

Spotlight on the Greenhouse Gas Reporting Program Subpart HH : Data, Trends, and Upcoming Modifications



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Overview



- Review of basics on GHGRP and applicability for landfills
- GHGRP Data Highlights for MSW landfills
- What's new for 2013 RY
- For more information

Overview: U.S. EPA GHG Reporting Program (GHGRP)



- The GHGRP was created by an EPA regulation issued in 2009. The goal of the program is to collect accurate and timely data on GHG emissions to inform future climate policy decisions.
- Annual monitoring requirements for applicable MSW landfills began in 2010 with first reports due in 2011.
- Overall, 8,200 facilities across all sectors are reporting, accounting for 85-90% of U.S. GHG emissions.
- Monitoring and reporting only, no control or use requirements.



GHG Data Publication



- The data reported to the GHGRP are available through <http://ghgdata.epa.gov>.
- The GHGRP data publication tool
 - Displays facilities on a map
 - Creates charts, graphs, and lists
 - Enables data download
 - Leverages social media

flight
Facility
Level
Information on
GreenHouse gases
Tool



Which landfills must report?



- **Municipal solid waste landfills**
 - Definition in 40 CFR 98.6
 - Excludes RCRA Subtitle C or TSCA hazardous waste landfills, C&D waste landfills, and industrial waste landfills
 - Industrial landfills covered by separate subpart TT
- **Accepted waste since January 1, 1980**
 - Covers both open and closed MSW landfills
- **Methane generation $\geq 25,000$ metric tons CO₂e/yr**
 - Applicability based on generation, not actual emissions

MSW Landfill Reporting



- Report 3 key items:
 - CH₄ generation and emissions from the landfill (HH)
 - CH₄ destruction from collection and combustion (HH)
 - CH₄, CO₂ and N₂O from combustion devices (reported under subpart C)

When can an MSW landfill stop annual reporting?

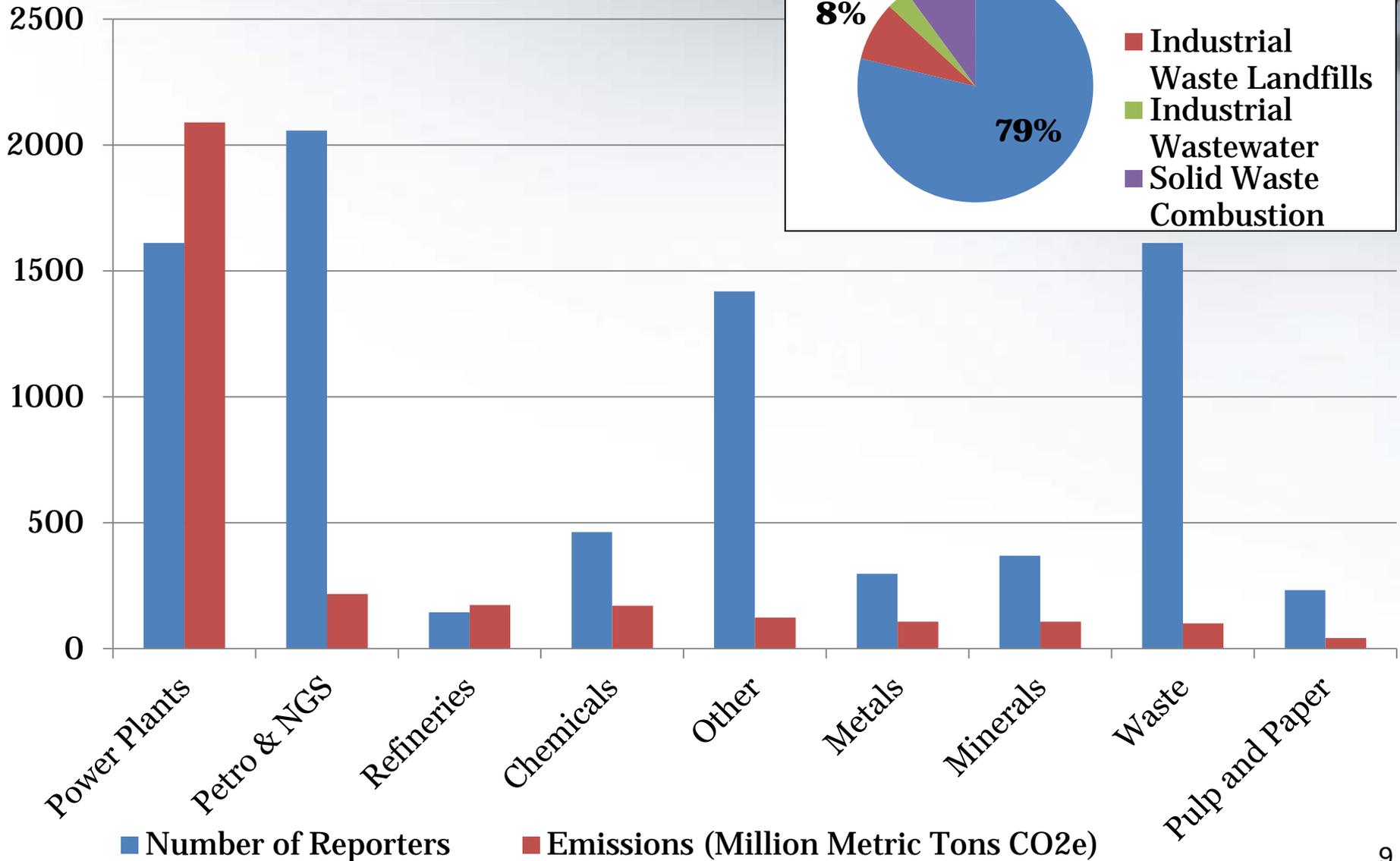
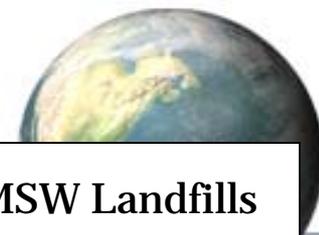


