



Advancing methane emissions reductions

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Why Methane Matters



Positive Outcomes of Capturing and Using Methane

- ✓ Better air and water quality
- ✓ Improved human health
- ✓ Increased worker safety
- ✓ Enhanced energy security
- ✓ Economic growth
- ✓ Reduced odors

Methane Emissions

Trap 27-30 times more heat than carbon dioxide over 100 years*

Contribute to ground-level ozone pollution

Create industrial safety problem

Methane Mitigation

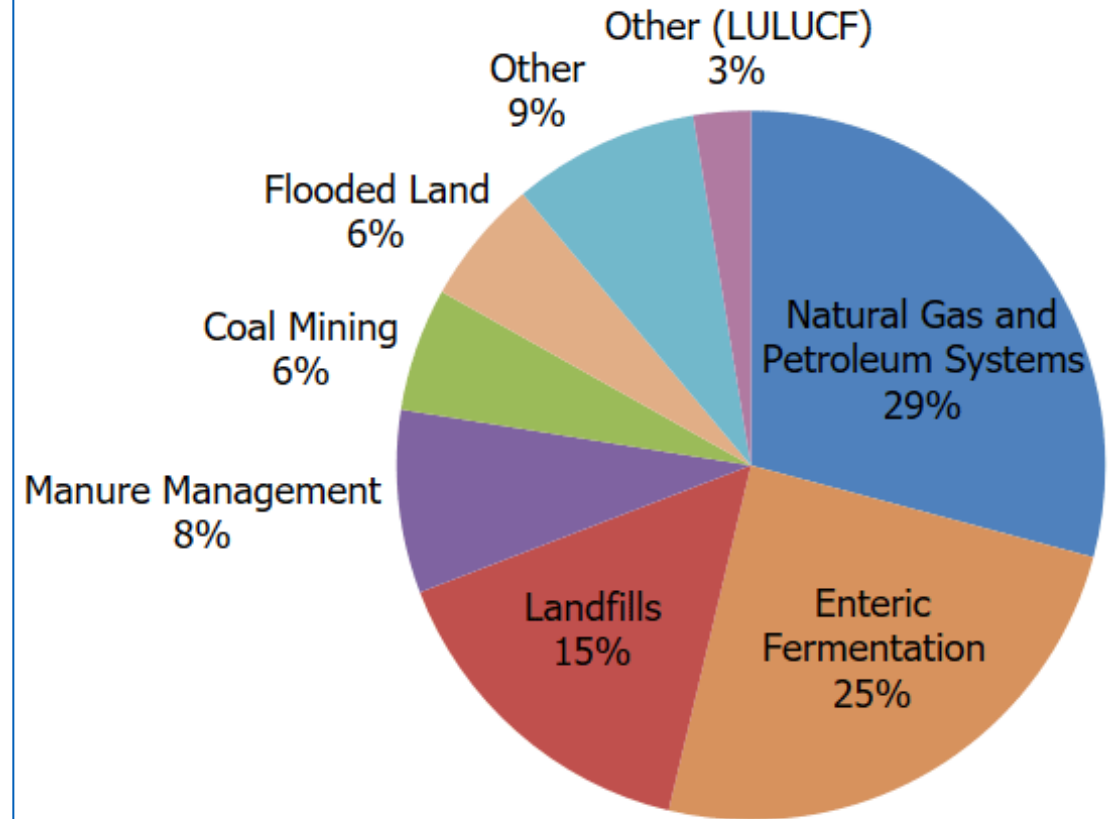
Opportunity to capture and convert methane to useful energy

*<https://www.epa.gov/ghgemissions/understanding-global-warming-potentials>

Methane Emissions in the United States

- U.S. EPA annually compiles data on greenhouse gas emissions from different economic sectors
- In 2021, petroleum and natural gas systems accounted for 29% of total U.S. methane emissions, while coal mining accounted for 6%

2021 U.S. Methane Emissions, By Source



U.S. Environmental Protection Agency (2023). Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2021

Inflation Reduction Act: Methane Emissions Reduction Program

- Inflation Reduction Act (passed by Congress in 2022) provides new authorities under Clean Air Act Section 136 to reduce methane emissions from oil and gas operations
- The Methane Emissions Reduction Program allocates \$1.55 billion for financial assistance and technical assistance to reduce methane.
 - Of this total, \$700 million is specified for activities at marginal conventional wells
- The law directs EPA to establish a waste emissions charge for methane from upstream and midstream oil & gas facilities that report more than 25,000 metric tons of CO₂ equivalent per year to EPA's Greenhouse Gas Reporting Program

EPA Proposed Rule to Reduce Methane from Oil and Natural Gas Operations

- EPA has proposed updated requirements under section 111 of the Clean Air Act to reduce methane and other harmful air pollution from both new and existing sources in the oil and natural gas industry (published November 2021 and December 2022):
 - 1. Updated New Source Performance Standards, which require methane reductions from new, modified and reconstructed sources.**
 - Requirements include: Fugitive emissions monitoring and repair at well sites, Stronger requirements for flares, Zero emissions standards for pneumatic pumps, New standards for dry seal compressors, and a program to allow approved third parties to identify super-emitting events for prompt mitigation.
 - 2. Emissions Guidelines, which would require states to develop plans that establish, implement and enforce performance standards for hundreds of thousands of existing sources across the country.**
 - State requirements must generally reflect the reductions achievable by applying the Best System of Emission Reduction that EPA has determined has been adequately demonstrated.
 - States would have to submit plans including their requirements to EPA for review.

