Global Methane Initiative

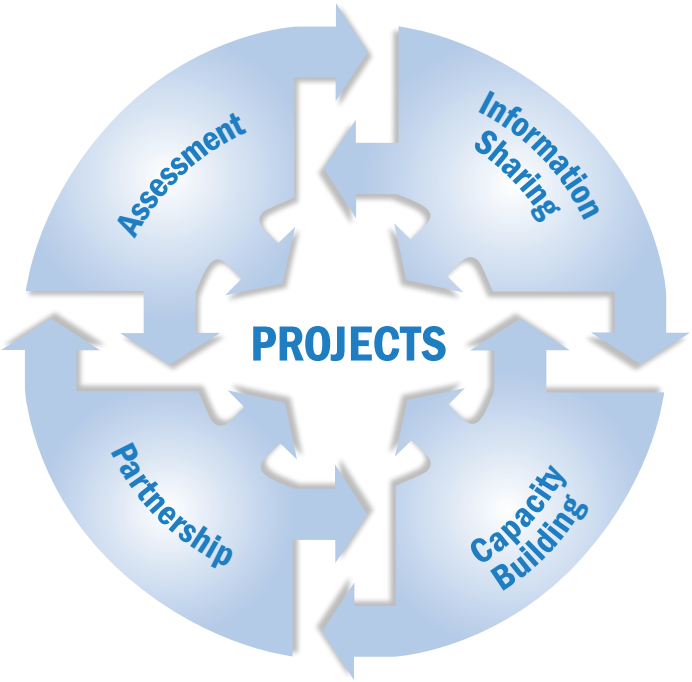
U.S. Government's Global Methane Initiative 2014 Accomplishments

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

The Global Methane Initiative (GMI) plays an important role in reducing global methane emissions and promoting methane capture and use projects internationally. The *U.S. Government's Global Methane Initiative Annual Accomplishments* report summarizes participating U.S. government agencies' contributions and highlights their Fiscal Year 2014 (FY 2014) projects and activities.

Since GMI's creation, the United States has been a leader in fostering methane mitigation and recovery projects. U.S. government agencies work through the Initiative—in collaboration with the GMI Project Network—to provide project development and implementation support through assessment, information sharing, capacity building, and partnerships (see Figure 1).

Figure 1: GMI's Project Development Cycle



Key Indicators

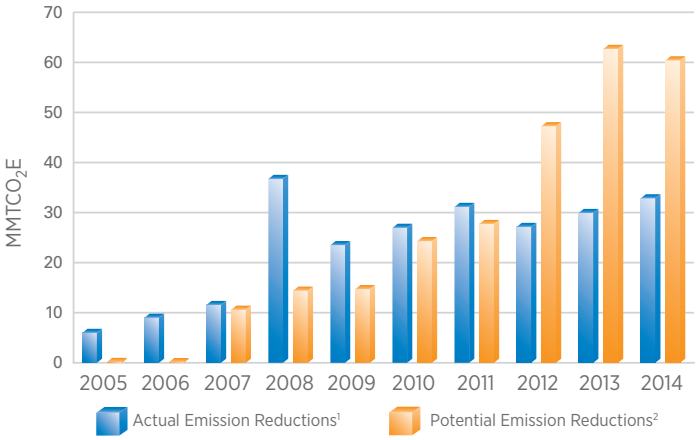
Every year, the U.S. government provides an overview of its GMI efforts. Key FY 2014 indicators include:

- **Emission Reduction Projects.** With assistance from the U.S. Government, GMI is supporting approximately 1,000 methane emission reduction projects. In 2014, these projects delivered actual annual methane emission reductions of nearly 34 $MMTCO_2E$ (see Figure 2 on next page).

Strategic Partnerships

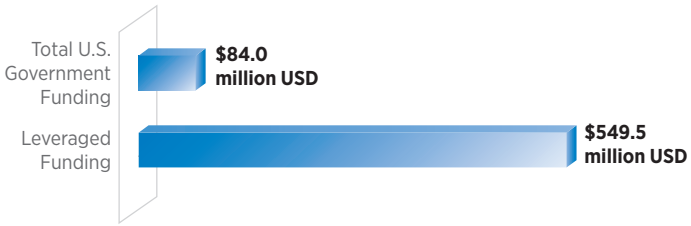
The United States continues to support the Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants (CCAC), including three CCAC initiatives with a methane reduction focus that complement GMI's success in the agriculture, municipal solid waste (MSW), and oil and natural gas sectors. The goal is to closely align GMI's activities with CCAC's Agriculture, MSW, and Oil and Gas initiatives to ensure that partners in GMI and CCAC can more easily share information and are better engaged in the relevant sector work of both programs. CCAC's methane reduction activities often build on GMI's technical assistance (e.g., EPA's scoping mission to Rio de Janeiro, Brazil, in support of the CCAC MSW Initiative). Additionally, CCAC has hosted side meetings and working group meetings at past GMI events (e.g., Methane Expo 2013 in Vancouver, Canada). The U.S. government is supporting GMI efforts—as part of the five-year re-chartering process—to work more closely in partnership with CCAC in the future.

