

Greenhouse Gas Needs Towards Combined Reporting

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EPA Office of Air Quality Planning and Standards
Air Quality Assessment Division

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Goals

1. Present work from the Greenhouse Gas (GHG) Mapping Study Product Design Team (PDT)
2. Share preliminary findings and possible implications of these findings for the adoption of combined reporting
3. Talk about next steps and get input from the audience on key questions

1. GHG Mapping Study Work and Preliminary Findings

EPA United States Environmental Protection Agency

Environmental Topics | Laws & Regulations

Greenhouse Gas Reporting

EPA's Greenhouse Gas Reporting Program (GHGRP) tracks annual level emissions from the largest sources of greenhouse gas emissions in the United States.

1 2 3

[GHGRP Data](#) [For GHG](#)

OREGON.GOV Home Program

Department of Environmental Quality

Greenhouse Gas Reporting

- Air Quality Programs
- Oregon Clean Fuels Program
- Greenhouse Gas Reporting
 - Greenhouse Gas Reporting Home**
 - Greenhouse Gas Reporting Protocols
 - EZ-File Online Reporting GHG
 - EZ-Fuels Online Reporting Tool For Fuel

m MINNESOTA CONTROL AGENCY

Air | Water | Waste

Air / Climate change

Greenhouse Gas Reporting

Greenhouse gases (GHGs) are gases that contribute to global warming. The conventional greenhouse gases are carbon dioxide (CO2), methane (CH4), and hexafluoride (SF6), and two classes of perfluorinated compounds (PFCs). Most GHG emissions are measured in terms of CO2 equivalent (CO2-e) emissions.

Fossil fuel use is the largest source of greenhouse gas emissions from generating electricity and fueling

Mass.gov State Offices & Courts | State A-Z Topics | State Forms

The Official Website of the Executive Office of Energy and Environmental Affairs

Energy and Environmental Affairs

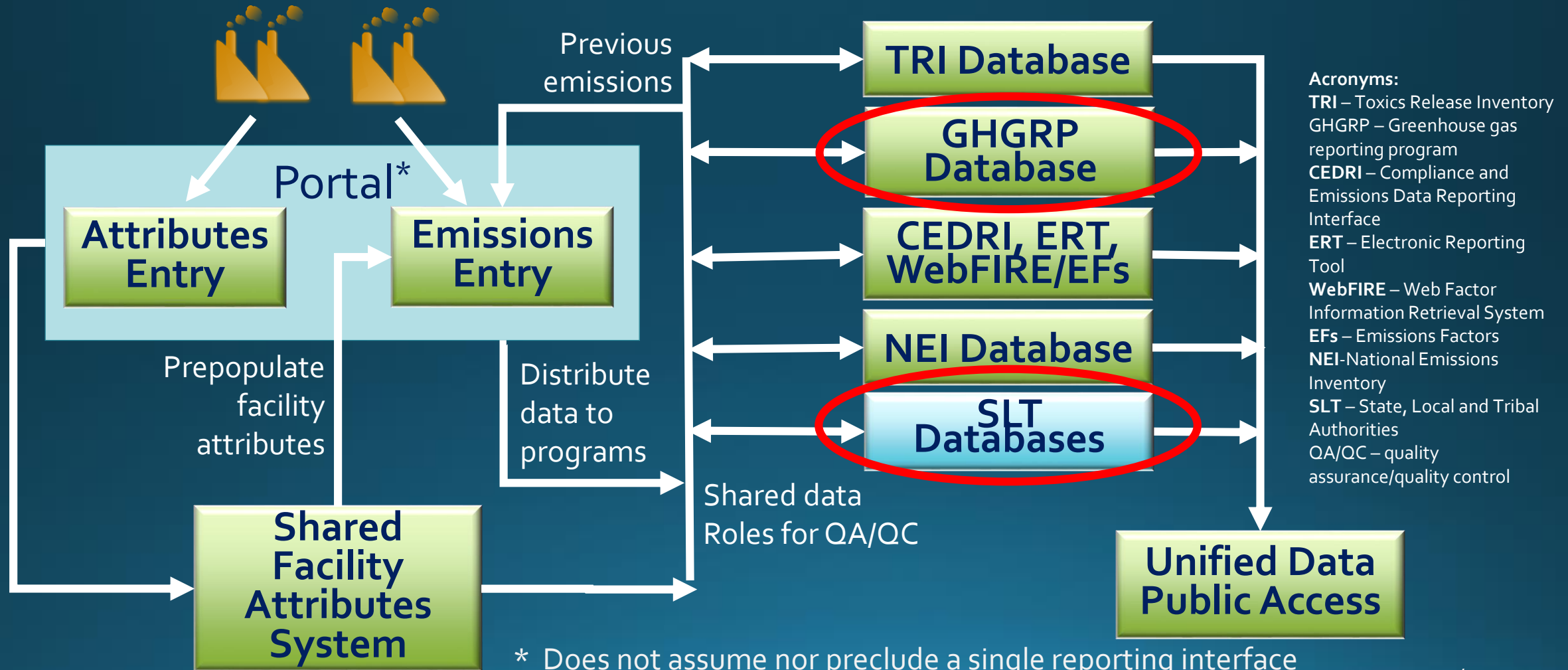
Agriculture | Energy & Utilities | Environmental Protection | Fisheries, Wildlife & Habitats

