

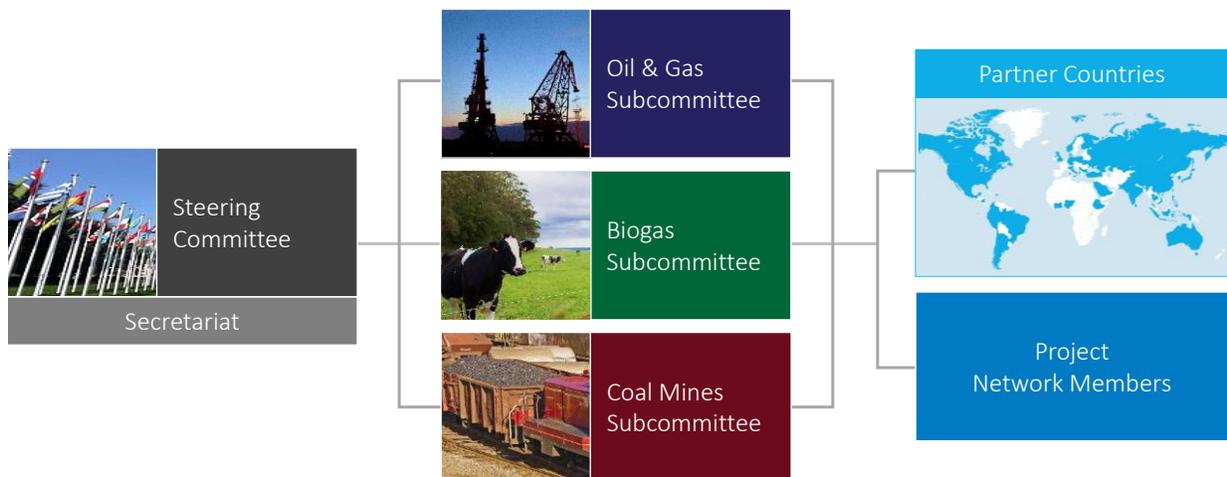
2020 Accomplishments

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

The Global Methane Initiative (GMI) is an international public-private partnership focused on reducing barriers to the recovery and use of methane as a valuable energy source. GMI's 45 [Partner Countries](#) and more than 700 [Project Network](#) members exchange information and technical resources to advance methane mitigation in three key sectors: Oil & Gas, Biogas, and Coal Mines.

This report outlines accomplishments of U.S.-funded GMI activities in 2020.

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



Methane Emission Reductions

Despite the unprecedented challenges posed by the COVID-19 pandemic, the United States continued to actively engage with Partner Countries and provide key leadership on international methane emission reduction efforts in 2020. Through GMI, U.S. leadership has resulted in the implementation of more than 1,130 methane mitigation projects as of 2020. These projects reduced methane emissions by approximately 500 million metric tonnes of carbon dioxide equivalent (MMT CO_2e), including more than 40 MMT CO_2e in 2020, as shown in Figure 2. U.S. efforts under the auspices of GMI have also identified

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additional possible mitigation projects with an estimated cumulative potential to reduce at least 700 MMTCO₂e.