- Notify EPA via e-GGRT by March 31 of the year after you meet one of the following conditions:
 - If annual reports demonstrate CO₂e emissions <25,000 metric tons/yr for 5 consecutive years.
 - If annual reports demonstrate CO₂e emissions <15,000 metric tons/yr for 3 consecutive years.
- You must resume reporting in future years if conditions are no longer met

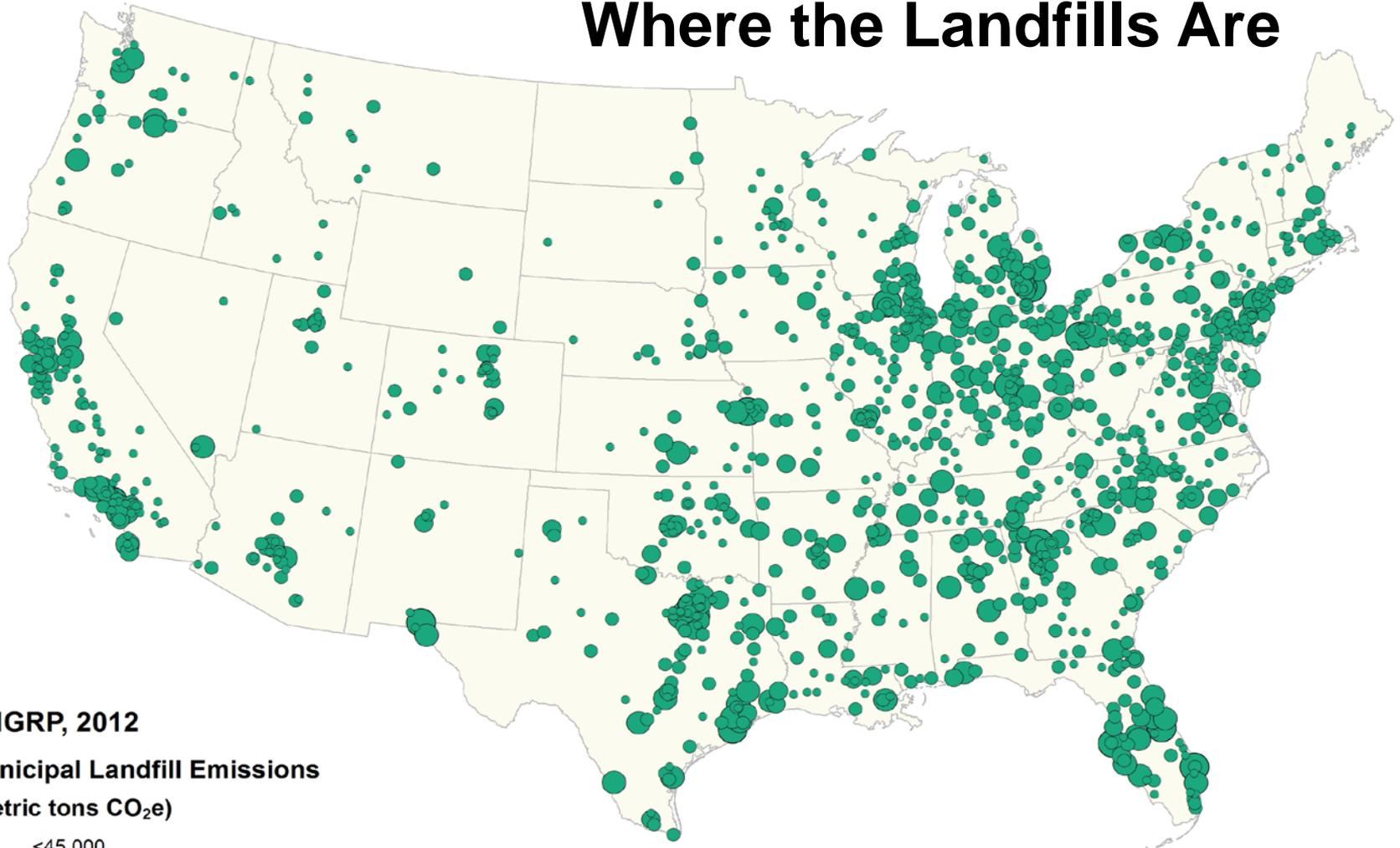


GHGRP Data Highlights for MSW Landfills

2012 Reporters and Emissions by Sector



Where the Landfills Are

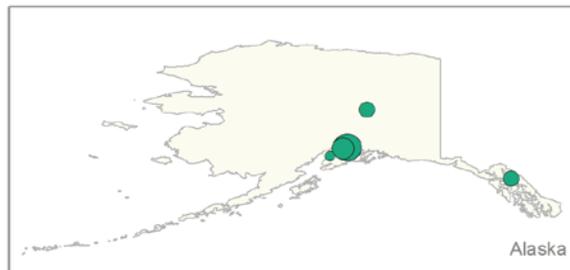


GHGRP, 2012

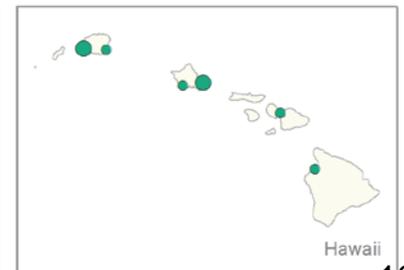
**Municipal Landfill Emissions
(metric tons CO₂e)**

- <45,000
- 45,000—100,000
- 100,000—150,000
- 150,000—350,000
- >350,000

Data Source: 2012 Greenhouse Gas Reporting Program
As of: 09/01/2013



Alaska



Hawaii

Breakdown of these facilities



Data	2010	2011	2012
Number of reporting landfills	1,215	1,215	1,217
Number of open landfills	945	945	946
Number of closed landfills	270	270	271
Number with gas collection	877	902	913
Number without gas collection	338	313	304

