

GMI Oil & Gas Subcommittee Meeting

Virtual



17 September 2024



Welcome!

James Diamond

GMI Oil & Gas Subcommittee Co-Chair

Environment and Climate Change Canada

Adoption of the Agenda

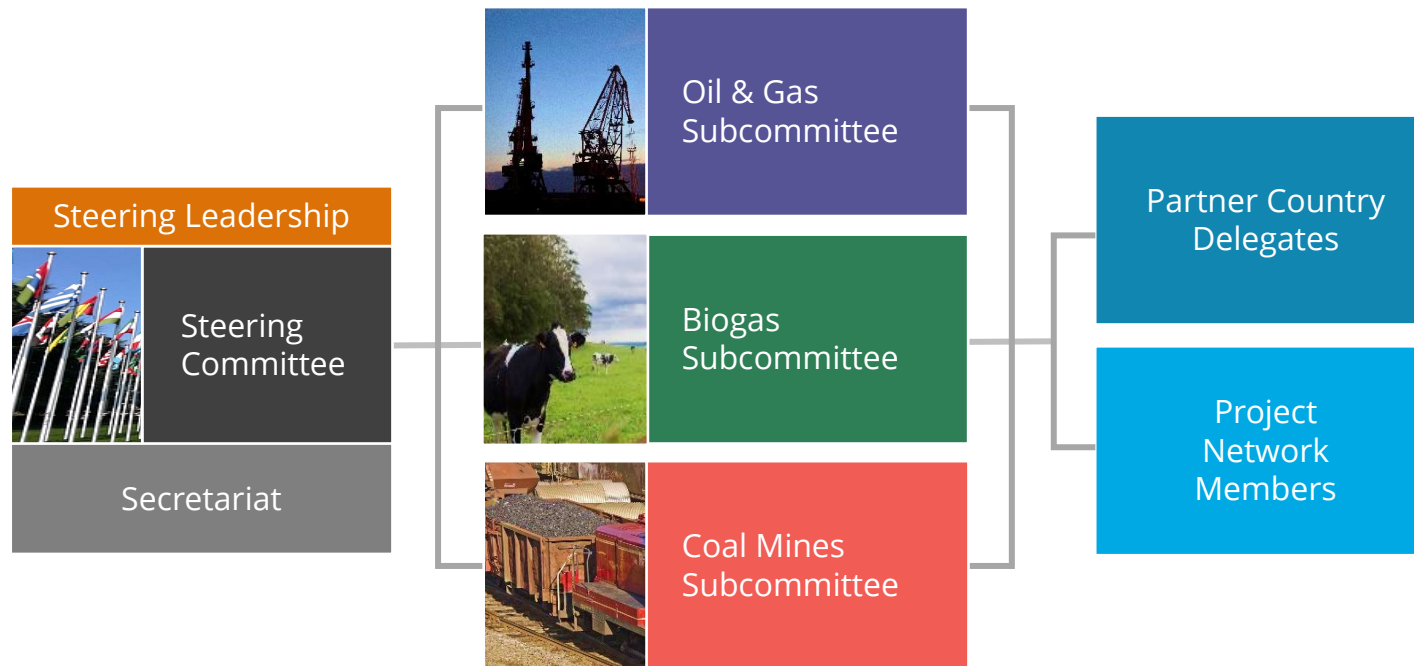
- Welcome and Opening Remarks, Adoption of the Agenda (5 min)
- GMI Secretariat Updates (10 min)
- Strategic Partner Updates (40 min)
- Subcommittee Action Planning (20 min)
- U.S. EPA Super Emitter Program Discussion (30 min)
- Preview of Upcoming Oil & Gas Events (5 min)
- Wrap up and Next Steps; Adjourn (10 min)

GMI Secretariat Updates

Christine DeRieux
Secretariat Team

Global Methane Initiative (GMI)

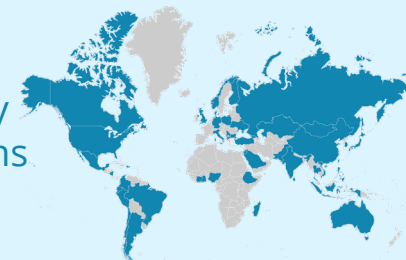
GMI is an international public-private partnership focused on reducing barriers to the recovery and use of methane as a valuable energy source.



- 49 Partner Countries
- 1,000+ Project Network members
- Alliances with international organizations focused on methane recovery and use



GMI Partner Countries represent approximately 75% of methane emissions from human activities.



GMI Accomplishments Since 2004



Grown from 14 to 49 Partner Countries



More than \$650 million in leveraged funding for projects and training



More than 1,000 Project Network members



Conducted or developed nearly 2000 assessments, pre-feasibility studies, feasibility studies, study tours, reports, guidances and site visits

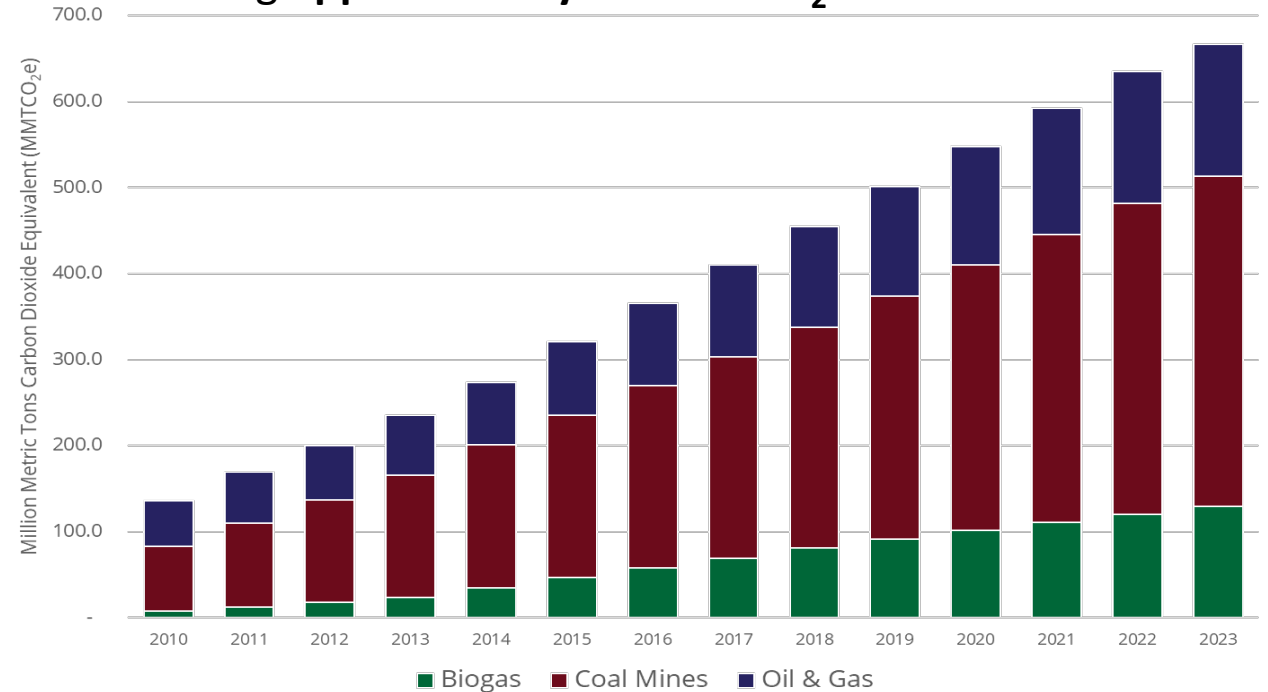


Provided trainings for more than 50,000 people in methane mitigation



Developed more than 60 tools and resources for methane mitigation

Since 2004, GMI has reduced CH₄ by approximately **670 MMTCO₂e** including **approximately 31 MMTCO₂e** achieved in 2023*



670 MMTCO₂e is approximately equivalent** to the CO₂ emissions from any one of the following:



285 Billion
liters of gasoline
consumed



335 Billion
kilograms of coal
burned



44 Trillion
smartphones
charged

*Data is preliminary

**[epa.gov/energy/greenhouse-gas-equivalencies-calculator](https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator)

GMI

"By the Numbers" for FY 2023

- Leveraged virtual platforms to maintain and increase engagement with stakeholders
- Expanded direct communications with social media
- Promoted GMI's technical expertise

Through GMI in FY 2023:

1,450
people

received a total of approximately

4,350
hours

of training about reducing methane emissions and capturing methane for productive uses



Capacity Building/Information Sharing

fostering best practices

8

Workshops/Trainings

India, Japan, Mexico, Pakistan, United States, Partnership-wide

12

Policy Analyses/Consultations/Other Outreach

Argentina, Brazil, Colombia, India, Mexico, Partnership-wide



Assessments

identifying opportunities for emission reductions

3

Reports/Studies

Chile, Philippines, Partnership-wide

7

Tools/Models

China, India, Mexico, Serbia, Partnership-wide



Partnerships

building relationships to foster action

8

GMI Meetings (Steering Committee/Subcommittees)

Switzerland, Thailand, United States, and Virtual meetings (hosted from Switzerland and the United States)

41

Other Stakeholder Meetings/Presentations/Site Visits

Brazil, India, Kazakhstan, Malaysia, Mexico, Thailand, Turkmenistan, Vietnam, Partnership-wide

3

Conferences

India, Montenegro, Partnership-wide

NEW! Case Study Library

Coming soon!

Link:

<https://www.globalmethane.org/case-studies/library/index.aspx>

The GMI Case Study Library was developed to share best practices and lessons learned from real-world methane mitigation experiences. Any reference in any case study to a specific company or commercial product or service by trade name, trademark, manufacturer, company or otherwise does not constitute or imply the endorsement or recommendation of GMI, the U.S. Environmental Protection Agency, or other partners.