Figure 2. Annual Methane Emission Reductions from U.S.-Supported Projects, 2005–2014



- **Cumulative U.S. Fiscal Support.** U.S. government funding for GMI from FY 2005 through FY 2014 totaled about $84 million, which has helped to leverage nearly $550 million in funding from other sources (see Figure 3).

Figure 3. U.S. Government Funding and Leveraged Funding, FY 2005–FY 2014



- **Stakeholders Reached.** In 2014, the United States supported nearly 100 GMI project development-related activities (e.g., assessment, capacity building, partnership, information sharing) across 20 Partner Countries in Asia, Europe, and North and South America (see Figures 4 and 5).

Figure 4. U.S. Expenditures by Activity, FY 2014

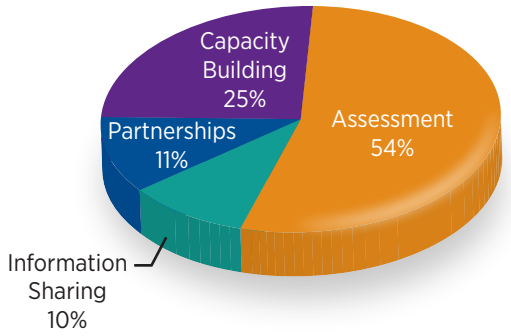
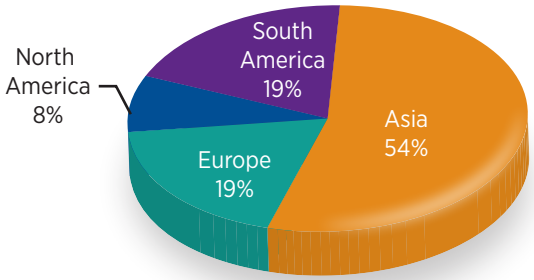


Figure 5. U.S. Expenditures by Region, FY 2014



Sector Highlights

Sector-specific highlights from methane projects in the agriculture, coal, MSW, oil and natural gas, and wastewater sectors during FY 2014 included:

AGRICULTURE

- Performed a preliminary assessment in ***Indonesia*** to identify anaerobic digestion (AD) potential within the country's livestock manure and agro-industrial waste management systems.
- Disseminated information on GMI's *A Global Perspective of Anaerobic Digestion Policies and Incentives* report at a Bhutan biogas workshop; also used the opportunity to gather feedback related to the medium-scale AD within the livestock sector and future AD policy, incentive, and financing research needs.

Biogas Workshop and Subcommittee Meeting

In March 2014, more than 340 participants from GMI's Agriculture, MSW, and Wastewater subcommittees; the GMI Project Network; municipalities in the state of Santa Catarina; and relevant Brazilian trade associations came together in Florianópolis, *Brazil*, for two days of biogas technical and policy sessions. This event also featured a tri-sector (i.e., agriculture, MSW, wastewater) subcommittee meeting to discuss and learn how to identify methane project barriers in these sectors and how to move forward globally.

[1] "Actual emission reductions" are those that have been achieved and measured from implemented projects in any given year.

[2] "Potential emission reductions" have been identified through GMI capacity-building activities (e.g., prefeasibility or feasibility studies) as additional reductions that could be realized if potential emission reduction project(s) were fully implemented.

COAL MINES

- Initiated planning for a ***China*** Best Practices Workshop and consulted with government and mining officials—as well as the China Coal Information Institute and the Guizhou International Cooperation Center for Environmental Protection—on potential topics. Also revised the *China Energy Markets Report* to incorporate electricity and gas market updates for Henan, Guizhou, and Anhui, and completed the *Mopanshan Coal Mine pre-feasibility study*.

- Engaged with the government of ***Kazakhstan*** to develop a country-specific CMM policy paper. Also strategized with Arcelor Mittal mine representatives on CMM capture and utilization best practices integration and proposed CMM investment plans, and observed the Lenina Mine's CMM electricity generation project.

- Conducted a June 2014 CMM Recovery and Utilization Policy Roundtable in ***Mongolia*** on topics related to CMM policy and ownership issues as well as successful CMM project elements. GMI Project Network presentations highlighted regulation, incentives, technical needs, and programs that help and hinder CMM recovery and utilization. Also prepared a white paper on the legal and regulatory status of CMM ownership in key countries to aid Mongolian decision makers. Based on these efforts (and those in ***China***), developed a World Coal *CBM Review* article on these countries' CMM markets.

MUNICIPAL SOLID WASTE

- Performed numerous landfill assessments (two in ***Chile***, one in ***Mexico***, three in ***Turkey***) and assessed composting practices in ***Chile*** and ***Mexico***. Discussed potential methane mitigation collaboration with various ***China*** and ***Peru*** government agencies and organizations. Prepared a methane capture and utilization pre-feasibility study for ***Ukraine's*** Dergachi Landfill.

