

Overview of the Global Methane Initiative

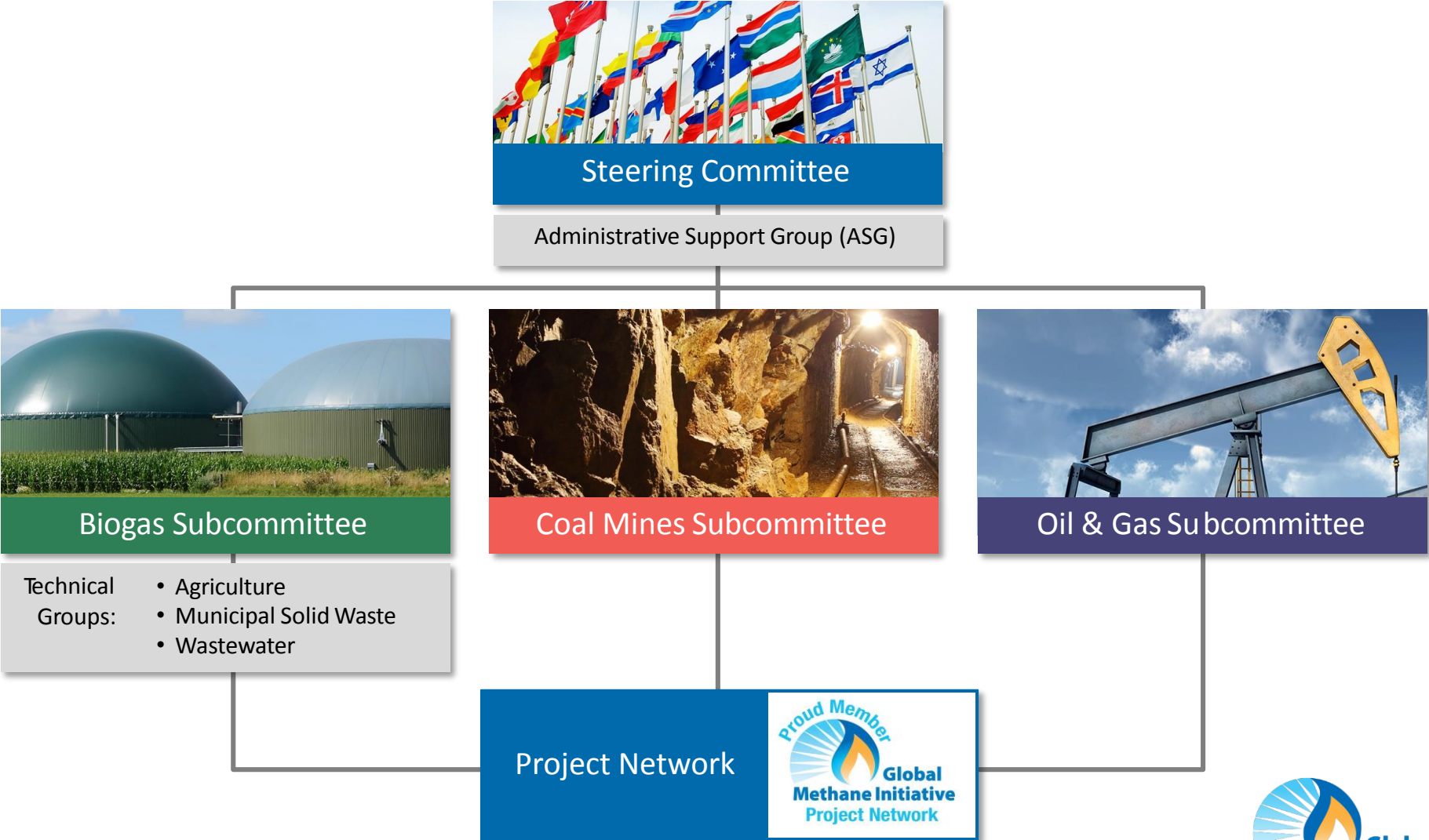
Monica Shimamura
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Global Methane Initiative