Filters

GMI Sector: Topic: Country:

Show entries [Reset all filters](#) Search:

Showing 1 to 10 of 132 entries Previous **1** 2 3 4 5 ... 14 Next

Case Study	Year	Case Study
<p>Biogas Powered Data Center Microgrids United States</p> <p>Through the capture and utilization of methane, Project Pleiades will generate 80 MW of dispatchable baseload renewable electricity for use in EV charging, achieving a net emissions reduction of over 1 million metric tons of carbon dioxide equivalent per year in aggregate across all 50 landfills and generating revenue for participating landfills.</p> <p>Case study details</p>	2024	Case Study

Sample Case Study Template

<p>[Image/cover of case study to be provided here]</p> <p>[Title of the Case Study]</p> <p>GMI case studies can document a variety of methane mitigation action types, such as an emissions reduction project that is implemented; a detailed analysis of technical and/or economic feasibility of a specific project or group of projects that facilitates its implementation; development of a policy or regulation at the subnational or national level that incentivizes or mandates methane mitigation; or a financial incentive or investment that promotes methane mitigation.</p> <p>Share in f x</p>	<p>Sector(s):</p> <p>[Agriculture, Municipal Solid Waste, & Wastewater, Coal Mines, Oil & Gas, All Sectors]</p> <p>Contact (optional):</p> <p>[Administrative point of contact for the project.]</p>	<p>Results</p> <ul style="list-style-type: none"> What happened as a result of the actions taken? Be specific and include both qualitative and quantitative results – was a policy or regulation enacted? What were the impacts of those policy changes? Was something constructed? How much money was saved? Etc.? Did the activity reduce methane? If so, please quantify (CO2e / year or cumulative reductions) Was training conducted? If so, how many people and/or organizations were trained? What was the gender disaggregation data for the trained participants, if available? Did the case study produce any revenue or obtain any savings? If so please quantify. Were there other co-benefits, for example, reductions of other pollutants, job creation, community outreach, involvement of other stakeholders, etc.? <p>Lessons Learned</p> <ul style="list-style-type: none"> What are the most important lesson(s) learned or advice to share with someone interested in replicating or scaling up this type of activity? What solutions were effective in overcoming challenges? During the course of the project, were new opportunities identified? What are the next steps, if any, based on this case study? <p>Relevant Links</p> <p>Provide links to other resources with relevant information, such as final reports or websites with more information on the project implementation or case study findings.</p> <p>Key Words for Web and Media Searches (i.e., Tags)</p> <p>Identify key words that will make it easier for search engines on the web and social media to find this case study. Sample tags are listed below.</p>
<p>Location:</p> <p>[City/Region & Country]</p> <p>Region:</p> <p>[Africa, Americas, Asia, Europe, Oceania, Global]</p> <p>Timeframe</p> <p>[Project start date and end date]</p> <p>Project Partners:</p> <p>[Partners involved in the project; for example, the U.S. Environmental Protection Agency, the World Bank, the Climate and Clean Air Coalition, etc.]</p>	<p>Introduction and Background</p> <ul style="list-style-type: none"> Provide brief context on the challenge, including specifics related to the physical situation / locale and issue, geography, political or policy imperatives, financial status, etc. What sector(s) are impacted? What problems or opportunities inspired the case study? Who are the key stakeholders who are impacted by this problem? What is the timeframe involved? (longstanding, recently emerging issue, etc) What other context is needed to explain the significance of the case study and/or problem in relation to reducing methane emissions? What were the goals of the case study? How do the goals connect to larger methane emission reduction goals on regional, national, and/or global level(s)? <p>Actions</p> <ul style="list-style-type: none"> What was the overall approach and what specific steps were taken? Who were the main actors who became involved in taking action? How is this project relevant to their work / lives / livelihood / objectives? How was the case study funded? How much funding was involved and what was it used for (e.g., capital expenditure on certain equipment? Consultants or technical advisors for permits? Etc.) Was in-kind support provided? If so, what type? 	

NEW! Project Network Find an Expert Page

- Re organized existing Project Network Member page to more easily identify members based on areas of expertise
- Planning a new online, enhanced renewal process
- Identifying how to improve engagement

Global Methane Initiative
Project Network Member

Project Network Members: Find an Expert

The list of Project Network members is provided below. Use the filters and keyword search to find those with the expertise you are seeking. Please note that Project Network members are asked to identify their sectors, regions, and countries of interest when they join.

Get Involved
[Project Network Home](#)
[Join Now](#)

Organization Type

- Association
- Financial Institution
- Government
- International
- Nongovernmental Organization (NGO)
- Private Sector
- Research
- Academic Institution
- Other

Sectors of Interest

- Biogas
- Biogas: Agriculture
- Biogas: Municipal Solid Waste (MSW)
- Biogas: Wastewater
- Coal Mines
- Oil & Gas

Regions of Interest

- Africa
- Europe
- Middle East
- Asia
- Australia/Oceania
- North America
- Latin America
- South America

Countries of Interest

- Argentina
- Australia
- Austria
- Belgium
- Brazil
- Bulgaria
- Cambodia
- Cameroon
- Canada
- Chile

Project Network Members

Showing 1 to 10 of 1,067 matching Project Network Members

Search:

Name	Category	Sectors	Geography
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Link:

<https://globalmethane.org/project-network/findanexpert.aspx>

Other Upcoming Secretariat Priorities

- Update Partner Country pages by COP29
- 20th Anniversary Webpage with GMI Accomplishments
- Support Subcommittee Meetings and Action Planning



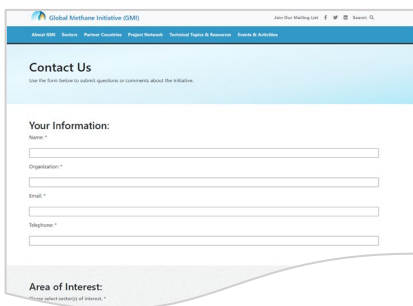
The screenshot shows the GMI website with the following elements:

- Header:** Global Methane Initiative (GMI) logo, tagline "Leading methane action since 2004", a red "DRAFT" banner, and social media links (Join Our Mailing List, Facebook, X, LinkedIn, Search).
- Navigation:** Menu items: About GMI, Sectors, Partner Countries, Project Network, Technical Topics & Resources, Events and Communications.
- Partner Page:** "Partner Countries" breadcrumb, "United States" title with a US flag icon, and "Joined GMI in 2004".
- Main Content:** A paragraph describing the US's role as a founding member and its support for the GMI Secretariat.
- On this page:** A sidebar with links: Methane Emissions Summary, Methane Commitments and Plans, Methane Actions, Agencies Supporting Methane Actions, and GMI Delegates & Information.

Methane Emissions Summary

Annually, the U.S. Environmental Protection Agency develops a report of the nation's inventory of greenhouse gas emissions and sinks. Preparation of the report, which is submitted to the United Nations, includes collaboration with experts from government agencies, academic institutions, industry associations, consultants, and environmental organizations.

Engage with GMI

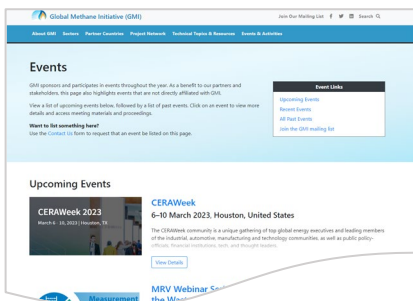


A screenshot of the 'Contact Us' page on the Global Methane Initiative website. The page has a blue header with navigation links: 'About GMI', 'Services', 'Partner Countries', 'Program Initiatives', 'Technical Topics & Resources', and 'Events & Activities'. Below the header, there's a sub-header 'Contact Us' with a note: 'Use this form to submit questions or comments about the Initiative.' The main content area is titled 'Your Information:' and contains four input fields: 'Name *', 'Organization *', 'Email *', and 'Telephone *'. Below this is a section titled 'Area of Interest:' with a note: 'Please select one or more of interest *'.

Submit a Contact Us Request

Let us know how we can help you:

globalmethane.org/contact-us/



A screenshot of the 'Events' page on the Global Methane Initiative website. The page has a blue header with navigation links: 'About GMI', 'Services', 'Partner Countries', 'Program Initiatives', 'Technical Topics & Resources', and 'Events & Activities'. Below the header, there's a sub-header 'Events' with a note: 'GMI sponsors and participates in events throughout the year. As a benefit to our partners and stakeholders, this page also highlights events that are not directly affiliated with GMI.' The main content area is titled 'Upcoming Events' and features a list of events. The first event is 'CERAWeek 2023' with a date of '6-10 March 2023, Houston, United States'. Below the event list, there's a section titled 'MRV Webinar Series'.

Share Events or Resources

Recommend items to publish on the GMI website:

globalmethane.org/resources/recommend.aspx



A screenshot of the 'Join the GMI Mailing List' form. The form features the Global Methane Initiative logo at the top. Below the logo, there's a note: 'Consider the form below to join GMI's mailing list. A confirmation email will be sent to you; you must click the link provided in the email to complete the process.' The main content area is titled 'Join the GMI Mailing List' and contains several input fields: 'First Name', 'Last Name', 'Organization', and 'Email Address'. Below the input fields, there's a section titled 'Section of Interest (Check)'.

Join the GMI Mailing List

Receive updates from GMI by joining at:

eepurl.com/ggwT3T

Follow GMI



www.facebook.com/globalmethane/



twitter.com/globalmethane



www.linkedin.com/company/global-methane-initiative-gmi/

Thank you!

Christine DeRieux

Secretariat Team

derieux.christine@epa.gov

secretariat@globalmethane.org



Leading methane action since 2004

globalmethane.org



Strategic Partner Updates

International Energy Agency, U.S. Department of Commerce, The World Bank, International Methane Emissions Observatory

International Energy Agency

Tomás Bredariol

Energy and Environmental Policy Analyst

Technical Assistance for Methane Emissions Abatement Governance / Legal & Regulatory Regimes: *An Update Since the 2024 GMF*



17 September 2024
GMI Oil & Gas Subcommittee Meeting

Supported by:



Bureau of Energy Resources

U.S. DEPARTMENT *of* STATE

Funding and Support

CLDP's methane abatement work is directed and supported by the **U.S. Department of State – Bureau of Energy Resources** (State/ENR).

State/ENR provides U.S. interagency and independent advisory services across the globe on a wide range of capacity-building topics related to energy and mineral sector oversight under the **Energy and Mineral Governance Program (EMGP)**.

State/ENR works closely with governments to build technical capacity to oversee these sectors for the benefit of long-term national economic development and support the transition to an equitable, clean, and resilient energy future.



About CLDP

Mission: Improve the legal environment for business worldwide

- Established in 1992
- Provides legal technical assistance to countries and governments around the world on behalf of the U.S. Department of Commerce

What we do: CLDP provides government-to-government technical assistance, drawing upon experienced regulators, judges, policymakers, business leaders, and attorneys from the public and private sectors, supporting U.S. foreign policy goals and helping host countries implement legal reforms that:

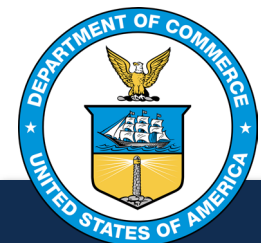
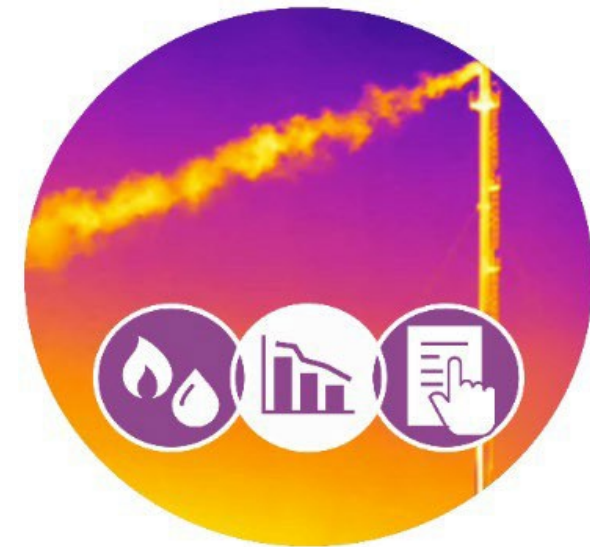
- Modernize their commercial legal environments
- Support their economic development

Energy Transition Team: focuses on power sector reform, renewable energy, sustainable investment in minerals & mining, and decarbonization (methane, carbon capture, utilization & storage) in support of our funder's (State/ENR) strategic objectives



At the Forum ...

**Methane Abatement
for Oil and Gas**
Handbook for Policymakers



Methane Abatement for Oil and Gas: Handbook for Policymakers

- Sponsored by **State/ENR**
- Drafted by 13 expert co-authors.
- Co-written by authors from:
 - Government (U.S., Sri Lanka, and Bangladesh)
 - NGOs
 - Multilaterals
 - Industry
 - Academia



Energy Resources
U.S. DEPARTMENT *of* STATE



Available here: <https://cldp.doc.gov/methane-abatement-resources>

Berkeley
Law

The Commonwealth
The Commonwealth

CA
TF
CLEAN AIR
TASK FORCE



Since the Forum ...



