

Global Methane Initiative: Ten Years of Accomplishments

Steering Committee Meeting

October 16, 2014

Why is methane (CH₄) important?

Methane Matters...



Short-lived climate pollutant, with atmospheric lifespan of **12 years**



Most prevalent manmade greenhouse gas after CO₂

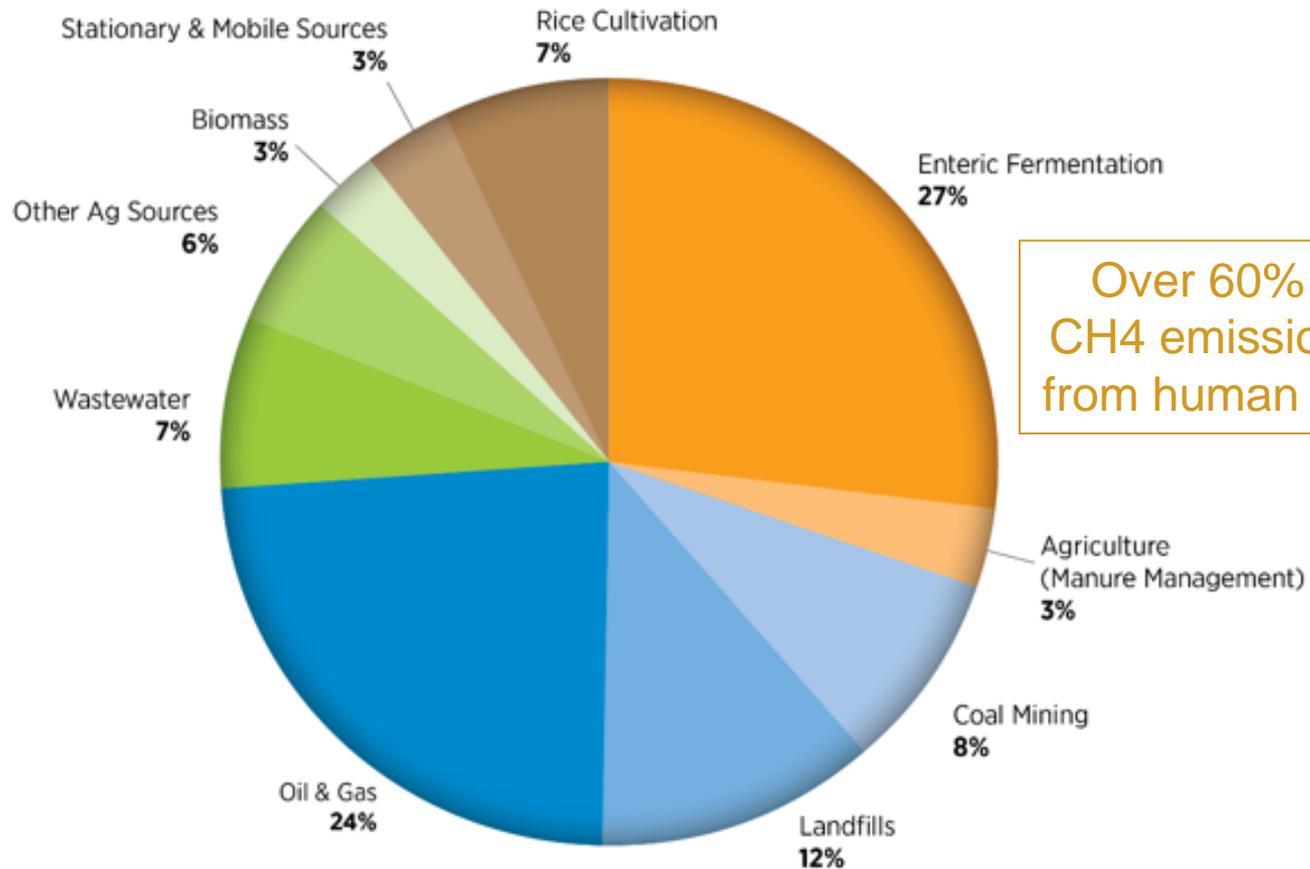


Traps **28 times** more heat in the atmosphere than CO₂¹



Accounts for **32%** of climate forcing

Why is methane (CH₄) important?



