



U.S. Government’s International Methane Mitigation Activities: 2016 Accomplishments

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

United States’ International Methane Mitigation and Funding

The U.S. Government provides key support and leadership for the Global Methane Initiative (GMI) and the Climate and Clean Air Coalition (CCAC), especially through activities led by the U.S. Environmental Protection Agency (EPA) and Department of State. These efforts have supported identification and implementation of more than 1,100 methane mitigation projects since 2005. In 2016, these projects reduced methane emissions of over 40 million tonnes of CO₂ equivalent (MMTCo₂E). GMI efforts have identified a “pipeline” of additional mitigation projects, with an estimated cumulative potential to reduce another 430 MMTCo₂E. These activities benefit the United States because they create opportunities for U.S. businesses and investors and support U.S. diplomatic efforts.

Since 2005, U.S. Government funding for methane mitigating activities has totaled over \$90 million. This funding provides technical assessments, information exchange on best practices on methane management, and overall partnership activities. This support has helped leverage close to \$590 million from other multilateral and international sources (Fig. 2).

Figure 2. U.S. Government Funding and Leveraged Funding, FY 2005–FY 2016

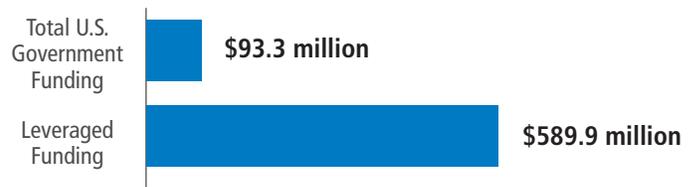
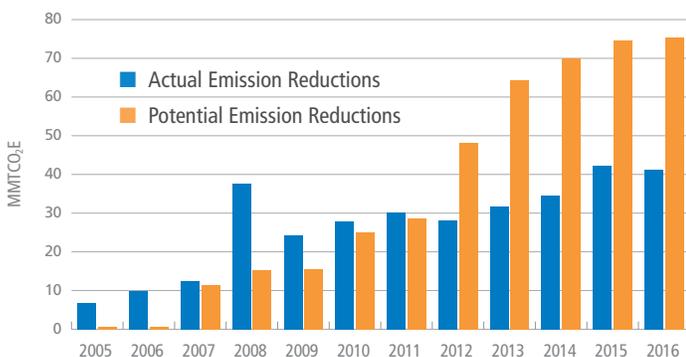
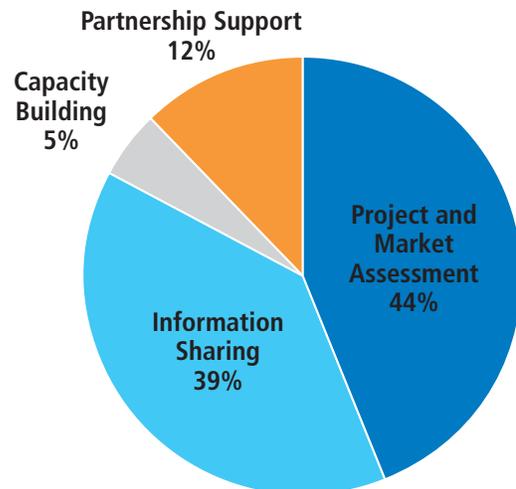


Figure 1. Annual Methane Emission Reductions from U.S.-supported Projects



Note: These data represent the best available yet conservative estimates of emission reductions from projects to which the U.S. Government has contributed. In 2016, methodological updates to improve consistency across sectors resulted in more conservative estimates.

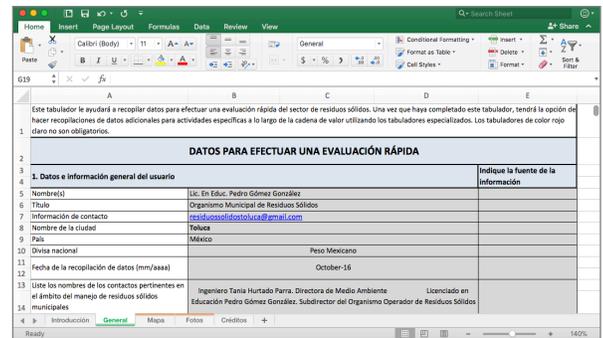
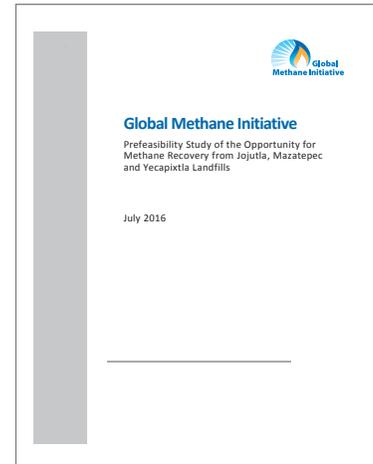
Figure 3. U.S. Expenditures by Activity, FY 2016



Methane Mitigation Activities

In 2016, U.S. Government efforts facilitated implementation and identification of projects mitigating emissions of methane from agriculture, coal, municipal solid waste, oil and gas, and wastewater through various activities, such as:

- 8 pre-feasibility studies to support methane mitigation projects in municipal solid waste
- 12 workshops and trainings on best practices in methane management in wastewater, municipal solid waste, and coal mine methane
- 1 measurement study of methane reduction opportunities in oil and gas
- 1 country-specific tool to assist with decisions on data and collection of municipal solid waste
- 14 scoping missions to landfills and other urban waste sites to learn about operations, identify challenges, discuss best practices, and offer recommendations
- 2 technical publications on coal mine methane mitigation
- Numerous outreach events, meetings, conferences, and technical discussions on methane management across five sectors



2016 Global Methane Forum

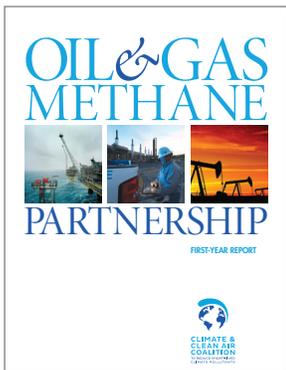
The United States hosted the successful Global Methane Forum as a collaboration of GMI, CCAC, and the United Nations Economic Commission for Europe (UNECE) in March 2016 in Washington, DC. Key highlights from the event include:

- 500 representatives from governments, companies, research institutions, financial institutions, and civil society in attendance
- 62 countries represented
- Over 110 U.S. and foreign companies represented
- 70 technical and policy in-depth sessions held across five sectors
- GMI charter renewed for another five years
- Mexico and Canada became co-chairs of the GMI Steering Committee for 2017-2018



Project Highlights

Ripple Effects in Agriculture: In 2016, EPA followed up with over 50 individuals in the Philippines as a culmination of GMI train-the-trainer sessions EPA held previously (2010-2012). That work led to many tangible outcomes. Trainees have since constructed more than 500 anaerobic digesters across the Philippines and conducted training workshops on anaerobic digestion with more than 300 participants to build awareness and demand for new projects. Among other things, project partners are developing a standard operation and maintenance manual for biogas plants, developing pre-fabricated biogas digesters, and creating a display unit of a biogas digester made from fiberglass.



Leading New Initiatives in Oil and Gas: The U.S. Government took a leadership role in supporting a new international public-private partnership under the CCAC: the Oil and Gas Methane Partnership (OGMP). As of 2017, the OGMP has 10 Partner companies, representing about 12.5% of world oil and gas production, that are focused on reducing methane emissions from their operations in a transparent manner. Applying the experience gained from decades' worth of managing oil and gas voluntary emissions reporting, EPA led efforts to develop the reporting structure for the OGMP and ensured the first-year public reports were successfully finalized. These reports highlighted companies' efforts to inventory and address 9 key sources across their operations.

A Pre-feasibility Assessment for a Biogas Project:

EPA is supporting the municipality of Naucalpan, Mexico, in evaluating feasibility of a project that would treat organic waste in an anaerobic digester to produce biogas for electricity generation. The project would help (1) reduce methane emissions by diverting organic waste from the landfill; (2) reduce the cost of transporting the municipality's waste by treating it in a closer location; and (3) provide a source of clean energy. EPA first engaged with the municipality at the 2016 Global Methane Forum in Washington, DC, under the auspices of GMI and CCAC Municipal Solid Waste Initiative. In addition to the pre-feasibility assessment, EPA assisted the municipality



in developing a project implementation roadmap and stakeholder engagement that involved three workshops. Moving forward, EPA plans to conduct additional technical analyses (e.g., a waste characterization study), hold trainings on best practices, evaluate financial "readiness," and develop guidance for procuring services from the private sector.

Project Highlights (cont'd)

Maximizing Methane Capture in the Coal Sector:

In 2016, EPA collaborated with coal mine partners in Katowice, Poland, at Jastrzębska Spółka Węglowa SA “Pniówek” mine, to develop a roadmap for implementing recommendations from a U.S.-funded pre-feasibility study. EPA provided technical assistance to improve design of the in-mine directional drilling program to maximize methane drainage for capture and use, including examining optimal well placement and spacing, gas and water gathering and collection design, piping, and gas utilization options. Pniówek mine has since implemented several of the study’s recommendations, which will be instrumental for achieving 1,000+ meter long horizontal gob holes in the mine and improving the mine’s methane drainage program. Such a program will improve safety and reduce methane emissions of neighboring mines with similar gassy conditions.



Coming Soon

The 2018 Global Methane Forum will provide an unparalleled venue to discuss international methane reduction, explore new technologies, policies, financial mechanisms, and opportunities for methane abatement strategies, and learn about the latest science on methane.

About the Global Methane Initiative

GMI is an international voluntary partnership focused on cost-effective, near-term recovery and use of methane as a clean energy source from five sectors: agriculture, coal mines, oil and gas, municipal solid waste, and wastewater. The U.S. Government, through EPA and Department of State, provides extensive technical leadership and expertise across all five sectors and serves as the secretariat (Administrative Support Group or ASG) for the entire initiative. GMI provides a framework for the United States to collaborate with many countries and with multilateral organizations, including CCAC and UNECE.

About the Climate and Clean Air Coalition

CCAC is a voluntary partnership committed to improving air quality and reducing emissions of methane, black carbon, and hydrofluorocarbons. CCAC comprises over 100 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.



www.globalmethane.org

www.ccacoalition.org