Kuala Lumpur Regional Workshop



U.S. Study Tour



Bilateral Engagements (Spring 2024)

- Southeast Asia
 - In-person workshops for regulators and NOCs, introducing the *Handbook* and discussing the development of methane abatement roadmaps
- Central Asia
 - Virtual consultations for government regulators and NOCs in collaboration with CATF and IEA, outlining viable strategies to measure emissions, exploring technical resources (CoMAT, GHGSat, MethaneSAT), and providing recommendations for drafting regulations



Bilateral Engagements (Summer 2024)

- Latin America
 - Virtual consultation for government regulator and NOC on methane emissions certification: how the system works, the role of governments, and the market for certified low-emission gas featuring MiQ
 - Virtual consultation for government regulator on technical aspects of drafting LDAR regulations, featuring U.S. EPA, BLM, BOEM, BSEE, and Colorado Department of Public Health and Environment
- Middle East
 - In-person workshop for NOC featuring upstream oil and gas engineer and methane consultant to explore standards and systems for identifying and repairing methane leaks and minimizing venting and flaring



Other Activities

- UT-Austin's Energy Emissions Modeling and Data Lab (EEMDL) Short Course on Methane Emissions in the Natural Gas Supply Chain
- ASCOPE/Methane Leadership Program



Questions?

Erica Pencak

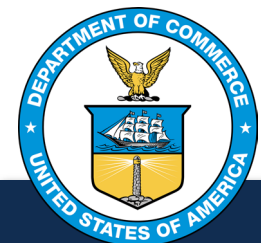
Attorney-Advisor,
Energy Transition Team

epencak@doc.gov

+1 202-304-4129



<https://www.linkedin.com/company/commercial-law-development-program/>



Global Flaring and Methane Reduction Partnership: A New World Bank Trust Fund



Global Methane Initiative
Oil & Gas Subcommittee

GFMR 

Global Flaring and Methane Reduction Partnership

 MANAGED BY
WORLD BANK GROUP

GFMR Overview

Mission

Boost global efforts to end routine gas flaring and reduce methane emissions along the entire oil and gas value chain

Work Program

- Provide grant funding and technical assistance
- Enable policy reform and institutional strengthening
- Mobilize financing to support governments and state-owned operators



GFMR Work Program

- **Project identification and pre-feasibility** – Support governments and operators to prepare gas flaring and methane emissions detection and abatement projects; leveraging the World Bank’s convening power to facilitate and engage with all stakeholders.
- **Mobilize financing** – support mobilizing climate and green private/institutional financing and provide supervision during implementation of gas flaring reduction projects and methane emission detection and abatement projects.
- **Recipient-executed grants** – grant funding for gas flaring and methane emissions detection and abatement projects, to be implemented by governments and operators.
- **Build global knowledge and capacity, including best practices** – develop, capture, report, and share global knowledge, including technical, policy, and regulatory best practices and industry standards.
- **Collect and report gas flaring and methane emissions data** – collect and report gas flaring and methane emissions data, e.g., from satellites.
- **Advocate and garner commitments** – raise awareness on the importance of reducing gas flaring and methane emissions, including garnering additional commitments for the Zero Routine Flaring by 2030 initiative (ZRF).

GFMR Partners

Governments

- Germany
- Norway
- United Arab Emirates
- United States

Private Sector

- BP
- Eni
- Equinor
- Occidental
- Shell
- TotalEnergies

Multilateral Organizations

- European Commission
- World Bank



GFMR's Steering
Committee

Eligibility for GFMR's support and funding

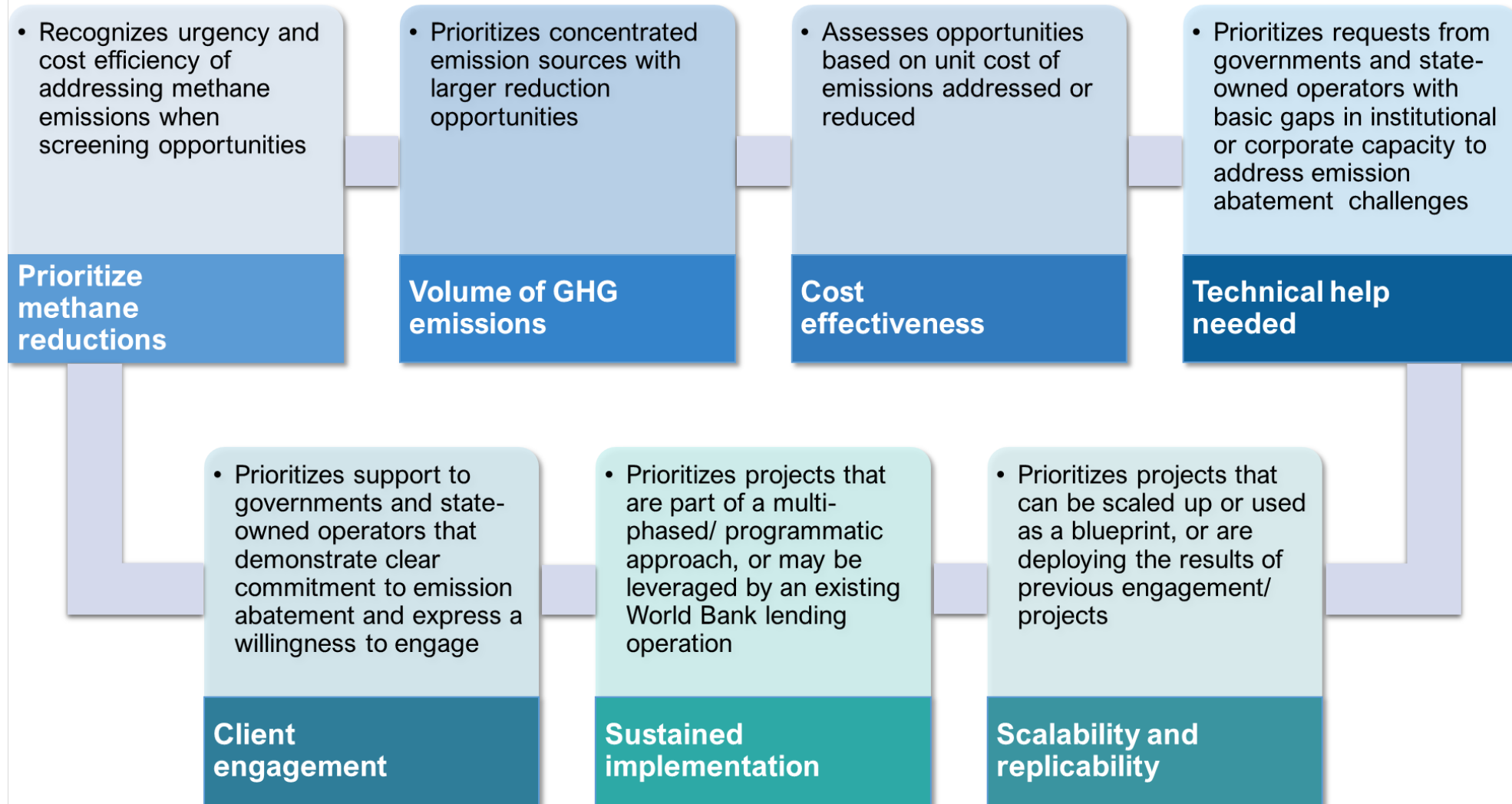
Project Activities

- Consistent with the **pre-agreed sectoral scope and types of activities** that contribute to the achievement of the GFMR objectives
- **No duplication of efforts** with other ongoing initiatives and support provided by other developing partners

Beneficiaries

- **Fundamental commitment** to ending routine gas flaring, reducing methane emissions and a **long-term, sustained approach to emissions reductions**
- **Capacity to carry out project activities** (e.g., financial management, procurement, and environmental and social management); and
- **Substantial financing and regulatory gaps** that prevent them from implementing the proposed activities without GFMR funding

GFMR's Grant Allocation Criteria



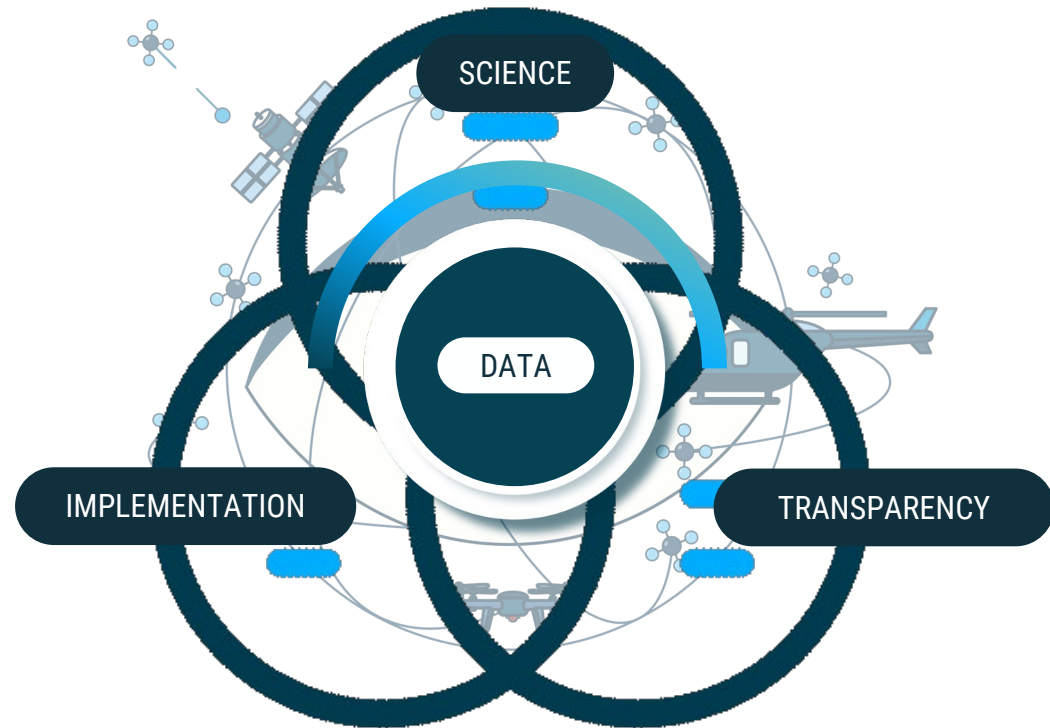
UNEP's International Methane Emissions Observatory

