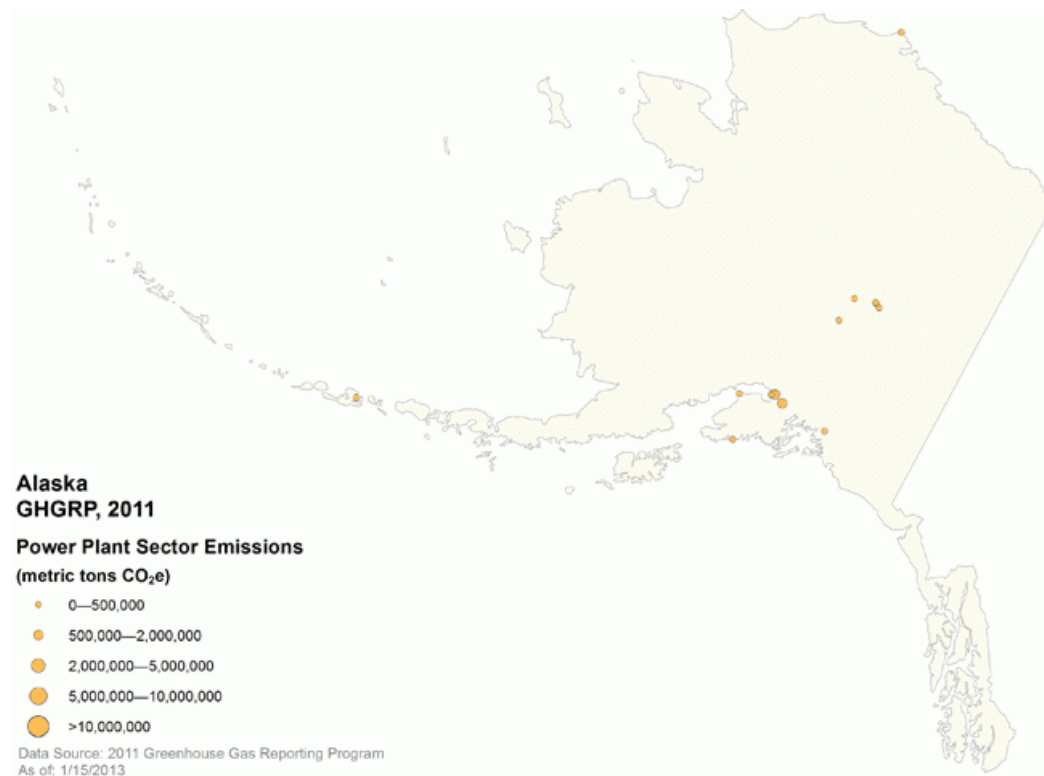
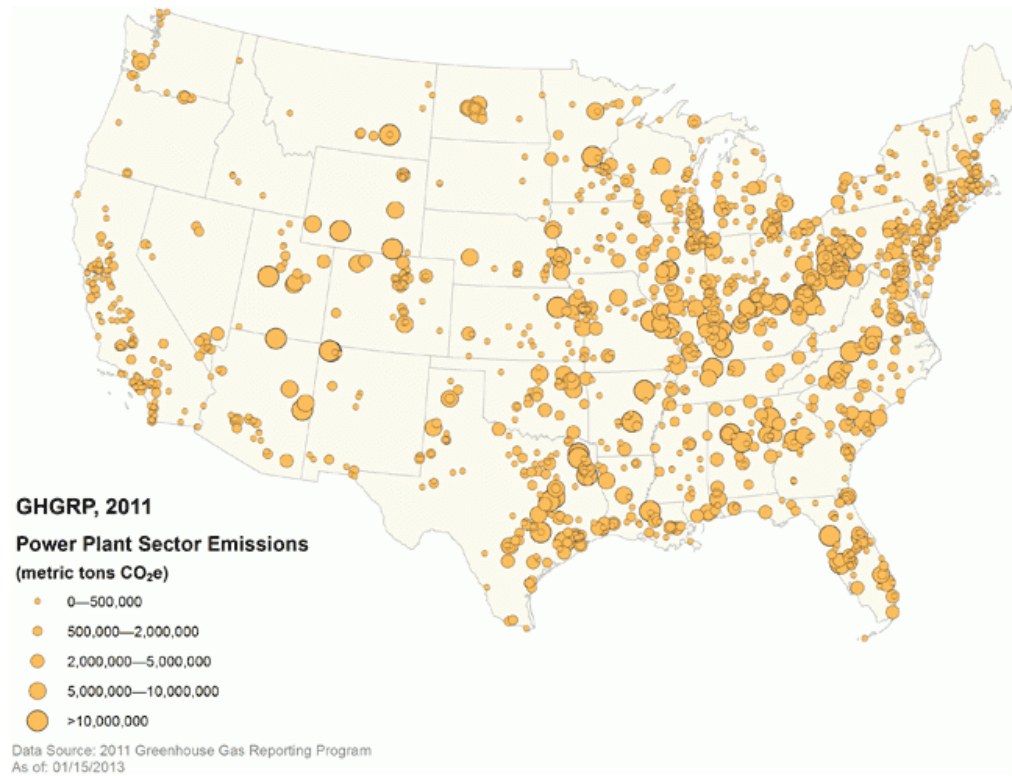
The power plant sector consists of facilities that produce electricity by combusting fossil fuels and/or biomass and provide the electricity to transmission systems or to electric power distribution systems. The sector includes units that are subject to the Acid Rain Program, units that are required to monitor and report to EPA CO₂ mass emissions year-round according to 40 CFR part 75, and units that do not report according to 40 CFR part 75. The emissions from this sector are solely from stationary fuel combustion sources such as boilers, simple and combined-cycle combustion turbines, engines, and incinerators.

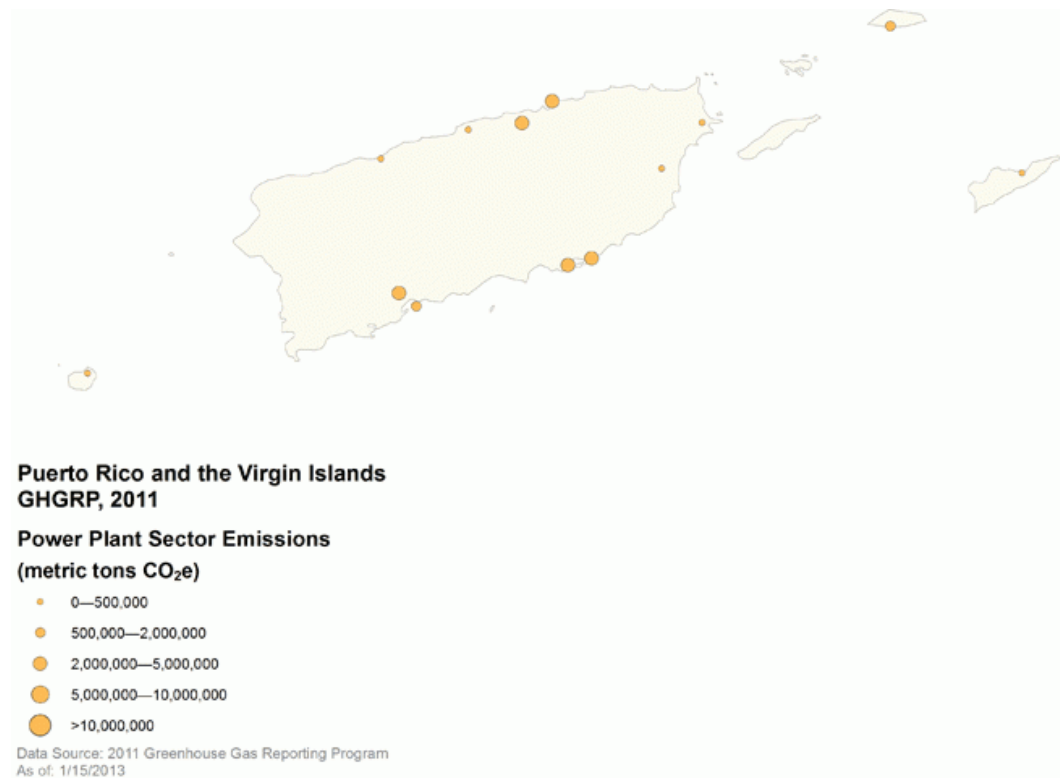
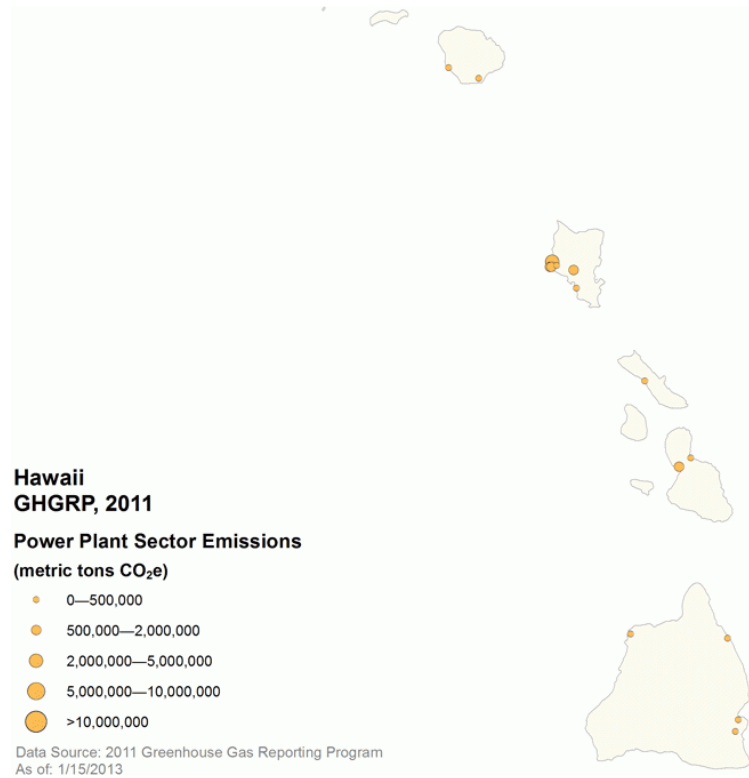
Power Plants Sector — Greenhouse Gas Emissions Reported to the GHGRP (all emissions values presented in million metric tons CO ₂ e unless otherwise noted)		
	2011	2010
Number of facilities:	1,594	1,586
Total emissions (CO₂e):	2,221	2,327
Emissions by greenhouse gas (CO₂e)		
• Carbon dioxide (CO₂):	2,209	2,313
• Methane (CH₄):	3	4
• Nitrous oxide (N₂O):	9	10

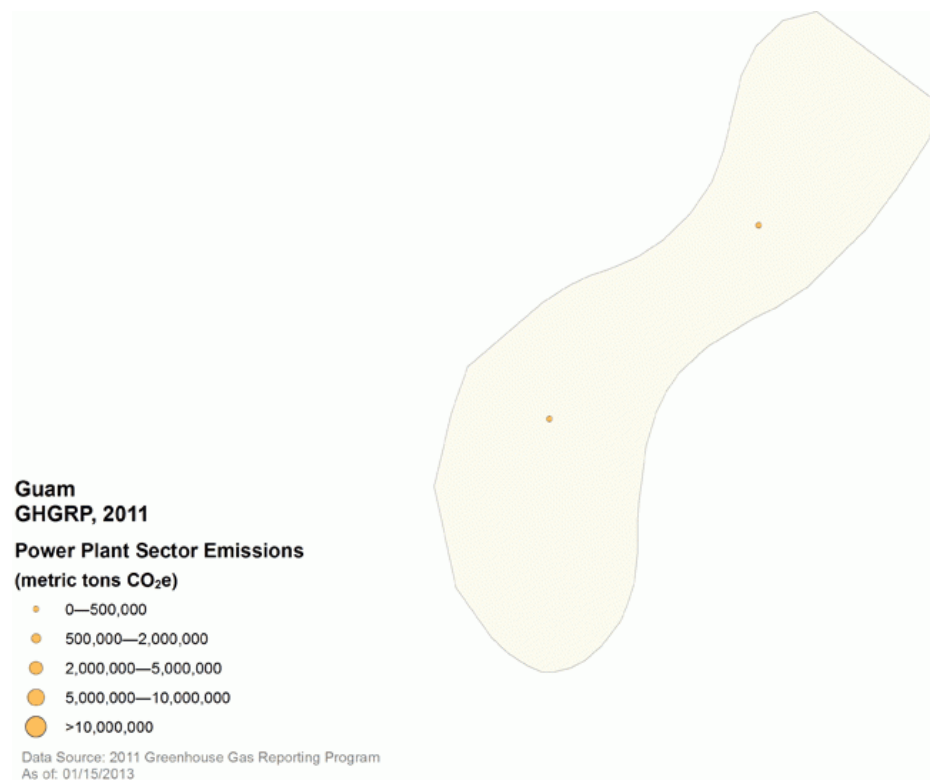
Note: CO₂ emissions from the combustion of biomass are NOT included in emissions totals provided above.

