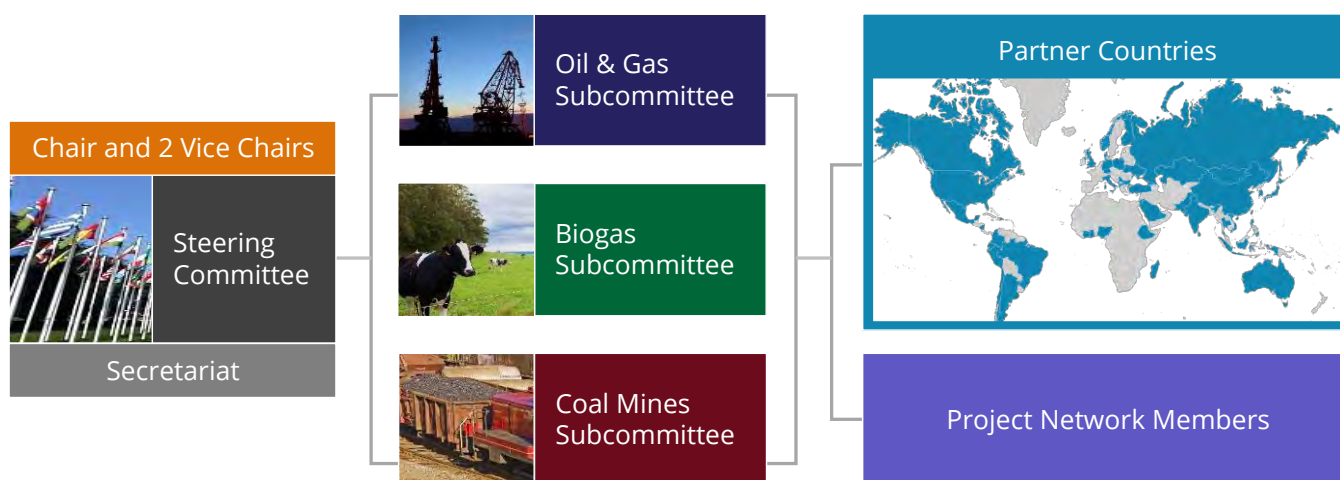


# 2023 Accomplishments

## in Methane Mitigation, Recovery, and Use through U.S.-Supported International Efforts

The Global Methane Initiative (GMI) is an international public-private partnership created in 2004 that is focused on reducing barriers to the recovery and use of methane as a valuable energy source. GMI's 48 [Partner Countries](#) and more than 1,000 [Project Network](#) members exchange information and technical resources to advance methane mitigation across three key sectors that are significant sources of global methane emissions from human activities: Oil & Gas, Coal Mines, and Biogas (which includes agriculture, municipal solid waste, and municipal wastewater). In June 2023, the United States expanded its leadership role in GMI by succeeding Canada as the Chair of the GMI Steering Committee. The United States also hosts the Secretariat of the GMI and contributes technical support and leadership based on our domestic expertise across the key sectors.

**Figure 1. GMI Structure and Organization to Address Methane in Three Key Sectors**



Through GMI, the United States promotes U.S. successes and expertise to support implementation of policies, projects, and technologies to advance methane mitigation in specific sectors and countries around the world, such as collaborating with government and private sector stakeholders, developing tools and resources focused on methane mitigation, and providing technical support and capacity building. This report outlines accomplishments of U.S.-funded GMI activities in 2023.

# Methane Emission Reductions

The United States continued to actively engage with Partner Countries and provide key leadership on international methane emission reduction efforts in 2023. These efforts benefit the United States because they reduce methane emissions in the atmosphere, improve air quality and human health at home and abroad, create opportunities for U.S. businesses and investors, and support U.S. diplomatic efforts.

Between 2004 and 2023, the United States, under the auspices of GMI, helped to identify and implement more than 1,250 GMI methane mitigation projects. These projects have cumulatively reduced methane emissions by a total of approximately 670 million metric tonnes of carbon dioxide equivalent (MMT<sub>CO<sub>2</sub>e</sub>), including more than 31 MMT<sub>CO<sub>2</sub>e</sub> in 2023, as shown in Figure 2.