Meghan Demeter

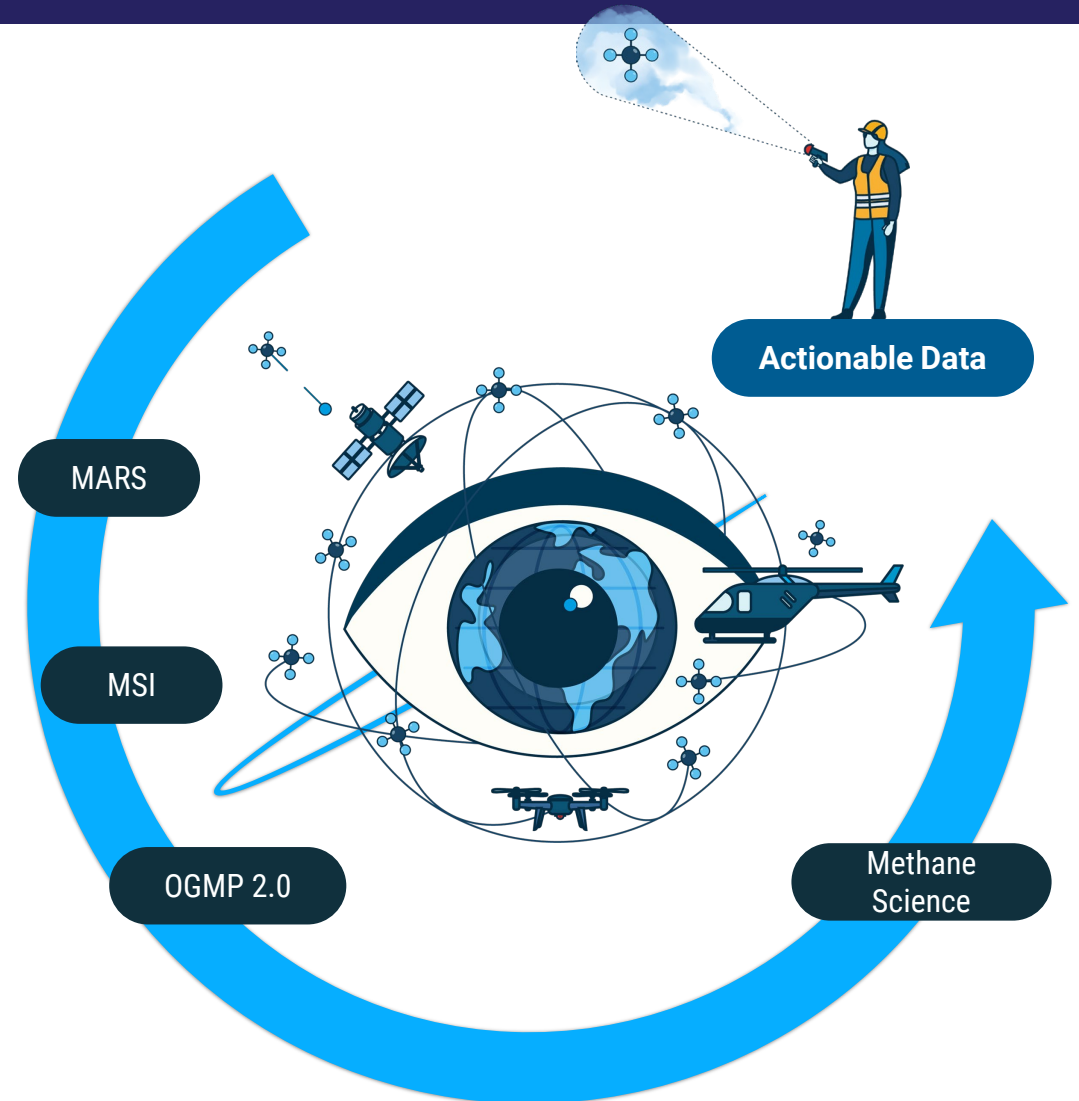
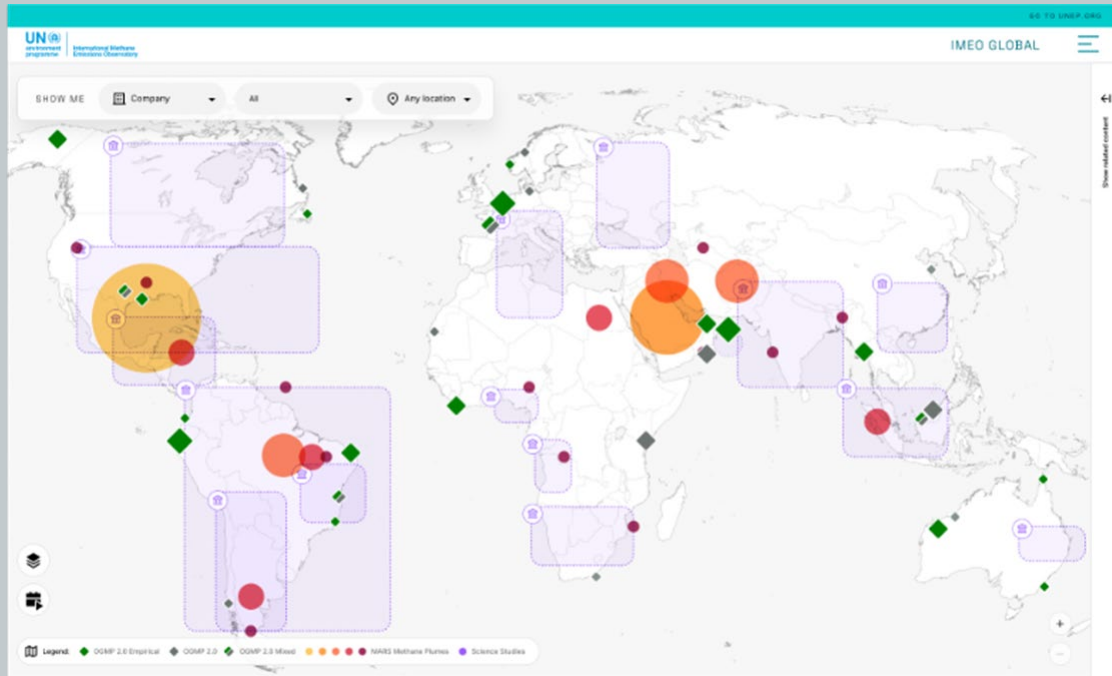
UNEP's IMEO

UNEP's IMEO interconnects better data with targeted action

→ **The International Methane Emissions Observatory exists to provide open, reliable, and actionable data to those that can act to reduce methane emissions**



Data to Action : Tapping into the methane data revolution



The Oil and Gas Methane Partnership 2.0 continues to grow

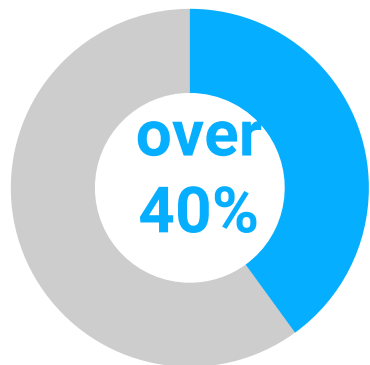


CLEAN AIR
TASK FORCE

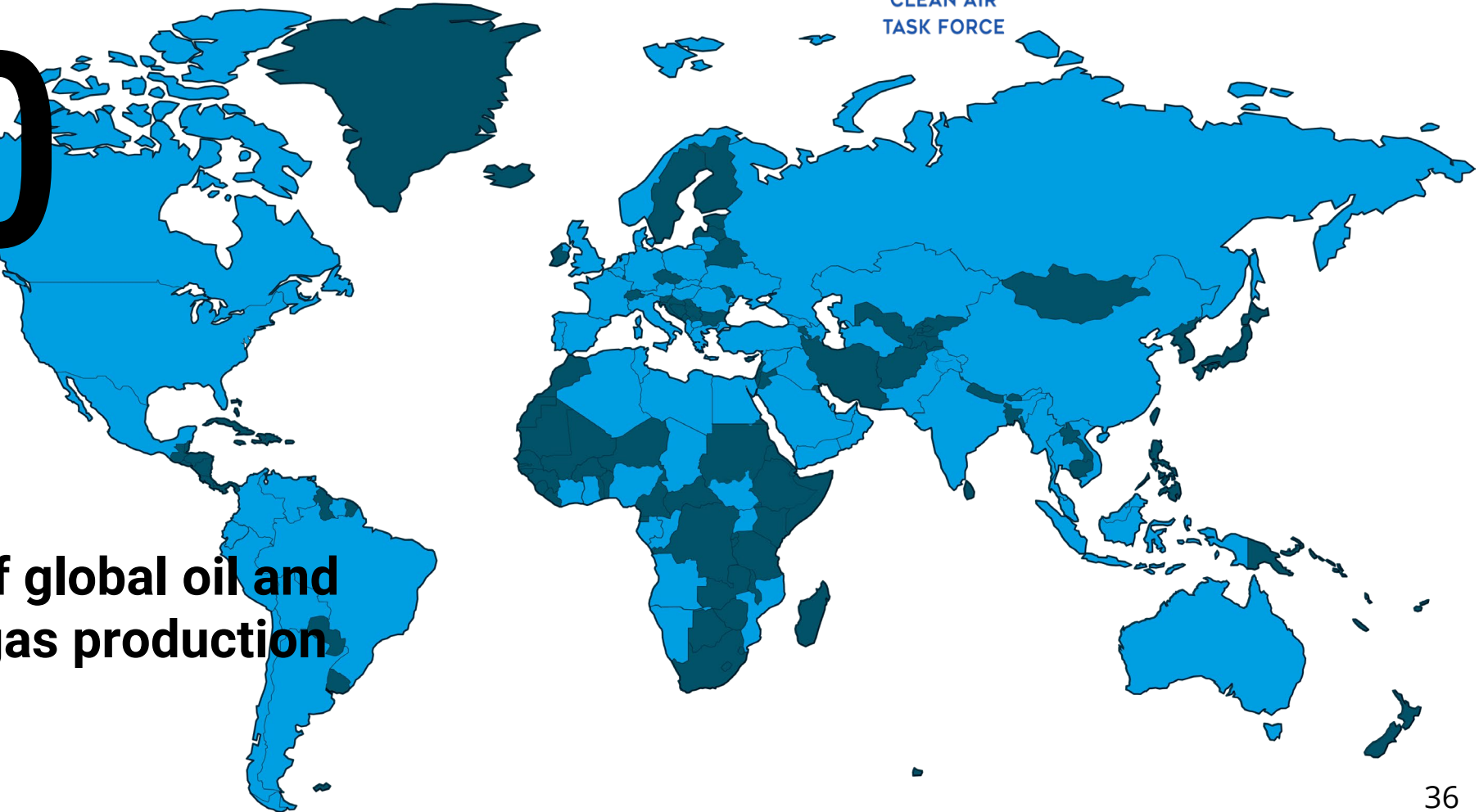


Over **140**
member companies

+100% in 3 years



of global oil and
gas production



Steel Methane Programme (SMP): a material short-term mitigation opportunity in a hard-to-abate sector

Methane is on average 30% of steel footprint – mitigation at <1% of cost



■ Work so far

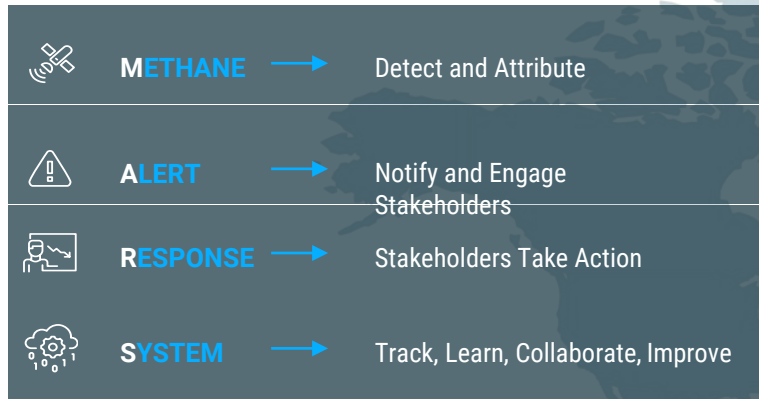
- Draft framework of the programme completed
- Extensive engagement with steel sector, resulting in methane inclusion in COP28 Steel Standards Principles
- Ongoing science studies to establish measurement methodologies for different metallurgical coal methane sources



■ Next steps

- Further engagement of metallurgical coal companies and steel sector in collaboration with governments, civil society, international organisations, and decarbonization initiatives

