



U.S. EPA Greenhouse Gas Reporting Program RY 2023 Data Release, Focus on Oil and Gas

U.S. Environmental Protection Agency
Greenhouse Gas Reporting Program

Webinar
October 25, 2024
1:00pm EST

Three Audio Options:

- 1) Listen on Computer
- (2) Use the WebEx “call-me” feature
- (3) Dial 1-415-655-0002

Event number: 2432 193 9521



Webinar Panels

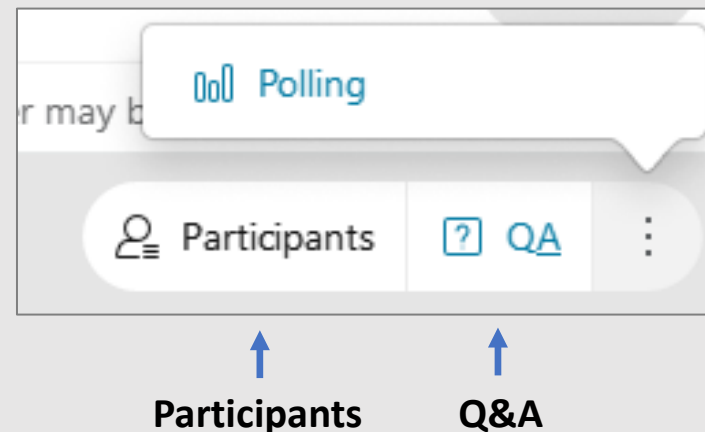
We will use two panels

- Participants, and Question & Answer (Q&A)
- Use the arrow to expand or collapse the panels



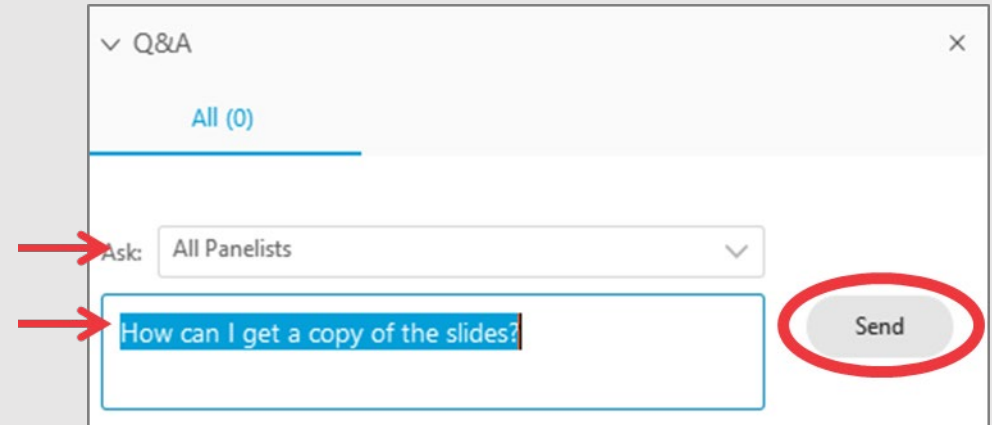
Adding Panels

- If some panels don't appear, select the desired panels in the lower right
- Select More Options (...) for additional panels



Q&A

- Participants are muted
- Questions will be moderated at the end
- To ask a question:
 1. Select “All Panelists” from the drop-down menu
 2. Enter your question in the Q&A box
 3. Hit “Send”
- EPA will post webinar materials to the web in the coming weeks:
www.epa.gov/ghgreporting



The screenshot shows a Q&A interface with a title bar "Q&A" and a close button. Below the title bar, it says "All (0)". There is a dropdown menu labeled "Ask:" with "All Panelists" selected. Below the dropdown is a text input field containing the question "How can I get a copy of the slides?". To the right of the input field is a "Send" button, which is circled in red. Two red arrows point to the dropdown menu and the text input field.

Outline

- Recent 2024 Rulemakings and Published Data
- Options for viewing GreenHouse Gas Reporting Program (GHGRP) data
- Note on geolocation and state data aggregation (i.e. basins)
- Note on GHGRP Scope
- Introducing StoryMaps
- Facility Level Information on GreenHouse gases Tool (FLIGHT) overview and demo
- GHGRP data highlights and resources
 - Data sets
 - Sector profiles
- EPA Envirofacts
 - Greenhouse gas (GHG) search
 - GHG customized search (new customized query builder)
 - Downloadable files (too big for Envirofacts search)
- Oil and Gas Data Dashboard
- Interactive State/Tribal Fact Sheet
- Demographic Data features
- Help Resources

Published GHGRP Data and 2024 Rulemakings

- **April 2024** GHGRP Amendments
 - GWP changes, expansion to new source categories and data quality and implementation improvements
 - GWP changes will be reflected in RY2024 data, published **Fall, 2025**
 - Other changes will be reflected in RY2025 data, published **Fall, 2026**
- **May 2024** GHGRP Subpart W Amendments
 - Includes changes to address potential gaps, add new or improve existing calculation methods, improve verification and transparency
 - Quantities of natural gas, crude oil, and condensate produced that is sent to sale in the calendar year for each well permanently taken out of production will be reflected in RY2024 data published **Fall, 2025**
 - Optional earlier use of new calculation methodologies will be reflected in RY2024 data published **Fall, 2025**
 - All other changes will be reflected in RY2025 data, published **Fall, 2026**

EPA's GHGRP Data Highlights

Best for: Data at a glance



FLIGHT

Best for: Exploring data



EPA's Envirofacts

Best for: Querying and downloading data



Data Highlights Link:

www.epa.gov/ghgreporting/ghgrp-reported-data



FLIGHT Link:

<https://ghgdata.epa.gov/ghgp/main.do>



Envirofacts GHG Link:

www3.epa.gov/enviro/facts/ghg/search.html



FIND and USE GHGRP DATA

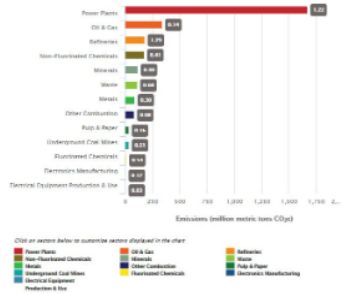
Best for: Finding Our Data

Find GHGRP data products using the options below.

Alternatively, use the left menu to browse webpages on various topics.

- I want to view:
- 2021 national data summaries (most recent reporting year)
 - Sector summaries
 - State and tribal summaries
 - Data downloads
 - View all GHGRP data products

National Data Highlights (2021)



WEBPAGE REPORT

GHGRP Yearly Overview Profile (2021)

Table 1: GHGRP Sector Classifications

| Power Plants | Refineries | Chemicals | Fluorinated Chemicals | Water |
|---|---|---|--|--|
| - Electricity Generation | - Petroleum Refineries | - Adipic Acid Production - Ammonia Manufacturing - Hydrogen Production - Nitric Acid Production - Phosphoric Acid Production - Petrochemical Production - Silicon Carbide Production - Titanium Dioxide Production - Other Chemicals Production | - Fluorinated Gas Production - Industrial Landfills - B2C22 Production/ - B2C22 Production/ - Sewerage | - Municipal Landfills - Industrial Waste Landfills - Industrial Wastewater Treatment - Solid Waste Combustion |
| Metals | Minerals | Pulp & Paper | Food, Beverage & Tobacco | Other |
| - Aluminum Production - Ferrous Production - Iron & Steel Production - Lead Production - Zinc Production - Magnesium Production - Other Metals Production | - Cement Production - Glass Production - Limestone Manufacturing - Other Minerals Production | - Chemical Pulp & Paper Manufacturing - Other Paper Products | - Food Processing - Beverage Production - Tobacco Production | - Other |

