



**TETRA TECH**

# There's Something in the Air: The Future of Methane Emissions Monitoring and Reporting

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# The Future of Greenhouse Gas Monitoring and Reporting

- State GHG Emissions Targets
- GHG and Methane Detection Technology
- Greenhouse Gas Reporting
  - US EPA Reporting Update
  - NYSDEC Mandatory Greenhouse Gas Reporting Rule



# Greenhouse Gas Reporting

## USEPA

- On Sept 16, 2025, USEPA proposed to permanently remove 46 source categories (which includes industrial wastewater treatment) from the program.
- Extended the 2025 annual reporting deadline from March 31, 2026 to October 30, 2026 to allow time to officially remove the program.



# Industrial Wastewater Types for Applicability under 40 CFR 98 GHG Reporting Rule for anaerobic treatment with emissions greater than 25,000 CO<sub>2</sub>e

- Pulp and paper manufacturing
- Food processing (fruits, vegetables, meat, and poultry processing only)
- Ethanol (C<sub>2</sub>H<sub>6</sub>O) production; and
- Petroleum refining
- Does **NOT** include anaerobic processes used to treat wastewater and wastewater treatment sludge at other industrial facilities; Or:
  - Municipal wastewater treatment plants.
  - Separate treatment of sanitary wastewater at industrial facilities.
  - Oil/water separators.
  - Aerobic and anoxic treatment of industrial wastewater.

# Removal of Federal Greenhouse Gas Reporting

....So what does this mean?

You guessed it!

States are beginning to implement their own GHG Reporting requirements.

-California, Massachusetts, Washington, Oregon, Colorado, and now New York.



# States with Statutory 2030 Greenhouse Gas Reduction Targets

- **California** – 40% below 1990 levels by 2030 (2016 statute)
- **Colorado** – 50% below 2005 levels by 2030 (2019 statute)
- **Maine** – 45% below 1990 levels by 2030 (2019 statute)
- **Massachusetts** – 50% below 1990 levels by 2030 (2021 statute)
- **New York** – 40% below 1990 levels by 2030 (2019 statute)
- **Washington** – 45% below 1990 levels by 2030 (2020/2021 statutes)
- **Rhode Island** – 45% below 1990 levels by 2030 (2021 statute)
- **Vermont** – 40% below 1990 levels by 2030 (2020 statute)



# States with Executive Order or Recommended 2030 Greenhouse Gas Reduction Targets

- **Delaware** – 50% below 2005 levels by 2030
- **Connecticut** – 80% below 2001 levels by 2050, with 2030 interim steps
- **Illinois** – 40% clean energy by 2030 (interim to 100% by 2050)
- **Louisiana** – 40–50% below 2005 levels by 2030 (executive order)
- **Nevada** – 45% below 2005 levels by 2030 (near zero by 2050)
- **New Jersey** – 80% below 2006 levels by 2050



# States with Executive Order or Recommended 2030 Greenhouse Gas Reduction Targets

- State percentage reduction requirements range from 10% by 2020 up to 90% by midcentury.
- Several states—California, Connecticut, Maine, Massachusetts, New York, Oregon, Rhode Island, Vermont and Washington—use a 1990 baseline to measure emissions reductions
- Emissions baseline for Colorado, Minnesota and Nevada is 2005 and for Maryland and New Jersey it is 2006.



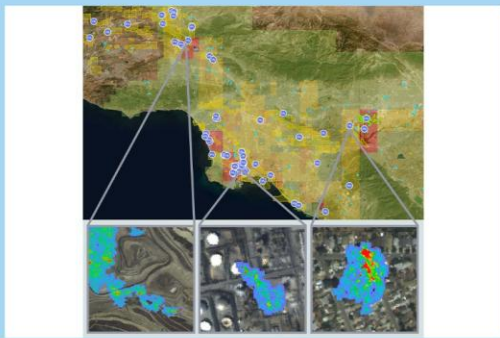


# Carbon Mapper: accelerating local climate action, globally

LOCATING, QUANTIFYING AND TRACKING METHANE AND CO<sub>2</sub> POINT-SOURCE EMISSIONS FROM AIR AND SPACE

[OVERVIEW VIDEO](#)

“Our mission is to drive greenhouse gas emission reductions by making methane and carbon dioxide data accessible and actionable.”