**Figure 2. Methane Emission Reductions from U.S.-Supported International Efforts**

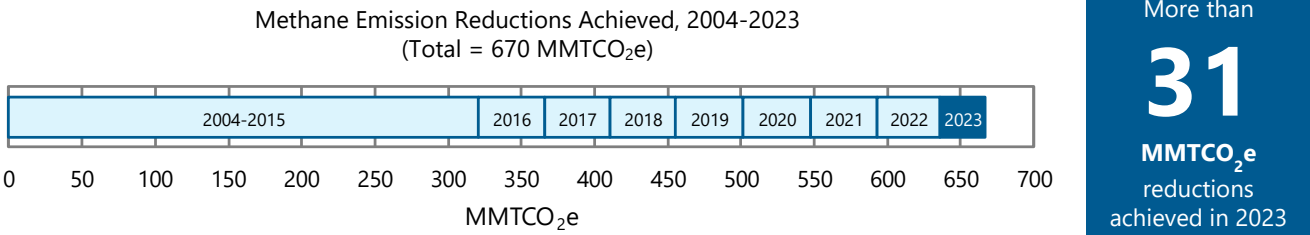
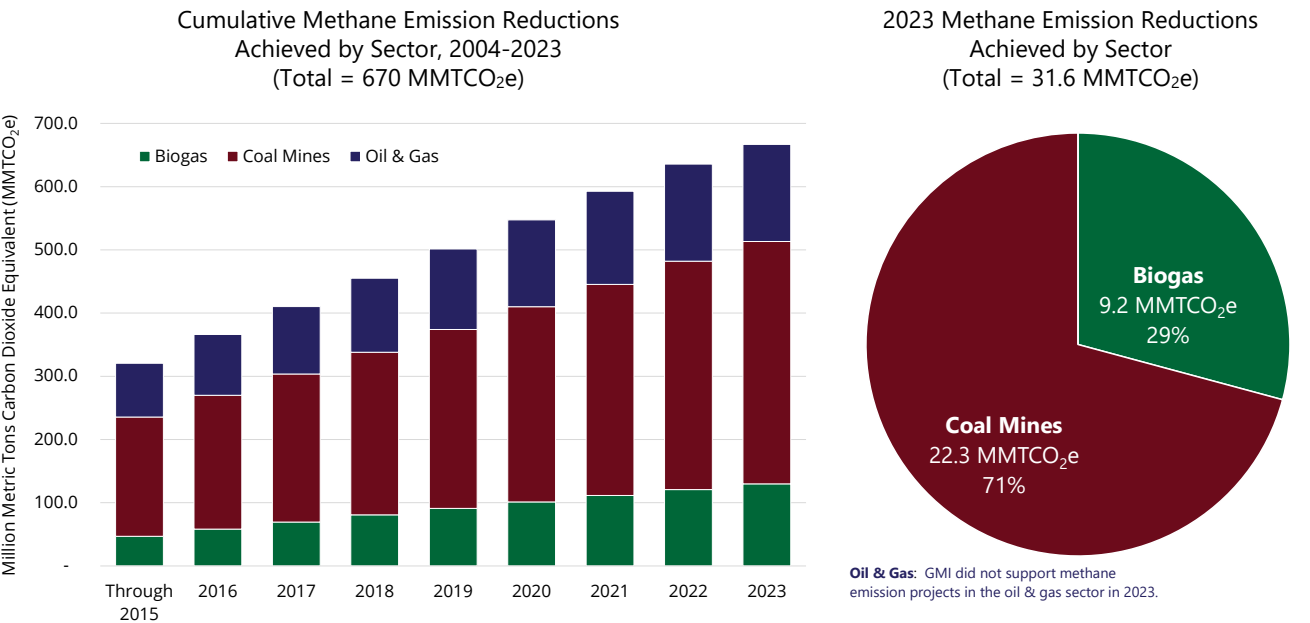


Figure 3 shows the methane emission reductions by GMI's key sectors, including cumulative methane emission reductions through 2023 and estimated methane emission reductions achieved in 2023.

