

EPA's Greenhouse Gas Reporting Program

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Overview of the GHG Reporting Program



Goal of GHG Reporting Program: To collect accurate GHG data to inform future policy decisions

- Covers 41 source categories for reporting
 - 33 types of direct emitters
 - 6 types of suppliers of fuel and industrial GHG
 - Facilities that inject CO₂ underground for geologic sequestration, enhanced oil recovery, or any other purpose
- Reporting only, no control or use requirements
- Monitoring began in 2010 for 29 source categories and an additional 12 source categories began collecting data in 2011



Data Collection and Verification



- Data Collection through EPA's **electronic Greenhouse Gas Reporting Tool (e-GGRT)**
 - Web-based application for facilities/suppliers to report directly to EPA via self-guided web forms
 - Also includes option for direct data upload via XML
- **Electronic Verification**
 - Pre-submittal warning for reporters entering data outside reasonable ranges or missing data
 - Post-submittal verification through logic checks, use of outside data sets, and statistical analyses across facilities
- **Staff review and direct follow-up**
 - Staff review electronic verification results
 - Phone/email and additional follow-up, as necessary

Data Publication



- <http://ghgdata.epa.gov/ghgp/main.do>
- 2010 data published in January 2012
- 2011 data to be published in early 2013
- Data publication website allows stakeholders and the public to access the key data elements quickly and easily and to sort data by location, sector, and by gas



2010 GHG Data: Quick Summary



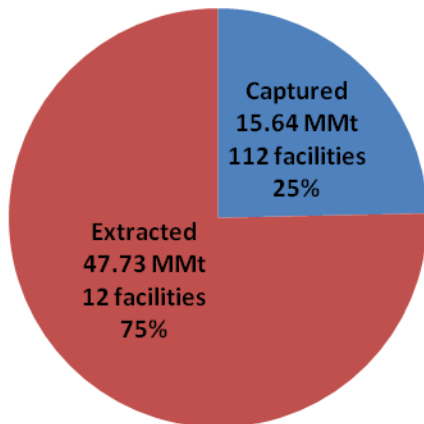
- Reports from over 6,700 entities
- Power plants are largest stationary source of direct emissions at 2,324 million metric tons CO₂e
- Refineries are second at 183 million metric tons CO₂e
- 100 facilities reported over 7 million metric tons CO₂e including 96 power plants, 2 iron and steel mills, 2 refineries
- 2010 data accounts for roughly 80 percent of total U.S. emissions
 - This percentage reflects both upstream suppliers and direct emitters
 - Among the data not covered are GHG emissions from smaller sources, and from agricultural and land-use activities

Subpart PP – CO₂ Supply

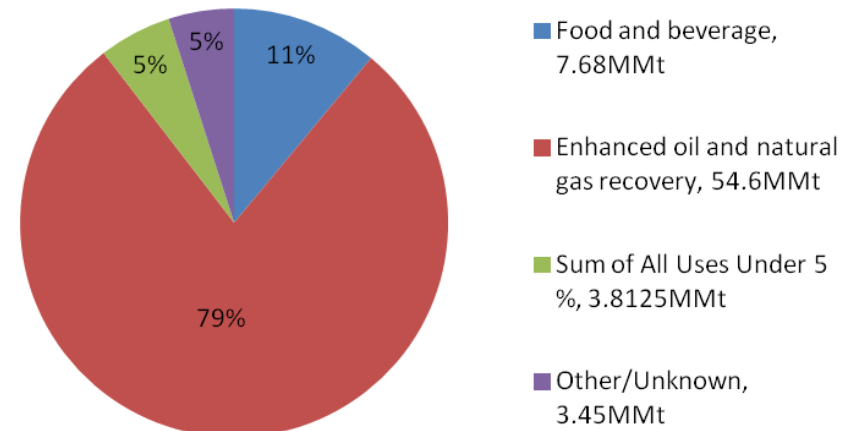


- The Subpart PP source category includes facilities that supply CO₂ to the economy or inject underground
 - CO₂ capture (ethanol, natural gas processing, etc)
 - CO₂ production wells
- Over 100 facilities reported data for 2010

Subpart PP Capture and Extraction Facilities
CO₂ Supplied in 2010



Subpart PP Capture and Extraction Facilities
CO₂ Supply End Uses in 2010




Subpart UU – Injection of CO₂




- The Subpart UU source category includes any well or group of wells that inject a CO₂ stream into the subsurface that does not report under Subpart RR
 - e.g. UIC Class II CO₂ EOR projects, projects that received an R&D exemption from Subpart RR
- Annually reported data includes the amount of CO₂ received for injection, data used to calculate the amount, and the source of CO₂ (if known)
- Data collection began in 2011 and will be reported to EPA by September 28, 2012
- You must register in e-GGRT 60 days prior to submitting data