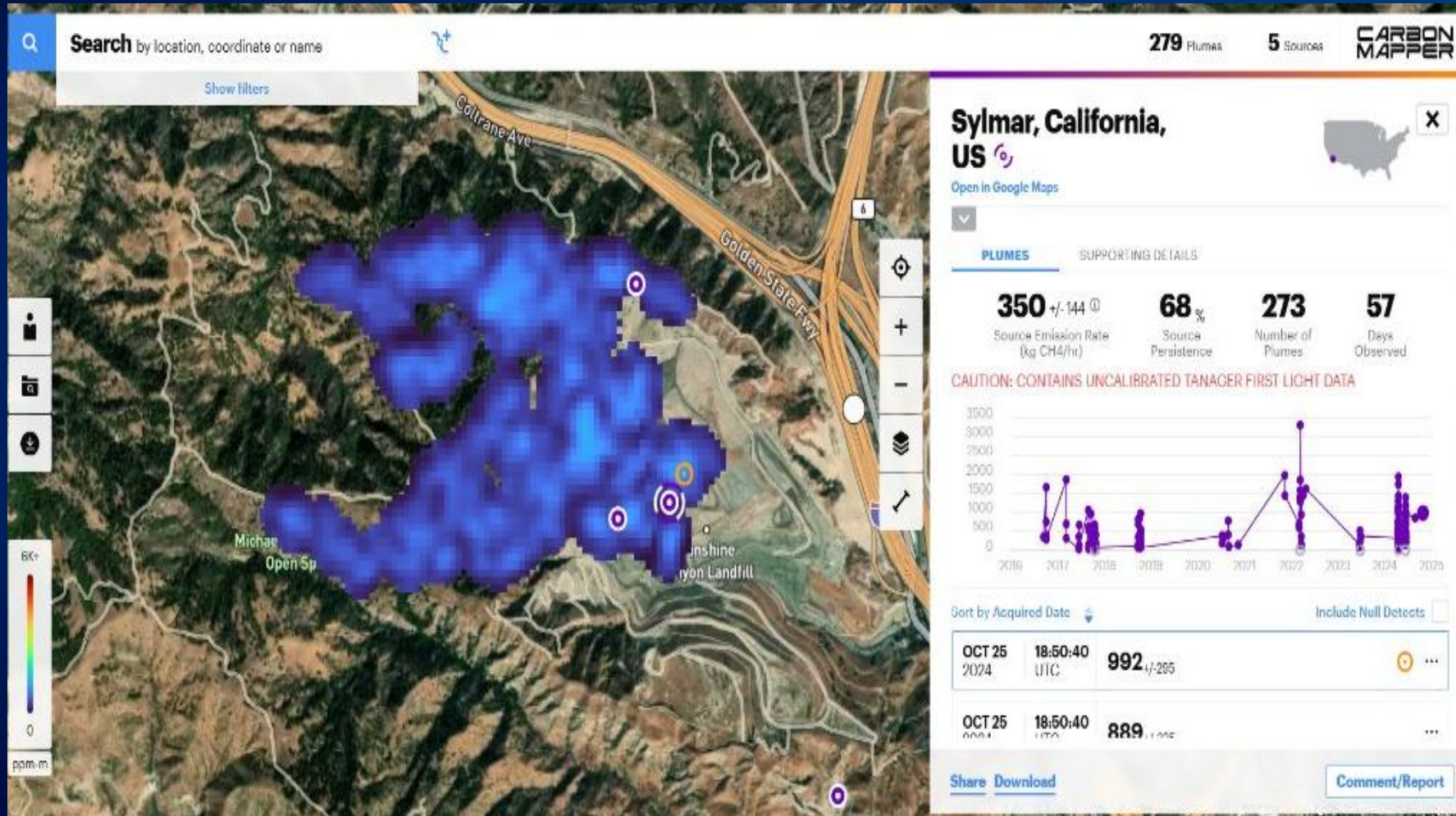


## Transparency

We're making our methane and CO<sub>2</sub> data available to the public on an ongoing basis through our global open data portal, providing accessibility and transparency to maximize impact. Our partners at the California Air Resources Board will provide certification and ground truth of our methane data in California to help improve confidence in the global data set.

[LEARN MORE](#)

[www.carbonmapper.org](http://www.carbonmapper.org)





# Wastewater plants produce twice as much greenhouse gas as estimated

By John Sullivan on October 8, 2025



Wastewater plants emit about twice as much greenhouse gas as previously estimated, according to Princeton engineers who used a mobile lab to check plants across

# Other Methane Detection Technology

- Drones, aircraft, rovers/vehicles, lasers, continuous sensors



# NYSDEC Mandatory Greenhouse Gas Reporting



## Background

6 NYCRR Part 253

Designed to support Climate Leadership and Community Protection Act (CLCPA)

CLCPA – Emission Reduction goals (40% by 2030 and 85% by 2050). In order to track these reductions, NY needs to collect emissions data.