PDF REPORT

Annual report of data collected by

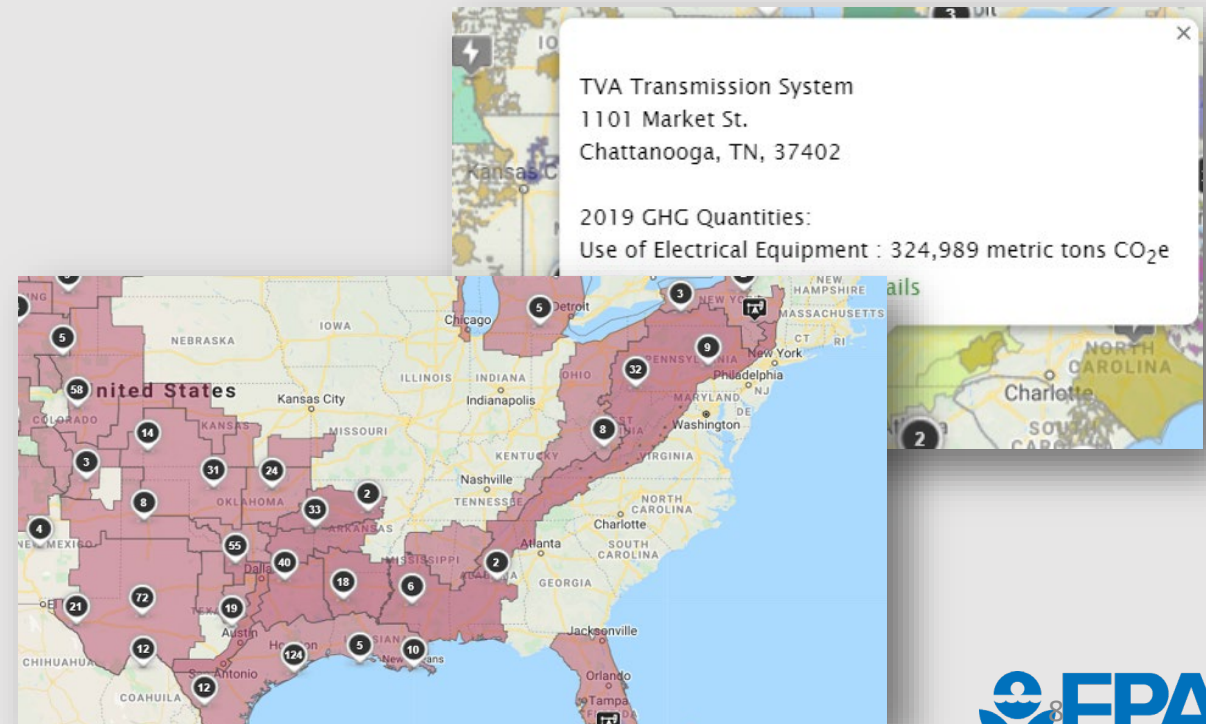
Find and Use Data Link:

www.epa.gov/ghgreporting/find-and-use-ghgrp-data



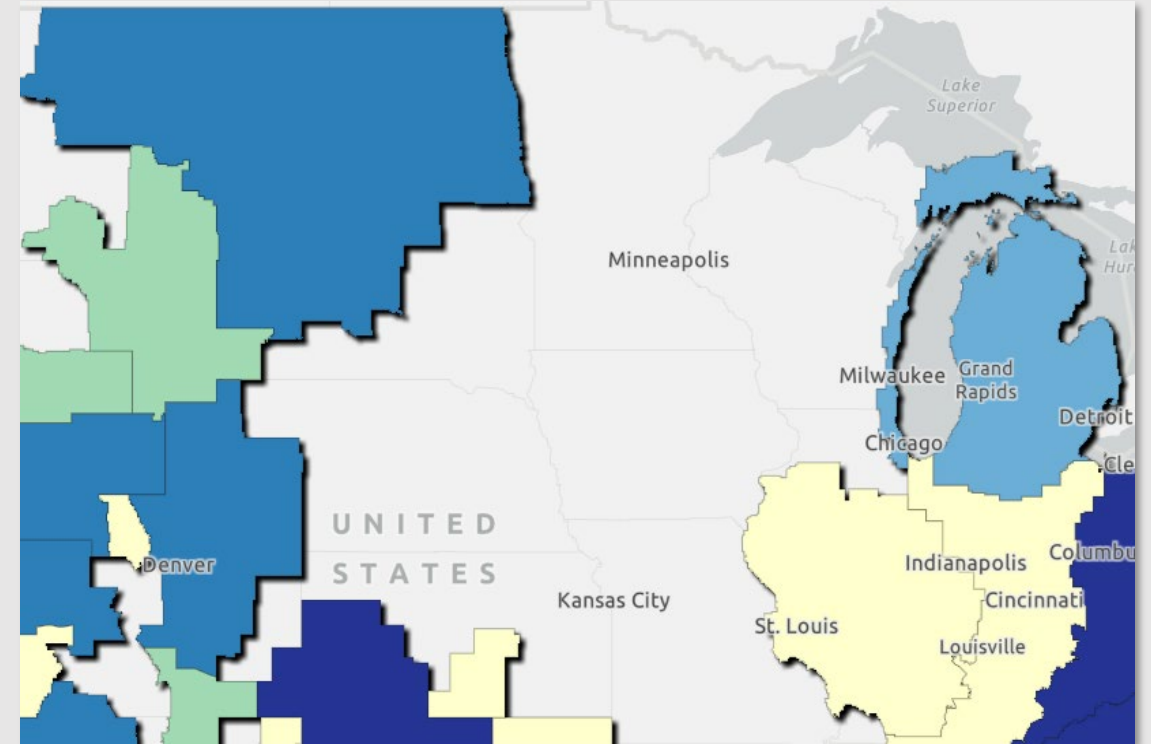
Note on Non-Geolocated Data

- The following direct emitter sources report data that cannot be disaggregated to individual locations or states. Their data uses a corporate or other address that may not match where the emissions come from:
 - Onshore oil and gas production
 - Onshore gathering and boosting
 - Use of electrical equipment
- This Effects
 - State Aggregations in FLIGHT
 - State & Tribal Fact Sheets
 - Demographic Data Highlights



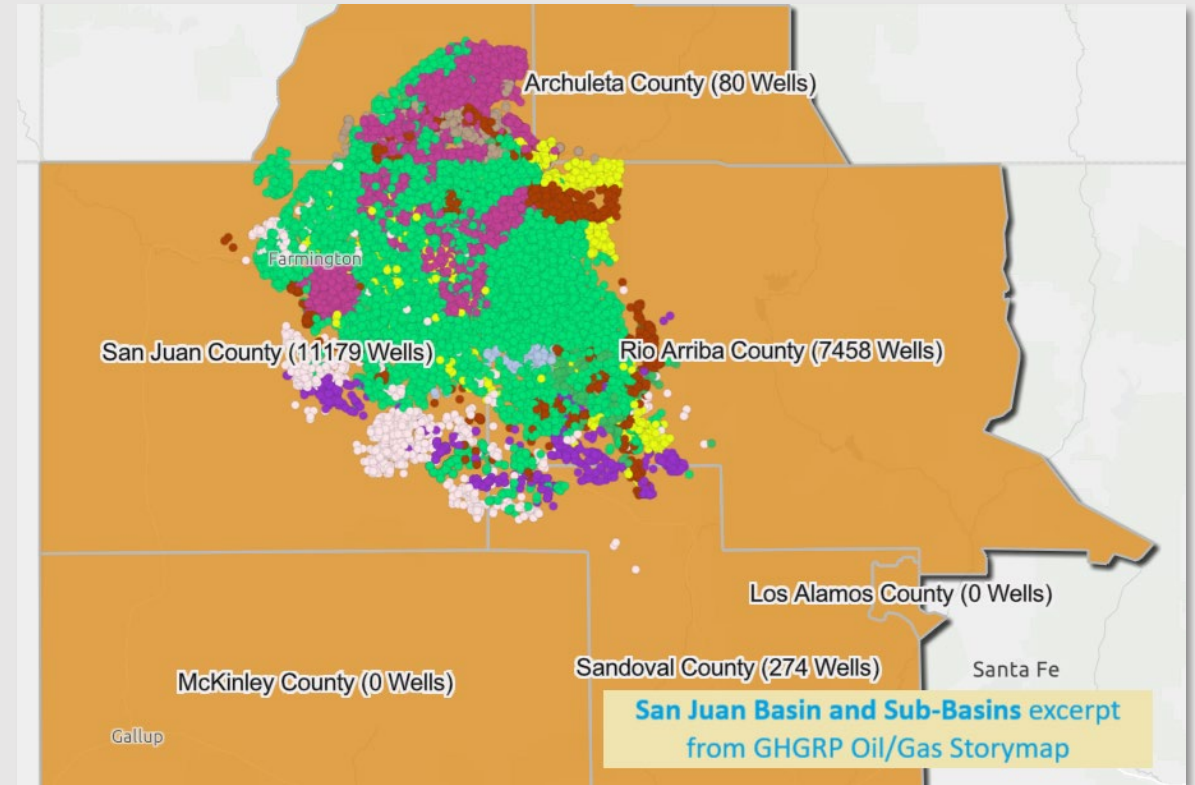
GHGRP Subpart W and Basins

- 40 CFR 98.238 “Basin means geologic provinces as defined by the American Association of Petroleum Geologists (AAPG)...”
- The FLIGHT Basin shapefile is located on the EDG FTP site for download:
http://edg.epa.gov/data/Public/OAR/OAP/Basins_Shapefile.zip
- The following help page contains the basins and the counties associated with each.
<https://ccdsupport.com/confluence/display/help/Subpart+W+Basin+and+County+Combinations>