IMEO's Methane Alert and Response System (MARS) uses satellites to provide rapid, actionable data to stakeholders



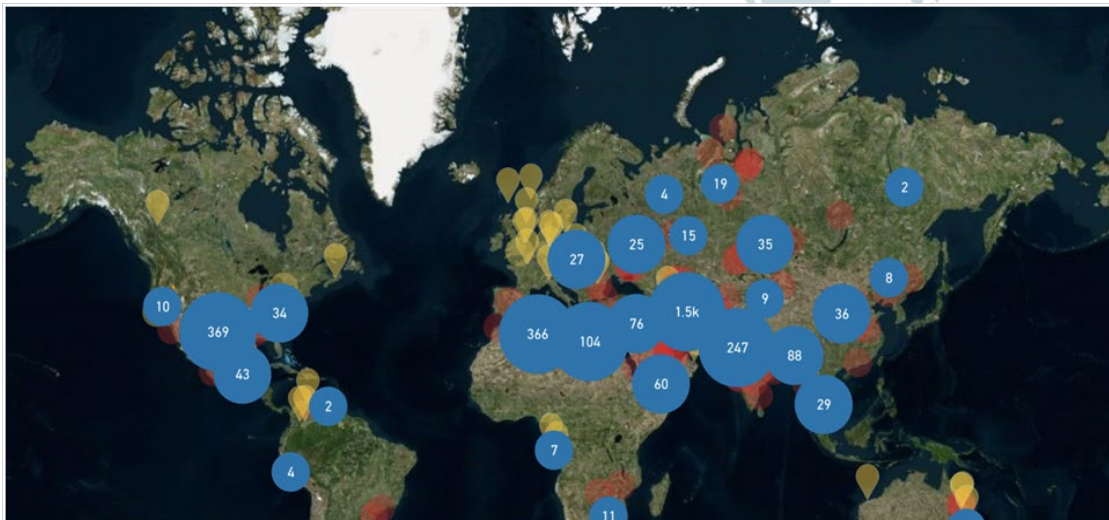
Over 700

MARS methane plumes notified for stakeholders in 26 countries

→ Integrating new and increasing data from satellite sources

→ Working with partners to deepen strategic engagements to increase mitigation cases

→ Exploring capabilities in other sectors



IMEO is supporting measurement studies around the world to offer detailed insights into methane emissions profiles in high-emitting regions and guide targeted mitigation



Highlights:

- 27 studies in implementation phase

- 21 countries (Nigeria, Colombia, India, Azerbaijan, Oman)

23 published studies (2020-2023)

23 expected publications in 2024

Deploying hybrid training series to build capacity in countries around the world

Module	Description
1	Overview of methane emissions from the oil and gas sector
2	Methane detection, measurement, and quantification
3	Methane mitigation
4	Advanced upstream methane emissions
5	Regulatory approaches to methane emissions
6	Methane emissions from flaring
7	Methane emissions from Liquefied Natural Gas
8	Satellite technology for methane detection and measurement

IMEO's Methane Training Series

More than **40** training sessions

More than **30** countries have received trainings

More than **1000** individuals trained in total

Trainings delivered in collaboration with regional entities



African Union
AFRICAN ENERGY COMMISSION



In-person training workshops hosted



* As of July 2024

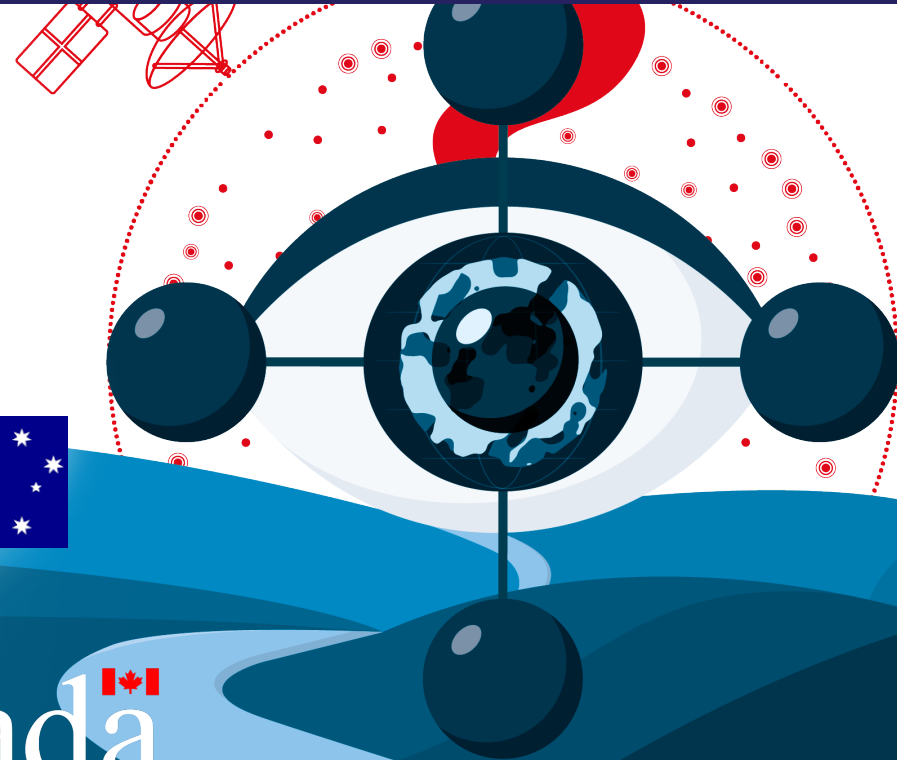
Thank you!

UNEP's IMEO gratefully acknowledges its donors:



BEZOS
EARTH
FUND

Canada 



Subcommittee Action Planning

James Diamond

2024 Global Methane Forum

■ Key Takeaways

- Quantification is an integral component of enhancing inventories to fully understand where emissions are coming from, and there are numerous organizations and tools available to assist both from the top-down and bottom-up [Kayrros Methane Watch, IMEO, MethaneSAT, COMAT 2.0, MIST tools, etc.]
- However, mitigation should not, and must not wait, and there is an extensive understanding of emission sources and mitigation options to take action now
- In many regions, as noted by GMI partner countries, methane mitigation efforts must be tied to economic development to ensure successful implementation

Review of the 2022 – 2025 Subcommittee Action Plan Priorities

1. Build capacity to implement methane policies and projects
2. Distribute tools, data, and resources about methane mitigation
3. Identify best practices for methane emissions reductions and use
4. Advance private sector involvement in methane projects
5. Provide training to Oil & Gas stakeholders

Proposed Priorities for New Subcommittee Action Plan

- Develop case studies to showcase challenges, lessons learned, and successes within the oil and gas industry
- Foster peer exchanges and discussions between Partner Countries, Project Network members, and other external stakeholders
- Provide a platform for Project Network members to share their technological expertise and experiences
- Increase the Subcommittee's collaboration with current Strategic Partners, and recruit additional Strategic Partners
- Enhance the Oil & Gas Subcommittee webpage to feature Partner Country projects focused on methane mitigation

Poll Question – Please respond on Teams

If you have additional suggestions for priorities to be included in the Subcommittee Action Plan, please put them in the chat.

Proposed Timeline for Action Plan Development

- Co-Chair, with support from the Secretariat, to draft Action Plan based on feedback from today's meeting
- Draft Action Plan sent to Oil & Gas Subcommittee delegates for feedback (October 2024 - February 2024)
- Present the final Action Plan for review and approval at the next in-person Subcommittee meeting (March 2025 in Geneva)



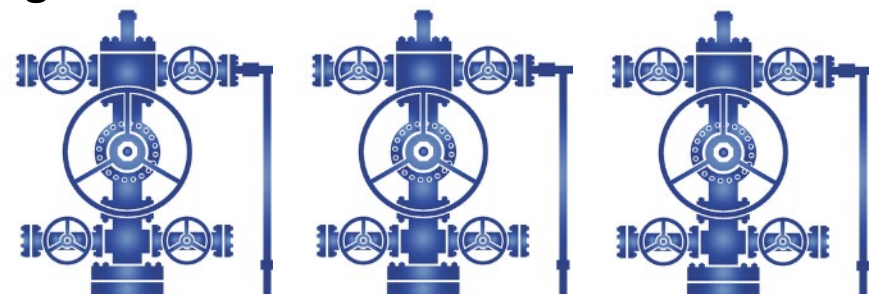
EPA's Super Emitter Program in the Oil and Natural Gas Sector

New Source Performance Standards: Subparts 0000, 0000a, 0000b
&

Emission Guidelines: 0000c



Ned Shappley – US EPA
Global Methane Initiative (GMI)
Oil & Gas Subcommittee Meeting
September 17, 2024



Crude Oil and Natural Gas Operations: Where EPA's NSPS Rules Apply

Production & Processing

EPA's methane proposal covers equipment & processes at:

1. Onshore well sites
2. Storage tank batteries
3. Gathering & boosting compressor stations
4. Natural gas processing plants

Natural Gas Transmission & Storage

EPA's methane proposal covers equipment & processes at:

5. Compressor stations
6. Storage tank batteries

Distribution *(not covered by EPA rules)*

7. Distribution mains/services
8. City gate
9. Regulators and meters for customers

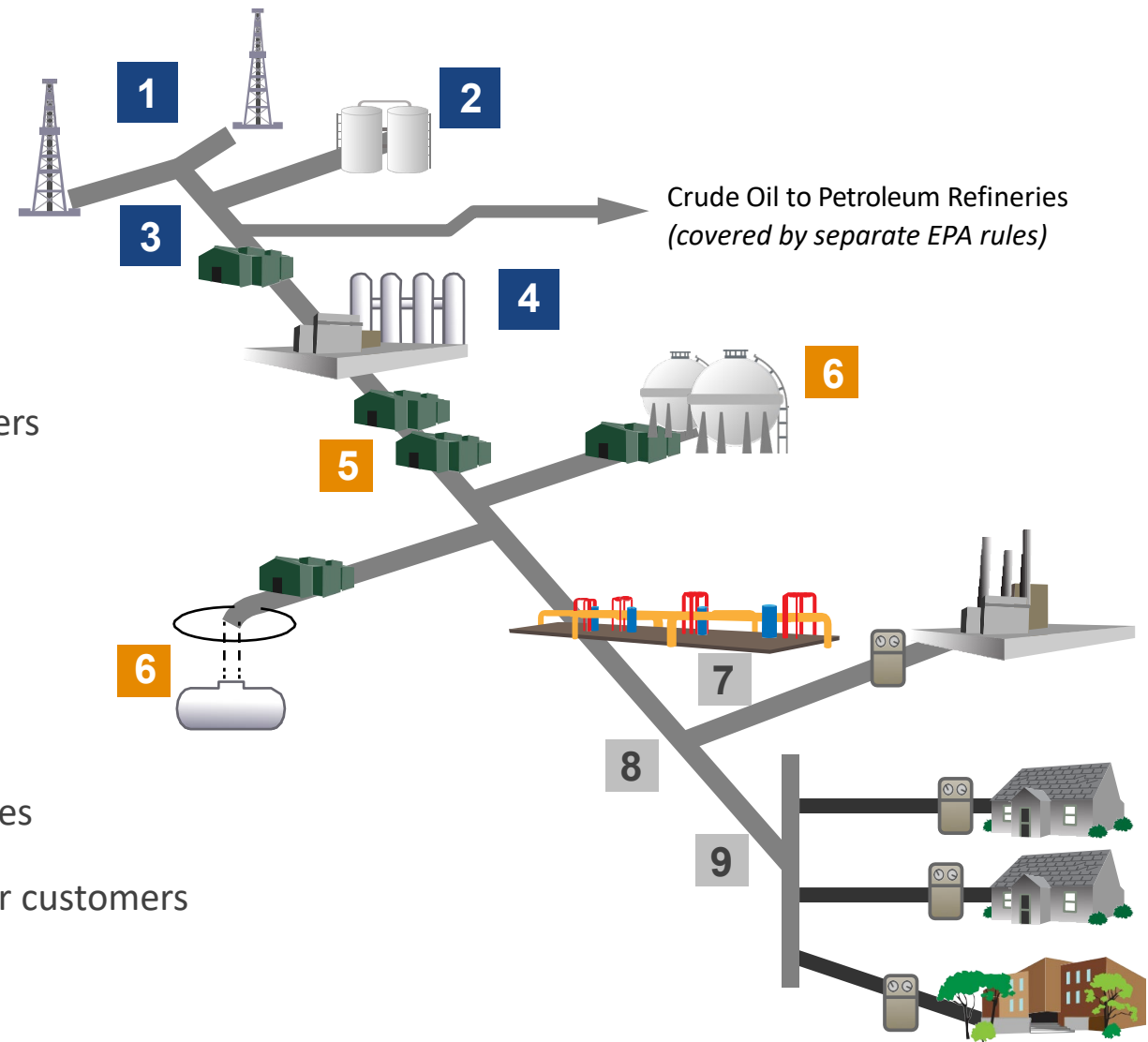


Figure adapted from American Gas Association and EPA's Natural Gas STAR Program

Oil and Natural Gas Sources Covered by EPA's Final New Source Performance Standards (NSPS) and Emissions Guidelines, by Site

Location and Equipment or Process Covered	Required to Reduce Emissions under EPA Rules	Rules that Apply			
		2012 NSPS for VOCs (0000)	2016 NSPS for Methane & VOCs (0000a)	2023 Final NSPS for Methane & VOCs (0000b)	2023 Final Emissions Guidelines for Methane (0000c)
Oil and Natural Gas Well Sites					
Completions of hydraulically fractured wells	✓	●	●	●	
Compressors at centralized tank batteries	✓			●	●
Fugitive emissions	✓		●	●	●
Liquids unloading	✓			●	● ¹
Pneumatic controllers	✓	●	●	●	●
Pneumatic pumps	✓		●	●	●
Storage vessels	✓	●	● ³	●	●
Sweetening units	✓	● ²	● ²	● ²	● ²
Associated gas from oil wells	✓			●	●
Natural Gas Gathering and Boosting Compressor Stations					
Compressors	✓	●	●	●	●
Fugitive emissions	✓		●	●	●
Pneumatic controllers	✓	●	●	●	●
Pneumatic pumps	✓			●	●
Storage vessels	✓	●	● ³	●	●
Sweetening units	✓	● ²	● ²	● ²	● ²
Natural Gas Processing Segment					
Compressors	✓	●	●	●	●
Fugitive emissions	✓		●	●	●
Pneumatic controllers	✓	●	●	●	●
Pneumatic pumps	✓		●	●	●
Storage vessels	✓	●	● ³	●	●
Sweetening units	✓	● ²	● ²	● ²	● ²
Transmission and Storage Segment					
Compressors	✓		●	●	●
Fugitive emissions	✓		●	●	●
Pneumatic controllers	✓		●	●	●
Pneumatic pumps	✓			●	●
Storage vessels	✓	●	● ³	●	●

All of the sources listed above are covered by EPA's Super Emitter Program

¹ Added in 2022 supplemental proposal

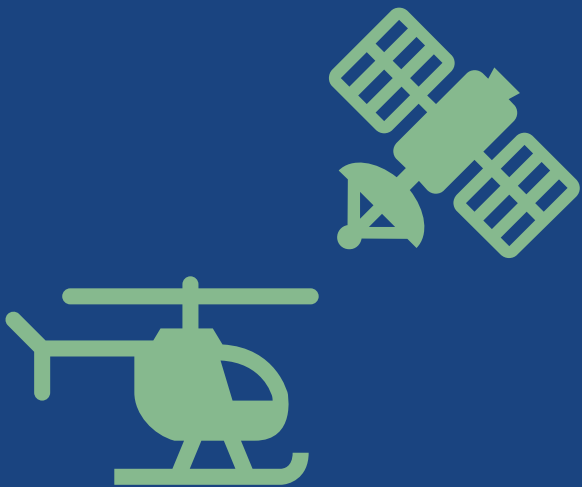
² Covered for SO₂ only

³ Covered for VOCs only

The Super Emitter Program: Goals

- Provide owner or operators with actionable information on large releases of methane emissions (> 100 kg/hr)
- Utilization of reliable information being collected by outside organizations

- Rapid mitigation of these emission events and/or greater understanding of the source and root cause of these events
- Reduction in methane emissions and co-pollutants in the Oil and Gas Sector



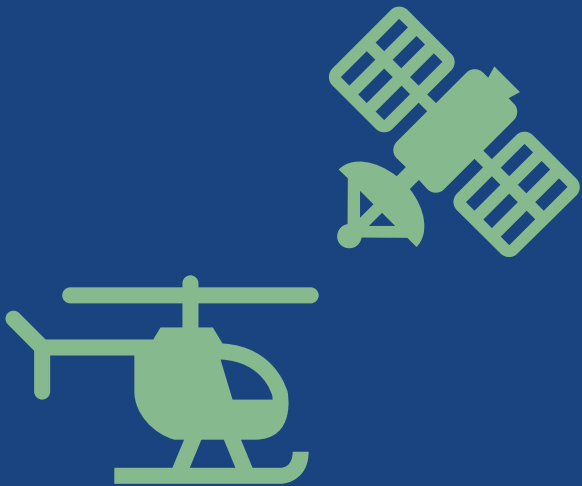
The Super Emitter Program: Background

Leverages 3rd party expertise to find large leaks and releases known as “super emitters”

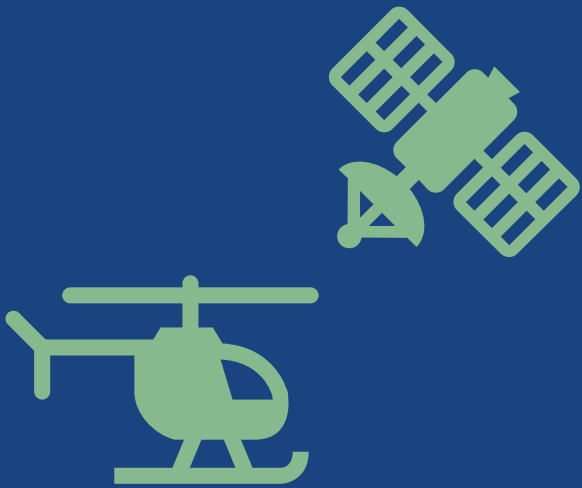
EPA will provide a strong oversight role and ensure the program operates with a high degree of integrity, transparency, and accountability

Only EPA-approved remote-sensing technologies may be used.

EPA will make super emitter data publicly available on a timely basis



The Super Emitter Program: Technology and Third Parties



Approval of remote-sensing technologies

- No restrictions on the measurement technology. Measurements must be collected off-site and spatially resolute to within 60 meters.
- Expected early participants are those entities currently conducting aerial surveys and satellite data retrieval of oil and gas assets.
- EPA has a defined process for approving the technology that evaluates the detection capabilities and the underlying protocol for operation.
 - Evaluation is focused on empirical verification of the measurement application.

Certification of 3rd Party

- Separate agency function from the approval(s) of methane detection measurement technology.
- Any entity may request to be a 3rd party notifier
- Technology providers may choose to become notifiers.
- Application must include, but is not limited to, general Identification of the third party, description of methane detection technology being applied, curriculum vitae of the certifying official, SOPs, and a **written Quality Management Plan**

Oil and Natural Gas

Advanced Methane Technology Alternative Test Method



Alternative Test Method (ATM) Request

Alternative Test Methods (ATMs) can be submitted to the Administrator for approval under the alternative test method provisions, specific to advanced methane detection in 40 CFR 60.5398b(d). This provision incorporates specific criteria for the review, evaluation, and potential use of advanced methane detection technology for use in periodic screening, continuous monitoring, and/or super-emitter detection and it is designed to facilitate state-of-the-art detection methods for emission sources. Providers that have developed new technology for detection may submit documentation and testimonials for consideration. To create a new request, please visit the [New ATM Request](#) page and fill out the form. Note that you are required to provide the appropriate contact information as a submitter.

For more information, please refer to the [Guideline Document](#), the [final rule](#) and EPA's [Oil and Gas Regulatory site](#).

Approved alternative test methods that are broadly applicable will be posted on the EPA's [Emission Measurement Center webpage](#).



Discover.

[Accessibility](#)

[Budget & Performance](#)

Connect.

[Data.gov](#)

[Inspector General](#)

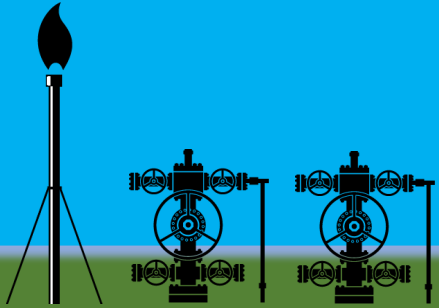
Ask.

[Contact EPA](#)

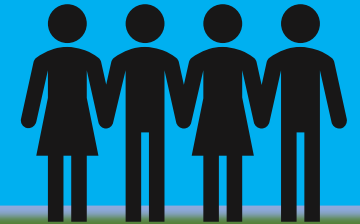
[EPA Disclaimers](#)