Location and emissions range for each reporting facility in the power plant sector (as of 1/16/13).

These maps show the locations of direct-emitting facilities. The size of a circle corresponds to the quantity of emissions reported by that facility.







Other EPA Resources

- [U.S. Greenhouse Gas Inventory Report 1990-2011](#)

GHGRP 2011: Petroleum and Natural Gas Systems

The sector consists of the following industry segments of petroleum and natural gas.

- *Onshore petroleum and natural gas production.* Onshore production means all well drilling and other equipment used in the onshore production, extraction, recovery, lifting, stabilization, separation or treating of petroleum and natural gas (including condensate).
- *Offshore petroleum and natural gas production.* Offshore production means any platform structure that is affixed temporarily or permanently to offshore submerged lands and that houses equipment to extract petroleum and natural gas from the ocean or lake floor.
- *Onshore natural gas processing.* Natural gas processing means the separation of non-methane gases from raw natural gas, or the separation of the non-methane gases and liquids into one or more components.
- *Onshore natural gas transmission compression.* Onshore natural gas transmission compression means any combination of compressors and associated equipment involved in moving natural gas from production fields or natural gas processing plants through transmission pipelines to natural gas distribution pipelines and storage facilities.
- *Underground natural gas storage.* Underground natural gas storage means subsurface storage of natural gas, e.g., in depleted gas or oil reservoirs and salt dome caverns.
- *Natural gas distribution.* Natural gas distribution means the distribution pipelines and metering and regulating equipment that are operated by a Local Distribution Company (LDC) to provide natural gas to residential, commercial, and industrial customers.
- *Liquefied natural gas (LNG) storage.* LNG storage means onshore LNG storage vessels and associated equipment for liquefying and storing liquefied natural gas above ground and for re-gasification of the liquefied natural gas.
- *LNG import and export equipment.* LNG import equipment means all onshore or offshore equipment that receives imported LNG via ocean transport, stores LNG, re-gasifies LNG, and delivers re-gasified natural gas to a natural gas transmission or distribution system. LNG export equipment means all onshore or offshore equipment that receives natural gas, liquefies natural gas, stores LNG, and transfers the LNG via ocean transportation to any location, including other locations in the United States.

Reporting year 2011 was the first year process emissions data were collected for this industry sector.

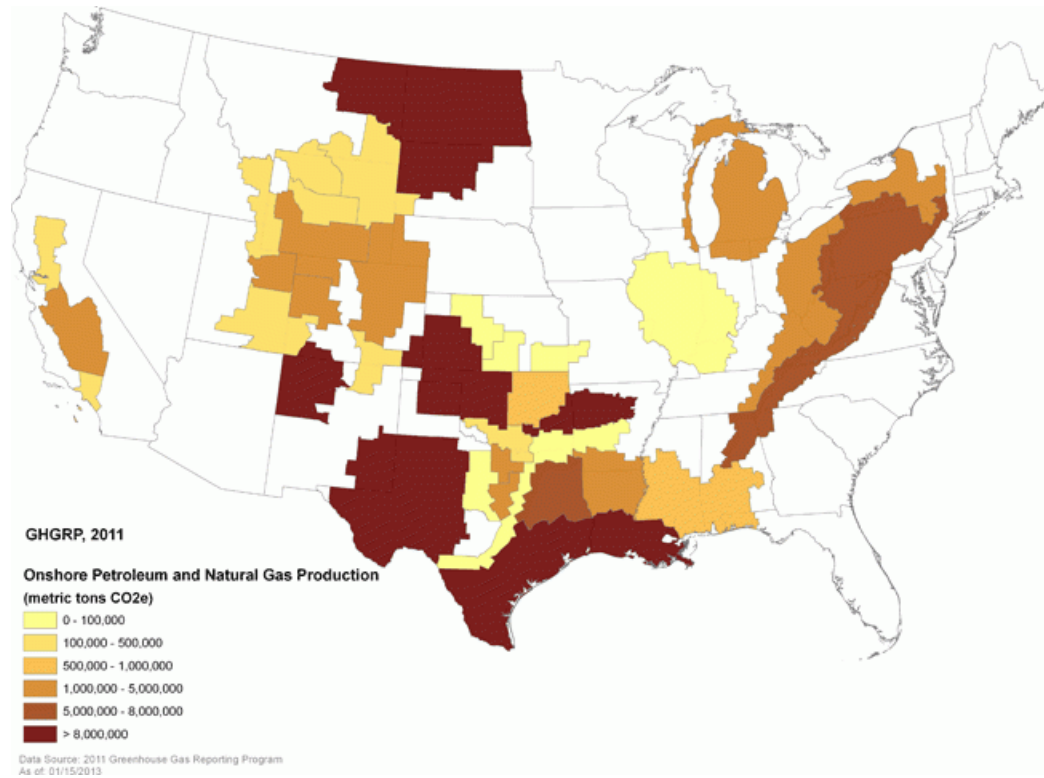
- [Petroleum and Natural Gas Systems: 2011 Data Publication Fact Sheet](#)
- [Petroleum and Natural Gas Systems: 2011 Data Publication FAQs](#)

Petroleum and Natural Gas Systems Sector — Greenhouse Gas Emissions Reported to the GHGRP	
(all emissions values presented in million metric tons CO ₂ e unless otherwise noted)	
	2011
Number of facilities:	1,880
Total emissions (CO₂e):	225
Emissions by greenhouse gas (CO₂e)	
• Carbon dioxide (CO ₂):	142
• Methane (CH ₄):	83
• Nitrous oxide (N ₂ O):	1
Emissions by industry segment (CO₂e)	
• Onshore Petroleum & Natural Gas Production	94
• Offshore Petroleum & Natural Gas Production	6
• Natural Gas Processing	62
• Natural Gas Transmission/Compression	24
• Underground Natural Gas Storage	1
• Natural Gas Local Distribution Companies	14
• Liquefied Natural Gas Storage	**
• Liquefied Natural Gas Imp./Exp. Equipment	0.7
• Other Petroleum and Natural Gas Systems	23

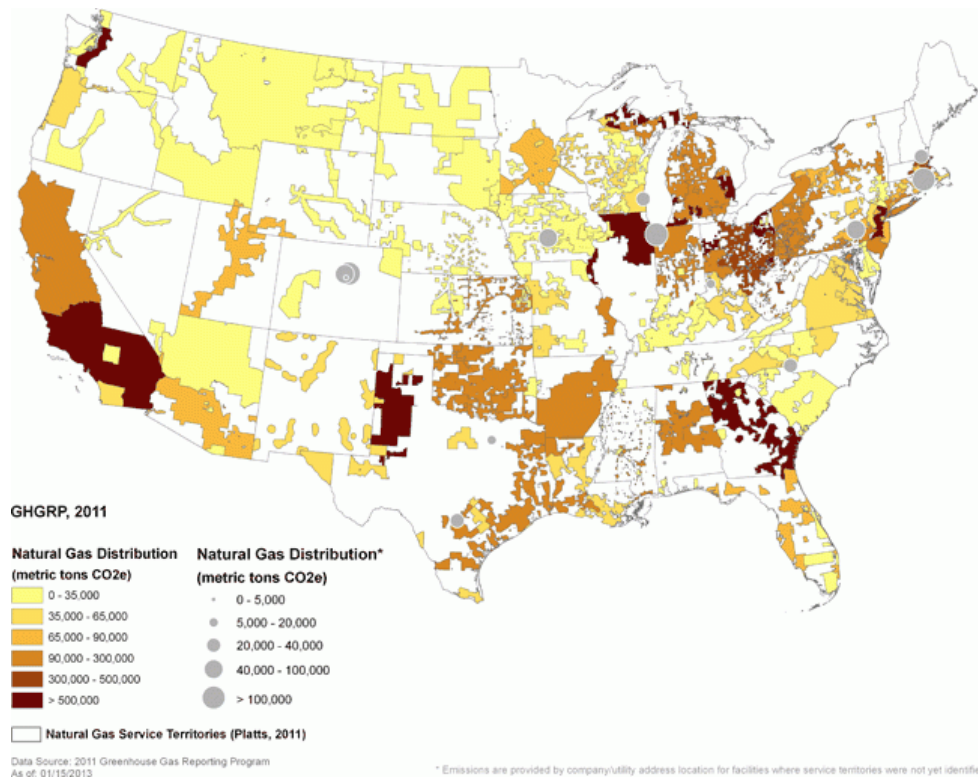
** Total reported emissions are less than 0.5 million metric tons CO₂e.

Note: CO₂ emissions from the combustion of biomass are NOT included in emissions totals provided above.

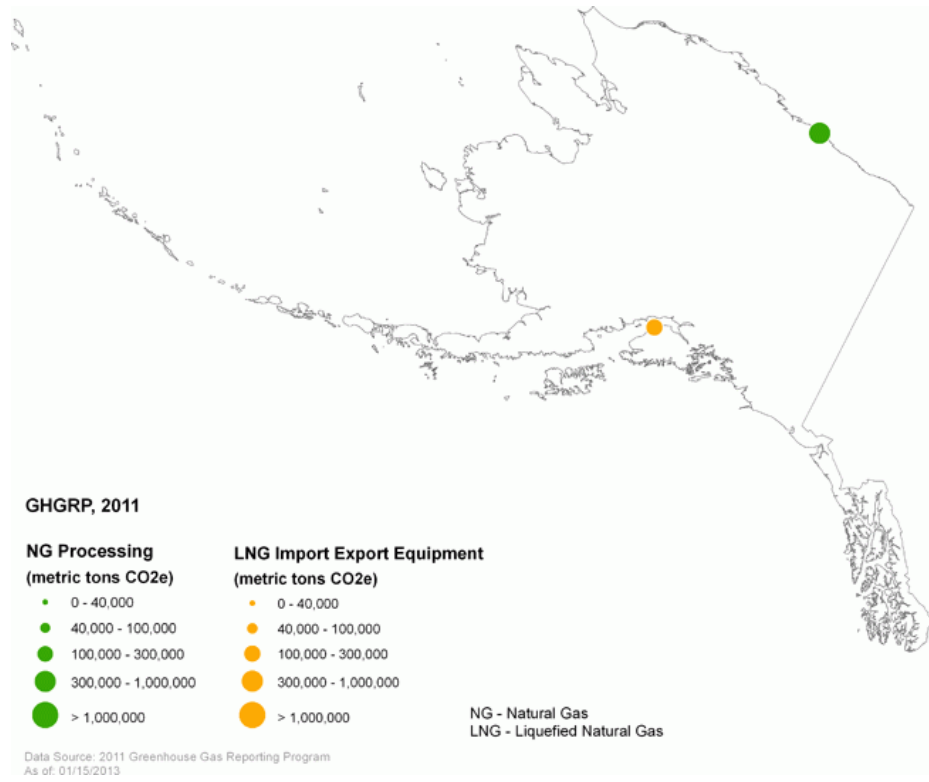
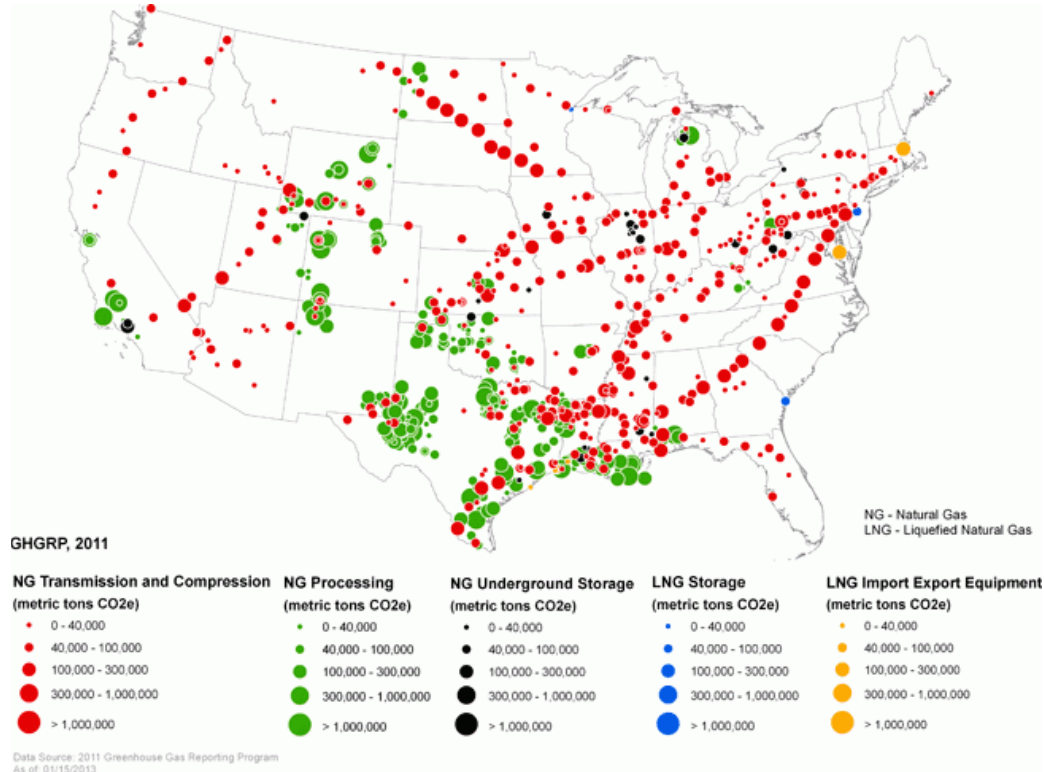
Total emissions (CO₂e) by geologic basin for onshore petroleum and natural gas production facilities