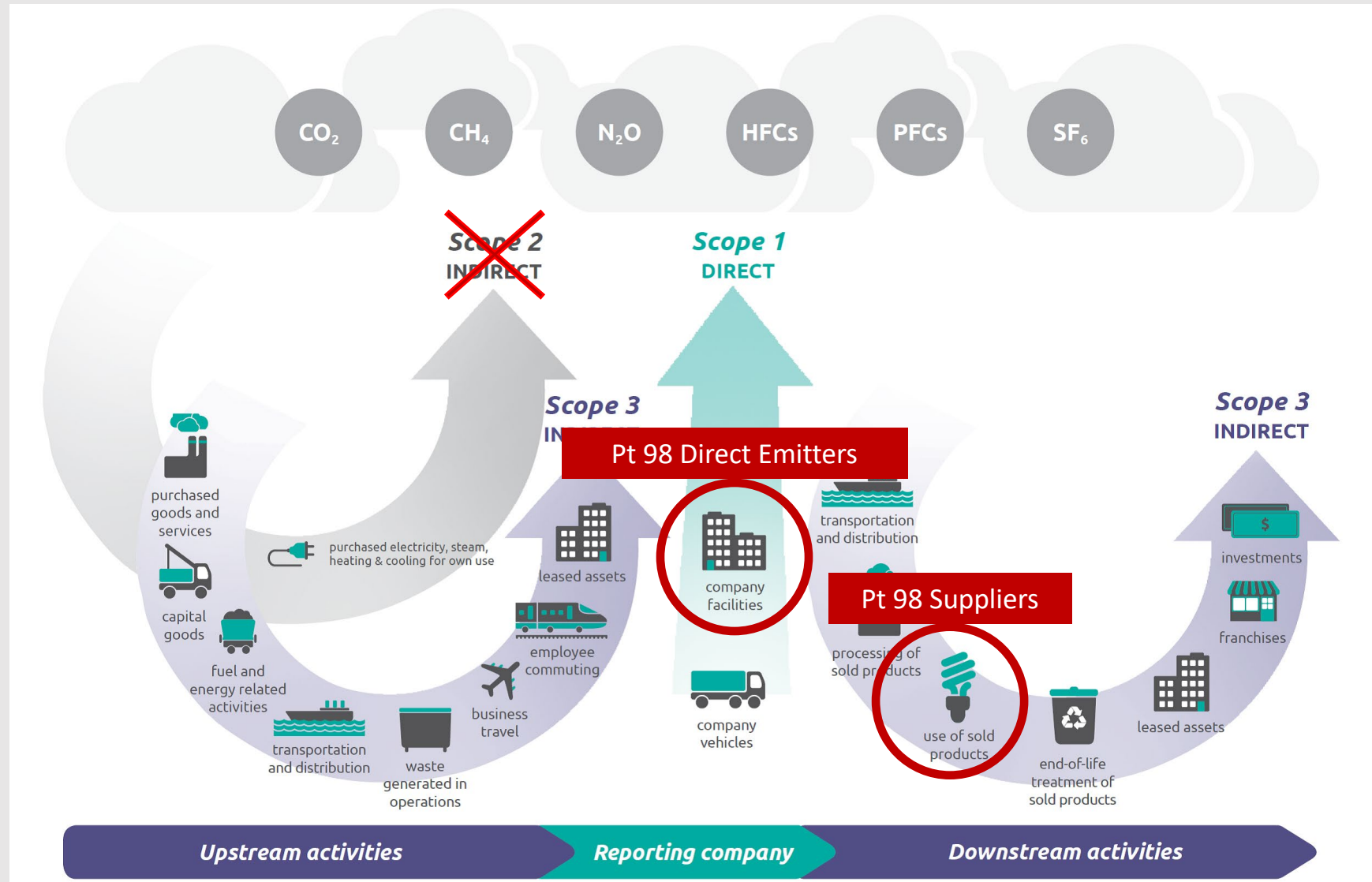
GHGRP Subpart W and Basins

- 40 CFR 98.238 “Basin means geologic provinces as defined by the American Association of Petroleum Geologists (AAPG)...”
- The FLIGHT Basin shapefile is located on the EDG FTP site for download:
http://edg.epa.gov/data/Public/OAR/OAP/Basins_Shapefile.zip
- The following help page contains the basins and the counties associated with each.
<https://ccdsupport.com/confluence/display/help/Subpart+W+Basin+and+County+Combinations>



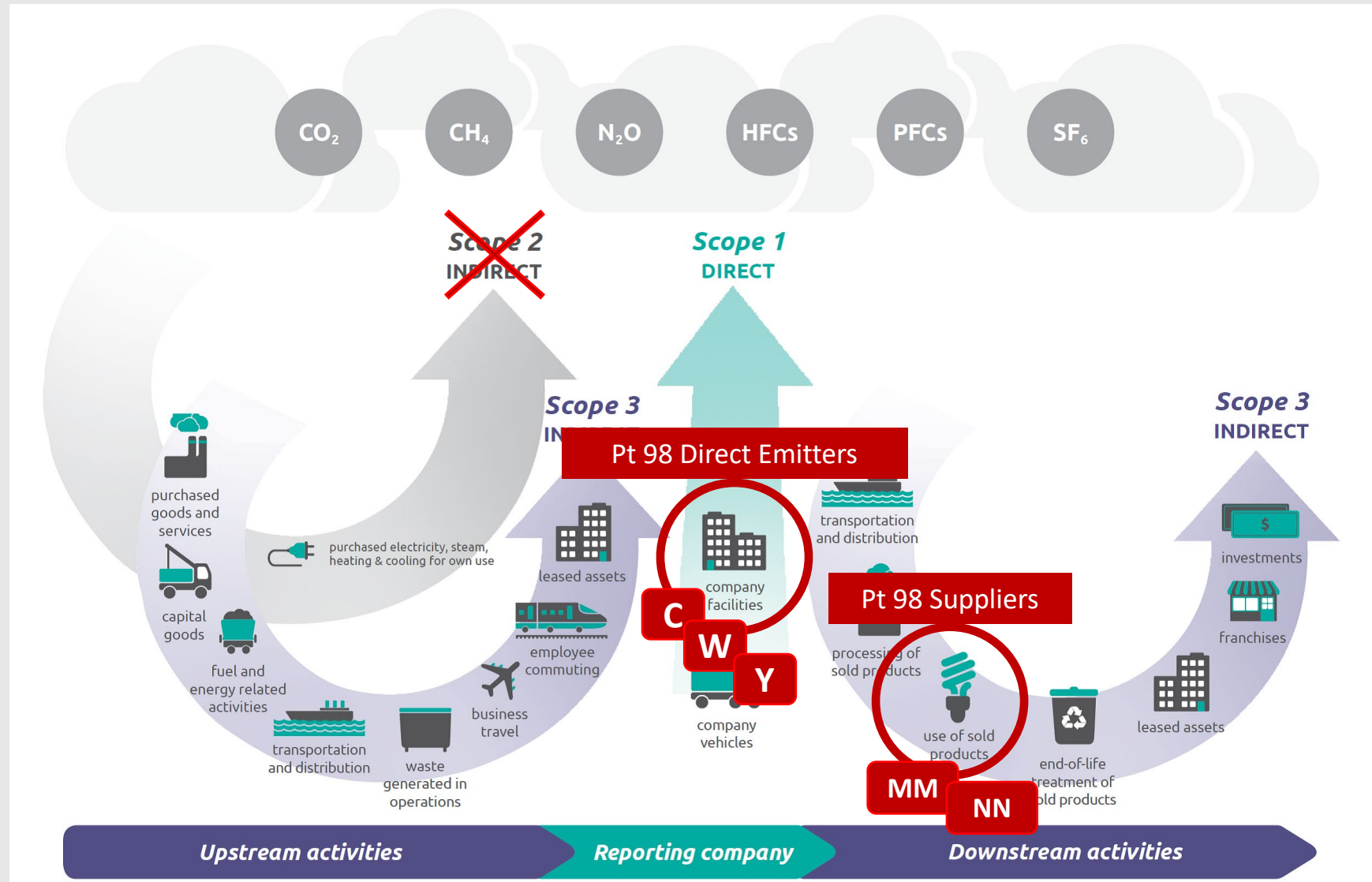
Scope of Published GHGRP Oil/Gas Data

- <https://www.wri.org/initiatives/greenhouse-gas-protocol>



Scope of Published GHGRP Oil/Gas Data

- <https://www.wri.org/initiatives/greenhouse-gas-protocol>



Scope of GHGRP in data products

- FLIGHT <https://ghgdata.epa.gov/ghgp/main.do>

The screenshot shows the EPA FLIGHT website interface for the 2023 Greenhouse Gas Emissions report. The 'Facility Type' dropdown menu is open, displaying the following options:

- All Direct Emitters (circled in red)
- Point Sources
- Onshore Oil & Gas Production
- Onshore Oil & Gas Gathering & Boosting
- Local Distribution Companies
- Onshore Gas Transmission Pipelines
- SF6 from Elect. Dist. Systems
- Suppliers
- CO₂ Capture, Supply and Underground Injection
- Geologic Sequestration of CO₂ (RR)

A red box labeled "Pt 98 Direct Emitters" is positioned to the left of the dropdown menu, with a red bracket pointing to the "All Direct Emitters" option.

| Sector | 2023 GHG Emissions (Million Metric Tons CO ₂ e) | # of Reporting Facilities |
|--|--|---------------------------|
| 2023 GHG Emissions (Million Metric Tons CO ₂ e) | 1,471 | 322 |
| # of Reporting Facilities | 1,320 | 2,298 |

Introducing GHGRP StoryMaps



- <https://www.epa.gov/ghgreporting/ghgrp-storymaps>

The screenshot displays the EPA GHGRP StoryMaps interface. At the top, the EPA logo and the text "An Interactive Exploration of the GHGRP" are visible. Below the header, three navigation tabs are present: "Onshore Wells and GHGRP", "Onshore Wells and Neighboring Communities", and "Natural Gas Transmission Pipelines and GHGRP".

The left panel, titled "Onshore Wells and GHGRP", features a map of the western United States with city labels (Vancouver, Portland, San Francisco, Fresno, Los Angeles, San Diego, Phoenix, Tucson, Hermosillo) and a text box that reads:

What is a Basin?
"Basin" refers to the geologic province published by the American Association of Petroleum Geologists (AAPG).⁵ There are over 100 basins in the United States.
To learn more about basins, visit the [webpage \(Exit\)](#).

The middle panel, titled "Onshore Wells and Neighboring Communities", shows a map of the United States with a dense network of blue lines representing onshore wells.

The right panel, titled "Natural Gas Transmission Pipelines and GHGRP", features a map of the United States with a network of blue lines representing natural gas transmission pipelines. A text box on the right side of this panel reads:

What is a Natural Gas Transmission Pipeline?
Transmission pipelines are large lines that transport natural gas throughout the country at high pressures. Onshore natural gas transmission pipelines deliver gas from processing plants to local natural gas distribution systems, often passing through compressor stations.

This map represents major natural gas transmission pipelines in the U.S., including interstate, intrastate, and gathering pipelines.² Not all pipelines depicted in the map report to GHGRP. Only

Live Demonstration of GHGRP Data Tools and Resources

Subpart W at a Glance



FLIGHT



2021 Greenhouse Gas Emissions from Large Facilities

Share | View U.S. GHG Inventory | View Other GHGRP Data Products | Help

Now you can visit ghgdata.epa.gov from your mobile device. [Click here to learn how to create a bookmark to our page on your mobile device.](#)

Data Year: 2021 | Facility Type: All Emitters | Find a Facility or Location:

Browse to a State: Choose State | Emissions by Fuel Type: Choose Fuel Type | Filter By: Greenhouse Gas | Emission Range | Filter By Status: All Facilities

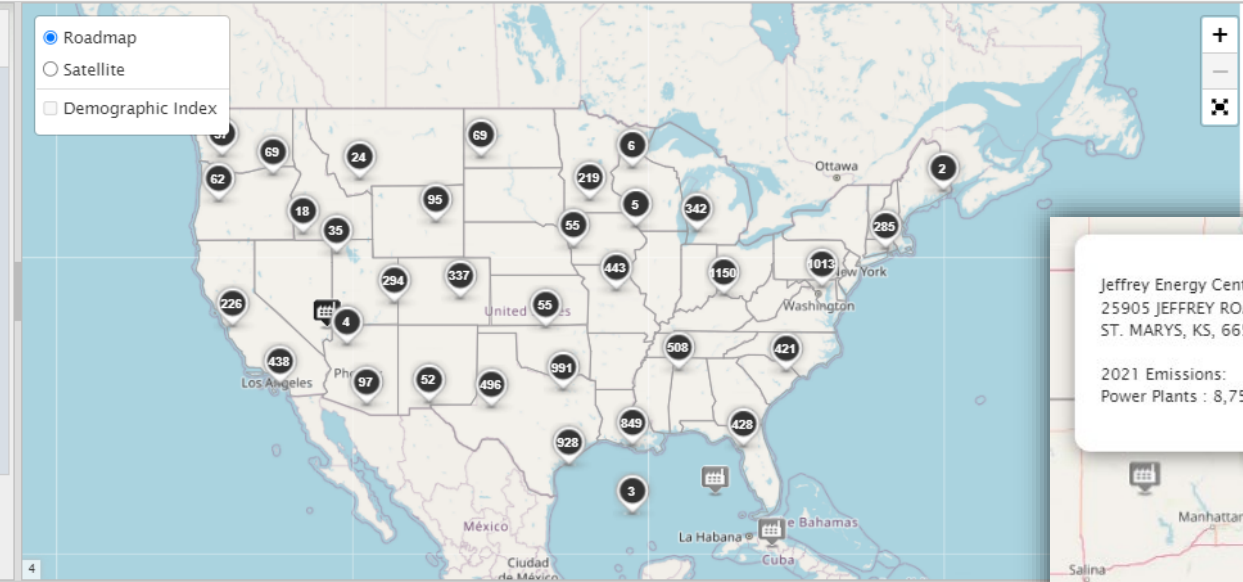
Data View: Map | List | Trends | Bar Chart | Pie Chart

APPLY SEARCH | Clear Filter | Export Data

| Sector | Power Plants | Petroleum and Natural Gas Systems | Refineries | Chemicals | Other | Minerals | Waste | Metals | Pulp and Paper | Total Reported Emissions |
|--|--------------|-----------------------------------|------------|-----------|-------|----------|-------|--------|----------------|--------------------------|
| 2021 GHG Emissions (Million Metric Tons CO ₂ e) | 1,589 | 312 | 165 | 186 | 121 | 114 | 103 | 82 | 35 | 2,708 |
| # of Reporting Facilities | 1,326 | 2,379 | 137 | 459 | 1,304 | 373 | 1,460 | 299 | 214 | 7,608 |

Legend | Layer Options

- All Emitters
 - All Emitters and Point Sources
 - Onshore Petroleum Natural Gas Production and Gathering & Boosting
 - Local Distribution Companies and Onshore Gas Transmission Pipelines
 - SP6 from Electrical Transmission and Distribution
 - Equipment Use
 - Suppliers
 - CO₂ Injection (IU)
 - Geologic Sequestration of CO₂ (RR)
 - Multiple Facilities
- Demographic Index
- National Map Federal Lands



Data Year: 2021

Jeffrey Energy Center

25905 JEFFREY ROAD
ST. MARYS, KS, 66536



Latitude: 39° 16.95' N
Longitude: 96° 06.92' W

GHGRP Id: 1000581
FRS Id: 110006011680
NAICS Code: 221112
Clean Air Markets Division Business Database Id: 805

View reported data
Download reported data (XML)

Facility Information | Facility Emissions by Year

Total Facility Emissions in metric tons CO₂ equivalent (mt CO₂e) (AR4 GWPs, excluding Biogenic CO₂)

8,759,787

Emissions by Gas in mt CO₂e (AR4 GWPs)

Carbon Dioxide (CO₂) 8,714,010
Methane (CH₄) 2,330
Nitrous Oxide (N₂O) 43,447

Emissions by Source/Process in mt CO₂e (AR4 GWPs, excluding Biogenic CO₂)

Stationary Combustion 857
Electricity Generation 8,758,931

Information on Stationary Combustion

Types of Fuels Used Distillate Fuel Oil No. 2
Measurement Methods Used Mass Balance
Number of equipment groupings 5

Information on Electricity Generation

Types of Fuels Used Distillate Fuel Oil No. 2, Subbituminous Coal
Measurement Methods Used Direct Emissions Monitoring
Number of equipment groupings 3

This data set does not reflect total U.S. GHG emissions. Learn more about related EPA GHG data sources. Data reported to EPA as of 08/12/2022.