Over 60% of total CH₄ emissions come from human activities.

Estimated Global Anthropogenic Methane Emissions by Source, 2015

Global Methane Initiative (GMI)

GMI reduces global methane emissions and encourages recovery and use of methane as an energy source.



**GMI partners
account for...**
nearly 70%
of total global
manmade CH₄
emissions

**...which is equivalent to
approximately 5,000 MMTCO₂E**

Global Methane Initiative (GMI)

GMI reduces barriers to project development through site assessments, information sharing, partnership, and capacity building to support global methane emission reduction.

- Resource Assessments (110+)
- Feasibility Studies (210+)
- Study Tours and Scoping Missions (245+)
- Fugitive Emissions Reports (50+)

- Partner Countries (43)
- Project Network Members (1,300+) including: Financial Institutions; Local, Regional or Other Governmental Organizations; Non-governmental Organizations (NGOs); Private Sector Companies; and Research Entities/Universities

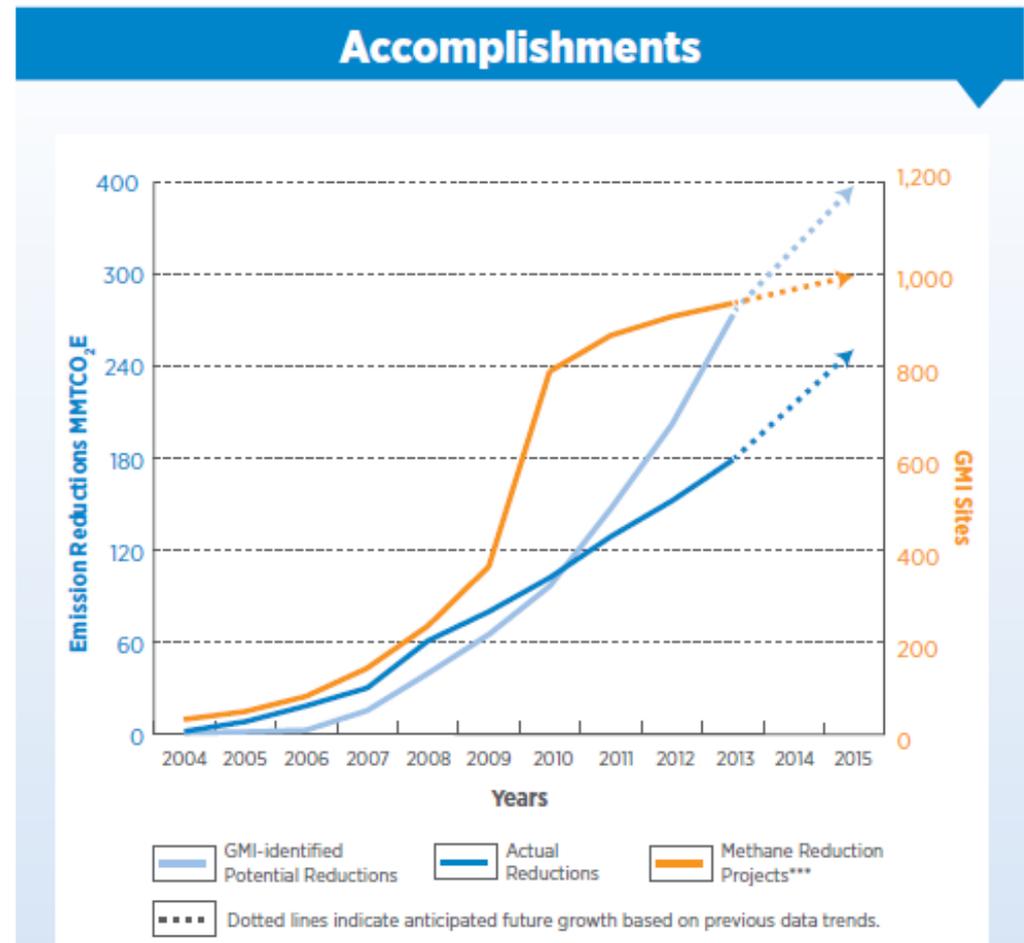


- Technical Sector Committee Meetings (70)
- Steering Committee Meetings (8)
- Workshops, Trainings and Demonstrations (240+)
- Partnership Expos (3)