EEA Home > Agencies > MassDEP > Climate & Clean Energy > Climate Action > Reporting

Massachusetts Greenhouse Gas Emissions Reporting

- [Program Overview & Applicability](#)
- [Regulations & Protocols](#)
- [Facility Reporting: Massachusetts GHG Registry](#)
- [Retail Seller of Electricity Reporting](#)
- [GHG Emissions Verification - Updated Information](#)
- [GHG Reporting Program Hotline](#)

Air Emissions – Proposed Future State



Purpose and Scope

Purpose: To understand what data elements SLT GHG emissions reporting programs have in common with EPA's GHGRP elements so as to inform what would be needed for combined emissions reporting as envisioned under the proposed future state.

Scope:

- Identify commonalities between GHGRP and a sample of 3 states and 3 sectors by comparing their data needs
- Evaluate the extent/potential for common reporting

Team Members

States:

MA: Jordan Garfinkle

MN: Azra Kovacevic

OR: Stephanie Summers, Elizabeth Elbel

EPA:

GHGRP: Kong Chiu, Brian Cook, Sydnie Lieb

EIAG: Julia Gamas (Team Lead)



Research and Analysis Steps

1. Compare state GHG programs with the GHGRP through:
 - Narrative description of each state program and GHGRP
 - Comparison of required data elements for:
 - Common elements to all sectors – GHGRP Subpart A
 - Stationary Combustion – GHGRP Subpart C
 - Iron and Steel – GHGRP Subpart Q
 - Landfills – GHGRP Subpart HH
2. Facility mapping exercise (almost complete):
 - States assigned one sector:
 - MA - Stationary Combustion
 - MN- Iron and Steel
 - OR - Landfills
 - For one facility:
 - Narrative describing state use of GHGRP data
 - Unit-to-unit comparison (in final stages)

Program Comparison

- **Pollutants:** Carbon dioxide (CO₂ - fossil and biogenic reported separately), Methane (CH₄), Nitrous Oxide (N₂O), Hydrofluorocarbons HFCs, Perfluorocarbons (PFCs), Sulfur Hexafluoride (SF₆). OR and Federal require Nitrogen Trifluoride (NF₃)
- **Who reports:**
 - OR: petroleum importers, NG suppliers, landfills, electricity generation, and air quality permit holders *with* annual emissions >2,500 MTCO₂e in a calendar year
 - MN: All facilities with an air permit, no threshold requirement
 - MA: Facility has a permit *or* annual emissions > 5,000 STCO₂e
 - GHGRP: Facilities are generally required to report if emissions exceed 25,000 mt CO₂e. Suppliers report if 25,000 mt CO₂e of GHG emissions would result from the use or combustion of fossil fuels or industrial gases supplied. Facilities that receive 25,000 metric tons of CO₂ for underground injection also report.
- **Scope:** MN includes emissions from imported electricity but OR and MA do not, nor does GHGRP for generation outside the country.

Program Comparison

- **Sub-facility detail:** MN and MA process/unit level, OR varies by source (some report fuel types and volumes, others aggregate process emissions that may/may not be unit level). GHGRP unit/process, can aggregate unit emissions for a common stack
- **Global Warming Potential:** all using IPCC 4th Assessment Report (AR₄)
- **Deadlines** (year after emissions year): MN April 1st, MA April 15th, OR and GHGRP March 31st
- **Confidential Business Information (CBI):** Emissions data are not CBI except in a handful of cases, but inputs to emissions estimates can be CBI and may not be collected at all.
- **Reporting systems:** State systems (EZ-Filer - OR, CEDR - MN and e-DEP - MA, and GHGRP has E-GGRT)
- **Calculation Methods:** So...about that...it depends...