- All Emitters**
- Point Sources
 - Onshore Oil & Gas Production
 - Onshore Oil & Gas Gathering & Boosting
 - Local Distribution Companies
 - Onshore Gas Transmission Pipelines
 - SF6 from Elect. Dist. Systems
 - Suppliers
 - CO₂ Capture, Supply and Underground Injection
 - Geologic Sequestration of CO₂ (RR)

You can search by Facility name, Facility City, Facility County, Facility State, Facility Zip Code, Reporting Program ID, NAICS code and Parent Company name.

Restrict your search to:

- Facility Name
- Facility City
- Facility County
- Facility State
- ZIP Code
- Facility ID
- NAICS Code
- Parent Company

Facilities are color coded to designate their verification and reporting status as of 08/12/2022 for reporting year 2021.

Orange indicates Verification of a facility's report was still in progress as of 08/12/2022. Click [here](#) to learn more about verification. Note (for RY21 and forward) that if a facility certified their report after the annual reporting deadline and verification was still in progress as of 08/12/2022, the facility's icon will display as orange.

Red indicates a facility has discontinued reporting without a valid reason as of 08/12/2022 or (for RY21 and forward) the facility certified their report after the reporting deadline.

Grey indicates a facility has discontinued reporting with a valid reason.

Black indicates a facility has submitted a 2021 report and has met EPA's verification requirements.

Data Year: 2021 | Facility Type: All Emitters | Search Options: Find a Facility or Location

Browse to a State: Choose State | Emissions by Fuel Type: Choose Fuel Type | Filter By: Greenhouse Gas | Emission Range | Filter By Status: All Facilities

Data View: Map | List | Trends | Bar Chart | Pie Chart

APPLY SEARCH | Clear Filter | Export Data

| Sector | Power Plants | Petroleum and Natural Gas Systems | Refineries | Chemicals | Other | Minerals | Waste | Metals | Pulp and Paper | Total Reported Emissions |
|--|--------------|-----------------------------------|------------|-----------|-------|----------|-------|--------|----------------|--------------------------|
| 2021 GHG Emissions (Million Metric Tons CO ₂ e) | 4 | 103 | 82 | 35 | 2,708 | | | | | |
| # of Reporting Facilities | 13 | 1,460 | 299 | 214 | 7,608 | | | | | |

- SECTORS
- SELECT ALL | DESELECT ALL
- Power Plants
 - Offshore Petroleum & Natural Gas Production
 - Onshore Petroleum & Natural Gas Production
 - Onshore Petroleum & Natural Gas Gathering & Boosting
 - Natural Gas Processing
 - Natural Gas Transmission/Compression
 - Onshore Natural Gas Transmission Pipelines
 - Natural Gas Local Distribution Companies
 - Petroleum and Natural Gas Systems
 - Adipic Acid Production
 - Ammonia Manufacturing
 - Fluorinated GHG Production
 - HCFC-22 Prod./HFC-23 Dest.
 - Hydrogen Production
 - Nitric Acid Production
 - Petrochemical Production
 - Phosphoric Acid Production
 - Silicon Carbide Production
 - Titanium Dioxide Production
 - Other Chemicals
 - Refineries
 - Underground Coal Mines
 - Food Processing
 - Ethanol Production
 - Universities
 - Manufacturing
 - Military
 - Use of Electrical Equipment
 - Electronics Manufacturing
 - Electrical Equipment Manufacturers
 - Other
 - Minerals
 - Cement Production
 - Other
 - Municipal Landfills
 - Industrial Landfills
 - Wastewater Treatment
 - Solid Waste Combustion
 - Metals
 - Aluminum Production
 - Ferroalloy Production
 - Iron & Steel Production
 - Lead Production
 - Magnesium
 - Zinc Production
 - Other Metals
 - Waste



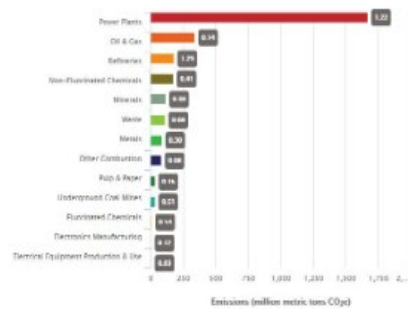
Data Highlights

Find GHGRP data products using the options below.

Alternatively, use the left menu to browse webpages on various topics.

- I want to view:**
- 2021 national data summaries (most recent reporting year)
 - Sector summaries
 - State and tribal summaries
 - Data downloads
 - View all GHGRP data products

National Data Highlights (2021)



Click on sectors below to customize sectors displayed in the chart

- Power Plants
- Oil & Gas
- Refineries
- Non-Fluorinated Chemicals
- Minerals
- Waste
- Other Combustion
- Metals
- Pulp & Paper
- Underground Coal Mines
- Fluorinated Chemicals
- Electronics Manufacturing
- Electrical Equipment Production & Use

GHGRP Yearly Overview Profile (2021)

Table 1: GHGRP Sector Classifications

| Power Plants | Refineries | Chemicals | Fluorinated Chemicals | Waste |
|---|--|---|---|--|
| <ul style="list-style-type: none"> - Electricity Generation | <ul style="list-style-type: none"> - Petroleum Refineries | <ul style="list-style-type: none"> - Adipic Acid Production - Ammonia Manufacturing - Hydrogen Production - Nitric Acid Production - Phosphoric Acid Production - Petrochemical Production - Silicon Carbide Production - Titanium Dioxide Production - Other Chemicals Production | <ul style="list-style-type: none"> - Fluorinated Gas Production - HFC-22 Production - HFC-23 Production - Other Fluorinated Gas Production | <ul style="list-style-type: none"> - Municipal Landfills - Industrial Waste Landfills - Industrial Wastewater Treatment - Solid Waste Combustion |
| Metals | Minerals | Pulp & Paper | Petroleum & Natural Gas Systems - Direct Emissions | |
| <ul style="list-style-type: none"> - Aluminum Production - Ferrous Production - Iron & Steel Production - Lead Production - Zinc Production - Magnesium Production - Other Metals Production | <ul style="list-style-type: none"> - Cement Production - Glass Production - Lime Manufacturing - Soda Ash Manufacturing - Other Minerals Production | <ul style="list-style-type: none"> - Classical Pulp & Paper Manufacturing - Other Paper Products | <ul style="list-style-type: none"> - Onshore Production - Offshore Production - Gathering and Boosting - Natural Gas Processing - Natural Gas Trans. Comp. - Natural Gas Trans. Pipelines - Natural Gas Distribution - Underground Natural Gas Storage - Liquefied Natural Gas Storage - Liquefied Natural Gas Imp. Exp. - Other Petroleum and Natural Gas Systems | |

GHGRP Reported Data

For reporting year (RY) 2021, over 8,000 facilities and suppliers reported to the Greenhouse Gas Reporting Program (GHGRP). Among these reporters,

- 7,608 facilities in nine industry sectors reported direct emissions;
- Reported direct emissions totaled 2.71 billion metric tons carbon dioxide equivalent (CO₂e);
- 966 suppliers of fossil fuels and industrial gases reported; and
- 87 facilities reported injecting CO₂ underground (Subpart UU).

Figure 1: Direct GHG Emissions Reported by Sector (2021)

- By Emissions
- By Number of Facilities

2021 Direct GHG Emissions Reported by Sector

Average emissions per reporter shown in gray box

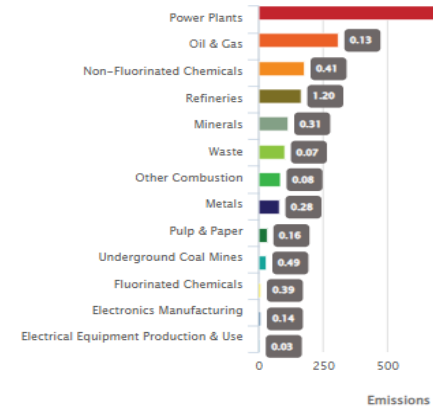
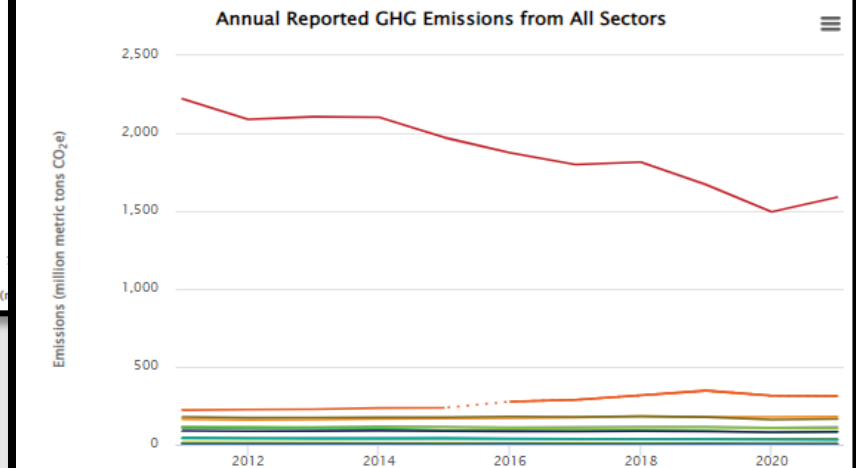