- Provided technical review of the ***Indonesia*** Ministry of Public Work's landfill operations and landfill gas (LFG) management manual; reviewed the ***Philippines'*** capacity building report appendices and case studies; assisted with country work plan development for ***Poland***, ***Turkey***, and ***Ukraine***; developed a Waste Sector Methane Action Plan for ***Bulgaria***; compiled "AD for MSW" training materials for municipalities.

- Hosted Turkey representatives for U.S. EPA's Annual Landfill Methane Outreach Program Conference and Solid Waste Association of North America's Annual LFG Symposium and hosted a U.S. landfills study tour.

Landfill/LFG Workshops

The United States led landfill operations and LFG management or utilization workshops/trainings in ***Brazil*, ***Colombia***, the ***Dominican Republic***, and ***Indonesia*.**

OIL AND NATURAL GAS

- Provided technical support to GAIL (***India***) Limited, which began actively pursuing an innovative centrifugal wet seal retrofit methane mitigation project. Collaborated with Cairn India on a methane emissions survey and hosted a December 2014 technology transfer workshop.

- Worked closely with the United Nations Environment Programme to help design CCAC's Oil and Gas Methane Partnership and recruit founding Partner Companies, including: Statoil (***Finland***), Total S.A. (France), Eni (***Italy***), Pemex (***Mexico***), PTT (***Thailand***), BG-Group (***United Kingdom***), and Southwestern Energy (***United States***). The Partnership was successfully launched at the September 2014 United Nations Climate Summit. The United States actively promoted the Partnership with oil and gas industry representatives.

- Hosted the 3rd Asia-Pacific Oil and Gas Workshop in ***Indonesia***, which featured discussions on practical methane mitigation to support Indonesia's ambitious national climate protection goal. Conducted field emissions measurement studies/training programs with Pertamina EP and VICO Indonesia. This work had tangible results: following the field study, VICO purchased a new reciprocating compressor to replace aging equipment identified as a significant methane emissions source. VICO also began developing its long-term GHG management plan and expanded its field emissions survey team to include operations and maintenance personnel. The Research and Development Centre for Oil and Gas Technology

U.S. Oil and Gas Study Tour

Fourteen representatives from GMI Oil & Gas Sector Partners in ***Colombia* (Ecopetrol), ***India*** (Cairn India, GAIL [India] Ltd., Petronet LNG, ONGC), ***Indonesia*** (STAR Energy and VICO), ***Russia*** (Chamber of Commerce and Industry), and ***Thailand*** (PTT) traveled to the ***United States*** to tour operational facilities and discuss implementation of new or improved methane mitigation technologies.**

(LEMIGAS) began developing its own emissions detection and measurement team to minimize natural gas losses.

- Began working with new Partners in 2014: Surtigas S.A., E.S.P. (***Colombia***); Cairn India (***India***); Pertamina EP (***Indonesia***); and Uktransgaz (***Ukraine***).

WASTEWATER

- In partnership with ***Mexico's*** environment agency, SEMARNAT, and the ***United States*** Agency for International Development's Mexico Low Emissions Development Program—the United States conducted a one-day training workshop tailored toward the country's municipal wastewater sector, thereby increasing awareness of the technical and economic aspects of domestic wastewater collection and treatment methane emission reduction projects.

Recent Events

In 2016, the United States hosted the Global Methane Forum in Washington, D.C. on 28–30 March. This event—organized by GMI, in partnership with CCAC—featured high-level plenary sessions on cross-cutting issues such as project financing; technical sessions on biogas (agricultural sources, MSW, municipal wastewater systems), coal mines, and oil and natural gas systems; joint GMI Subcommittee/CCAC Initiative-level discussions on policy and projects; and networking opportunities with global methane experts.

More than 500 people from 62 countries attended the Forum. The Forum was held back-to-back with CCAC's Science Policy Dialogue and Working Group meetings.

Roadmap for GMI's Future

GMI's charter—established in 2010—sunsets in April 2016. In 2014, the GMI Steering Committee established a task force to make recommendations for the future of GMI. The task force convened monthly to discuss potential changes to GMI's charter, taking into account the changing international climate policy landscape. The United States worked closely with the task force to develop a comprehensive set of recommendations to streamline and refocus GMI for the future, including:

- **A refocused mission that emphasizes GMI's role in developing policy guidance, disseminating tools, best practices, and knowledge platforms.**
- **Strategic alliances with other relevant initiatives, such as CCAC and the United Nations Economic Commission for Europe (UNECE), to allow more effective collaboration and knowledge-sharing for methane mitigation.**
- **Structural changes that will enable GMI to function more efficiently by holding fewer stand-alone meetings (e.g., by merging three sectors into a single Biogas Subcommittee), and leadership changes that will allow an opportunity for additional leadership at the Steering Committee level (e.g., Co-Chairs with two-year terms).**