This program resembles the California GHG Reporting Program



- [? Cal e-GGRT Help](#)
- [▶ How to add a subpart and report data](#)
- [▶ General reporting information](#)
- [▶ How to submit an annual report](#)

## California Institute of Technology (CalTech) (ARB ID: 100327) Cal e-GGRT Greenhouse Gas Data Reporting (2023)

Select Facility » [Facility or Supplier Overview](#)

### FACILITY OR SUPPLIER OVERVIEW

This page allows you to add the source and/or supplier categories for which your facility or supplier will be reporting, then to access those data reporting screens using the OPEN buttons.

After data reporting is complete, you can initiate the annual report review and submission process from this page by using the SUBMIT button (or RESUBMIT for subsequent submissions if needed).

**⚠ The Annual Report has already been prepared.** Any changes you make to report data will not be reflected in that version. After making changes to report data you must choose GENERATE/RESUBMIT below, then click GENERATE REPORT for those changes to be included in an updated version of the Annual Report.

**⚠ Note: The estimated covered emission value** is designed only for information purposes as an initial estimate of the reporting entity's covered emissions. This estimate may not correspond exactly to the final, official compliance obligation assigned to your reporting entity by CARB [pursuant to the Cap-and-Trade Regulation]. CARB will notify each reporting entity of its final, official compliance obligation value in a communication separate from Cal e-GGRT.

	<b>34,470.8</b>
CO <sub>2</sub> equivalent emissions (excluding biogenic) from subparts C - AA (metric tons)	
	<b>0.0</b>
Exempt Biogenic CO <sub>2</sub> emissions from subparts C - AA (metric tons)	
	<b>34,470.8</b>
Estimated covered CO <sub>2</sub> equivalent emissions (metric tons)	
<a href="#">VIEW GHG DETAILS</a>	

### REPORT DATA

2023 Sections 95350-95359.1—GHGs from Gas-Insulated Equipment	Validation Messages?	Subpart Reporting
Sections 95100-95108 (Subpart A)—General Information	None	
Sections 95115, 95112 (Subpart C)—Stationary Fuel Combustion	None	

# NYSDEC Mandatory Greenhouse Gas Reporting

## Who must report?

- Suppliers of natural gas, coal, liquid fuels, petroleum products, agricultural lime, and fertilizer
- Owners of facilities producing 10,000+ MT of CO<sub>2</sub> equivalent annually
  - Landfills
  - Waste Haulers & Transporters
  - Anaerobic digestion and liquid waste storage operations, including wastewater treatment plants and concentrated animal feeding operations



# NYSDEC Mandatory Greenhouse Gas Reporting

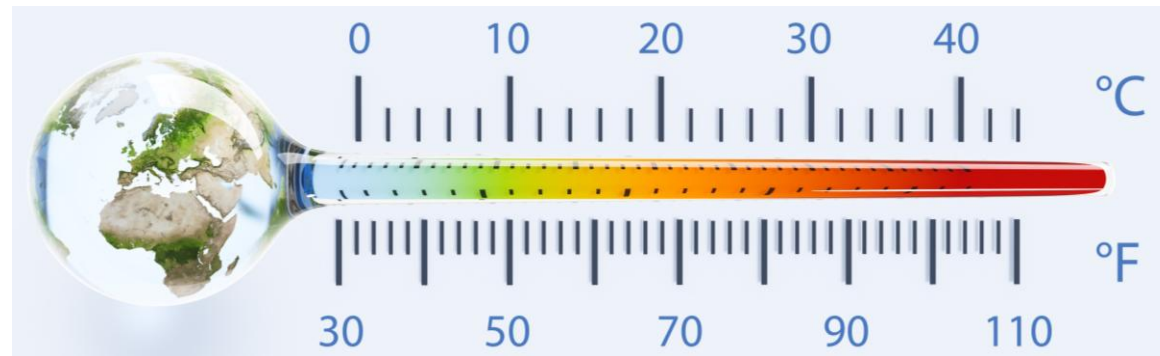
## Key Differences from Federal Reporting Rule

- Reporting threshold reduced to 10,000 MT from Federal 25,000 MT CO<sub>2</sub>e
- CO<sub>2</sub>e is to be calculated with the 20-yr GWP value vs 100-yr GWP value
  - 84 vs 28 GWP for Methane
  - This means facilities that calculate 119 tons of methane alone would be subject to the new rule.
- Many Facilities that never had to report under the Federal Rule will now have to report under the NY Rule



# Calculating GHG Emissions

- **Global Warming Potential (GWP):** measure of the warming effect that greenhouse gases will have in the atmosphere over a time period.
- **CO<sub>2</sub> equivalent:** Used to provide a common unit of measure, which allows analysts to sum emissions estimates of different GHG's and allows policymakers to compare emissions reduction opportunities across sectors and gases.



Box 3.2, Table 1 | Examples of emission metric values from WGI <sup>a</sup>.