- Tools Developed (55+)
- Policies Effected (10+)
- Institutions Strengthened (130)
- Funds Leveraged (\$530M)
- Partner Methane Action Plans (45+)

GMI Accomplishments

As of 2014, GMI-supported projects have yielded cumulative reductions of nearly 300 MMTCO₂E.



GMI Major Events

- Organized three Partnership Expos: in Beijing, China (2007), New Delhi, India (2010) and Vancouver, Canada (2013).
 - Attracted more than 1,500 attendees
 - Featured nearly 300 project opportunities and success stories
- Hosted a tri-sector biogas subcommittee meeting in March 2014 in Florianopolis, Brazil with over 340 participants
- Served as a complement to the Kyoto Mechanisms, developing a “pipeline of projects” and providing technical assistance and capacity building necessary for long-term project success.



Vancouver Expo – March 2013

- 450 attendees from 44 countries
- High-level plenary sessions
- Subcommittee programming
- Municipal leaders' forum
- Side meetings with CCAC
- Exhibitors showcasing technology



Agriculture



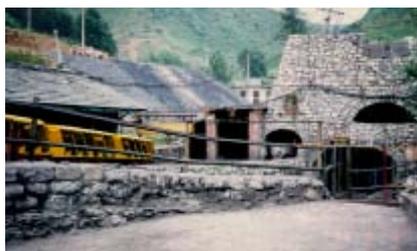
- **Agriculture sector projects focus on manure management and use of anaerobic digesters to recover methane from animal waste and agro-industrial sources.**
- **The Subcommittee has:**
 - Hosted meetings and workshops in more than a dozen countries.
 - Assisted in the development of 13 country-specific action plans and 10 resource assessments.
 - Developed international guidance for evaluating and reporting Anaerobic Digestion system performance, currently in use by Argentina, China, and Thailand.
- **Example project: Philippines**
 - Organized a series of hands-on trainings to introduce government and private sector representatives to AD technologies and carbon reduction Program of Activities under the Clean Development Mechanism (CDM).
- **Example project: Thailand**
 - Analyzed wet market waste sector to identify potential demonstration projects and apply the analytical approach to rural areas in Thailand as well as other GMI countries.





Coal Mine Methane

- **Coal mine methane sector activities focus on recovering methane that is released from coal seams as a result of mining activities.**
- **The Subcommittee has:**
 - Hosted meetings and workshops in more than a dozen countries.
 - Completed country-specific action plans for seven Partners.
 - Sponsored workshops in China, Kazakhstan, and Ukraine hosted by UNECE to disseminate “Best Practices” for methane drainage and recovery at underground coal mines.
- **Example activity: Mongolia**
 - Conducted pre-feasibility study on methane recovery and utilization and provided two-day training on CMM project development.
- **Example activity: Poland**
 - Performed feasibility study and assessment of converting abandoned mine methane (AMM) to liquefied natural gas (LNG). Also conducted study to characterize ventilation air methane (VAM) emissions and mitigation potential from 10 gassy mines.



Landfills



- **Landfill sector projects focus on recovering methane that is released from landfills, for energy recovery or flaring.**
- **The Subcommittee has:**
 - Hosted meetings and workshops in nearly 20 countries around the world.
 - Completed country-specific action plans for nine Partners.
- **Example activity: China**
 - Conducted pump test and pre-feasibility study on potential to expand landfill gas utilization at Gaoantun Landfill. Also monitored gas collection system to improve efficiency. Current electricity generation equals 2.5 MW, with an additional 1.5 MW planned
- **Example activity: Ukraine**
 - Conducted pump test to determine landfill gas recovery rate capable of supporting an electricity project at Mariupol Landfill. Collected landfill gas is now direct to a cogeneration plant, with an anticipated 1.25 MW generation rate.