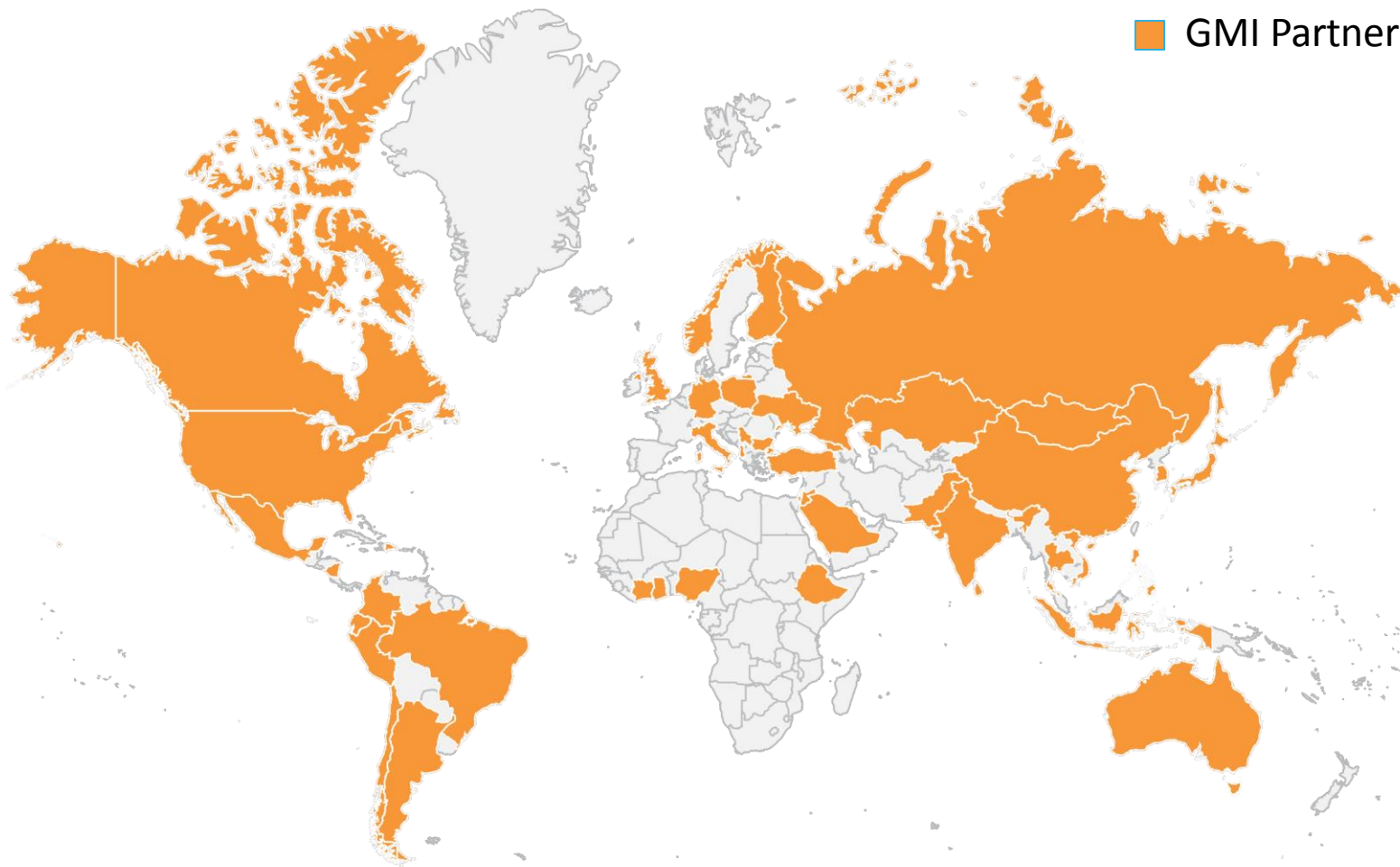
- International public-private partnership focused on reducing barriers to the recovery and use of methane as a clean energy source (established in 2004; charter renewed in 2016)
- Includes 45 Partner Countries and more than 500 Project Network members
- Targets sector-specific areas for methane reduction
 - Biogas (Agriculture, Municipal Solid Waste, Municipal Wastewater)
 - Coal Mines
 - Oil & Gas Systems
- Collaborates with the Climate and Clean Air Coalition (CCAC), the United Nations Economic Commission for Europe (UNECE), and the International Energy Agency (IEA)

Organizational Structure



Partner Countries

■ GMI Partner Country



GMI Partner Countries represent approximately 75% of the world's man-made methane emissions

Accomplishments Since 2004



Grown from 14 to 45 partner countries



More than \$610 million in leveraged funding for projects and training



More than 500 Project Network members



Conducted more than 600 resource assessments, feasibility studies, study tours, and site visits