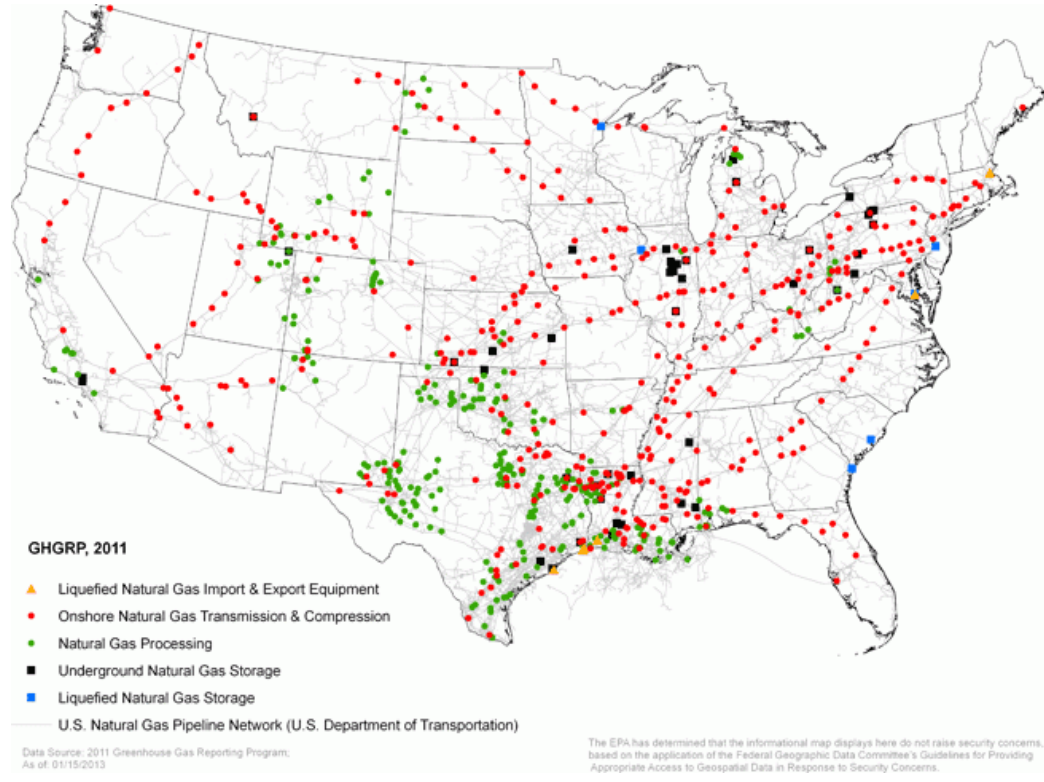
Total emissions (CO₂e) by natural gas utility service territory for natural gas distribution facilities



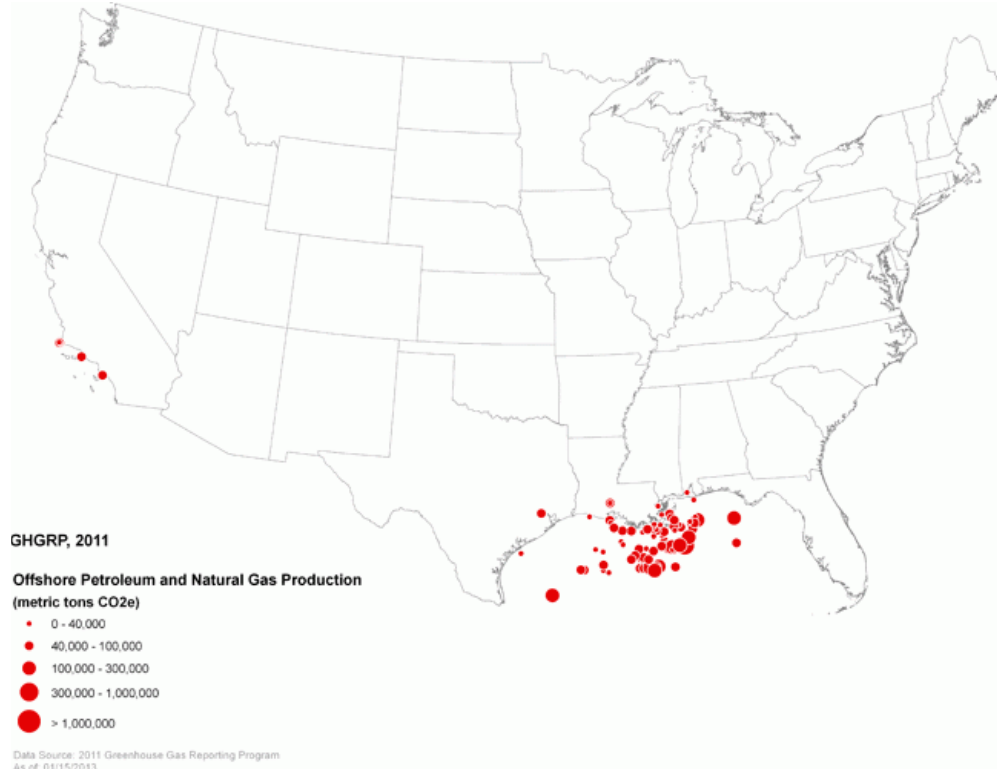
Total emissions (CO₂e) by facility for industry types: onshore natural gas processing, onshore natural gas transmission compression, underground natural gas storage, liquefied natural gas storage, LNG import and export equipment



Facility locations for industry types: onshore natural gas processing, onshore natural gas transmission compression, underground natural gas storage, liquefied natural gas storage, LNG import and export equipment



Total emissions (CO₂e) by facility for offshore petroleum and natural gas production



Other EPA Resources

- [U.S. Greenhouse Gas Inventory Report 1990-2011](#)

GHGRP 2011: Refineries

The refinery sector consists of facilities that produce gasoline, gasoline blending stocks, naphtha,¹ kerosene, distillate fuel oils, residual fuel oils, lubricants, or asphalt (bitumen) by the distillation of petroleum or the redistillation, cracking, or reforming of unfinished petroleum derivatives. GHG process emissions from this sector include emissions from venting, flares, and fugitive leaks from equipment (e.g., valves, flanges, pumps). Besides the emissions from petroleum refining processes, the sector includes combustion emissions from stationary combustion units located at these facilities. Emissions from hydrogen production plants that are located at refineries are included in the chemical manufacturing sector. Emissions from industrial waste landfills and industrial wastewater treatment at these facilities are included in the waste sector.

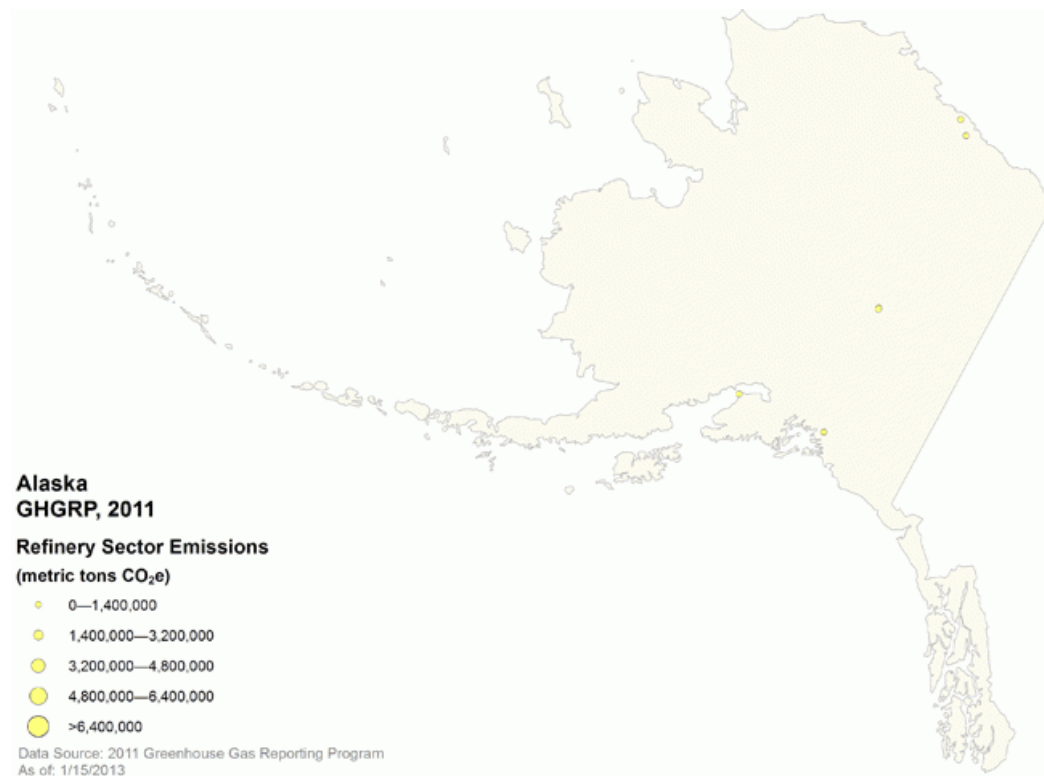
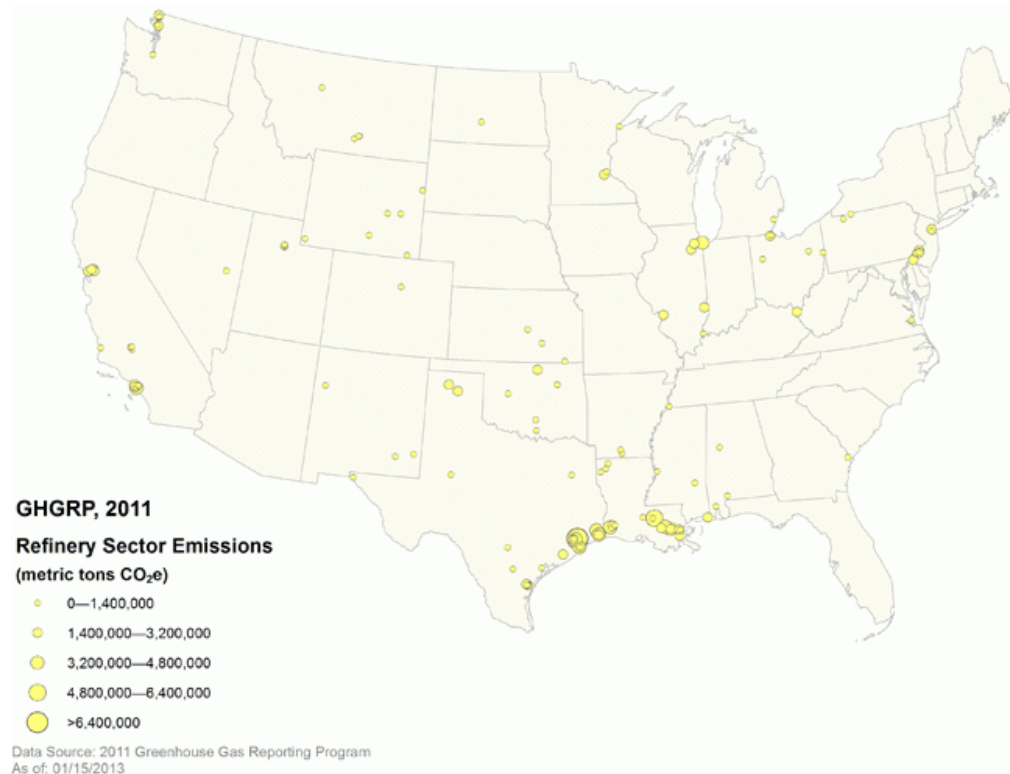
Refineries Sector — Greenhouse Gas Emissions Reported to the GHGRP (all emissions values presented in million metric tons CO ₂ e unless otherwise noted)		
	2011	2010
Number of facilities:	145	145
Total emissions (CO₂e):	182	181
Emissions by greenhouse gas (CO₂e)		
• Carbon dioxide (CO ₂):	180	179
• Methane (CH ₄):	1	1
• Nitrous oxide (N ₂ O):	1	1