**Figure 3. Methane Emission Reductions by Sector from U.S.-Supported International Efforts**



**Note:** Methane emissions data come from the GMI database of project activities maintained by the U.S. Environmental Protection Agency. Data represent the best available yet conservative estimates of emission reductions, including actual emission reductions from projects supported by the U.S. Government and potential emission reductions from other projects identified through U.S. Government efforts. Carbon dioxide equivalents (CO<sub>2</sub>e) are based on methane having a global warming potential 28 times greater than carbon dioxide over a 100-year period.

# Methane Mitigation Activities

Since 2004, U.S. Government funding from the Department of State and the U.S. Environmental Protection Agency (EPA) has sponsored and advanced methane mitigation activities including technical assessments, information sharing, capacity building, and GMI partnership-related activities. Every \$1 invested by the United States in GMI leverages approximately \$6 in investments from other stakeholders, which are used to develop projects that reduce or recover methane emissions as an energy source directly and fund assessments that identify additional opportunities to achieve emission reductions. In 2023, U.S. Government funding supported country-specific activities related to methane mitigation in the United States and 18 other nations (Argentina, Brazil, Chile, China, Colombia, India, Japan, Kazakhstan, Malaysia, Mexico, Montenegro, Pakistan, Philippines, Serbia, Switzerland, Thailand, Turkmenistan, and Vietnam) and partnership-wide activities that served all GMI Partner Countries. These efforts provided approximately 4,350 hours of training that benefited more than 1,450 people from 42 countries around the world. Figure 4 summarizes the technical and outreach support provided by the United States through GMI in 2023 under a variety of methane mitigation activities.

**Figure 4. International Methane Mitigation Activities and Impacts Supported by the U.S. Government in 2023**



## 2023 Project Highlights

### Biogas

#### Updates to the Solid Waste Emissions Estimation Tool (SWEET)

The [Solid Waste Emissions Estimation Tool \(SWEET\)](#) is an Excel-based tool that quantifies emissions of methane, black carbon, and other pollutants from sources in the municipal solid waste sector. One of GMI's flagship tools, SWEET estimates emissions and emissions reductions at the project-, source-, and municipality-level. In 2023, EPA improved the usability of SWEET by facilitating guided data entry and providing error checks to help easily correct issues. EPA also developed a printable [Data Collection Worksheet](#) for stakeholders to facilitate data collection in the field. This resource is intended to expand the ability of users without access to computers or tablets to collect data for SWEET and understand the potential emission impacts of projects.

### Biogas

#### Training on Measurement, Reporting, and Verification in the Waste Sector

The EPA organized and moderated a [webinar training](#) on how to measure methane emissions in the waste sector. The hour-long training explored the latest developments and technologies for measuring methane emissions from the waste sector with presentations from the Rocky Mountain Institute and Clean Air Task Force on their upcoming Waste Methane Assessment Platform and Carbon Mapper and their work analyzing landfill methane plumes. This was the second in a series of three webinars on measurement, reporting, and verification in the biogas sector. The 65 attendees gained a deeper understanding of the importance of measuring methane emissions in the waste sector and new platforms and tools that will soon be available to help them drive and track emissions reductions.

### Coal

#### Brainstorming Session to Identify Solutions to Top Barriers

GMI held its 32<sup>nd</sup> Coal Mines Subcommittee hybrid meeting in March 2023 in conjunction with the United Nations Economic Commission for Europe (UNECE) 18<sup>th</sup> Session of the Group of Experts on Coal Mine Methane and Just Transition. The meeting brought together participants from 17 countries and included a brainstorming session to identify solutions to the top three barriers to Coal Mine Methane project development as identified during a previous Subcommittee meeting. All attendees were encouraged to share their ideas, which led to an extensive list of more than 80 solutions. The session aimed to charter a strategic plan for the Subcommittee and the community at-large to overcome barriers to methane mitigation. The [notes and outcomes from the brainstorming session](#) are available for review.