Methane Challenge



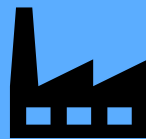
Over six years of voluntary action to reduce methane emissions from oil and gas industry
Launched in 2016



Complements regulations; builds on 25+ years of voluntary O&G engagement



Requires companies to make *specific, transparent, voluntary commitments* to reduce methane emissions and to *report detailed data annually*



Cumulative Methane Reductions:
~11 MMTCO₂e *through 2020*

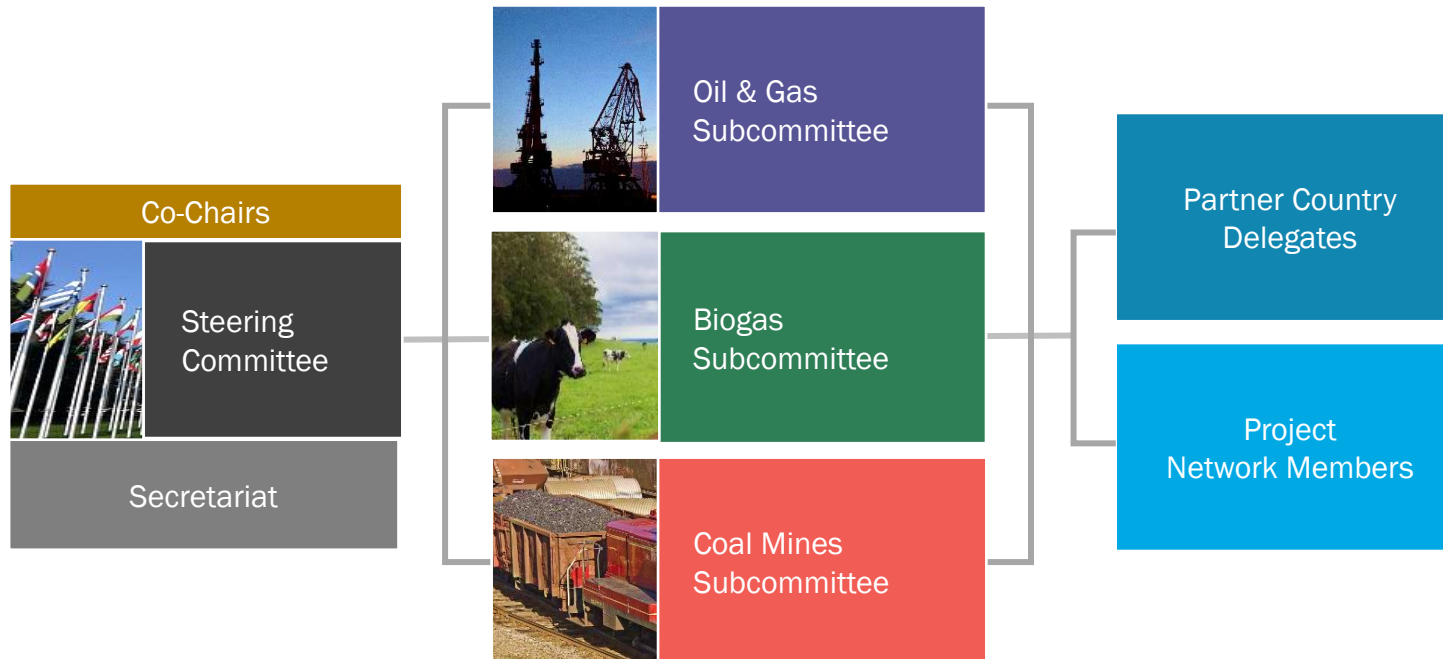


Current [Oil & Gas Company Partners](#): 71

Across Production, Gathering & Boosting, Processing, Transmission & Storage, and Distribution segments

Global Methane Initiative (GMI)

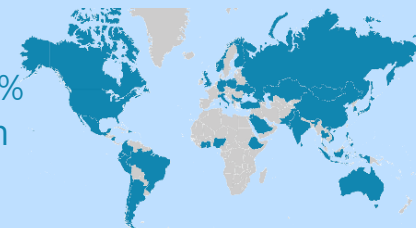
GMI is an international public-private partnership focused on reducing barriers to the recovery and use of methane as a valuable energy source from key sectors: Oil & Gas, Coal Mines, and Biogas, which includes Agriculture, Municipal Solid Waste and Wastewater