Emissions breakdown (MMT CO₂e)



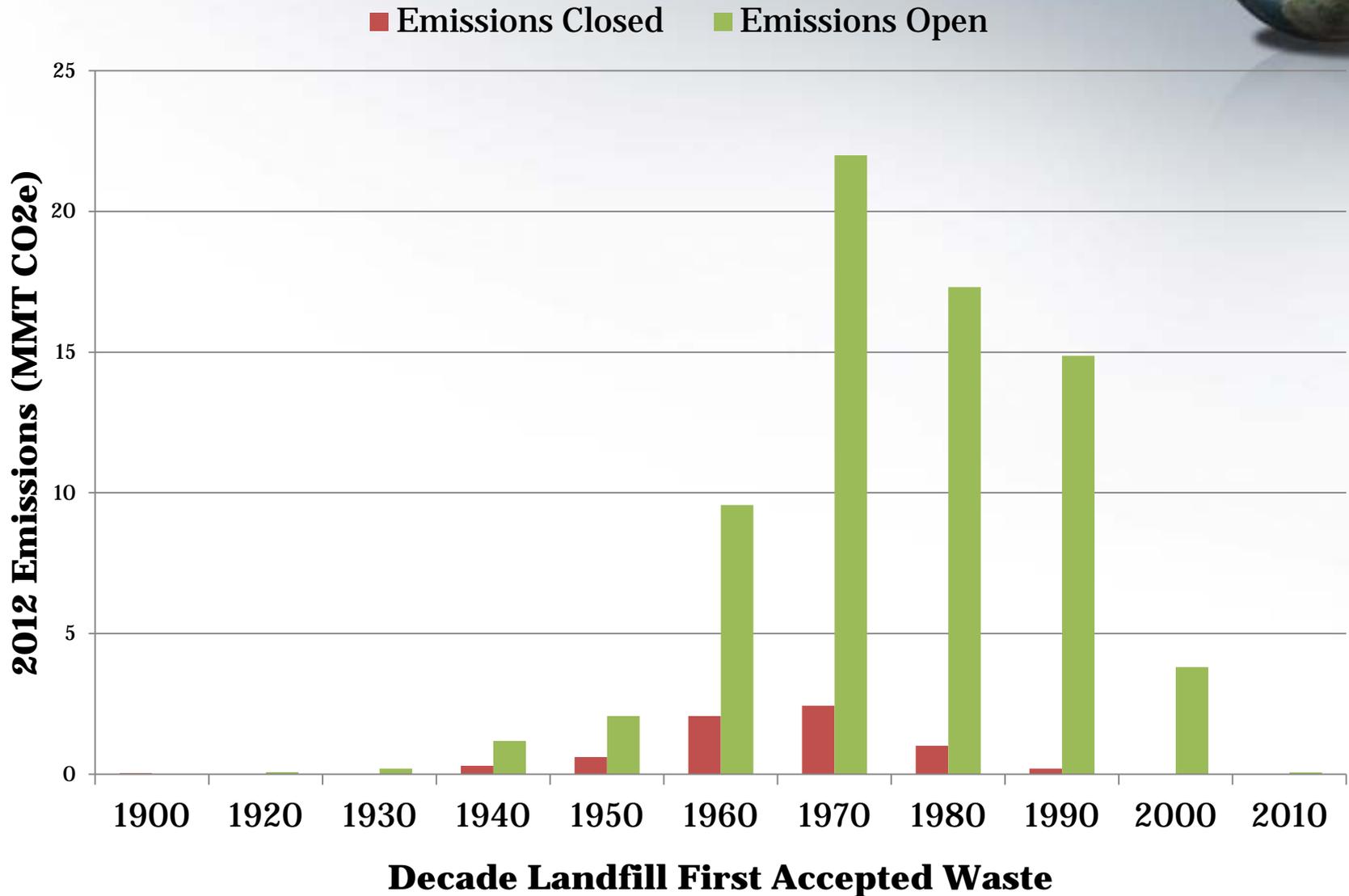
Data	2010	2011	2012
Total emissions	86.0	78.0	79.0
Total emissions for open landfills	76.0	69.1	71.1
Total emissions for closed landfills	9.0	8.9	7.9
Total emissions for landfills with gas collection	64.2	57.7	59.5
Total emissions for landfills without gas collection	20.8	20.3	19.5