### Biogas

#### Fact Sheet: Methane Mitigation from Municipal Wastewater Treatment Plants

In 2023, EPA developed the fact sheet "[Methane Mitigation from Municipal Wastewater Treatment Plants](#)" to provide technical insights on methane mitigation from municipal wastewater treatment plants. This concise fact sheet helps water, climate, and energy officials across stakeholder groups, including governments and municipalities, who are knowledgeable about wastewater systems learn more about internationally available methane mitigation technologies. The fact sheet also provides stakeholders in-depth information about the potential methane mitigation opportunities available when building, upgrading, or retrofitting wastewater treatment plants in their community. Adding methane mitigation options to their toolbox will allow stakeholders to consider and plan for mitigation technologies to be built into municipal or national planning activities.

### Biogas

#### Technical Assistance for Biogas Project Planning in India

In July 2023, EPA provided a virtual training to stakeholders in India on the [Risk Analysis and Technical Review Checklist for Preparing Biogas Project Plans](#) (the Checklist) and its use in project risk mitigation as well as GMI's [Anaerobic Digestion Screening Tool](#) which can be used to estimate biogas and energy production potential from different project feedstocks and estimate project methane emissions reductions. The Checklist helps project developers, government agencies, financial institutions, and other stakeholders assess the technical and financial feasibility of a proposed anaerobic digestion/biogas project. It consists of 35 best practice questions to ask when developing or reviewing detailed project plans and feasibility studies. The 152 participants included project developers, bankers, technology suppliers, biogas users, and bio-energy consultants from different parts of the world. They were trained to assess project feasibility and risk which will enable them to fund, design, and implement effective projects going forward.

### Oil & Gas

#### GMI Oil & Gas Subcommittee Meeting - March 2023

GMI hosted a hybrid Oil & Gas Subcommittee meeting in March 2023 in Geneva, Switzerland in conjunction with the UNECE 10<sup>th</sup> Session of the Group of Experts on Gas. Fifty-six participants from 23 countries attended, discussing progress made towards the Subcommittee Action Plan objectives and feedback received from the September 2022 Oil & Gas Joint Technical Sessions at the Global Methane, Climate and Clean Air Forum to help advise future Subcommittee priorities. Delegates from three GMI partner countries (Colombia, Saudi Arabia, and the United States) provided updates on their methane abatement activities, followed by questions and open discussion. Presentation topics included GMI's capacity-building work in Southeast Asia, updates from Ecopetrol and PETRONAS on their progress and success towards the Oil & Gas Methane Partnership 2.0, and an overview of the International Methane Emission Observatory's Methane Alert and Response System focused on how this system will improve global transparency on methane emissions. A [meeting summary](#) is available.

## Learn More

Learn more about how GMI advances information sharing, promotes ambitious activities, trains stakeholders, and builds capacity to abate methane by visiting [globalmethane.org](https://globalmethane.org).

- Find [tools and resources on methane mitigation best practices](#)
- Learn more about GMI [Partner Countries](#) and [international collaboration](#)
- Explore [events](#) and [methane emissions data](#)
- Engage with the GMI Sectors: [Oil & Gas](#), [Coal Mines](#), and [Biogas](#)

**Every \$1**

invested by the United States in GMI



leverages

**Approximately \$6**

of funding from other stakeholders



that is used to achieve

**More than 4 MTCO<sub>2</sub>e**

of methane emission reductions, which is equivalent to the CO<sub>2</sub> emissions from either:\*

Consuming <b>450 gallons</b> of gasoline	or	Burning <b>4,443 pounds</b> of coal	or	Using <b>184 propane</b> cylinders
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\*Derived from [U.S. EPA Greenhouse Gas Equivalencies Calculator](#)