Figure 1: Trends in Direct GHG Emissions (2011-2021)^{1,2,3}



Envirofacts custom: <https://enviro.epa.gov/query-builder/ghg>

GHG Query Builder



[Home](#) | [Multisystem Search](#) | [Topic Searches](#) | [System Data Searches](#) | [About the Data](#) | [Data Downloads](#) | [Widgets](#) | [Services](#) | [Mobile](#) | [Other Datasets](#)

Retrieve data in 4 steps:

- 1 Choose a Subject Area
- 2 Choose a Table
- 3 Select Field(s)
- 4 View Data

Choose a Subject Area

Select a Subject Area below

Search title/description

Summary Subjects

Facility Information

Address and other location information about the facility.

5 tables

Gas Information

Contains information on greenhouse gas emissions, detailing the specific types of gas reported by facilities.

2 tables

Sector Information

Greenhouse gas information displayed by reporting sectors.

2 tables

Subpart Information

Greenhouse gas information displayed by the subpart a facility reports under.

Detailed Subpart Subjects

Aluminum Production

Identifying a collection of data elements containing the total annual emissions of each greenhouse gas (GHG) listed in Table A-1 of 40 CFR 98 Mandatory Reporting of Greenhouse Gases reported under this subpart, expressed in metric tons.

3 tables

Ammonia Manufacturing

Identifying a collection of data elements containing the total annual emissions of each greenhouse gas (GHG) listed in Table A-1 of 40 CFR 98 Mandatory Reporting of Greenhouse Gases reported under this subpart, expressed in metric tons.

5 tables

Cement Production

Identifying a collection of data elements containing the total annual emissions of each greenhouse gas (GHG) listed in Table A-1 of the Mandatory Reporting of GHGs, part 98, reported under this subpart, expressed in metric tons.

6 tables

Electricity Generation

Identifying data containing the total annual emissions of each greenhouse gas (GHG) listed in Table A-1 of 40 CFR 98 Mandatory Reporting of Greenhouse Gases reported under this Subpart, expressed in metric tons.

3 tables

Electronics Manufacture

Identifying a collection of data elements containing Electronics Manufacture details.

17 tables

Ferroalloy Production

Identifying a collection of data elements containing the total annual emissions of each greenhouse gas (GHG) listed in Table A-1 of the Mandatory Reporting of GHG, Part 98 reported under this subpart, expressed in metric tons.

5 tables

General Stationary Fuel Combustion Sources

Identifying the annual greenhouse gas emissions information for a specific fuel type. Reporters are required to specify the name of the GHG (CO₂, CH₄, N₂O) other gas names and gas quantity information (as applicable) for each fuel type.

12 tables

Glass Production

Identifying a collection of data elements containing total number of continuous glass melting furnaces.

5 tables

Hydrogen Production

Identifying a collection of data elements containing the total annual emissions of each greenhouse gas (GHG) listed in Table A-1 of 40 CFR 98 Mandatory Reporting of Greenhouse Gases reported under this Subpart, expressed in metric tons.

4 tables

Working with Subpart W EF Tables

- Important columns: facility_id , reporting_year, industry_segment
- Rule changes: 2011-2014 and 2015-2023 tables
- Tables beginning with “PUB” e.g. pub_dim_facility are FLIGHT tables
- Oil and Gas SECTOR ID = 15, Subpart W SUBPART ID = 46
- Beware of hierarchies and flattening

| co2e_emission | facility_id | gas_id | sub_part_id | year |
|---------------|-------------|--------|-------------|------|
| 13472.75 | 1000011 | 2 | 46 | 2023 |
| 181.2 | 1000011 | 1 | 46 | 2023 |
| 5.3 | 1000054 | 1 | 46 | 2023 |
| 4357 | 1000054 | 2 | 46 | 2023 |

- Use /html to preview queries and tables

The screenshot shows a web browser window with the URL: data.epa.gov/dmapservice/ghg.ef_w_blowdown_ons_ng_trns_pl/reporting_year>equals/2023/sort/facility_id:desc/5:100/html. The page title is "ghg.ef_w_blowdown_ons_ng_trns_pl". The table below is a preview of the data.

| facility_id | facility_name | industry_segment | number_of_blowdowns | reporting_year | table_desc | table_num | total_ch4_emissions | total_co2_emissions | us_state |
|-------------|---|---|---------------------|----------------|--|-------------------|---------------------|---------------------|-----------|
| 1013825 | Transmission Pipeline Facility, Permian Highway Pipeline, LLC | Onshore natural gas transmission pipeline [98.230(a)(10)] | 20.0000000000 | 2023 | Onshore Natural Gas Transmission Pipeline Characterization | Table I.4 (RY16+) | 2609.7500000000 | 75.3000000000 | Texas |
| 1013663 | EGT Arkansas | Onshore natural gas transmission pipeline [98.230(a)(10)] | 56.0000000000 | 2023 | Onshore Natural Gas Transmission Pipeline Characterization | Table I.4 (RY16+) | 2613.3800000000 | 75.4000000000 | Arkansas |
| 1013663 | EGT Arkansas | Onshore natural gas transmission pipeline [98.230(a)(10)] | 7.0000000000 | 2023 | Onshore Natural Gas Transmission Pipeline Characterization | Table I.4 (RY16+) | 191.8800000000 | 5.5000000000 | Louisiana |
| 1013663 | EGT Arkansas | Onshore natural gas transmission pipeline [98.230(a)(10)] | 26.0000000000 | 2023 | Onshore Natural Gas Transmission Pipeline Characterization | Table I.4 (RY16+) | 20.2100000000 | 0.6000000000 | Texas |
| 1013397 | TransCanada / Great Lakes Transmission Co. | Onshore natural gas transmission pipeline [98.230(a)(10)] | 1.0000000000 | 2023 | Onshore Natural Gas Transmission Pipeline Characterization | Table I.4 (RY16+) | 0.7100000000 | 0E-10 | Wisconsin |

New: GraphQL Services

- Service endpoint: <https://data.epa.gov/dmapservice/query/graphql>
- GraphQL Resources
 - <https://graphql.org/learn/queries/>
 - <https://ropensci.org/blog/2020/12/08/accessing-graphql-in-r/>
- EF Query Builder will show GraphQL syntax, e.g.:

```
query batchQuery($offset: Integer, $limit: Integer, $orderBy: OrderBy!) {
```

```
  ghg_ef_w_facility_overview(offset: $offset, limit: $limit, orderBy: $orderBy, ){
```

```
    api_gravity average_low_pressure basin_associated_with_facility ch4_average_mole_fraction co2_average_mole_fraction compressor_power_rating facility_name  
    fractionate_ngl gas_oil_well_ratio gas_prod_cal_year_for_sales gas_prod_cal_year_from_wells facility_id industry_segment miles_of_trans_pipe  
    missing_data_proc_used number_of_compressors oil_prod_cal_year_for_sales producing_wells_acquired producing_wells_divested quantity_exported  
    quantity_gas_added quantity_gas_consumed quantity_gas_delivered quantity_gas_received quantity_gas_stolen quantity_gas_transferred quantity_gas_withdrawn  
    quantity_imported quantity_lng_added quantity_lng_withdrawn quantity_of_gas_handled quantity_of_gas_injected quant_gas_transported_gb  
    quantity_of_gas_withdrawn quant_hc_liq_recd quant_hc_liq_trans quantity_of_oil_handled reporting_year sub_basin_county sub_basin_formation_type  
    sub_basin_identifier table_desc table_num total_storage_capacity us_state well_producing_end_of_year well_removed_from_production wells_completed  }}
```

*Note: you can replace all individual column refs above with “_all_columns_” (note underscore in front and back)

Envirofacts RESTful Service V2 syntax



More info: <https://www.epa.gov/enviro/envirofacts-data-service-api>

```
https://data.epa.gov/efservice/[table]/[column][operator][value]/[join]/[first]:  
[last]/[sort]/[format]
```