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

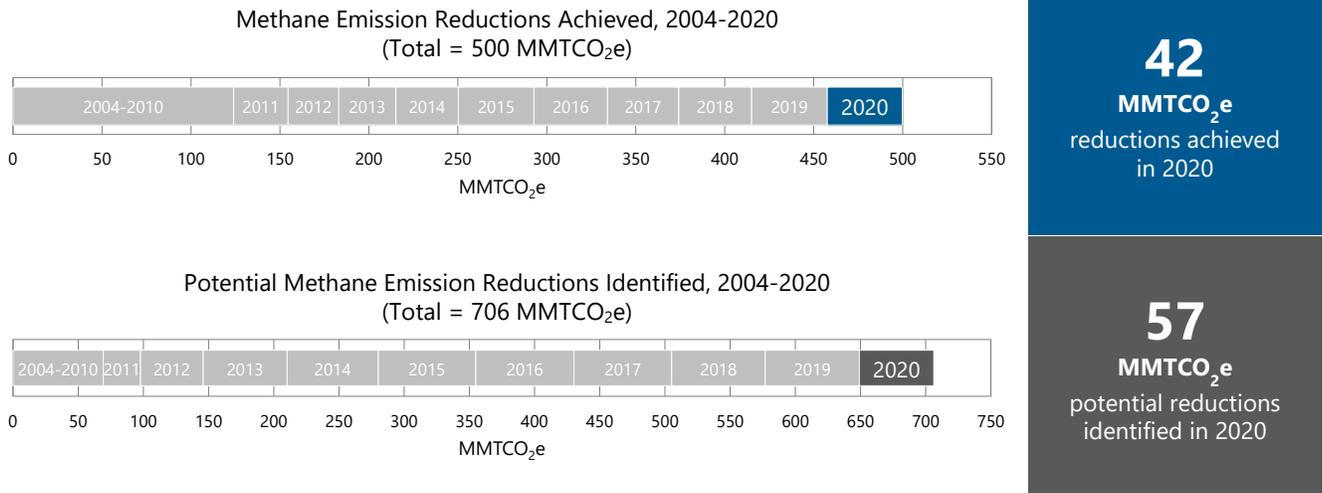
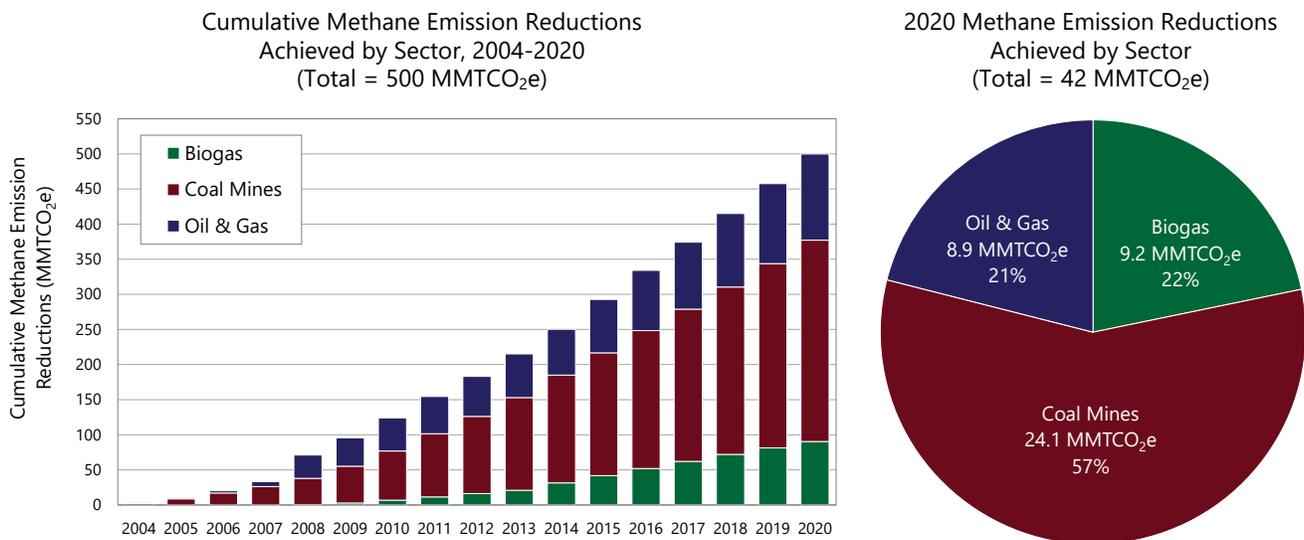


Figure 3 shows the methane emission reductions by GMI’s key industry sectors, which are also the three largest sources of methane emissions from human activities. These emission reduction activities benefit the United States because they reduce methane emissions in the atmosphere, create opportunities for U.S. businesses and investors, and support U.S. diplomatic efforts.

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

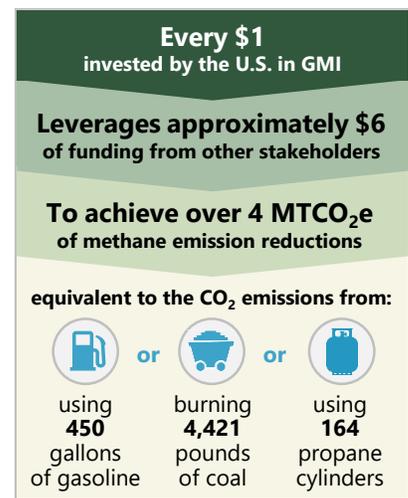


Note: Methane emissions data are compiled from GMI’s database of project activities. These data represent the best available yet conservative estimates of emission reductions, including actual emission reductions from projects supported by the U.S. Government and potential emission reductions from other projects identified through U.S. Government efforts.