Subpart UU: Example e-GGRT Screenshot of Subpart Overview Page





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Electronic Greenhouse Gas Reporting Tool

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Test Facility

Subpart UU: Injection of Carbon Dioxide (2011)

Subpart Overview

OVERVIEW OF SUBPART UU REPORTING REQUIREMENTS

The Injection of Carbon Dioxide (CO₂) source category comprises any well or group of wells that inject a CO₂ stream into the subsurface. If you report under subpart RR (Geological Sequestration of Carbon Dioxide (CO₂)) for a well or group of wells, you are not required to report under subpart UU for that well or group of wells. A facility that is subject to 40 CFR 98 only because it is subject to subpart UU is not required to report emissions under subpart C or any other subpart listed in 40 CFR 98.2(a)(1) or (a)(2).

For additional information about Subpart UU reporting, please use the e-GGRT Help link(s) provided.

FACILITY INFORMATION

Sources of CO₂ Received

CO₂ production wells, Natural gas processing, Unknown OPEN

FLOW METERS AND CONTAINERS

Unit Name/Identifier	Type	Measurement Basis	CO ₂ (metric tons)	Status ¹		Delete
J Test 1 Volume	Flow Meter	Volumetric	97,181.5	Incomplete	OPEN	✘
J Test 2 Mass	Flow Meter	Mass	67,213.4	Incomplete	OPEN	✘
TEST	Flow Meter	Mass	185,645.9	Complete	OPEN	✘
TEST3	Container	Mass	185,645.9	Incomplete	OPEN	✘

+ ADD a Flow Meter or Container

↑ Facility Overview

Total CO₂ Received

Net annual mass of CO₂ received (metric tons)

Subpart UU: View Validation

Validation


Sources

Flow Meter / Container Info


Add Flow Meter / Container

Subpart UU: Example e-GGRT Screenshot of CO2 Received Input Page





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Test Facility

Subpart UU: Injection of Carbon Dioxide (2011)

[Subpart Overview](#) » [Flow Meter Testing MFM](#) » [Eq. UU-1](#)

NET ANNUAL MASS OF CO₂ RECEIVED

For a mass flow meter, you must calculate the total annual mass of CO₂ in a CO₂ stream received in metric tons by multiplying the mass flow by the CO₂ concentration in the flow, according to Equation UU-1.

Equation Summary (UU-1)

- ▷ Q: Quarterly Mass Received
- ▷ S: Quarterly Mass Redelivered
- ▷ C: Quarterly CO₂ Concentration

(Eq. UU-1) Annual mass of CO₂ (metric tons)

Total Annual
CO₂ Received

EQUATION UU-1 SUMMARY AND RESULT

$$CO_{2T,r} = \sum_{\mu=1}^4 (Q_{i,\mu} - S_{r,\mu}) \times C_{CO_{2,r}}$$

Hover over an element in the equation above to reveal a definition of that element.

Quarter	Q (metric tons)	S (metric tons)	C (wt. %CO ₂)	Result
1				
2				
3				
4				

Incomplete — [View Validation](#)

Report which CO₂ result?

Use the calculated result rounded

Enter my own result (value will be rounded)

FINISHED
CANCEL
NEXT →

Equation UU-1

Quarterly Data Summary

e-GGRT or
own results

Subpart RR – Geologic Sequestration of CO₂



- The Subpart RR source category includes any well or group of wells that inject a CO₂ stream for long-term containment in subsurface geologic formations and all wells permitted as UIC Class VI wells
- Facilities that conduct EOR are **not** required to report under Subpart RR unless:
 - The owner or operator chooses to opt-in and report GS under Subpart RR, or the facility holds a UIC Class VI permit for the well or group of wells used to enhance oil and gas recovery
- R&D projects can exempt from Subpart RR provided they meet the eligibility requirements (if exempted, they **are** required to report under Subpart UU)
- As of August 2012, 4 R&D project exemptions have been granted, and no Monitoring, Reporting, and Verification plans have been submitted under Subpart RR .

Schedule



Milestone	Date
Reporting Year 2010 Publication	January 2012
Reporting Deadline for Reporting Year 2011 (Most source categories)	April 2, 2012
Reporting Deadline for Source Categories Reporting for First Time in 2012 (including subpart UU)	September 28, 2012
Reporting Year 2011 Publication	Early 2013
Reporting Deadline for Reporting Year 2012 (All source categories)	March 2013

For More Information



GHG Reporting Program Information:

<http://www.epa.gov/climatechange/emissions/ghgrulemaking.html>

Electronic GHG Reporting Tool (e-GGRT):

<https://ghgreporting.epa.gov>

GHG Data Publication:

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

Questions?

Email: GHGReporting@epa.gov