EPA's Super Emitter Program



Oil and Natural Gas Facility



Technology Provider/Third-Party Notifier

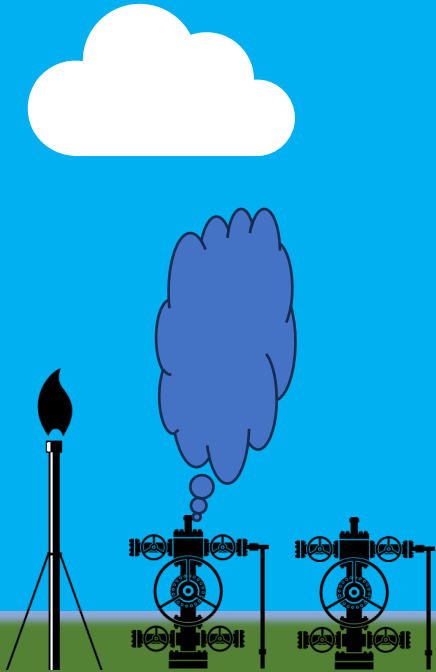


Owner or Operator

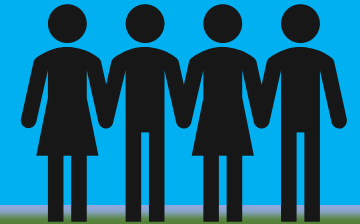


Super Emitter Portal

EPA's Super Emitter Program



Oil and Natural Gas Facility



Technology Provider/Third-Party Notifier

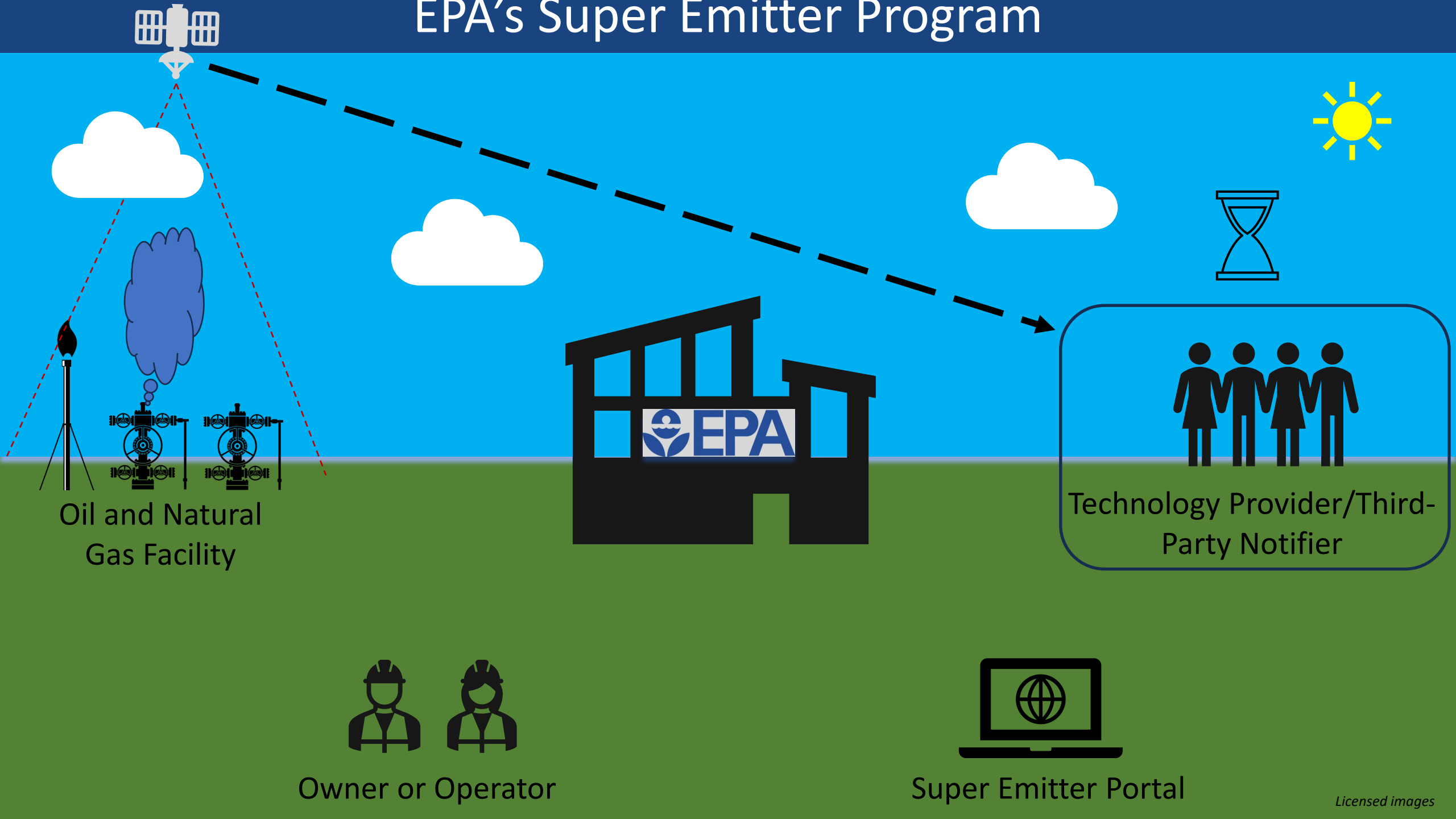


Owner or Operator



Super Emitter Portal

EPA's Super Emitter Program



Oil and Natural Gas Facility

EPA

Technology Provider/Third-Party Notifier

Owner or Operator

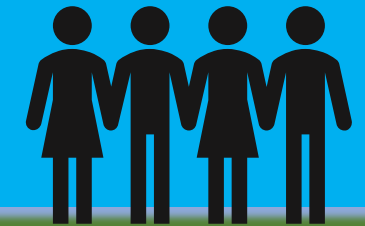
Super Emitter Portal

EPA's Super Emitter Program

Information included in the Report:

- Date of detection
- Location of event in *latitude* and *longitude* coordinates
- Owner(s) or operator(s) of an oil and natural gas facility within *50 meters* of the coordinates
- Identification of the detection technology
- Documentation (*i.e. imagery*) depicting the detected event
- Emission rate of the event in kg/hr
- Attestation statement

Report within 15 days of detection



Technology Provider/Third-Party Notifier

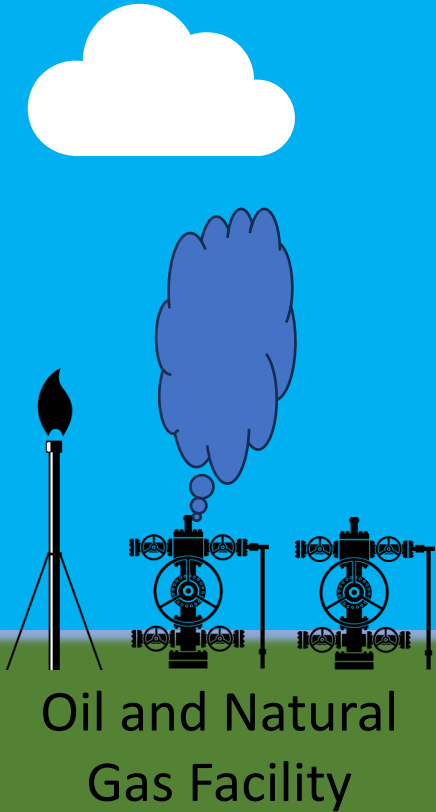


Owner or Operator



Super Emitter Portal

EPA's Super Emitter Program



- EPA will evaluate the notification for completeness and accuracy
- When the notification meets these conditions, EPA will:
 - Assign a unique notification identification number
 - Provide notification to the owner(s)/operator(s)
 - Post the notification (except for the owner(s)/operator(s) attribution)



Owner or Operator



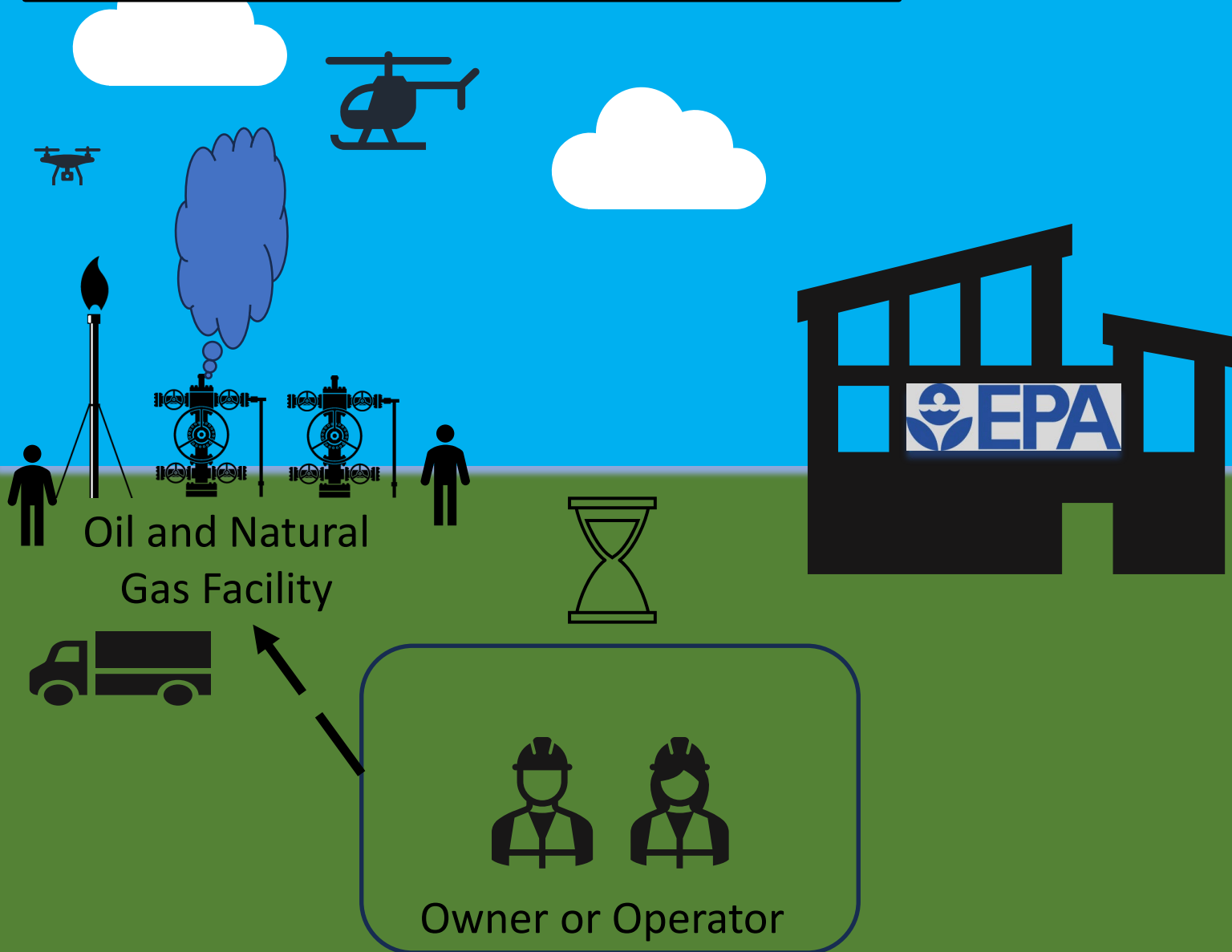
Super Emitter Portal

EPA's Super Emitter Program

Must initiate an investigation with **5 days** and report the results to EPA within **15 days**.



- Review any maintenance activities
- Review all monitoring data from control
- Review any fugitive emissions survey performed
- Review data from any continuous alternative technology systems
- Screen the entire well site, centralized production facility, or compressor station with OGI, EPA Method 21, or an alternative test method(s)



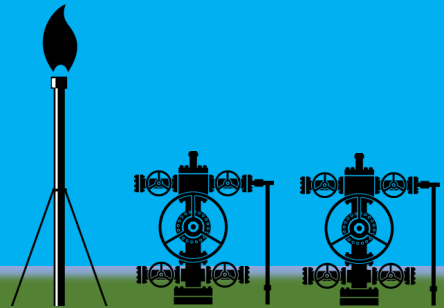
Oil and Natural Gas Facility

Owner or Operator

Super Emitter Portal

EPA's Super Emitter Program

Must initiate an investigation with **5 days** and report the results to EPA within **15 days**.