Possible explanations for trends 2010-2011

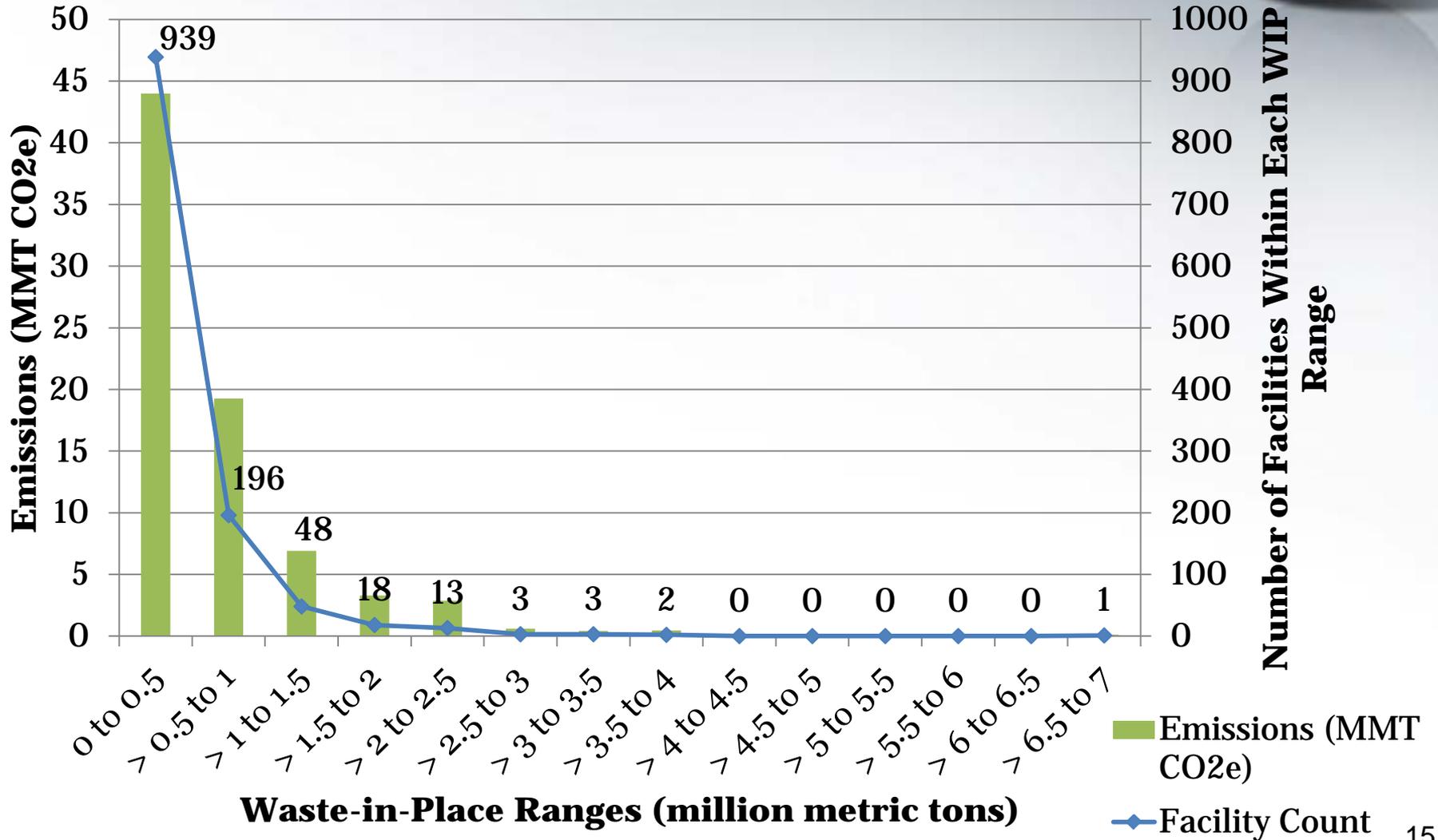


- Use of BAMM in 2010
- Facilities used different equation for subpart HH emission total
 - Equation HH-6 vs HH-8
- Ongoing verification issues
- Learning curve at start of program