Methane Mitigation Activities

U.S. Government funding from the State Department and U.S. Environmental Protection Agency (EPA) has supported and advanced methane mitigation activities including technical assessments, information sharing, capacity building, and GMI partnership-related activities. Every dollar invested by the U.S. in GMI leverages approximately \$6 in investments from other stakeholders. Each U.S. dollar leads to emission reductions of about 4 metric tonnes of carbon dioxide equivalent (MTCO_{2e}) and the identification of opportunities to achieve roughly 5.5 MTCO_{2e} of additional emission reductions (see Figure 4). Figure 5 summarizes the technical and outreach support provided through GMI in 2020 under a variety of methane mitigation activities. Despite significant travel restrictions due to the COVID pandemic, GMI continued to advance many capacity building and partnership efforts through virtual meetings and webinars.

Figure 4. Outcomes Achieved from U.S. Investments in GMI



Equivalencies are derived from EPA's [Greenhouse Gas Equivalencies Calculator](#).

Figure 5. International Methane Mitigation Activities and Impacts Supported by the U.S. Government in 2020

<p>Through GMI in 2020:</p> <p>14 countries</p> <p>supported activities where more than</p> <p>1,280 people</p> <p>received a total of approximately</p> <p>4,000 hours</p> <p>of training about reducing methane emissions and capturing methane for productive uses</p>	<p>Capacity Building/Information Sharing fostering best practices</p>
	<p>6 Workshops/Trainings China, India, Mexico, Poland, Serbia, and Partnership-wide</p>
	<p>12 Manuals/Websites/Other Outreach All Partners</p>
	<p>Assessments identifying opportunities for emission reductions</p>
	<p>9 Reports/Tools/Models Switzerland, Ukraine, and Partnership-wide</p>
	<p>2 Study Tours/Other Technical Assistance China, India</p>
	<p>5 Measurement/Pre-feasibility Studies Kazakhstan, Mexico</p>
	<p>Partnerships building relationships to foster action</p>
	<p>9 GMI Meetings (Steering Committee/Subcommittees) France, Switzerland, United States, and Partnership-wide</p>
	<p>3 Conferences China, Switzerland</p>
	<p>4 Site Visits India</p>
	<p>45 Webinars, Informational Meetings, and Presentations Canada, China, Colombia, Indonesia, Mexico, Serbia, Thailand, and Partnership-wide</p>

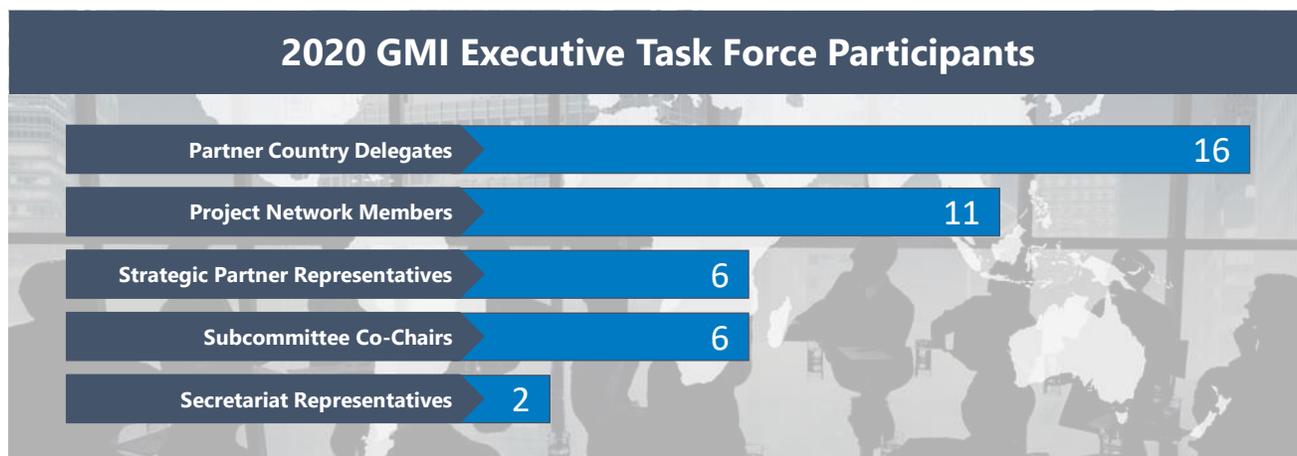
2020 Strategic Planning Efforts: Executive Task Force

After 15 years of advancing methane mitigation work across the globe, GMI conducted strategic planning exercises in 2020 to support the rechartering process and ensure that the partnership continues to provide valuable support to its Partner Countries.