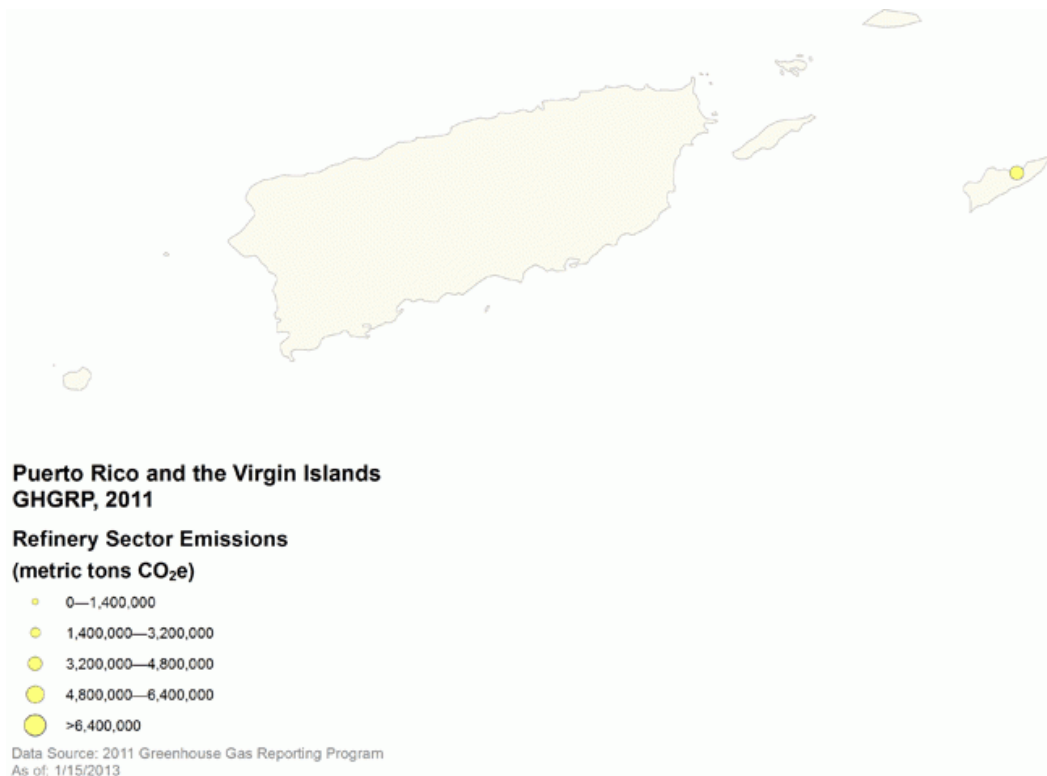
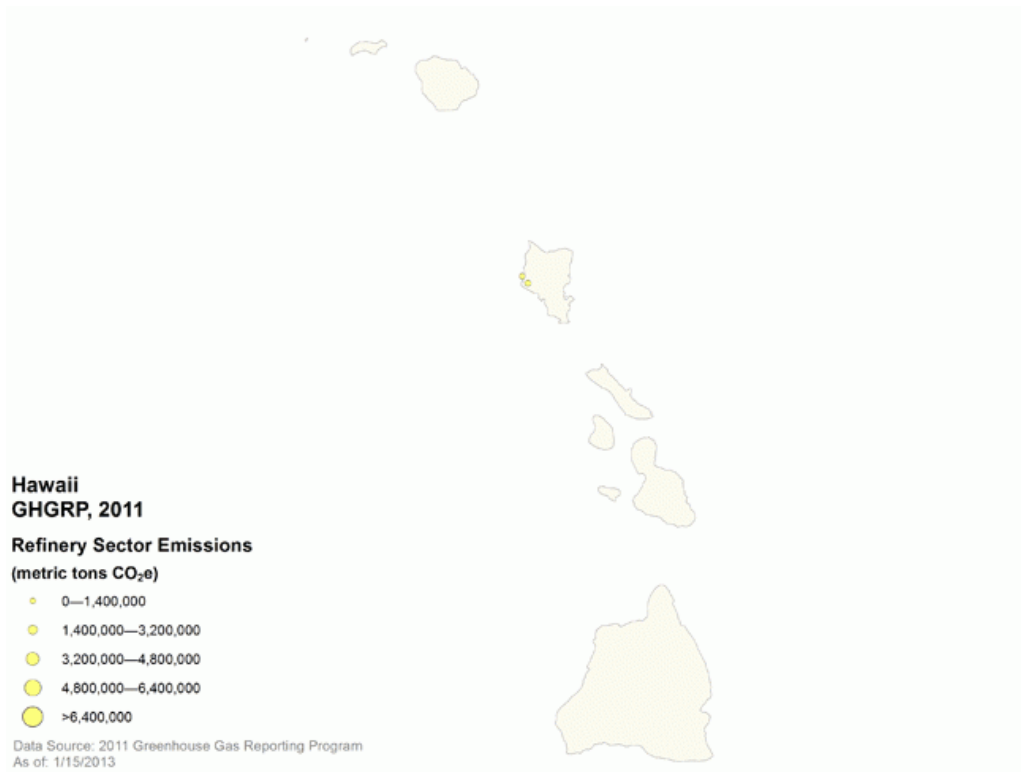
Note: CO₂ emissions from the combustion of biomass are NOT included in emissions totals provided above.

Location and emissions range for each reporting facility in the refinery sector (as of 1/16/13).

These maps show the locations of direct-emitting facilities. The size of a circle corresponds to the quantity of emissions reported by that facility.

¹ Naphtha is a generic term applied to a family of petroleum distillates that are used as petrochemical feedstocks, and for products such as paint thinners, cleaners, and solvents.





Other EPA Resources

- [U.S. Greenhouse Gas Inventory Report 1990-2011](#)

GHGRP 2011: Chemicals

The chemical manufacturing sector consists of facilities that produce adipic acid, ammonia, HCFC-22 (and destroy HFC-23), hydrogen (both merchant and non-merchant plants), nitric acid, petrochemicals (i.e., acrylonitrile, carbon black, ethylene, ethylene dichloride, ethylene oxide, methanol), fluorinated gases, phosphoric acid, silicon carbide, soda ash, and titanium dioxide. Besides the emissions from these chemical production processes, the sector includes combustion emissions from facilities that produce pesticides, fertilizer, pharmaceuticals, and other organic and inorganic chemicals. A total of 458 facilities reported under this sector. A small number of facilities in this sector collect CO₂ either for use in their other production processes, to transfer to other users, or to sequester or otherwise inject underground, and, process emissions reported under this sector includes this CO₂. For example, some of the process emissions reported for ammonia manufacturing plants includes CO₂ that is later consumed on site for urea production. This CO₂ is not released to the ambient air from the ammonia manufacturing process unit(s).

Chemicals Sector — Greenhouse Gas Emissions Reported to the GHGRP (all emissions values presented in million metric tons CO ₂ e unless otherwise noted)		
	2011	2010
Number of facilities:	458	449
Total emissions (CO₂e):	180	166
Emissions by greenhouse gas (CO₂e)		
• Carbon dioxide (CO ₂):	145	149
• Methane (CH ₄):	**	**
• Nitrous oxide (N ₂ O):	22	17
• Hydrofluorocarbons (HFCs):	7	6
Subpart L emissions	6	NR

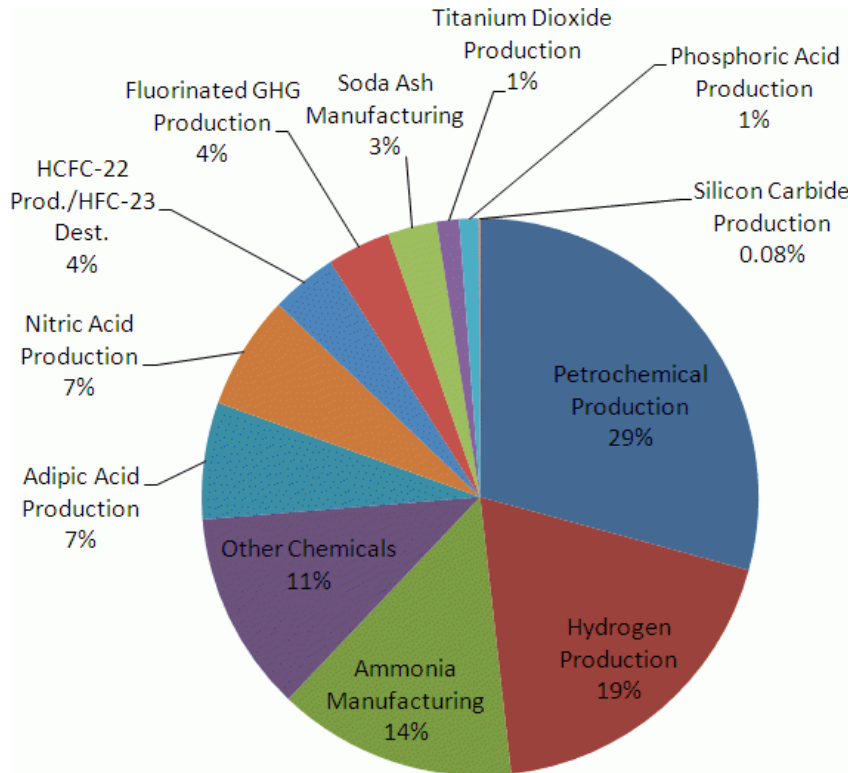
NR means that this value was not reported for the 2010 reporting year.

** Total reported emissions are less than 0.5 million metric tons CO₂e.

Process emissions from the production of fluorinated gases were reported in 2011 but not in 2010. These emissions are included in the table above. Total emissions from this source category in 2011 were 6.6 MMT CO₂e.