Data Element Comparison

Compared 388 data elements across the three states and GHGRP for Subparts A, C, Q & HH. Examples of results:

- **A – General Reporting Requirements:**
 - 73 general or Best Available Monitoring Methods (BAMM)-related data elements are unique to GHGRP relevant in 2010-2011
 - GHGRP can require more detail than states e.g. fluorinated gases are reported separately in GHGRP, MN and MA but not OR
- **C – Stationary Combustion:**
 - OR doesn't require a unit ID but the others do
 - Maximum rated heat input capacity of the unit in mMBtu/hr required by GHGRP and MN but not OR and MA
 - For each type of fuel combusted OR requires use of Tier 1 methodology or Tier 4 if they have Continuous Emissions Monitoring (CEMS). The other states don't have that requirement
 - MA and OR don't require separate reporting of biogenics when using CEMS
 - Heat input required at unit level for GHGRP and MA, not required by OR, required at process level by MN
 - OR & MN don't have unit groups as GHGRP and MA allow
 - GHGRP asks for monthly fuel combusted but states only require annual value

Data Element Comparison

- **Q – Iron and Steel:**

- MA has no Iron and Steel
- States and GHGRP require annual CO₂ emissions for all units except decarbonization vessels that are not argon-oxygen decarbonization vessels
- Only GHGRP requires method used to determine carbon content (lab analysis, no CEMS) for all units except decarbonization vessels that are not argon-oxygen decarbonization vessels

- **HH – Municipal Solid Waste Landfills**

- Year in which landfill started accepting waste for disposal , capacity of landfill, details about leachate required by GHGRP but not states
- Volumetric flow of landfill gas collected for destruction required in MN and GHGRP but not MA or OR
- Annual quantity of recovered methane required in OR and GHGRP but not MA or MN

Unit to Unit Comparison

- The three states use GHGRP data to validate state reported data.
- Results e.g. MN – Iron and Steel:
 - Use of generic emissions factors to report to state but tier 3 methodology for GHGRP
 - Short tons for state versus metric tons for GHGRP –unit of measure
 - Report to state via “in-process fuel use” method using generic emissions factors, GHGRP estimates are based on mass balance equation of taconite pellet production– results can be very different
 - One emissions value for taconite production was reported to EPA but multiple processes for the same emission unit were reported to state
 - One unit reported as part of facility in GHGRP but not part of the facility in state – definition of “facility”

2. GHG Mapping Study Preliminary Findings and Implications for Combined Reporting

The screenshot displays the Minnesota Pollution Control Agency's website interface. At the top left is the agency logo and name. The main navigation area includes 'e-DEP MassDEP's Online Filing System' and links for 'MassDEP Home', 'Contact', and 'Privacy Policy'. A 'Login or Get Username & Password' section is visible, containing a 'Log into eDEP' form with fields for 'Username:' and 'Password:', and a 'Login' button. A central pop-up window titled 'How to Report Greenhouse Gas Emissions with EZ-Filer: A guide to register and report a facility's annual greenhouse gas emissions' is overlaid on the page. This window features the Oregon Department of Environmental Quality (DEQ) logo and provides contact information for Elizabeth Elbel and Stephanie Summers, including phone numbers and an email address (ghgreport@deq.state.or.us). A blue box in the bottom right corner of the screenshot contains the 'e-GGRT Electronic Greenhouse Gas Reporting Tool' logo, which includes a stylized bird icon.

Preliminary Findings

- Data required in some programs is not required for others
- States have lower reporting thresholds than GHGRP, but use GHGRP data to validate their GHG reported data for facilities reporting to both
- Different level reporting: Facility level total, unit group, unit and process-level reporting
- Required methods for emissions calculations can be different between GHGRP and state GHG programs, as can be units of measure
- Reported unit-level data for states is not considered CBI except in a handful of cases and the data is available to the public upon request, input data can be sensitive
- States have their own reporting systems for state GHG program (some with their NEI reporting) with industries using E-GGRT to report to GHGRP

Implications for Combined Reporting

Would have to be able to*:

- Capture all data: send data required by one program to that program but not the other (e.g. BMM data captured and sent to GHGRP)
- Capture data at different levels of resolution and detail: facility, group of units, unit, process levels
- Parse out facility totals or aggregate process/unit level data as needed
- Perform calculations on activity data if different method required by each program
- Capture the data in timely manner and provide to program with earliest deadline
- Track facilities within the emissions threshold for each program and “know” rules for inclusion of a facility in one program or another
- Interact with current state systems as well as E-GRRT
- Keep any inputs to estimates that is CBI confidential and not submit it if so

...and **without increasing** reporting **burden** to industry or processing burden to states and GHGRP.

* Preliminary and exploratory, the goal of this team is not to reach a conclusion or consensus but to present the result of the comparison and offer ideas.

3. Next Steps and Input from the Audience

Next Steps

- Do our findings apply to other states? If not, what are the differences?
- Do our findings apply to all the other sectors?
- What features of a shared emissions reporting platform would promote reduced burden (and avoid increased burden)?
- If states are already using same reporting system to collect both GHG and EI (criteria) data, could GHGRP data be incorporated into NEI through common reporting?
 - States find pulling GHGRP data out of Flight or Envirofacts complicated.
 - Data needed by EPA for co-benefits analyses

Your thoughts?

Thank you for your attention!

Send questions, comments, suggestions to:

caer@epa.gov.