In summer 2020, the GMI Secretariat created an Executive Task Force to bring together perspectives from across GMI to discuss topics related to the future of the partnership. Forty-one members of the Executive Task Force participated in a series of virtual meetings to gather information and feedback related to questions compiled in advance by the GMI Secretariat.

Members of the Executive Task Force represented a diverse cross-section of GMI stakeholders, including Partner Countries, Subcommittees, Project Network members, and strategic partners (see Figure 6). Strategic Partners who participated in the Executive Task Force include the Climate and Clean Air Coalition (CCAC), United Nations Environment Programme (UNEP), United Nations Economic Commission for Europe (UNECE), International Energy Agency (IEA), and the World Bank.

Figure 6. Cross-section of GMI Stakeholders Represented on the Executive Task Force



These Executive Task Force meetings addressed topics of strategic importance to GMI, including:

- Strengthening strategic partnerships to achieve shared methane mitigation goals.
- Developing objectives for GMI partners to focus on achieving in the next 5-10 years.
- Planning for GMI's 2021 rechartering process.
- Discussing and documenting lessons learned and opportunities to improve.
- Identifying high-priority opportunities for methane mitigation work across the globe.

The GMI Secretariat summarized the collective feedback of the members of the Executive Task Force in a recommendations document. The Executive Task Force was instrumental in GMI's rechartering process and in ensuring that the partnership continues to advance cost-effective methane mitigation worldwide.

2020 Project Highlights

 <p>Oil & Gas</p> <p>Technical Support on Best Practices and Tools</p> <p>Engaged with partners at the private, national, and interagency level to implement emissions reduction policies. Provided technical expertise on best practices and tools necessary for collecting methane emissions data in Colombia and Indonesia.</p>	 <p>Biogas</p> <p>Webinar on Climate Benefits of Biogas</p> <p>Co-hosted a joint panel with the World Biogas Association introducing several projects demonstrating successful documentation of climate benefits through lifecycle analysis and 'Biogas Done Right' efforts promoting these as replicable best practices.</p>	 <p>Coal</p> <p>Expert Panel Discussion on Methane Capture and Use</p> <p>Organized and co-chaired a virtual event that featured a panel discussion on the challenges and opportunities for capture and use of coal mine methane during the COVID-19 pandemic.</p>
 <p>Coal</p> <p>Technical Workshop on Methane Recovery</p> <p>Funded the UNECE to host this one-day workshop which provided a forum for Polish and international experts to discuss the methane recovery and emissions reduction potential of abandoned mines.</p>	 <p>Oil & Gas</p> <p>Technical Webinar Series</p> <p>Hosted a series of technical webinars that provided critical information to decisionmakers. Topics included methods for detecting and quantifying methane emissions and emerging mitigation technologies.</p>	 <p>Biogas</p> <p>Training Webinar for Capacity Building</p> <p>Coordinated with Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) to hold a webinar presenting initiatives focused on the development of technical and managerial capacity in the waste sector in several regions of the world.</p>
 <p>Biogas</p> <p>Biogas Toolkit for Project Stakeholders</p> <p>Consulted with priority audiences to create an interactive, web-based tool that helps users identify targeted resources for planning and implementing biogas projects. The Toolkit launched with more than 30 EPA/GMI tools and resources.</p>	 <p>Coal</p> <p>Best Practices Guidance for Financial Decision-Makers</p> <p>Coordinated with UNECE to develop accessible, high-level guidance that complements and builds on standards on coal mine methane (CMM) capture and use set out in UNECE's Best Practice Guidance for Effective Methane Drainage and Use in Coal Mines.</p>	 <p>Oil & Gas</p> <p>Technical Report on Opportunities for Greenhouse Gas Mitigation</p> <p>Developed the report Identifying and Evaluating Opportunities for Greenhouse Gas Mitigation & Operational Efficiency Improvement at Oil and Gas Facilities.</p>