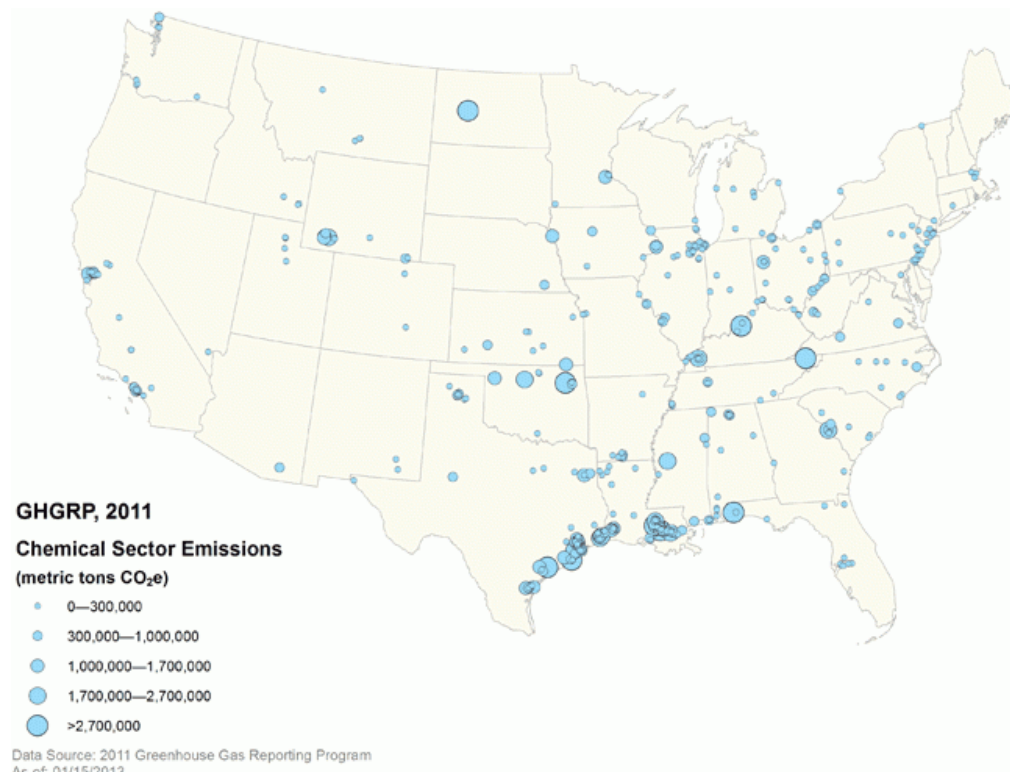
Note: CO₂ emissions from the combustion of biomass are NOT included in emissions totals provided above.

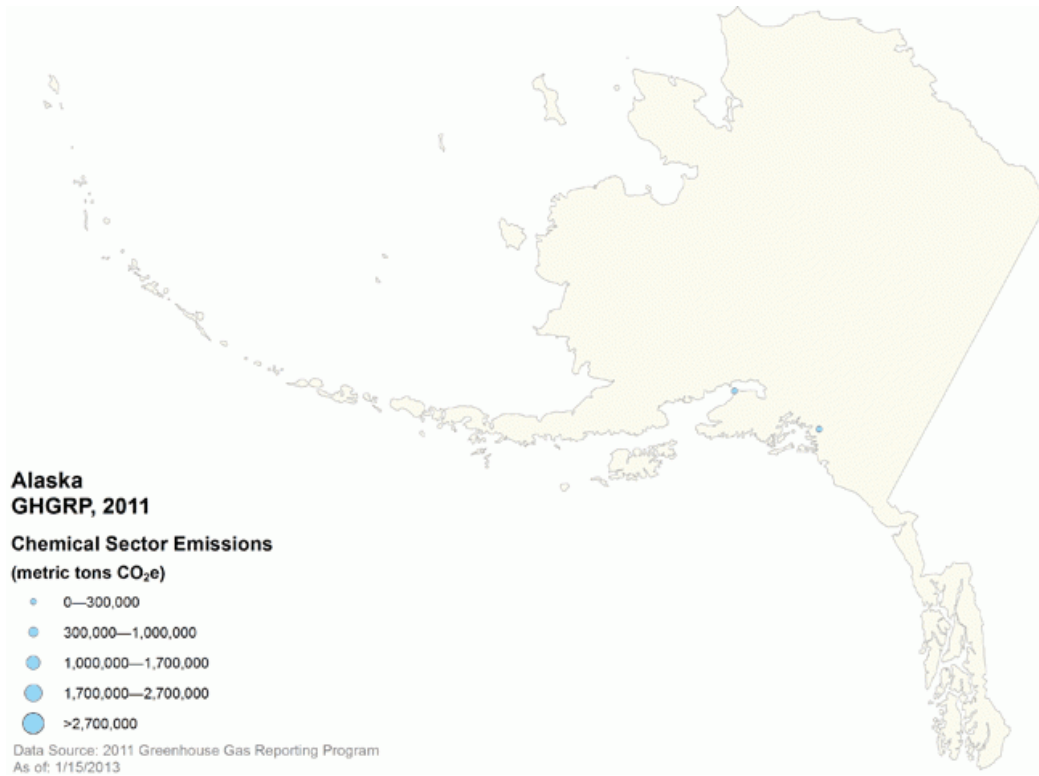
Total Reported Direct Emissions from Chemicals, by Subsector (as of 1/16/13).

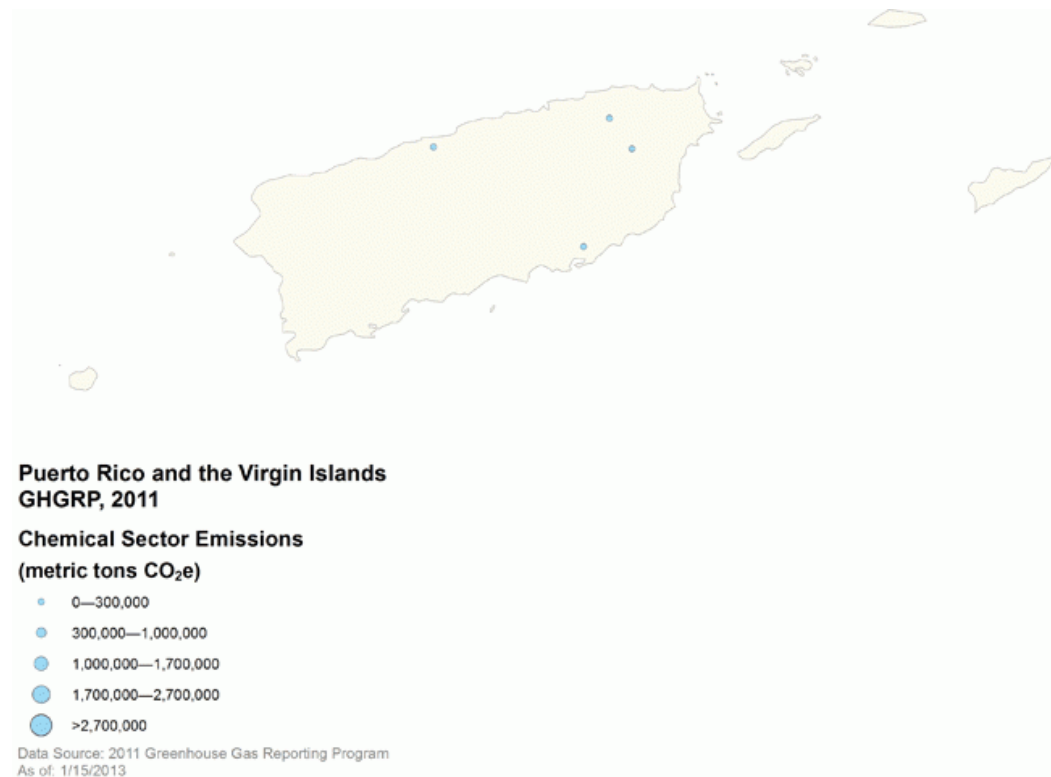


Location and emissions range for each reporting facility in the chemical manufacturing sector (as of 1/16/13).

These maps show the locations of direct-emitting facilities. The size of a circle corresponds to the quantity of emissions reported by that facility.







Other EPA Resources

- [U.S. Greenhouse Gas Inventory Report 1990-2011](#)

GHGRP 2011: Waste

The waste sector consists of municipal solid waste (MSW) landfills, industrial waste landfills, industrial wastewater treatment systems, and facilities that operate combustors or incinerators for the disposal of nonhazardous solid waste. Emissions from fossil fuel combustion at facilities with industrial waste landfills, and industrial wastewater treatment systems are included in other industrial sectors.

MSW landfills. The category consists of landfills that accepted MSW on or after January 1, 1980 and generated methane in amounts equivalent to 25,000 metric tons of CO₂e or more per year. A MSW landfill comprises the landfill, landfill gas collection systems, and destruction devices for landfill gases (including flares).

Industrial Waste Landfills. The category consists of industrial waste landfills that accepted industrial waste on or after January 1, 1980 and that have a total landfill design capacity of 300,000 metric tons or more. The category excludes landfills for hazardous waste and those that receive only construction and demolition or inert wastes. An industrial waste landfill comprises the landfill, landfill gas collection systems, and destruction devices for landfill gases (including flares).

Industrial Wastewater Treatment. The category consists of anaerobic processes used to treat nonhazardous industrial wastewater and industrial wastewater treatment sludge at facilities that perform pulp and paper manufacturing, food processing, ethanol production, or petroleum refining.

Solid Waste Combustion. The category consists of combustors and incinerators for the disposal of nonhazardous solid waste.

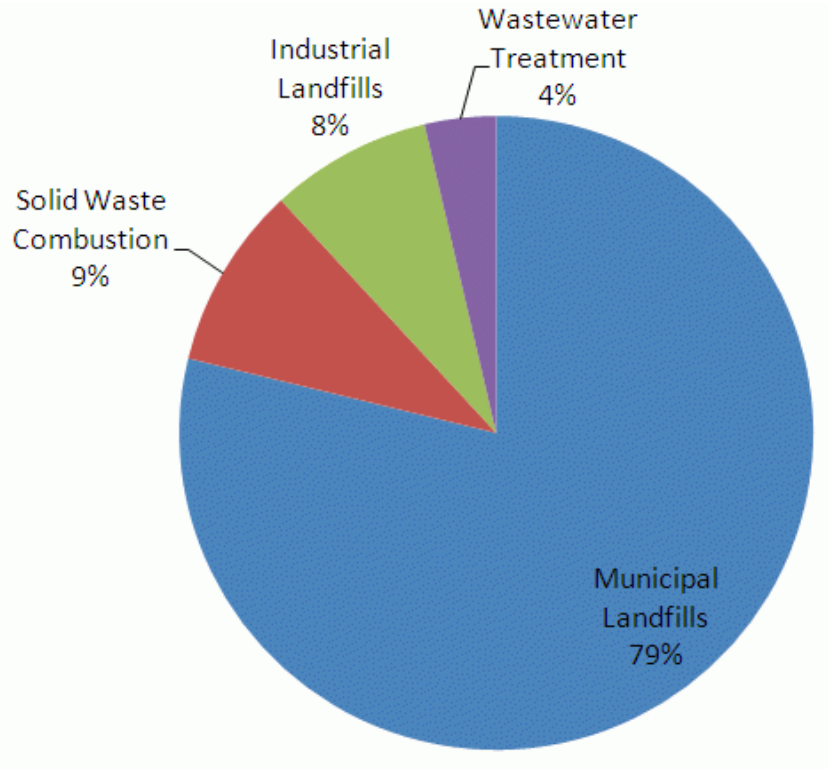
Waste Sector — Greenhouse Gas Emissions Reported to the GHGRP (all emissions values presented in million metric tons CO ₂ e unless otherwise noted)		
	2011	2010
Number of facilities:	1,593	1,273
Total emissions (CO₂e):	103	100
Emissions by greenhouse gas (CO₂e)		
• Carbon dioxide (CO ₂):	10	9
• Methane (CH ₄):	92	91
• Nitrous oxide (N ₂ O):	**	**

** Total reported emissions are less than 0.5 million metric tons CO₂e.

Emissions from industrial waste landfills and industrial wastewater treatment systems were reported in 2011 but not in 2010. These emissions are included in the table above. Total emissions from these source categories in 2011 were 12.2 MMT CO₂e.