- (1) Table Name** – At least one table name is required. Up to three table names can be entered.
- (2) Column Name** – This is an optional entry. Enter a column name and value to limit the results.
- (3) Operator** – This is an optional entry. This parameter allows users to pass in an operator with the query. Default output is "=" and does not require an operator, but users can enter "<", ">", "=", "equals", "notEquals", "beginsWith", "endsWith", "contains", "excludes", "like", "notLike", operators as well via the URL. The "beginsWith" operator will return rows where the start of a column value is equal to the search value. While the "contains" will return rows where the search value is contained within the column value. Additional details on operators is available in the
- (4) Column Value** – This is an optional entry. The column value is queried against the database, using the operator, without modification. Use the data Model to double check the case for the value.
- (5) Joins**- ' <join_type> / <table>' ; join types: "join", "cross", "full_outer", "left", "right"
- (6) First/Last ROWS** – This is an optional entry. Specify the rows to display by entering '/ <first_row> : <last_row>' Results numbering starts at 0. So to get the first five hundred rows enter rows/0:499 If "rows" is not specified, the default is the first 10000 rows.
- (7) Sort**- '/sort/[column]:[direction]/' direction is optional and can be "asc" or "desc"
- (8) Output Format** – This is an optional entry. The default output is in JSON; however, additional output options of JSONP, CSV, HTML, Parquet, PDF or Excel can be requested in the URL. The output format is not case sensitive.

*note: "dmapservice" can be substituted for "efservice"

Envirofacts RESTful Service Examples (V2)

- Retrieve Oil Gas (Sp W) Facility overview Information (first 101 records), default JSON format:

https://data.epa.gov/dmapservice/ghg.ef_w_facility_overview/0:100

Here we just retrieve information from the **ef_w_facility_overview** table. This is a summary table containing facility details for subpart W reporters. As this table includes sub-basin, there will be multiple rows per facility ID

The results can be returned in multiple formats including: **XML**, **Excel**, **CSV**, **PDF**, **JSONP** or **JSON** (default). To specify XML, Excel, CSV, PDF, JSONP or JSON, just add /FORMAT to the URL.

https://data.epa.gov/dmapservice/ghg.ef_w_facility_overview/0:100/XML

https://data.epa.gov/dmapservice/ghg.ef_w_facility_overview/0:100/EXCEL

https://data.epa.gov/dmapservice/ghg.ef_w_facility_overview/0:100/CSV

https://data.epa.gov/dmapservice/ghg.ef_w_facility_overview/0:100/PDF

- Retrieve W Facility Overview Information for ONSHORE PRODUCTION segment reporters (first 101 records in EXCEL)

https://data.epa.gov/efservice/ghg.ef_w_facility_overview/industry_segment/beginsWith/Onshore petroleum/0:100/EXCEL

- Retrieve W **Combustion Eqpt Information** for 2023 for ONSHORE PRODUCTION segment reporters and **Pneumatic Devices data** (first 101 left-matched records in EXCEL) https://data.epa.gov/efservice/ghg.ef_w_combust equip summ/industry_segment/beginsWith/Onshore petroleum/and/reporting_year>equals/2023/left/ghg.ef_w_ngpneumatic dev summ/facility id>equals/facility id/and/reporting_year>equals/reporting_year/0:100/excel

Here we are utilizing two tables: **ef_w_combust equip_sum** (combustion emissions) and **ef_w_ngpneumatic_dev_sum** (pneumatic device emissions). We are narrowing the search to just the onshore segment and RY2023. We are left-joining using FACILITY ID and also the REPORTING YEAR.

State and Tribal Fact Sheet



GHGRP 2023 Summary Fact Sheet - Texas

Description

This page provides a summary of GHGRP emissions data reported by facilities in Texas based on 2023 data (as of 8/16/2024).

Included in Your Results

Sectors: Electrical Equipment, Electronics Manufacturing, Fluorinated Chemicals, Metals, Minerals, Miscellaneous Combustion, Natural Gas & Natural Gas Liquids, Non-Fluorinated Chemicals, Petroleum Products, Petroleum and Natural Gas Systems, Power Plants, Pulp and Paper, Refineries, Waste

Greenhouse Gases: Carbon Dioxide, HFCs, HFEs, Methane, Nitrogen Trifluoride, Nitrous Oxide, Other, Other Fully Fluorinated GHGs, PFCs, Sulfur Hexafluoride, Very Short-lived Compounds

Jump to:

Summary of Emissions in 2023

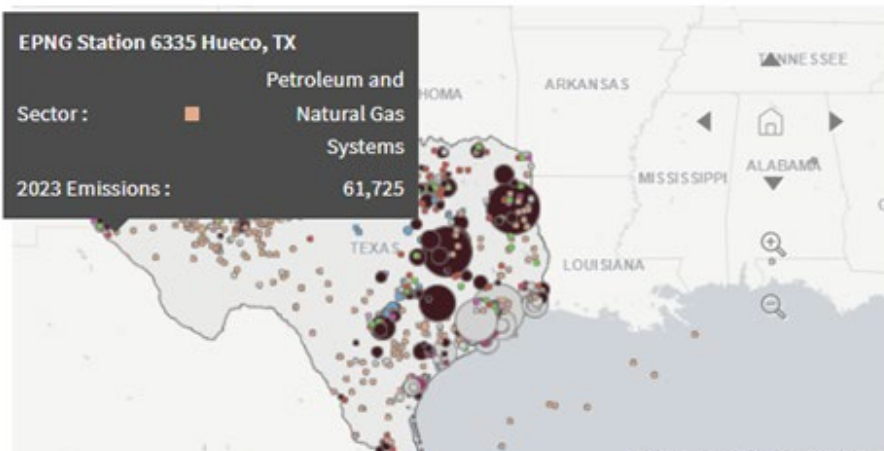
Number of Facilities

882

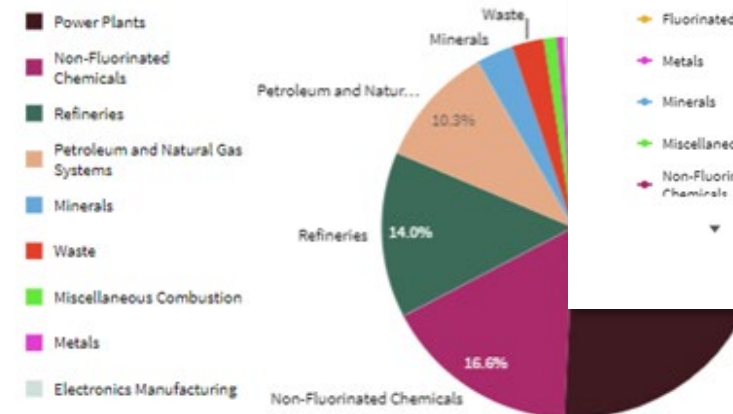
2023 Emissions (metric tons CO₂e)

380,791,992

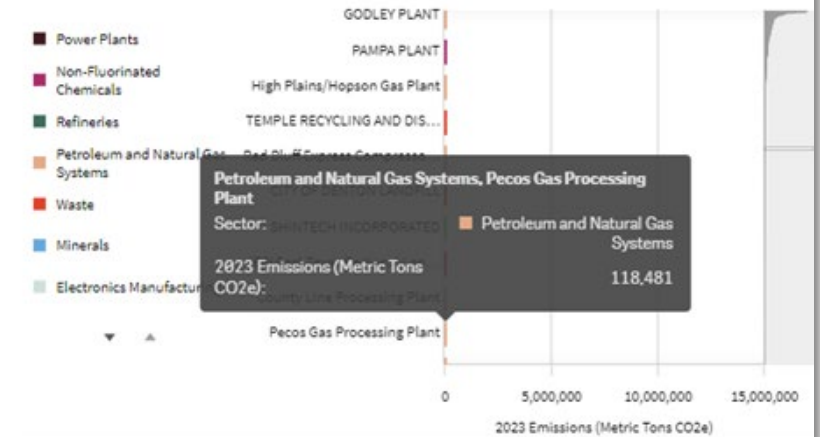
Map of GHGRP Facilities Reporting Emissions in 2023