- 46 Partner Countries
- 700+ 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 46 Partner Countries



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



More than 700 Project Network members



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

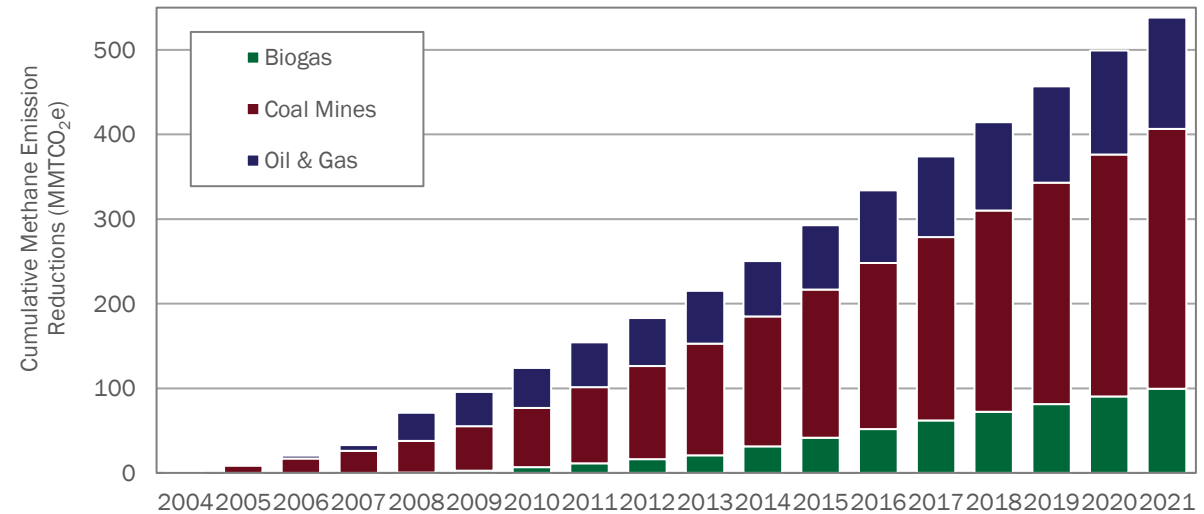


Provided trainings for more than 50,000 people in methane mitigation



Developed more than 60 tools and resources for methane mitigation

Since 2004, GMI has reduced CH₄ by about **538 MMTCO₂e** including **39 MMTCO₂e** achieved in 2021



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


230 Billion
liters of gasoline
consumed


270 Billion
kilograms of coal
burned

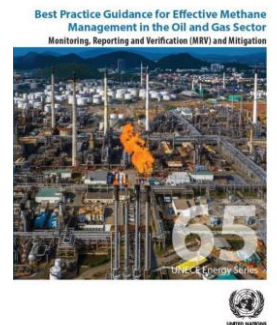
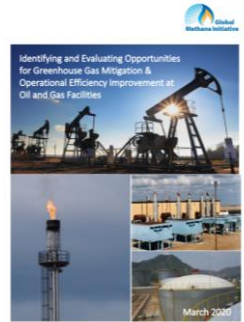

65.4 Trillion
smartphones charged

* epa.gov/energy/greenhouse-gas-equivalencies-calculator

GMI Oil & Gas Sector Actions and Resources to Support Methane Reductions

Conduct Capacity Building and Information Sharing	Perform Assessments and Provide Tools	Develop and Maintain Partnerships
- Workshops - Trainings - Analyses - Consultations Webinars	- Site Visits - Pre-Feasibility Studies - Scoping Missions - Reports/Technical Presentations/ Guidance - Tools/Models/ Databases	- Conferences - Presentations to Partners and Other Stakeholders - Subcommittee Meetings - Other Meetings

- *Identifying and Evaluating Opportunities for Greenhouse Gas Mitigation & Operational Efficiency Improvement at Oil and Gas Facilities (GMI 2020)*
 - Introductory guidance on identifying, evaluating, and advancing cost-effective, high-impact opportunities to manage GHG emissions, energy use at O&G facilities.
- *Best Practice Guidance for Effective Methane Management in the Oil and Gas Sector: Monitoring, Reporting and Verification and Mitigation (UNECE and GMI, 2019)*
 - Guidance and case studies for facility owners, operators and government policymakers.



Potential Areas for Future APEC Engagement

- Host joint information sharing/capacity building activities that build on GMI experience and support achievement of methane goals, including the Global Methane Pledge
 - E.g., Workshops and training on oil & gas mitigation technologies and best practices, as well as more accurate tracking of those emissions and reductions
- Share methane-related experiences and successes at the GMI Global Methane Forum 2024 (Geneva Switzerland 18-20 March 2024)





Thank you!