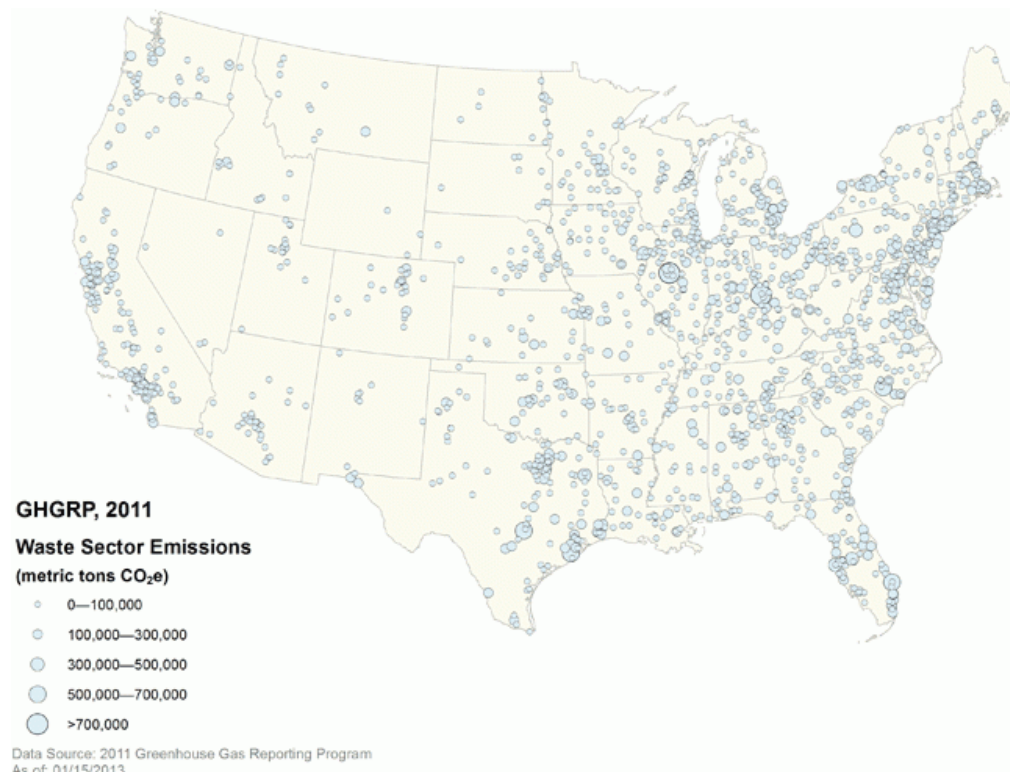
Note: CO₂ emissions from the combustion of biomass are NOT included in emissions totals provided above.

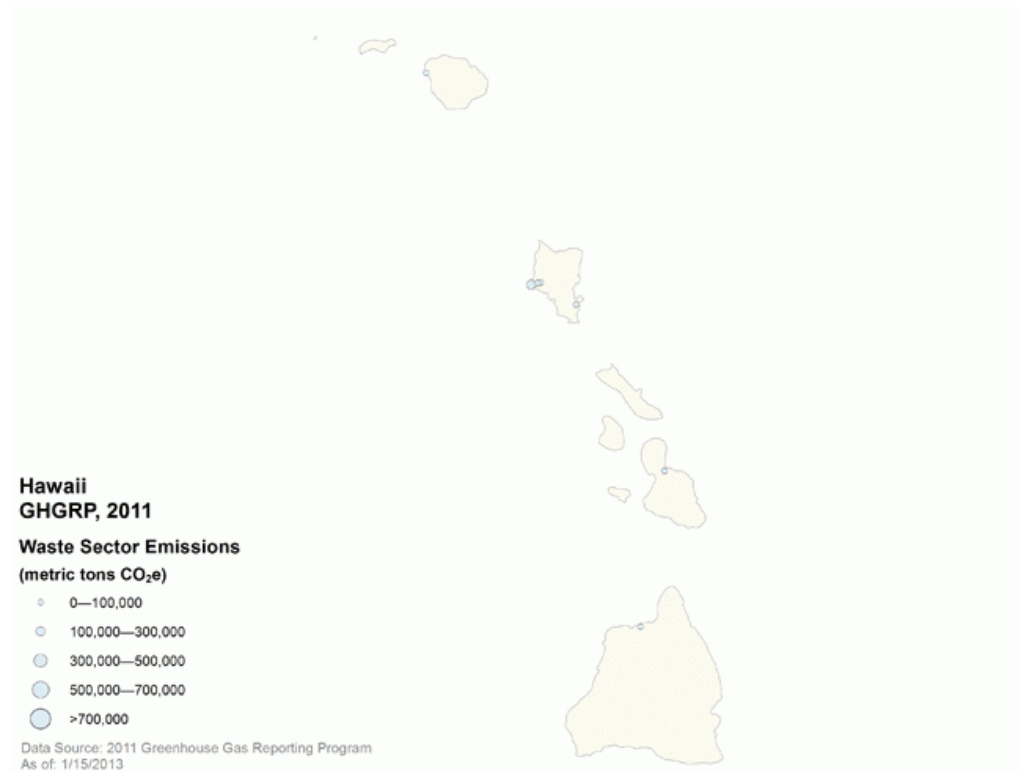
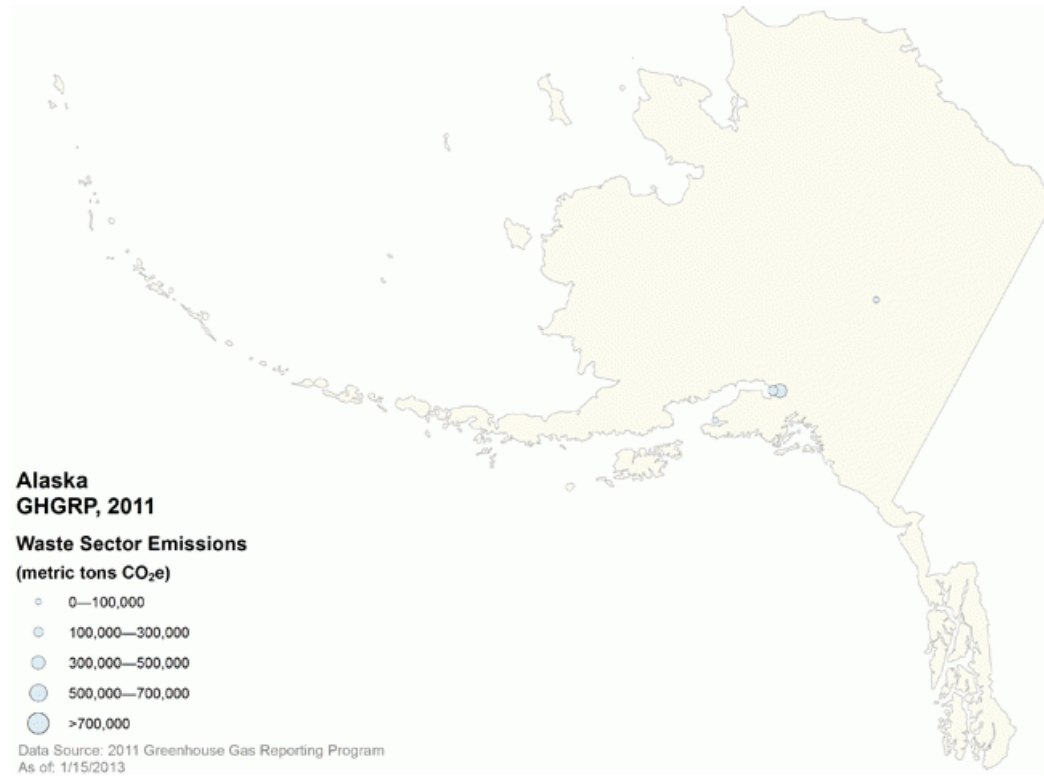
Total Reported Direct Emissions from Waste, by Subsector (as of 1/16/13).

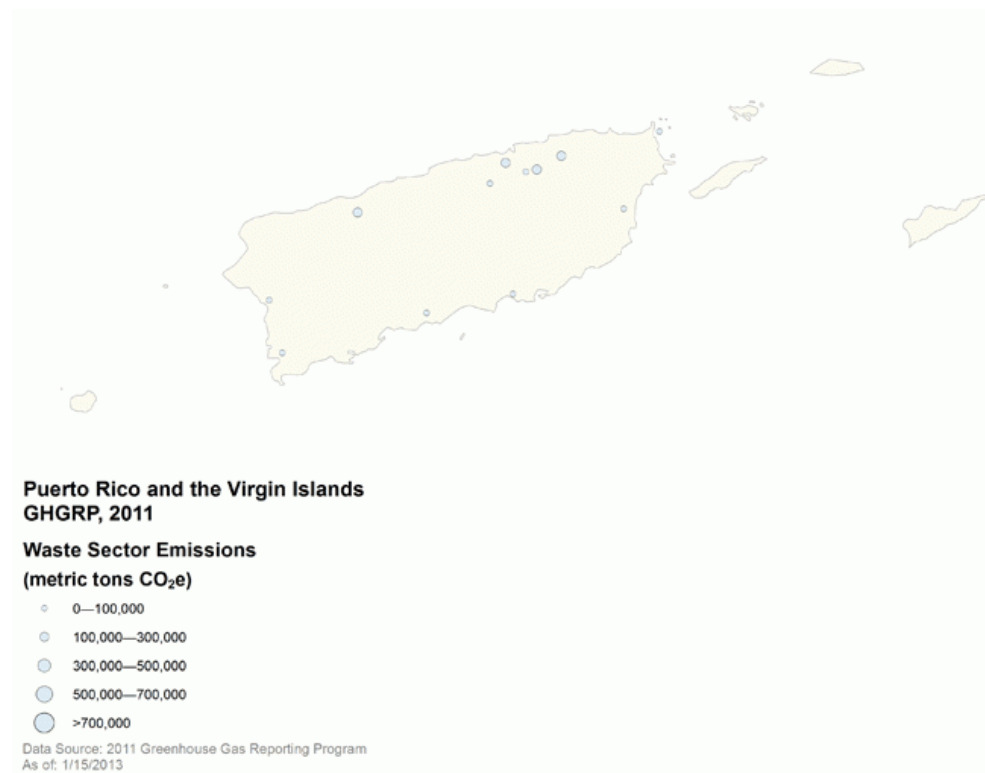


Location and emissions range for each reporting facility in the waste sector (as of 1/16/13).

These maps show the locations of direct-emitting facilities. The size of a circle corresponds to the quantity of emissions reported by that facility.







Other EPA Resources

- [U.S. Greenhouse Gas Inventory Report 1990-2011](#)

GHGRP 2011: Metals

The metals sector consists of metal production facilities that smelt, refine, and/or cast ferrous and nonferrous metals, including primary aluminum, ferroalloy, iron and steel, lead, magnesium, and zinc, from ore, pig, or scrap using electrometallurgical and other methods. The sector also includes foundries and any other metal production facility operating under NAICS codes beginning with 331 (Primary Metal Manufacturing). Primary aluminum, ferroalloy, iron and steel, lead, magnesium, and zinc production facilities report GHG emissions from metal smelting, refining, and/or casting activities, as well as stationary fuel combustion sources. All other metal production facilities report only the GHG emissions from stationary fuel combustion sources.

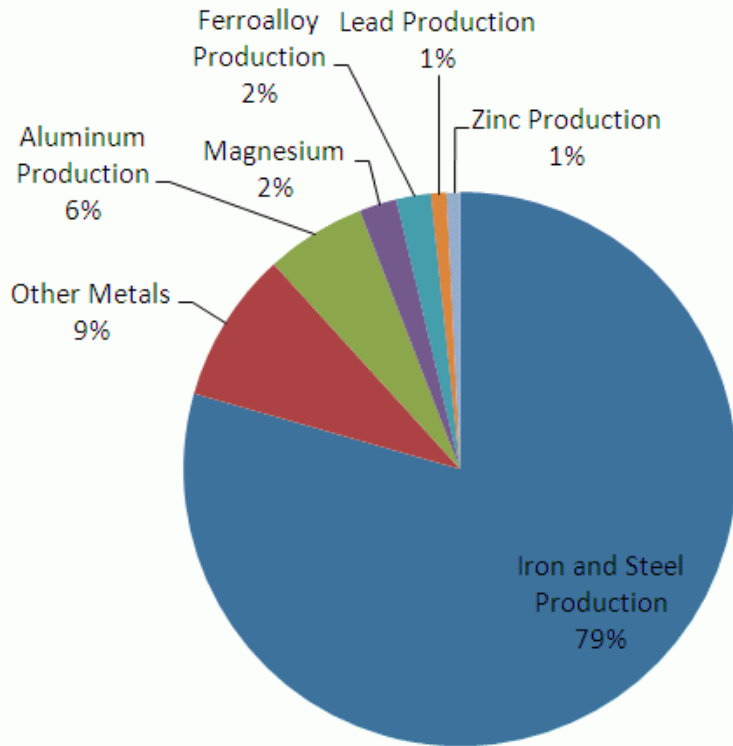
Metals Sector — Greenhouse Gas Emissions Reported to the GHGRP (all emissions values presented in million metric tons CO ₂ e unless otherwise noted)		
	2011	2010
Number of facilities:	297	269
Total emissions (CO₂e):	115	100
Emissions by greenhouse gas (CO₂e)		
• Carbon dioxide (CO ₂):	109	98
• Methane (CH ₄):	**	**
• Nitrous oxide (N ₂ O):	**	**
• Hydrofluorocarbons (HFCs):	**	**
• Perfluorocarbons (PFCs):	3	2
• Sulfur hexafluoride (SF ₆):	2	**

** Total reported emissions are less than 0.5 million metric tons CO₂e.

Process emissions from magnesium production were reported in 2011 but not in 2010. These emissions are included in the table above. Total emissions from this source category in 2011 were 2.5 MMT CO₂e.