Oil and Natural Gas Facility



Owner or Operator

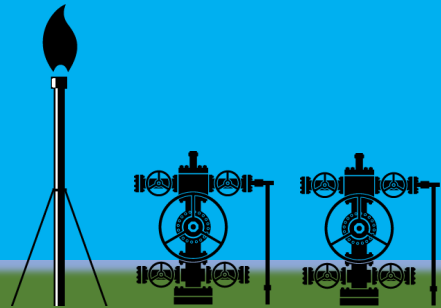
- Date and time of **the end** of Super Emitter event
- Confirmation that you are the owner or operator of the oil and gas facility within the immediate area (i.e., 50 meters)
- General identification for the facility
- If the affected facilities/equipment is subject to NSPS 0000/a/b or EG 0000c
- If **unable** to identify the source:
 - Confirmation that all possible investigations have been conducted
- If **able** to identify the source:
 - ID of the source
 - If source is subject to NSPS 0000/a/b or EG 0000c



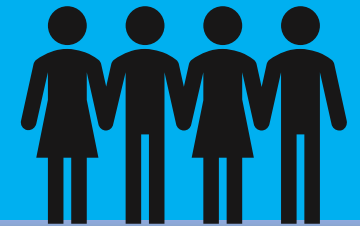
Super Emitter Portal

EPA's Super Emitter Program

If applicable, update the attribution of the owner or operator



Oil and Natural Gas Facility



Technology Provider/Third-Party Notifier



Owner or Operator



Super Emitter Portal

Methane Super Emitter Data Explorer

Help Documentation

Filter Data x

Event Characteristics

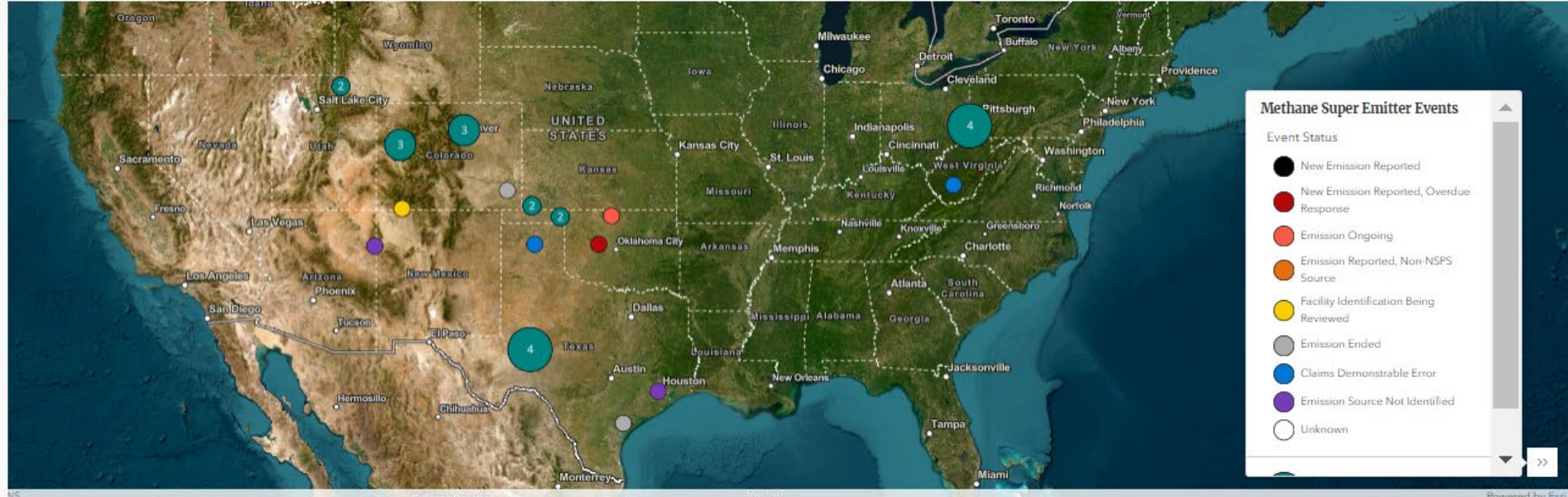
Event Status

Methane Leak Amount (kg)
 Minimum Maximum

Detection Date Range

End Date Range

Response Date Range

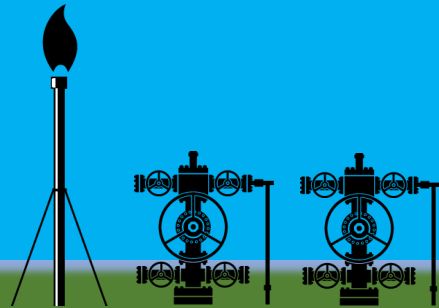


Customize Columns | CSV Download

Currently viewing 29 events

Emissions Notification ID	Event Status	Date of Detection	Date of Notification	Date of Response	End Date	Facility Name
123467	Emission Ongoing	12/30/2022, 4:00:00 PM	6/21/2023	7/21/2023, 5:00:00 PM	7/21/2024, 5:00:00 PM	ET GATHERING PROCESSING LLC / BEAVER GAS PLANT
123466	New Emission Reported, Overdue Response	12/29/2022, 4:00:00 PM	6/5/2023	7/9/2023, 5:00:00 PM	5/9/2024, 5:00:00 PM	DOUGLAS GAS PLANT (TALLGRASS MIDSTREAM)
123481	Emission Source Not Identified	12/29/2022, 4:00:00 PM	11/14/2023	11/19/2023, 4:00:00 PM	11/9/2024, 4:00:00 PM	STORK STATION

EPA's Super Emitter Program, Subpart W, and the WEC



Oil and Natural Gas Facility



Technology Provider/Third-Party Notifier

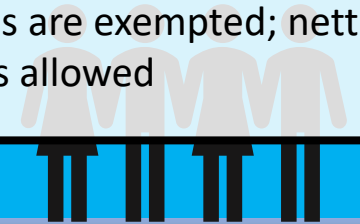


Owner or Operator

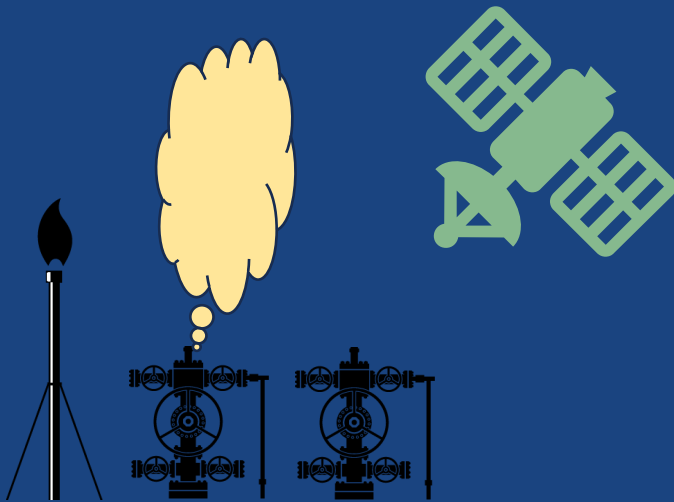


Super Emitter Portal

- Subpart W facilities must report and quantify all Super Emitter Notifications for their facility as part of their annual report to the GHGRP
- Annual reports are verified by the EPA
- A charge is applied to methane emissions that are above the Waste Emission Charge (WEC) thresholds for a WEC applicable facility (starts at \$900/ton methane)
 - Certain emissions are exempt; netting across facilities is allowed



Greenhouse Gas Reporting Program Requirements to Report “Other Large Release Events”



Reporting Greenhouse Gas Emissions Associated with Super Emitter Program Notifications

Coverage requirements: All Super Emitter Program notifications associated with a facility must be reported to the Greenhouse Gas Reporting Program annually (under subpart W), unless the wrong owner or operator was identified or there was a demonstrable error:

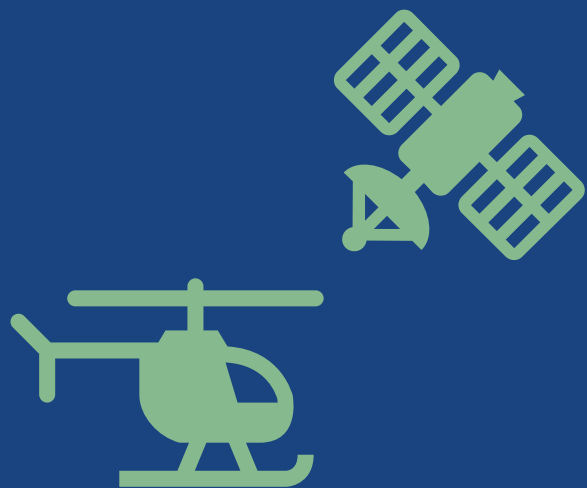
Onshore Petroleum & Natural Gas Production	Offshore Petroleum & Natural Gas Production
Gathering and Boosting	Gas Processing Plant
Transmission Compressor Stations	Underground Storage
Liquid Natural Gas (LNG Storage)	Import-Export Equipment
Natural Gas Transmission Pipeline	Natural Gas Distribution

Types of data: Facilities can use a variety of data to estimate the duration and total emissions from the event, including:

- direct measurement
- monitored process parameters
- remote sensing technologies

Data gaps: If no monitored or measured data are available to estimate the duration of the event, facilities must assume the event was 90-days to estimate the total emissions for the event.

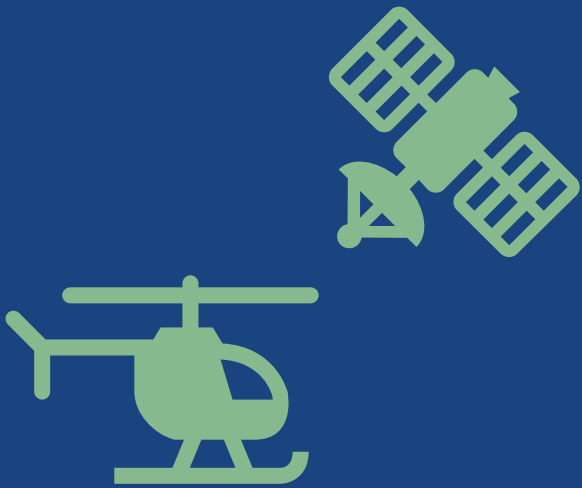
The Super Emitter Program: Current Status



- All components of the program are active and waiting for technology and third-party submissions.
- Data portals are built and ready to receive information once technology and third-parties are approved.
 - Includes a tool to aid parties in attribution of sources
 - Mechanism for SLT and public notification of available data.
- EPA will schedule Webinars on the use of the data tools as we receive technology and third-party submissions.
- EPA is using delay to improve functionality of the data portals.

The Super Emitter Program: Resources

- Oil and Natural Gas NSPS Rule Page
<https://www.epa.gov/controlling-air-pollution-oil-and-natural-gas-operations>
- Methane Detection Technology Page
<https://www.epa.gov/emc/oil-and-gas-alternative-test-methods>
- Third Party Certification Page
<https://www.epa.gov/emc/third-party-certifications>
- Super Emitter Program Submission Portal and Methane Super Emitter Data Portal
<https://www.epa.gov/compliance/super-emitter>
- Subpart W Page
<https://www.epa.gov/ghgreporting/subpart-w-petroleum-and-natural-gas-systems>



Questions

Ned Shappley – US EPA
shappley.ned@epa.gov

Upcoming Oil & Gas Events

- United Nations Economic Commission for Europe (UNECE) Group of Experts on Gas; 24-25 March 2025 in Geneva, Switzerland
 - In-person GMI Oil & Gas Subcommittee Meeting
- UN Climate Week, 22-29 September 2024 in New York City, NY
- CH4 Connections, 15-16 October 2024 in Fort Collins, CO
- EEMDL Annual Event (Energy Emissions Modeling and Data Lab, University of Texas at Austin), 22-23 October 2024

Thank You!

- Connect with GMI on social media
 - Facebook:
www.facebook.com/globalmethane/
 - X: twitter.com/globalmethane
 - LinkedIn:
<https://www.linkedin.com/company/global-methane-initiative-gmi-/>
- Send suggestions for events or resources as well as any questions or needs to the GMI Secretariat at secretariat@globalmethane.org