



CLIMATE & CLEAN AIR COALITION
TO REDUCE SHORT-LIVED CLIMATE POLLUTANTS



U.S. Government's International Methane Mitigation Activities: 2017 Accomplishments

Highlights from U.S.-Supported Methane Mitigation and Recovery Efforts around the World

Methane Emission Reductions

The United States provides key leadership for two international methane emission reduction efforts: the Global Methane Initiative (GMI) and the Climate & Clean Air Coalition (CCAC). With support from the U.S. Environmental Protection Agency (EPA) and the Department of State, these efforts resulted in the implementation of more than 1,100 methane mitigation projects from 2005 through 2017. As shown in Figure 1, these projects have reduced methane emissions of nearly 370 million tonnes of CO₂ equivalent (MMTCO₂e), including 39.3 MMTCO₂e in 2017. Since 2005, GMI efforts have also identified additional possible mitigation projects with an estimated cumulative potential to reduce another 504 MMTCO₂e. Figure 2 shows the 2017 methane emissions reductions by industry sector. These activities benefit the U.S. because they reduce methane emissions to the atmosphere, create opportunities for American businesses and investors, and support American diplomatic efforts.

Figure 1. Annual Methane Emission Reductions from U.S. Government-supported Projects

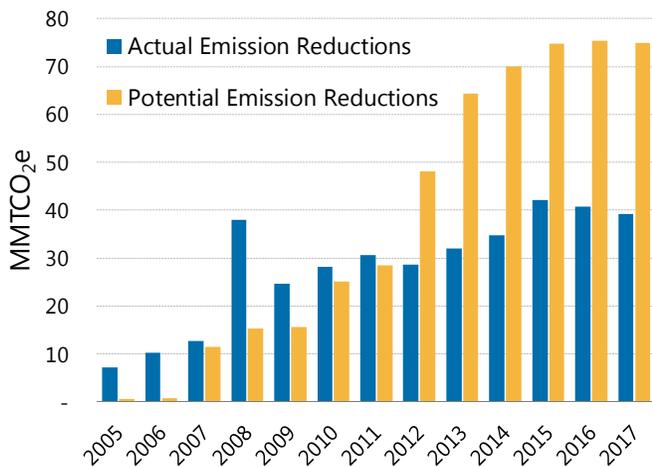
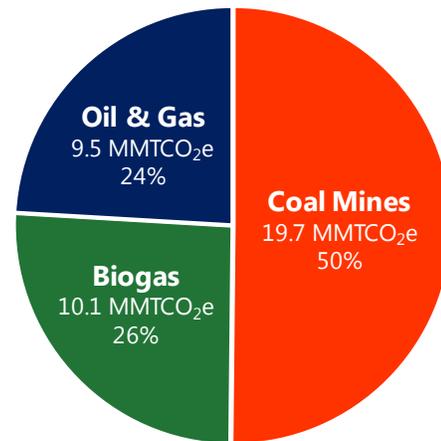


Figure 2. Methane Emission Reductions from U.S. Government-supported Projects in 2017



Note: Data are compiled from the GMI's database of project activities. These 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.

Funding and Methane Mitigation Activities

Since 2005, U.S. Government funding for methane mitigation activities has totaled more than \$97 million. This funding enables technical assessments, information sharing and capacity building on methane emissions management, as well as GMI partnership activities including in-person and virtual meetings and workshops. U.S. support has leveraged approximately \$610 million in additional funding from other sources (see Figure 3). Figure 4 shows the percentage of U.S. Government funding in 2017 by activity type, and Figure 5 lists 2017 activities and where they took place.

Figure 3. U.S. Government Funding and Leveraged Funding, FY 2005-FY 2017

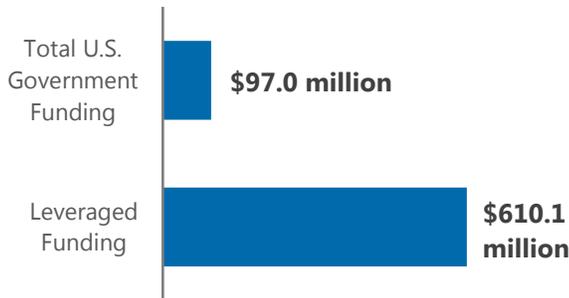


Figure 4. U.S. Government Expenditures by Activity, FY 2017

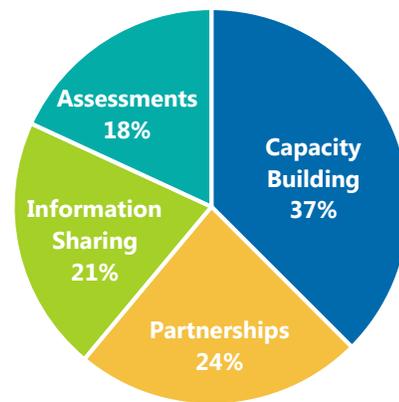


Figure 5. International Methane Mitigation Activities Supported by the U.S. Government in 2017

Partnerships

- 8 Conferences – Chile, India, Kazakhstan, Switzerland, United Kingdom, United States
- 8 Presentations – Argentina, China, Ethiopia, Israel, Italy, Poland, Spain
- 5 Subcommittee Meetings – Canada, Switzerland, United States, All Partners
- 17 Other Meetings – China, India, Kazakhstan, Mexico, Netherlands, Serbia