2012 Emissions by Operational Status and Decade Waste was First Accepted



Number of Landfills and Emissions Aggregated by Waste-in-Place , 2012



Aside: A Couple of Notes on Industrial Landfills



- Covered under Subpart TT
 - Similar methodology and reporting requirements as HH
- In 2012, 8.2 MMT CO₂e from 176 reporters
 - Only 2 industrial landfills reported having gas collection
- Variety of industrial sectors reported under TT
 - Many facilities have dedicated industrial waste landfills that only accept waste generated on-site
- 17 facilities reported NAICS 562 – Waste Management and Remediation Services
 - Accept mixed industrial waste from various industries



What's new for 2013 RY

Updated GWPs



- Global warming potential (GWP) is a metric used to compare emissions among GHGs.
 - Mass emissions x GWP = CO₂e (metric tons).
 - Applicability for MSW landfills is in units of carbon dioxide equivalent (CO₂e)
- EPA recently finalized a rule to update many of the GWPs in the GHGRP
 - To align with IPCC AR-4
 - The GWP for Methane is now 25

Specific exemption added



- EPA is providing a specific exemption for certain small, older, closed MSW landfills
 - Did not receive waste after January 1, 2013
 - Methane generation less than 1,190 metric tons CH₄ in 2013
 - Not required to report to the GHGRP in reporting years prior to 2013

Determining Soil Oxidation



- Methane generation and emissions must be adjusted for soil oxidation
 - Prior to the 2013 RY a default value of 10% must be used
 - Starting in 2013 RY you may use 0%, 10%, 25%, or 35% depending upon the conditions at your landfill
 - Depth of soil cover over majority of the landfill cover (>50%)
 - Methane flux in grams per square meter per day ($\text{g}/\text{m}^2/\text{d}$)
 - the mass flow rate of methane per unit area at the bottom of the surface soil prior to any oxidation . Detailed equations provided in the rule.
- Must report oxidation fraction used in each of Equations HH-5, HH-6, HH-7, and HH-8.

Monitoring Frequency for CH₄ Concentration



- Change to allow either continuous or monthly monitoring
 - Data shows no significant difference between weekly or monthly data collection
 - 14 days required in between measurements

Multiple measurement locations and destruction devices



- Revised Equations HH-6, HH-7, and HH-8 to reflect possibility of multiple LFG monitoring locations and/or multiple destruction devices
- e-GGRT will collect some limited additional data
 - For each measurement location:
 - Quantity of recovered LFG (from Eq. HH-4) at that location
 - Number of destruction devices associated with that location
 - For each destruction device:
 - Annual operating hours
 - Destruction efficiency



For More Information

Important Dates/Schedule



Deadline	Action
Jan 1 – Dec 31 of each year	Collect data using required methods in applicable subpart(s)
February 19, 2014	Webinar on changes to e-GGRT for subparts HH and TT
March 31, 2014	Submit annual report for the 2013 reporting year*
March 31, 2015**	Facilities newly subject due to GWP change submit first annual report for the 2014 reporting year.

**Reporting year is the year in which the data are collected (e.g., reporting year 2013 data are contained in the report submitted on March 31, 2014).*

*** When March 31 falls on a weekend, the report is due the first business day of April.*

Greenhouse Gas Reporting Program

Contact Us  Share



If you report to the Greenhouse Gas Reporting Program, or you think you might be required to, visit the [For Reporters page](#) for resources, tools, and training opportunities.