	Lifetime (yr)	GWP		GTP	
		Cumulative forcing over 20 years	Cumulative forcing over 100 years	Temperature change after 20 years	Temperature change after 100 years
CO <sub>2</sub>	<sup>b</sup>	1	1	1	1
CH <sub>4</sub>	12.4	84	28	67	4
N <sub>2</sub> O	121.0	264	265	277	234
CF <sub>4</sub>	50,000.0	4880	6630	5270	8040
HFC-152a	1.5	506	138	174	19

# Applicability to Wastewater Treatment Facilities

**Operators that treat waste in anaerobic digesters or reactors or store waste if in excess of at least one of the following thresholds:**

- 1.  $1 \times 10^6$  gallons of aqueous industrial food waste;**
- 2.  $7 \times 10^8$  gallons of municipal wastewater;**
- 3. 1,500 metric tons (wet mass) of food scraps, commercial food waste, or industrial food waste;**
- 4. 430 metric tons (dry mass) of food scraps, commercial food waste, or industrial food waste;**

# Applicability to Wastewater Treatment Facilities

**Operators that treat waste in anaerobic digesters or reactors or store waste if in excess of at least one of the following thresholds:**

- **1,100 metric tons of stover, yard trimmings, or other plant biomass;**
- **1,100 metric tons of paper or paper pulp;**
- **290 metric tons of fats, oils, or grease;**
- **any other waste that contains 600 metric tons of degradable organic carbon; or**



# Applicability to Wastewater Treatment Facilities

**Operators that treat waste in anaerobic digesters or reactors or store waste if in excess of at least one of the following thresholds:**

- **a combination of different waste types in amounts such that the following sum exceeds 1:**
  - **gallons of aqueous industrial wastewater/ $(1 \times 10^6)$  + gallons of municipal wastewater/ $(7 \times 10^8)$  + wet metric tons of food waste/1,500 + dry metric tons of food waste/430 + metric tons of plant biomass/1,100 + metric tons of paper or paper pulp/1,100 + metric tons of fats oils or grease/290 + metric tons of degradable organic carbon present in any other waste/600.**

# NYSDEC Mandatory Greenhouse Gas Reporting

## Types of Reporting Requirements

1. Standard Facilities (greater than 10,000+ CO<sub>2</sub>e)
2. Large Emitters (greater than 25,000+ CO<sub>2</sub>e)  
(Landfills, WWTP, Digesters, etc)



# NYSDEC Mandatory Greenhouse Gas Reporting

## Large Emitters

- Greater than **25,000 CO<sub>2</sub>e**
- Must maintain records for 10 yrs (smaller emitters only 5 yrs)
- Must develop GHG Monitoring Plan
- Facilities emitting over 300,000 MT of CO<sub>2</sub>e must develop an Emissions Monitoring and Measurement Plan
- Third Party Verification



# NYSDEC Mandatory Greenhouse Gas Reporting

## Large Emitters – GHG Monitoring Plan

- The Who? What? & Where? of data collection to be used for emissions calculations
  - Description of procedures & methods used for data collection, quality assurance, maintenance & repair of CEMs, flow meter calibration, etc
- A living document that needs to be updated & resubmitted as-needed



# NYSDEC Mandatory Greenhouse Gas Reporting

## Large Emitters – Emissions Monitoring and Measurement Plan

Proposals to develop these are plans are due to NYSDEC first & must be re-submitted every 3 years. The Proposals should contain:

- Timeline for reporting EMMP results by March 1
- Contact info
- Facility site plans identifying emission sources
- Duration of monitoring
- Methods for accepting operating data
- Measurement and monitoring procedures



# NYSDEC Mandatory Greenhouse Gas Reporting

## Large Emitters – Verification

- GHG Reports will need to be verified by a qualified independent third party.
- 14 -day notification that a verifier has been assigned to a facility
- Must be pre-vetted for potential conflict of interest
- Must switch verifiers every 6 years
- Verification is due December 1, 2027 and 2028, and then August 10 each year after that



# NYSDEC Mandatory Greenhouse Gas Reporting



## Key Dates

Date	Activity
September 1, 2026	Emissions Monitoring and Measurement Plan (Section 2.20) for applicable reporters under sections 2.2 and 2.13.
December 31, 2026	Large Emission Source's GHG Monitoring Plan due to the Department. Reports are resubmitted in any year revisions have been made.
June 1, 2027	First Emissions Data Report due to the Department. Annual emissions reports are due June 1 <sup>st</sup> .
December 1, 2027	Verification Statements due for the previous emissions year. Verification reports are due to the Department no later than December 1, 2027 for emissions year 2026, December 1, 2028 for emissions year 2027, and August 10 of each subsequent emissions year.

Reports will be submitted through the **NYS GHG Reporting Tool (e-GGRT)** which resembles the Federal e-GGRT Site





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**Thank you!**

**Questions?**

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