Direct GHG Emissions Reported by Sector in 2023



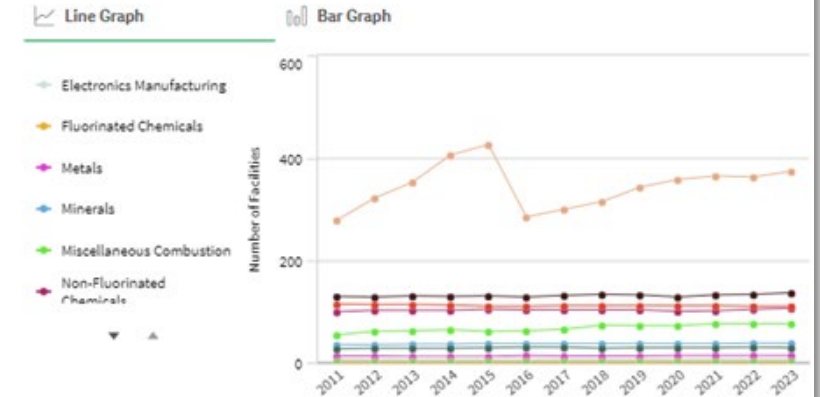
Direct GHG Emissions by Facility and Industry Sector in 2023



Data as of 8/16/2024

Trends in Emissions

Trends in Number of Facilities by Sector



Demographic Data Highlights

Select a Sector

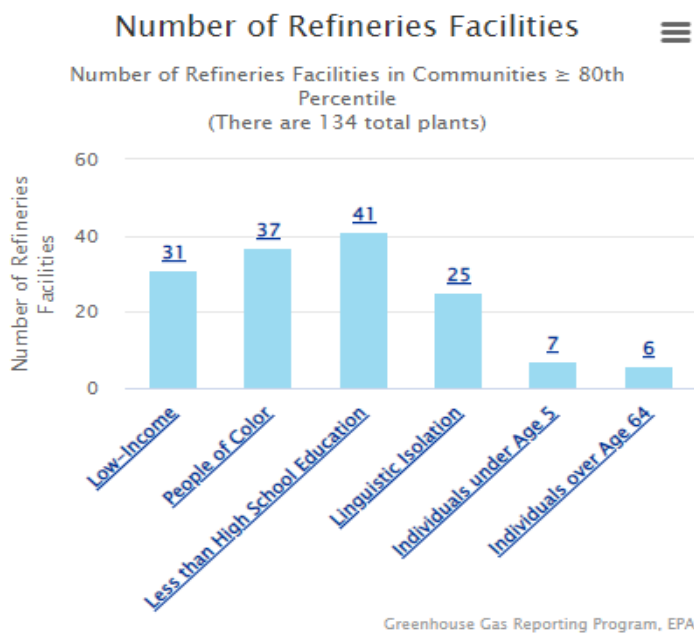
Indicator definitions

FAQs

This graph displays the number of facilities located in or near communities which meet or exceed the 80th percentile nationally for each key demographic indicator. You can explore the distribution of all facilities for a particular demographic indicator by selecting the label or bar for the indicator.

Select a sector

Refineries



This graph compares the key demographics of communities near facilities in your selected sector to the national average. The national average for each demographic based on all Census block groups is shown in parentheses.

Compare by:

Demographic Indicator

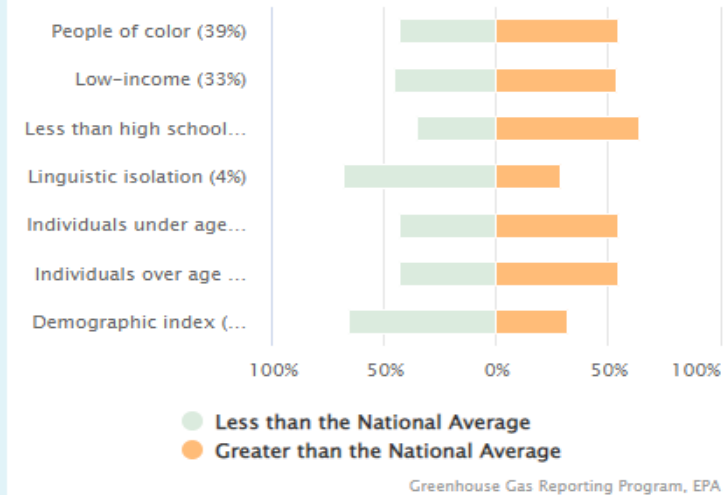
Sector

Select a sector

Refineries

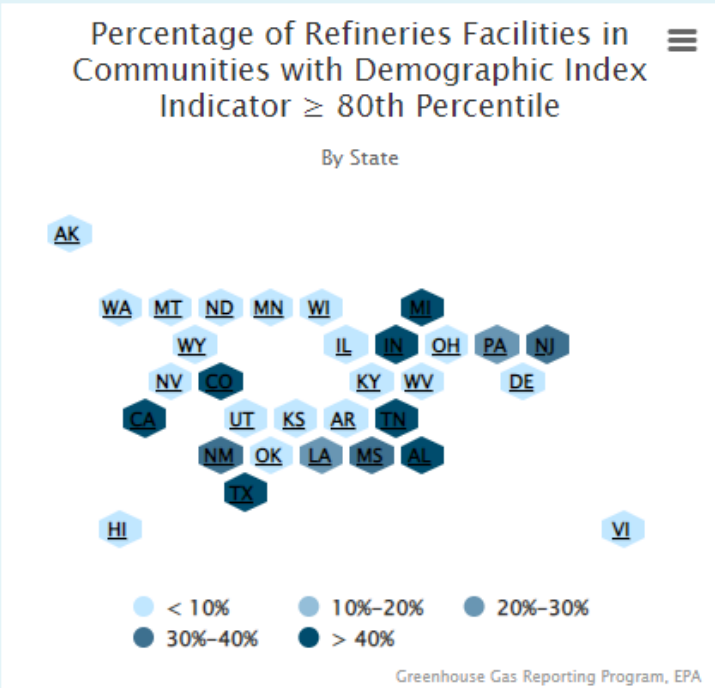
Demographics of Communities Near Refineries Facilities

(National averages in parentheses)



Demographic Data Highlights

The map below displays the percentage of facilities in the selected sector within each state that are in communities which are at or exceed the 80th percentile nationally for the selected demographic indicator. Click on a state to explore state-level data.



Select a sector

Refinerie

Select an indicator

Demographi

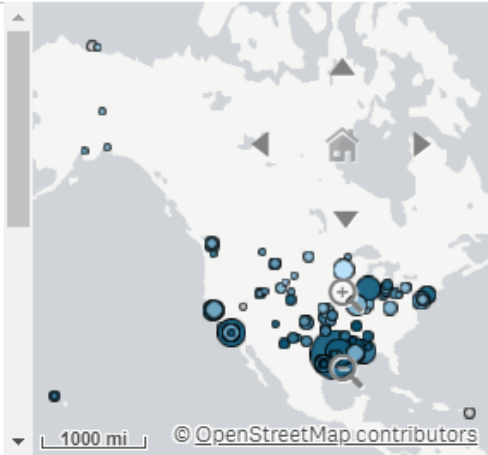
The following map shows the locations of facilities in the selected sector, with the color gradient indicating the percentile value for each facility for the selected demographic indicator.

Refinerie in 2021 by Demographic Index

134 facilities

Facilities in 2021
Point layer

Demographic Index ...
100



Note: there are 137 facilities in total, but 3 do not have location and/or demographic data available.

Select a sector

Refinerie

Select an indicator

Demographi

Show Tribal Lands

For Help

- GHGRP FLIGHT Help

<https://ccdsupport.com/confluence/display/ghgp/Home>



- Contact us:

Email to ghgreporting@epa.gov or use web-form:

<https://www.epa.gov/ghgreporting/forms/contact-us-about-ghg-reporting-0>

Links

- Find and Use GHGRP Data:
www.epa.gov/ghgreporting/find-and-use-ghgrp-data
- FLIGHT
<https://ghgdata.epa.gov/ghgp/main.do>
- GHGRP Data Highlights
www.epa.gov/ghgreporting/ghgrp-reported-data
- GHGRP Data Sets
www.epa.gov/ghgreporting/ghg-reporting-program-data-sets
- Envirofacts (EF) Database
<https://enviro.epa.gov/envirofacts/ghg/search>
- EF Greenhouse Gas Customized Search
<https://enviro.epa.gov/query-builder/ghg>
- EF Greenhouse Gas Model
www.epa.gov/enviro/greenhouse-gas-model
- EF Greenhouse Gas RESTful Data Service
<https://www.epa.gov/enviro/greenhouse-gas-restful-data-service>
- GHGRP Help
<https://ccdsupport.com/confluence/>
- GHGRP State Fact Sheet
www.epa.gov/ghgreporting/ghgrp-state-fact-sheet
- Demographic Data Highlights:
<https://edap.epa.gov/public/extensions/GHGRP-Demographic-Data-Highlights/GHGRP-Demographic-Data-Highlights.html>