1 2

EPA's Greenhouse Gas Reporting Program will help us better understand where greenhouse gas emissions are coming from and will improve our ability to make informed policy, business, and regulatory decisions.

GHG Data Publication Tool



With EPA's Facility Level Information on GreenHouse gases Tool (FLIGHT), you can quickly and easily filter GHG data in a variety of ways, including by facility, industry, location, or gas. [Click the map to launch the tool](#)

2012 Summary



In 2012, power plants accounted for about 40% of U.S. carbon pollution and 67% of direct emissions reported under the GHGRP. [Learn more](#) about what 2012 GHGRP data reveal about U.S. GHG emissions.

For GHG Reporters

If you are required to report emissions under EPA's Greenhouse Gas Reporting Program, or you want to know more about the requirements, visit the [Reporting Resources page](#).

What's New

- Revisions to GHGRP and Confidentiality Determinations for 33 subparts
- Proposed Subpart L amendments
- EPA releases 2012 GHGRP Data
- EPA proposes amendments to 24 subparts
- New Features in FLIGHT
- Subpart I amendments finalized

Climate Change Links

- [Climate Change Home](#)
- [U.S. GHG Annual Inventory](#)

ghgdata For GHG Reporters Help Center

Comprehensive greenhouse gas (GHG) data reported directly to EPA from across the country are now easily accessible to the public through EPA's GHG Reporting Program (GHGRP). The 2011 GHGRP data set includes public information from facilities in nine industry groups that directly emit large quantities of GHGs, as well as suppliers of certain fossil fuels and industrial gases.



[Learn More »](#)

Technical Assistance



- Online applicability tool: Assists potential reporters in assessing whether they are required to report
- Technical assistance materials (e.g., Information Sheets, Monitoring Checklists, FAQs, documentation of rulemakings)
- Trainings and webinars
- Information on the electronic greenhouse gas reporting tool (e-GGRT)
- RSS available to announce new outreach materials

For complete list of materials and training schedule, see:

www.epa.gov/climatechange/emissions/ghgrulemaking.html

Online Help Center



Greenhouse Gas Reporting Program

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Basic Information

GHG Data

Help Center

For GHG Reporters

Site Map

You are here: [EPA Home](#) » [Greenhouse Gas Reporting Program](#) » Help Center

Help Center

EPA has developed a number of tools and documents to assist in understanding and complying with the Greenhouse Gas Reporting Program (GHGRP). Please note that these resources are intended for informational and instructional purposes only. Facility owners or operators and suppliers are responsible for determining how they would be affected by the requirements of Part 98, the rulemaking which established the GHGRP. Compliance with all Federal, State, and Local laws and regulations remains the sole responsibility of each facility owner or operator subject to those laws and regulations.

You will need Adobe Reader to view some of the files on this page. See [EPA's PDF page](#) to learn more.

- **Greenhouse Gas Reporting Program FAQs:** These FAQs address general questions about the Greenhouse Gas Reporting Program and its requirements.
- **GHGRP Data FAQs:** These FAQs address questions regarding the GHGRPs published yearly data.
- **Contact Us:** Submit a question using the Contact Us form if you are unable to find the answer to your question on the website or in the FAQs above.
- **Applicability Tool:** If you are unsure whether your business must report under the GHGRP, go to the Applicability tool, an application designed to help assess whether an entity must comply with the GHGRP. *Disclaimer: While this tool is designed to help interpret Part 98, the owner or operator of each facility is responsible for reviewing Part 98 and determining if Part 98 applies. Use of this tool does not constitute a determination by EPA of the applicability of Part 98 to any particular facility.*
- **Resources by Subpart:** The various industries affected by the GHGRP are addressed by the different subparts of the rule. The Resources by Subpart page groups materials, including rule texts, information sheets, checklists, technical support documents, and presentations, according to their rule subpart.
- **Proposed Rule Archive:** During the Greenhouse Gas Reporting Rules (Part 98) proposal phase, EPA developed a number of supporting materials, including technical support documents and responses to comments received on the proposal.

Thank you



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