2020 Activity Case Studies

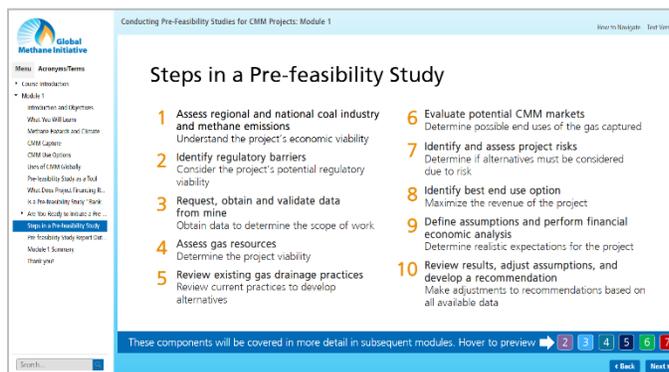
Oil & Gas 2020 Technical Webinar Series

The GMI Oil & Gas Subcommittee sponsored a series of webinars to cover topics that were on the agenda for the Oil & Gas Subcommittee meeting at the 2020 Global Methane Forum. Despite the postponement of the 2020 Forum due to the COVID-19 pandemic, GMI was committed to bringing together policymakers, industry leaders, technical experts, and researchers from around the world to discuss opportunities to address methane emissions in the oil and gas sector. In June 2020, Mr. James Diamond of Environment and Climate Change Canada (ECCC) chaired a webinar, [Seeing Methane, the Invisible Problem ... Who is Using Which Number?](#), that focused on methods for detecting and quantifying methane emissions and facilitated discussion about working examples of methane detection methods. In September 2020, Mr. Diamond hosted another technical webinar, [Methane Emissions Mitigation Technology and Innovation](#), which provided a forum for participants to share and discuss current and emerging methane mitigation technologies. This webinar series provided critical information to decisionmakers and reduced barriers to action on methane mitigation. Approximately 90 participants attended each webinar, representing a wide range of countries and organizations.



COAL Coal Methane Mine 101 Training Course: Conducting Pre-Feasibility Studies for Coal Mine Methane Projects

Pre-feasibility studies are a first step in building a business case for CMM mitigation. In 2020, EPA, under the auspices of GMI, developed this online capacity building training program to educate users on the development of robust pre-feasibility studies. The first four modules of the eight-module course cover mine background and history, resource assessment, improvements to gas drainage, gas production forecasting, CMM utilization, and financial analysis plus a case study of an actual GMI pre-feasibility study. The self-directed training will benefit international CMM project developers, mining companies, government officials and other stakeholders by providing the foundation for studies that meet international good practice standards for such studies, ultimately leading to CMM project finance and development.



GMI partners at the China Coal Information Institute are translating these training modules into Chinese. A Chinese version of this training will be available soon. [Take the course here.](#)

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BIOGAS Biogas and Wastewater Technical Outreach Visit, India

In 2020, EPA led a successful technical support and outreach visit to India. GMI fostered relationships with the new India Biogas Subcommittee delegate, the Ministry of Housing and Urban Affairs (MoHUA), the Ministry of Environment, Forest and Climate Change (MoEFCC), the Energy and Resources Institute (TERI), and the Ministry of New and Renewable Energy (MNRE). EPA, Abt Associates, and TERI also conducted site visits to anaerobic digester facilities in Delhi and Varanasi as part of a scoping mission to determine the level of interest in Varanasi for technical assistance with waste treatment under CCAC cooperation. EPA shared technical expertise with city officials and municipal operators about waste management best practices, laying the groundwork for future engagement, including supporting the cities of Panjim and Delhi in implementing waste management strategies to reduce methane emissions.



BIOGAS Workshop on Enabling Biogas Projects, India

On behalf of EPA and in partnership with India's MNRE, TERI organized a workshop on enabling biogas projects in India. The workshop brought together stakeholders from government, public and private banks, and non-governmental organizations to discuss challenges with and opportunities for developing biogas projects in the agriculture and solid waste sectors. EPA presented the report "[Market Opportunities for Anaerobic Digestion of Livestock and Agro-Industrial Wastes in India](#)" and provided a training session on GMI tools including the [Biogas Toolkit](#), the [Anaerobic Digestion Project Screening Tool](#), the [Solid Waste Emissions Estimation Tool](#), and the [Risk Analysis and Technical Review Checklist for Biogas](#). Organizations and individuals attending the workshop were equipped with knowledge to use these tools and support implementation of waste management practices and technologies to reduce methane emissions.



Accelerating Progress to Address Global Methane Emissions

GMI continues to collaborate with Partner Countries and stakeholders to recover and use methane as a valuable energy source, share technical expertise and information to identify best practices, and collaborate productively with other international organizations. Throughout 2020, GMI evolved rapidly to use virtual platforms, which resulted in positive outcomes such as broadening participation in meetings from international participants, hosting interactive and engaging webinars, and improving information sharing. GMI is strategically positioned to serve effectively as a hub for advancing methane mitigation strategies and raising awareness about the urgency for immediate global action.

Learn more about GMI by visiting globalmethane.org

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