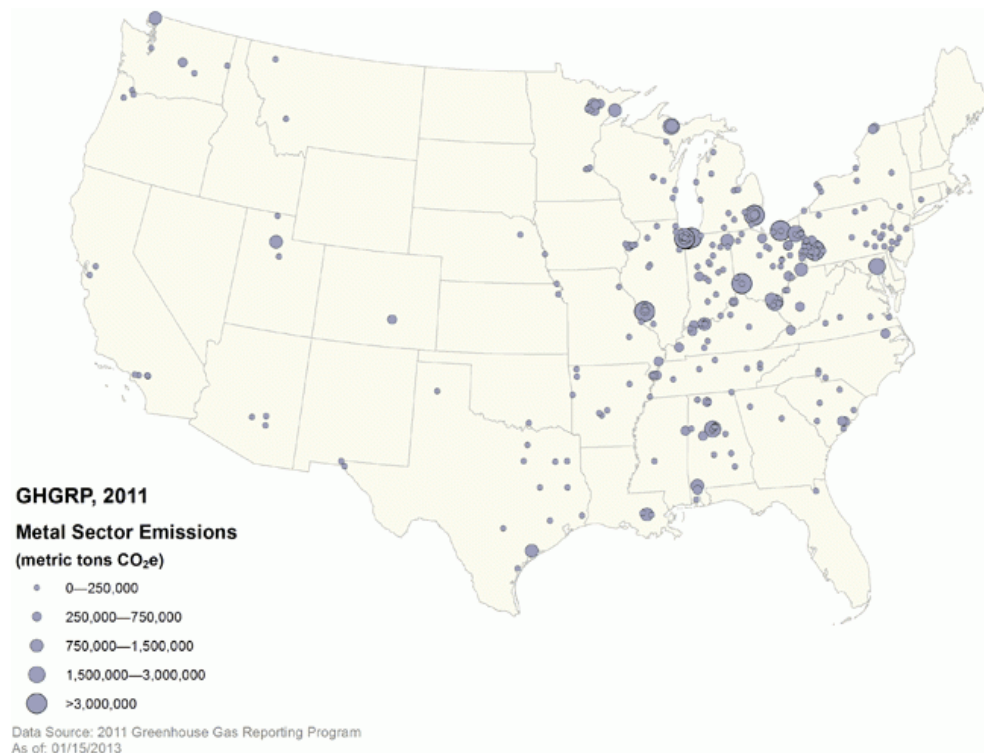
Note: CO₂ emissions from the combustion of biomass are NOT included in emissions totals provided above.

Total Reported Direct Emissions from Metals Production, by Subsector (as of 1/16/13).



Location and emissions range for each reporting facility in the metals sector (as of 1/16/13).

This map shows the locations of direct-emitting facilities. The size of a circle corresponds to the quantity of emissions reported by that facility.



Other EPA Resources

- [U.S. Greenhouse Gas Inventory Report 1990-2011](#)

GHGRP 2011: Minerals

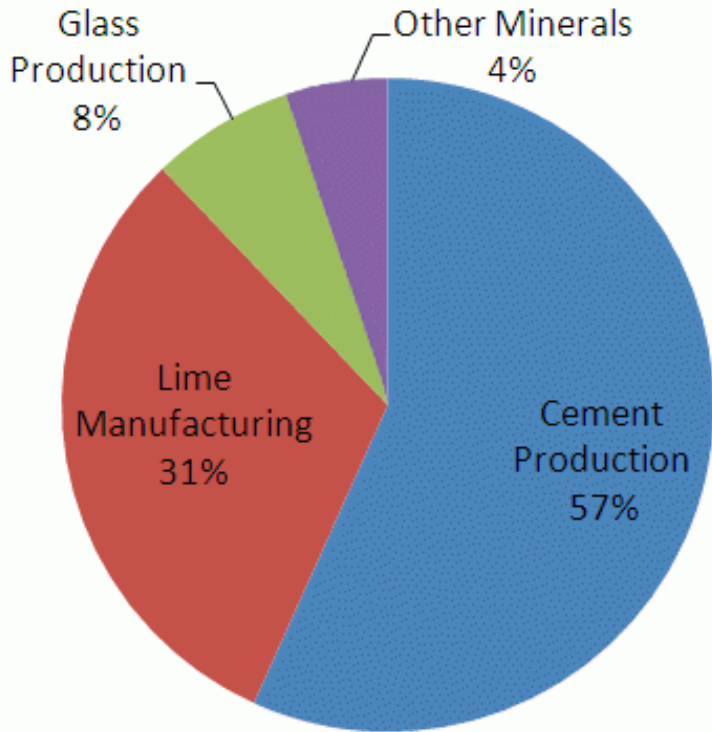
The minerals sector consists of cement production, glass manufacturing, lime production, and any other mineral production facility operating under NAICS codes beginning with 327 (Nonmetallic Mineral Product Manufacturing). Facilities under this sector transform mined or quarried nonmetallic minerals, such as sand, gravel, stone, clay, and refractory materials, into products for intermediate or final consumption. Glass manufacturing facilities and all cement and lime facilities report both process emissions from the calcination of carbonate-based raw materials and GHG emissions from stationary combustion sources. All other mineral production facilities report only the GHG emissions from stationary combustion sources. A small number of facilities in this sector collect CO₂ either for use in their other production processes (e.g., sugar refining), to transfer to other users, or to sequester or otherwise inject underground. Process emissions reported under this sector include this CO₂.

Minerals Sector — Greenhouse Gas Emissions Reported to the GHGRP (all emissions values presented in million metric tons CO ₂ e unless otherwise noted)		
	2011	2010
Number of facilities:	362	354
Total emissions (CO₂e):	98	95
Emissions by greenhouse gas (CO₂e)		
• Carbon dioxide (CO ₂):	98	95
• Methane (CH ₄):	**	**
• Nitrous oxide (N ₂ O):	**	**

** Total reported emissions are less than 0.5 million metric tons CO₂e.

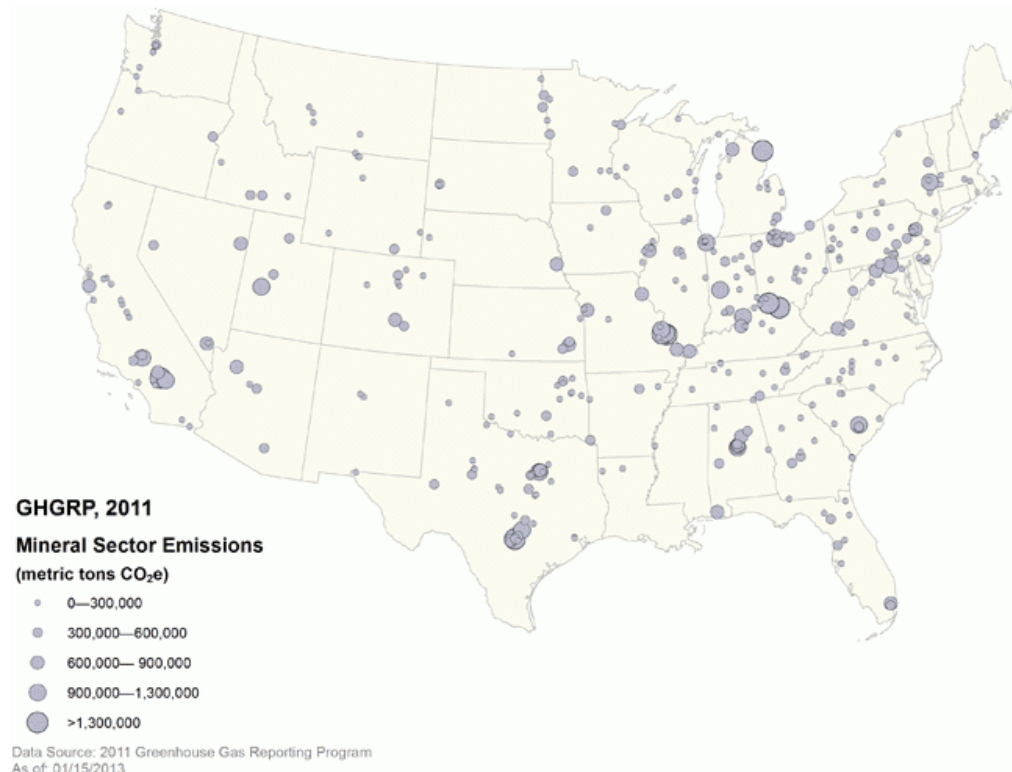
Note: CO₂ emissions from the combustion of biomass are NOT included in emissions totals provided above.

Total Reported Direct Emissions from Minerals, by Subsector (as of 1/16/13).



Location and emissions range for each reporting facility in the minerals sector (as of 1/16/13).

These maps show the locations of direct-emitting facilities. The size of a circle corresponds to the quantity of emissions reported by that facility.





Other EPA Resources

- [U.S. Greenhouse Gas Inventory Report 1990-2011](#)

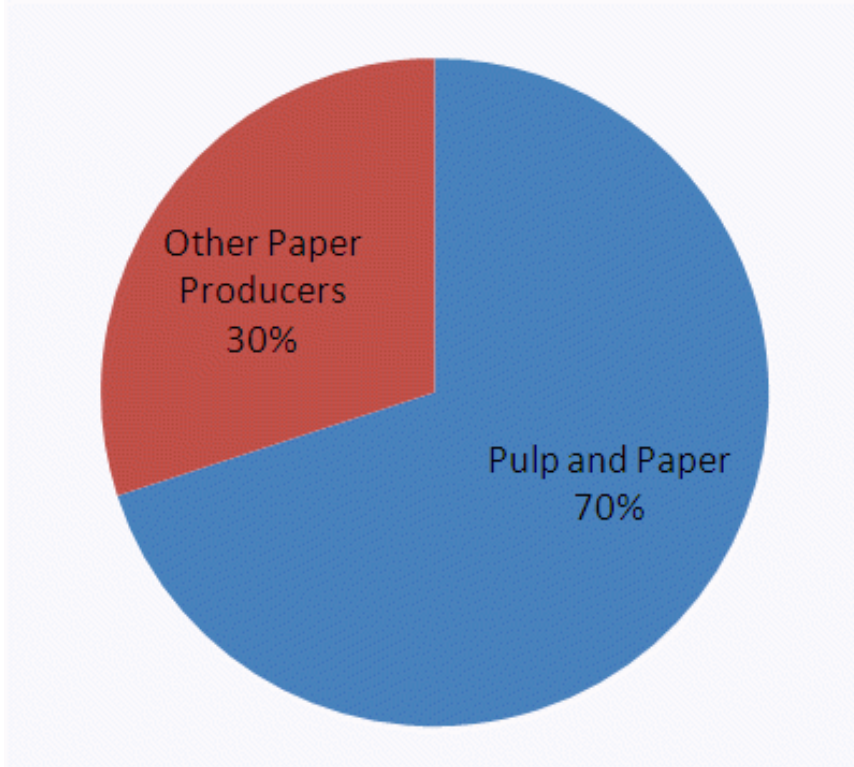
GHGRP 2011: Pulp and Paper

The pulp and paper sector consists of facilities that produce market pulp or that manufacture pulp and paper. Facilities that have pulping processes report the GHG emissions from chemical recovery units, lime kilns, and stationary fuel combustion units. Besides the emissions from the pulp production processes, the sector includes combustion emissions from facilities that produce paper products from purchased pulp, produce secondary fiber from recycled paper, convert paper into paperboard products, operate coating and laminating processes, print products (such as books, labels, business cards, stationery, business forms), and perform support activities (such as data imaging, platemaking services, and bookbinding). Emissions from industrial landfills and industrial wastewater treatment at these facilities are included in the waste sector.