Assessments

- 31 Site Visits – China, Colombia, India, Italy, Serbia
- 3 Pre-Feasibility Studies – China, Colombia
- 2 Scoping Missions – China
- 4 Reports/Presentations – India, All Partners
- 4 Tools/Models/Databases – All Partners

Capacity Building and Information Sharing

- 6 Workshops/Trainings – Chile, India, Kazakhstan, Mexico
- 3 Analyses/Consultations – Kazakhstan, Mexico, Serbia
- 5 Websites/Other Outreach – Colombia, India, Serbia, All Partners

39.3

MMTCO_{2e}

methane emissions reductions achieved in 2017

These reductions resulted in many benefits, including:

- ▼ Decreased greenhouse gases
- ▲ Better air and water quality
- ▲ Improved human health
- ▲ Enhanced energy security
- ▲ Increased worker safety
- ▲ Expanded economic growth

Project Highlights in 2017

Oil & Gas

Supporting Field Measurements of Methane Emissions in Mexico

On behalf of the CCAC Oil and Gas Methane Partnership (OGMP), EPA provided technical assistance for an annual emissions survey at the following Petróleos Mexicanos (PEMEX) facilities in Mexico:

- Ku-Malooob-Zaap Offshore Production Platform
- Luna Onshore Oil Production Gathering and Booster Station
- Nuevo Pemex Gas Processing Center
- Dos Bocas Maritime Terminal (TMDB) Gathering and Booster Station

Background: PEMEX is the state-owned petroleum company of Mexico. It joined the OGMP in 2015.

Challenge: Companies that participate in the OGMP are required to conduct annual surveys of methane emission sources at their facilities and report on actions they are taking to mitigate these emissions. PEMEX requested assistance with its initial survey.

Solution: PEMEX organized a group of 73 representatives from several facilities to participate in an emissions survey at four of its facilities. EPA participated in the surveys to identify emissions sources and provided recommendations for opportunities to mitigate emissions at each facility. The results of the annual emissions survey were reported by PEMEX in its 2017 annual report to the OGMP.



Photos of oil and gas production facilities. Source: [PEMEX](#)

Biogas

Supporting Landfill Stabilization and Methane Mitigation in India

Through its support of the GMI and the CCAC Waste Initiative, EPA provided landfill management technical assistance to the East Delhi Municipal Corporation.

Background: East Delhi's Ghazipur landfill experienced a massive slope failure in September 2017. In response, the city reached out to the CCAC Waste Initiative for technical support to improve its waste management practices.

Challenge: The Ghazipur landfill is significantly over-capacity, but the city lacks other alternatives for solid waste disposal.

Solution: EPA conducted a technical assessment of the site's profile and management practices and met with local stakeholders to discuss opportunities to improve operations and employ best practices. The city is using the results of EPA's assessment to implement near- and long-term solutions that will reduce the risk of slope failure, landfill fires, and methane releases.



Photo of the slope failure at the Ghazipur Landfill in India. Source: [Mohd Zakir, Hindustan Times](#)

Coal

Assessing Feasibility of Mine Methane Drainage and Utilization in Colombia

On behalf of the GMI, EPA conducted a pre-feasibility assessment for a methane drainage and utilization project at the San Joaquin Mine in the Amagá Basin of western Colombia.

Background: The mine is one of the largest longwall mines in the country and experienced a significant mine explosion in 2010, which took the lives of 73 miners.

Challenge: The mine operates a ventilation system to remove gas from the mine during mining operations, but it does not currently employ any systems to remove gas from the mine before mining begins. To help prevent future explosions, the San Joaquin Mine was eager to evaluate how such pre-mining degasification technology might be integrated into its operations.

Solution: EPA evaluated the technical and economic viability of a proposed degasification project that would extract methane prior to mining and use it to produce power. EPA's analysis indicated that such a project would be economically feasible and could generate a total profit of \$689,000 over the 50-year life of the project.



Photo of the San Joaquin Mine in western Colombia. Source: U.S. Environmental Protection Agency

Coming in 2019

Global Methane CHALLENGE

In 2017, the U.S. Government assisted in the design and adoption of a GMI resolution to conduct a Global Methane Challenge in 2019. The goal of the challenge is to catalyze ambitious action to reduce methane emissions and to showcase policies and technologies being used to reduce methane emissions around the world. For more information, see globalmethane.org/challenge/.

About the Global Methane Initiative

The Global Methane Initiative (GMI) is an international public-private partnership focused on reducing barriers to the recovery and use of methane as a clean energy source. GMI's 45 Partner Countries and more than 500 Project Network members exchange information and technical resources to advance methane mitigation in three key sectors: Oil and Gas, Biogas, and Coal Mines.

- **GMI provides technical support** to deploy methane-to-energy projects around the world. Since 2004, GMI support has enabled Partner Countries to launch hundreds of methane recovery and use projects.
- **GMI is an information resource** for Partner Countries, Project Network members, and other stakeholders. GMI's website serves as an online library with extensive information on methane-to-energy projects, best practices, and technical tools and resources.
- **GMI collaborates** with other international organizations focused on methane recovery and use, including the Climate and Clean Air Coalition (CCAC), the United Nations Economic Commission for Europe (UNECE), and the International Energy Agency (IEA).



About the Climate & Clean Air Coalition

The CCAC is a voluntary partnership committed to improving air quality and reducing emissions of methane, black carbon, and hydrofluorocarbons. CCAC comprises over 120 state and non-state partners and coordinates activities across 11 different initiatives. CCAC and GMI collaborate on methane activities in the agriculture, oil and gas, and waste sectors. For more information, see ccacoalition.org.