Provided trainings for more than 15,000 people in methane mitigation

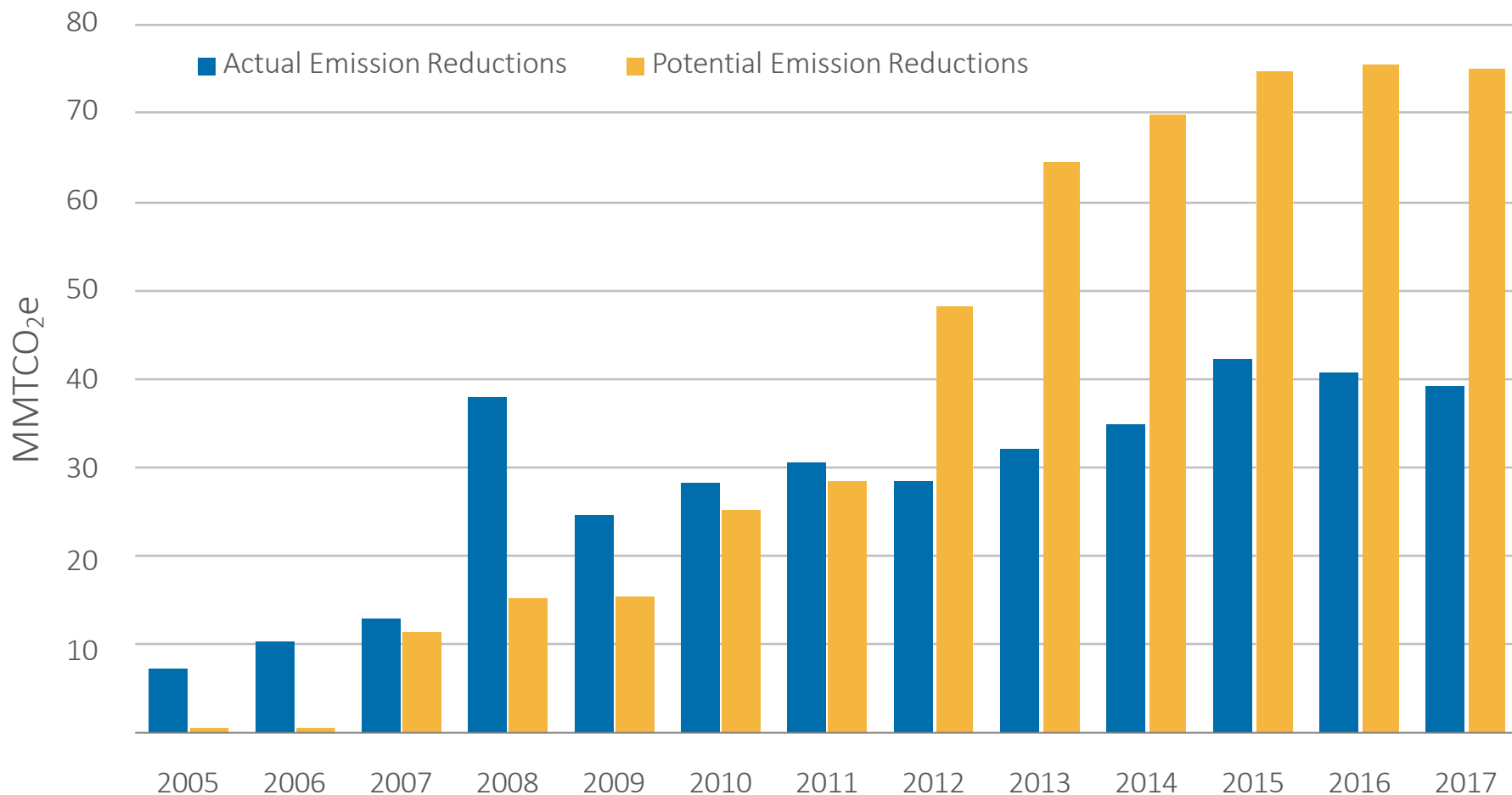


Developed more than 50 tools and resources for methane mitigation

GMI support has yielded cumulative emissions reductions of nearly 370 MMTCO₂e, resulting in many benefits, including:

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

GMI Methane Emission Reductions



These data represent the best available yet conservative estimates of emission reductions, including actual emission reductions from GMI projects and potential emission reductions from other projects identified through GMI efforts.

Announcing the 2019 Global Methane Challenge

Global Methane
CH**ALLENGE** 

It's time to take action!