Pulp and Paper Sector — Greenhouse Gas Emissions Reported to the GHGRP (all emissions values presented in million metric tons CO ₂ e unless otherwise noted)		
	2011	2010
Number of facilities:	230	228
Total emissions (CO₂e):	44	46
Emissions by greenhouse gas (CO₂e)		
• Carbon dioxide (CO ₂):	41	43
• Methane (CH ₄):	1	1
• Nitrous oxide (N ₂ O):	2	2

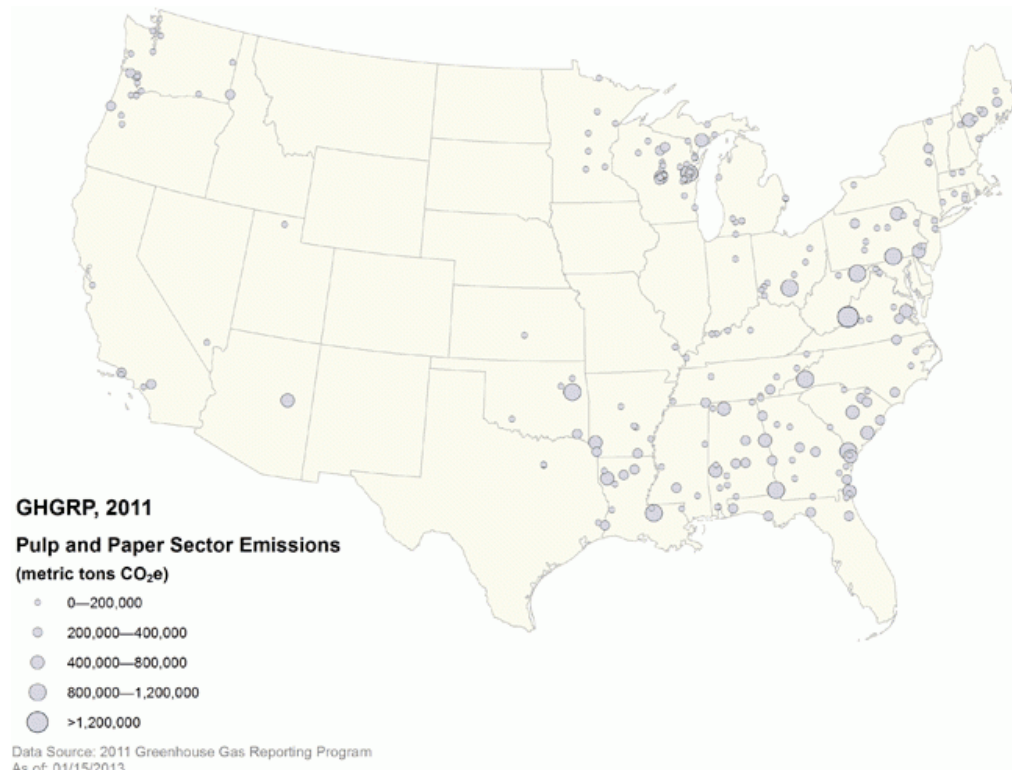
Note: CO₂ emissions from the combustion of biomass are NOT included in emissions totals provided above.

Total Reported Direct Emissions from Pulp and Paper, by Subsector (as of 1/16/13).



Location and emissions range for each reporting facility in the pulp and paper sector (as of 1/16/13).

This map shows the locations of direct-emitting facilities. The size of a circle corresponds to the quantity of emissions reported by that facility.



Other EPA Resources

- [U.S. Greenhouse Gas Inventory Report 1990-2011](#)

GHGRP 2011: Other Sectors

This sector consists of underground coal mines, electronics manufacturing, electrical equipment manufacturing and electrical transmission and distribution systems. The sector also includes stationary fuel combustion from all other commercial, institutional, and industrial facilities not covered under other sectors (e.g., ethanol production, food processing, and other manufacturing). Emissions from industrial waste landfills and industrial wastewater treatment at these facilities are included in the waste sector.

Other Sector — Greenhouse Gas Emissions Reported to the GHGRP (all emissions values presented in million metric tons CO ₂ e unless otherwise noted)		
	2011	2010
Number of facilities:	1,377	1,032
Total emissions (CO₂e):	126	89
Emissions by greenhouse gas (CO₂e)		
• Carbon dioxide (CO ₂):	90	161
• Methane (CH ₄):	28	**
• Nitrous oxide (N ₂ O):	**	**
• Hydrofluorocarbons (HFCs):	**	NR
• Perfluorocarbons (PFCs):	2	NR
• Sulfur hexafluoride (SF ₆):	5	NR
• Nitrogen trifluoride (NF ₃):	1	NR

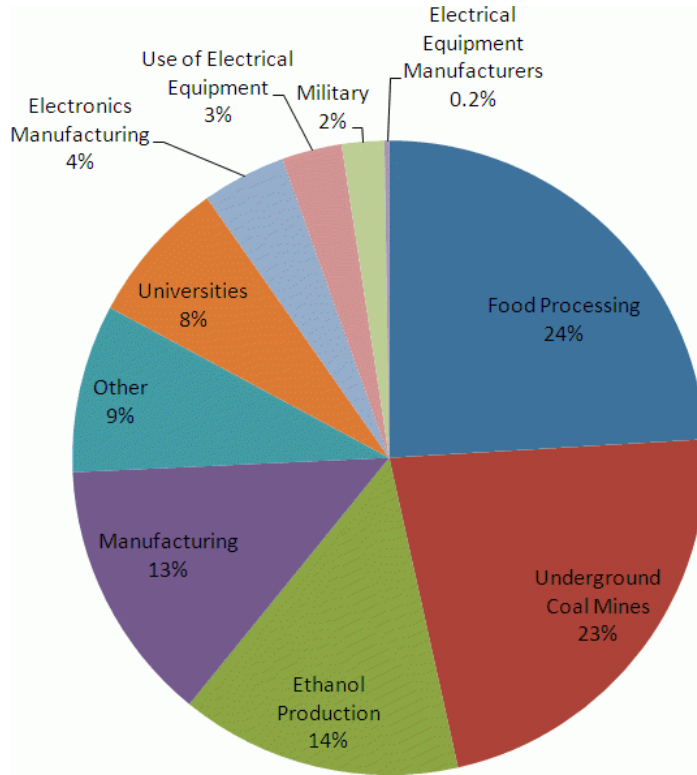
NR means that this value was not reported for the 2010 reporting year.

** Total reported emissions are less than 0.5 million metric tons CO₂e.

Process emissions from underground coal mines, electronics manufacturing, electrical equipment manufacturing and electrical transmission and distribution systems were reported in 2011 but not in 2010. These emissions are included in the table above. Total emissions from these source categories in 2011 were 37.6 MMT CO₂e.

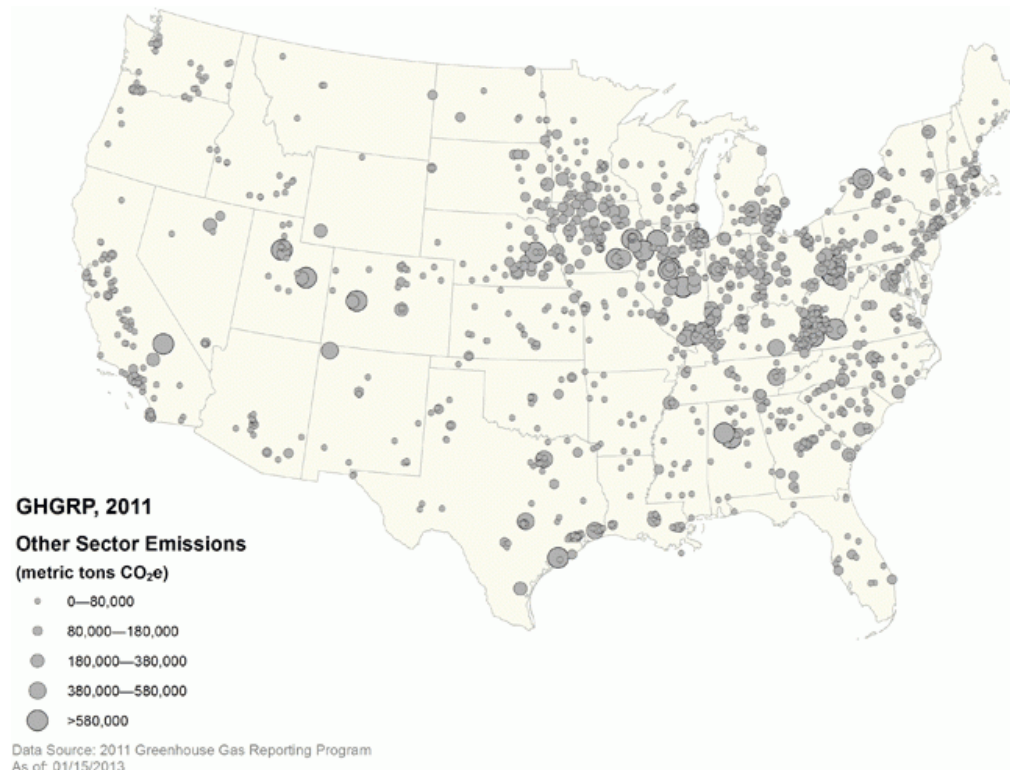
Note: CO₂ emissions from the combustion of biomass are NOT included in emissions totals provided above.

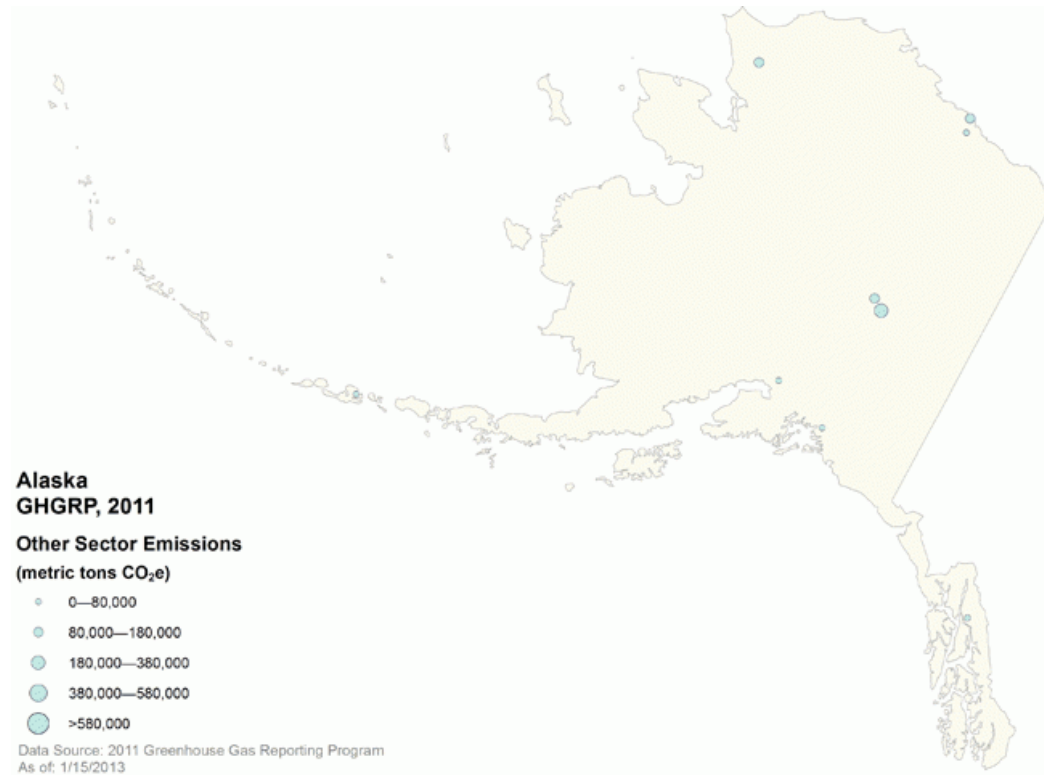
Total Reported Direct Emissions from Other, by Subsector (as of 1/16/13).



Location and emissions range for each reporting facility in the other sector (as of 1/16/13).

These maps show the locations of direct-emitting facilities. The size of a circle corresponds to the quantity of emissions reported by that facility.







Other EPA Resources

- [U.S. Greenhouse Gas Inventory Report 1990-2011](#)