Oil and Gas Systems



- The oil and gas systems sector focuses on reducing or eliminating the fugitive emissions from the oil and natural gas systems, from “well head to burner tip.”
- **The Subcommittee has:**
 - Hosted meetings and workshops in nearly 20 countries around the world.
 - Completed country-specific action plans for seven Partners.
- **Example activity: Mexico**
 - Co-hosted Gas Flaring Reduction Best Practices Workshop with representatives from the World Bank’s Global Gas Flaring Reduction (GGFR) Partnership, the government of Mexico, PEMEX, and other oil and gas companies.
- **Example activity: India**
 - Conducted prefeasibility studies to identify and estimate major methane emission sources from several Oil and natural Gas Corporation (ONGC) sites. Subsequent measurement studies identified vapor recovery units (VRUs) as cost-effect emission reduction option.



Wastewater

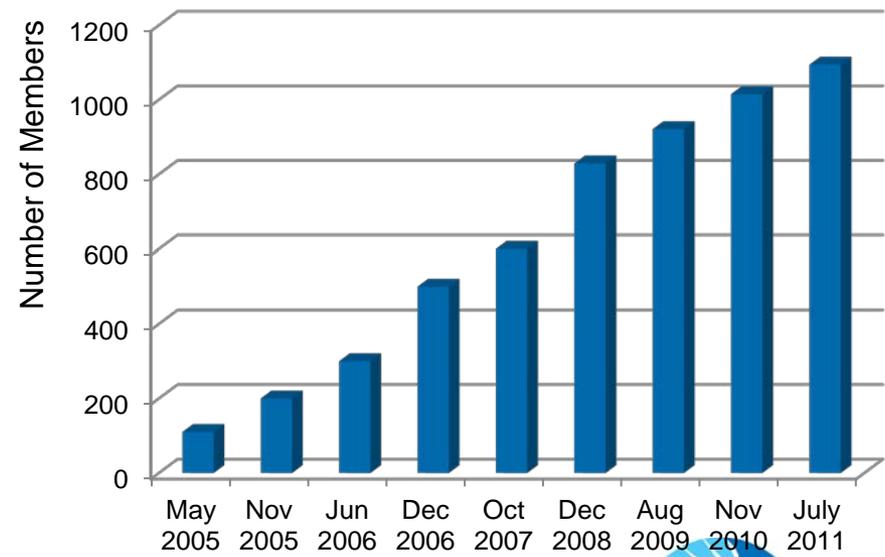


- **Focus on recovery and utilization of methane from large wastewater treatment facilities**
 - Significant co-benefits – local source of renewable energy, improvements in air and water quality, and reduction in odors
- Newest Sector to GMI
- New Subcommittee has now developed Sector Action Plan and moving to encourage Country wastewater action plans.
- Currently working on resource assessments and inventories in several countries.

GMI Project Network

- Brings necessary actors from the private sector, NGOs, and multilateral investment organizations (World Bank, ADB, etc.) together to implement reduction projects.
- More than 1,300 diverse organizations from six continents.
- Project Network members can:
 - Expand business and increase profits
 - Distinguish themselves in the marketplace
 - Identify financial and technical support for potential projects
 - Build capacity
 - Fulfill strategic goals
 - Mitigate climate change

Project Network Annual Totals



Opportunities

- In 2030 -- at or below \$0/tonsCO₂e: about 1 billion tons CO₂e across all sectors (2 billion at \$30/ton)
- Methane NAMAs
- WB pilot auction facility
- Post-2015 carbon financing mechanisms



2015: A Year for Transformation

Feedback from Partners

- Desire to see the initiative continue post-2015
 - Agreement that GMI's brand offers value
 - Especially vocal support for continuing work in the coal mining sector
- Support for continued development of national methane action plans
- Interest in some degree of cooperation with CCAC
 - Additional linkages could help reduce Partner workload and maximize limited resources
 - Opportunity to synergize / leverage existing CCAC efforts
 - Some desire to maintain some level of separation so that non-CCAC countries can continue GMI work without joining CCAC
- Seek higher level political support and national participation in GMI