Challenge Overview

- Why: Raise awareness and catalyze ambitious action to reduce methane emissions
- What: An opportunity to showcase policies and technologies being used to reduce methane emissions around the world
- When: 2019 calendar year
- Who: The Challenge is open to all public- and private-sector actors interested in showcasing their actions to reduce methane emissions
- Recognition: Participants will be publicly recognized for actions to reduce methane emissions and actions will be celebrated at a 2020 capstone event

Visit globalmethane.org/challenge



The screenshot shows the homepage of the Global Methane Challenge. On the left is the logo for the Global Methane Initiative, featuring a stylized flame and sun. The main heading is "Global Methane CHALLENGE" with a flame icon in the letter 'A'. Below this, a call to action reads: "It's time to take action! Join the Global Methane Challenge and showcase your work to reduce methane emissions." A secondary paragraph states: "The Global Methane Challenge is open to all public and private-sector actors interested in showcasing their actions to reduce methane emissions. The goal of the challenge is to catalyze ambitious action to reduce methane emissions and showcase policies and technologies being used to reduce methane emissions around the world. Learn more about the [Global Methane Initiative \(GMI\)](#)." To the right, there is a section titled "Action Map" with a call to action: "Click on the map to learn more about how actors around the world are participating in the Global Methane Challenge." A map of the world is visible, with a legend indicating "GMI Partner Country" (purple) and "National Action" (orange).

- Actions are highlighted on the website



Kazakhstan Wastewater Biogas Recovery Initiative

The Kazakhstan Ministry of Energy, Department of Renewable Energy, is interested in developing an initiative to analyze the potential for biogas recovery and utilization in the municipal wastewater treatment sector. The initial work is being undertaken with the collaboration of the Global Methane Initiative (GMI) and includes technical analyses, benchmarking against international norms and best practices, identification of the cost-effectiveness of biogas recovery, developing policy recommendations and regulatory initiatives, and supporting technical training of wastewater treatment plant (WWTP) operators.

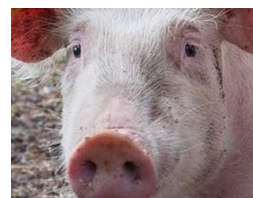
The Department of Renewable Energy also considers this effort as a proxy for developing broader support for biogas utilization, including in solid waste disposal and agricultural waste, in the context of renewable energy development and emissions reductions.

Examples of Actions



Wastewater Sector

- Installing anaerobic sludge digestion systems
- Installing biogas capture systems at existing open air anaerobic lagoons
- Installing new centralized aerobic treatment facilities or covered lagoons
- Installing degassing devices at the effluent discharge of anaerobic municipal reactors
- Optimizing existing facilities/systems



All Sectors

- Monitor methane emissions and create an emissions inventory
- Provide technical or financial support to a methane mitigation project
- Develop or promote implementation of sector-specific best practices

Current wastewater biogas recovery activities in Kazakhstan

- The objective is to provide technical, analytical and capacity-building support to promote wastewater-to-energy technology
- Specific activities include:
 - Preparation of pre-feasibility assessments of biogas production at two wastewater treatment plants
 - Capacity building and technical training
 - Disseminating lessons learned among stakeholders
 - Support for the Ministry of Energy in the development of a roadmap to identify and prioritize concrete actions to provide legal and regulatory support for biogas in Kazakhstan.

Current biogas studies in Kazakhstan

Plant	Flow (l/s)	Treatment	Digestion
Nur-Sultan	2,939	Preliminary/Primary/Activated Sludge/Filtration/UV Disinfection Surface Discharge	Yes, but not operational
Taldykorgan	416	Preliminary/Primary/Activated Sludge/Hypochlorite Disinfection Wetland Polishing/Surface Discharge	No
Almaty	7,407	Preliminary/Primary/Activated Sludge/Effluent Storage/Land Application	No
Shymkent	1,736	Preliminary/Primary/Activated Sludge/Effluent Storage/Land Application	Yes

- Two pre-feasibility studies:
 - Nur-Sultan is a large plant that has the potential to be upgraded to capture methane and use it for electricity generation
 - Taldykorgan is a medium-size plant, and with the proper equipment can capture and utilize methane.
- Two short assessments based on an expert visit:
 - Almaty has the potential for implementing biogas production, capture and use if anaerobic digesters are installed
 - Shymkent already has methane capture capability and is one of the only plants in Kazakhstan operating in this way.

Thank you!

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Global Methane Initiative

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