Global Methane Initiative 2021 Biogas Subcommittee Kickoff Meeting

Global Methane Initiative

Biogas Subcommittee Meeting
March 2021

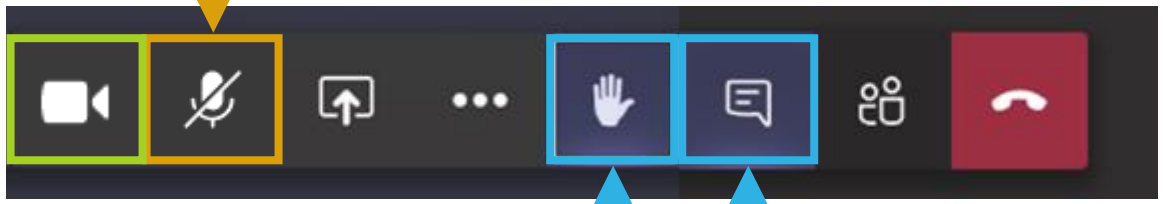
Housekeeping – Tips for using Teams

Turn your camera on.

Consider turning your camera on so everyone can see you.

Mute your microphone.

Everyone should set the microphone to mute unless actively speaking.
If participating by phone, press *6 to mute your phone.



If available, use the "Raise your hand" button to be called upon to speak.

Or, enter questions using the "Chat" pane. Type "Raise My Hand" to be called upon to speak.

Help!

Need Help?

If you need help, please send an email to asg@globalmethane.org

Agenda

- Welcome and Opening of the Meeting
- Introductions from Co-Chairs
- Global Methane Initiative Overview
  - Monica Shimamura, Secretariat
- Global Opportunity for Biogas & Connection to Paris Climate Agreement
  - Nick Elger, United States
- Update on Ongoing GMI Biogas Activities
  - Jorge Hilbert, Argentina
- Discuss 2021 Subcommittee Feedback Effort and Action Plan
  - Matt Hamilton, Canada
- Next Steps

Global Methane Initiative

- Launched in 2004, the Global Methane Initiative (GMI) is an international public-private partnership that advances cost-effective, near-term methane reductions
- GMI focuses on reducing barriers to the recovery and use of methane as a clean energy source from 5 key sectors
- GMI provides technical support to deploy methane-to-energy projects around the world

Oil & Gas Systems

Coal Mines

Wastewater

Agriculture

Municipal Solid Waste

GMI Structure and Participants

Global Methane Initiative

Steering Committee

Secretariat

Oil & Gas Sector

Coal Mines Sector

Biogas Sector

Agricultural Technical Group

Municipal Solid Waste Technical Group

Wastewater Technical Group

Partner Countries

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

Project Network
(private sector, NGO's, multilaterals)

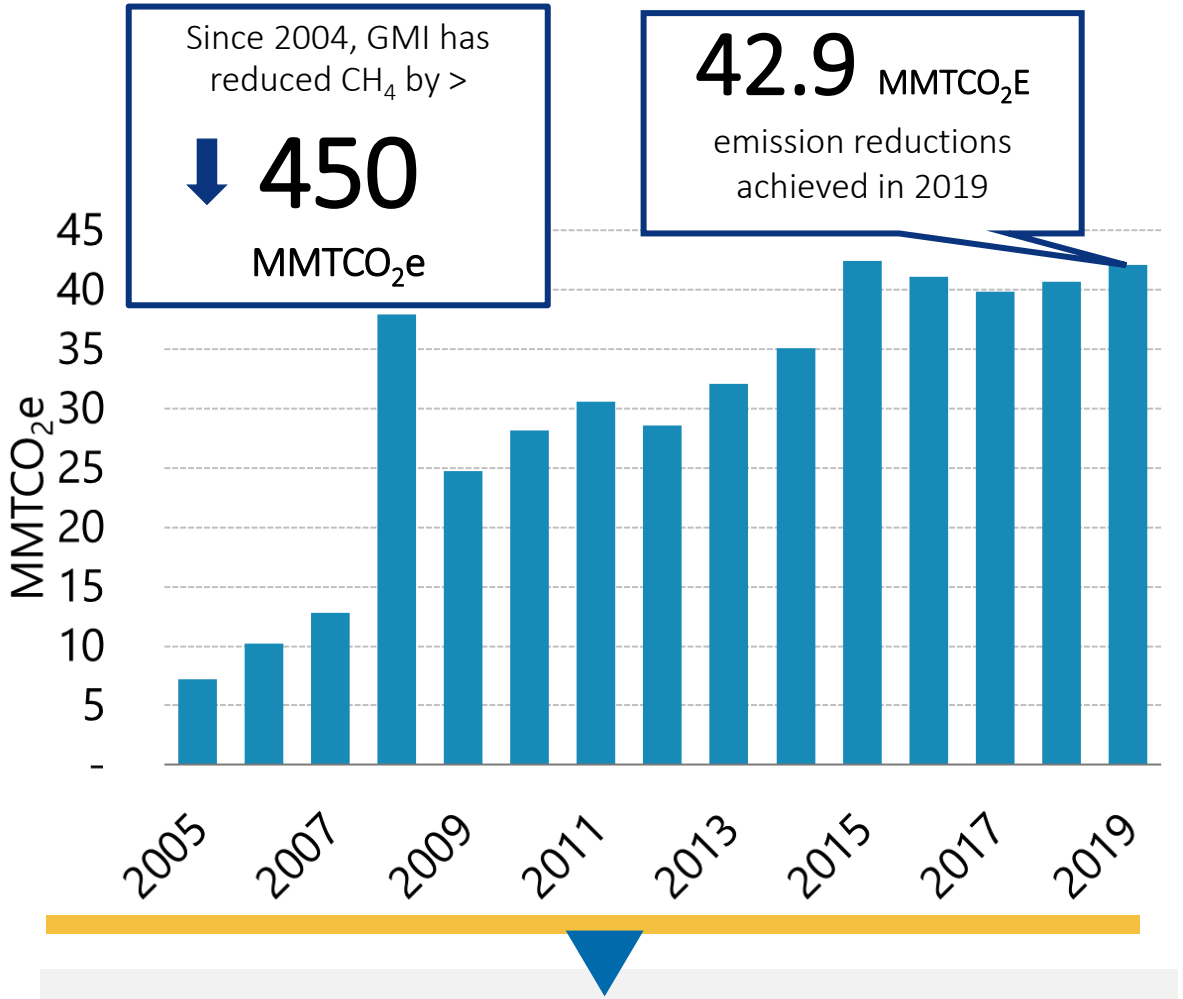
Strategic Partners

CLIMATE & CLEAN AIR COALITION
TO REDUCE SHORT-LIVED CLIMATE POLLUTANTS

UNECE

GMI Accomplishments Since 2004

- Grown from 14 to 45 Partner Countries
- Leveraged more than $655 million dollars for projects and training
- Approximately 750 Project Network members
- Conducted more than 1600 assessments, feasibility studies, study tours, and site visits
- Provided trainings for more than 50,000 people in methane mitigation
- Developed more than 140 tools, reports and other resources to support methane mitigation



The reductions since 2004 are approximately equivalent* to the CO_2 emissions from any one of the following:

51 Billion gallons of gasoline consumed

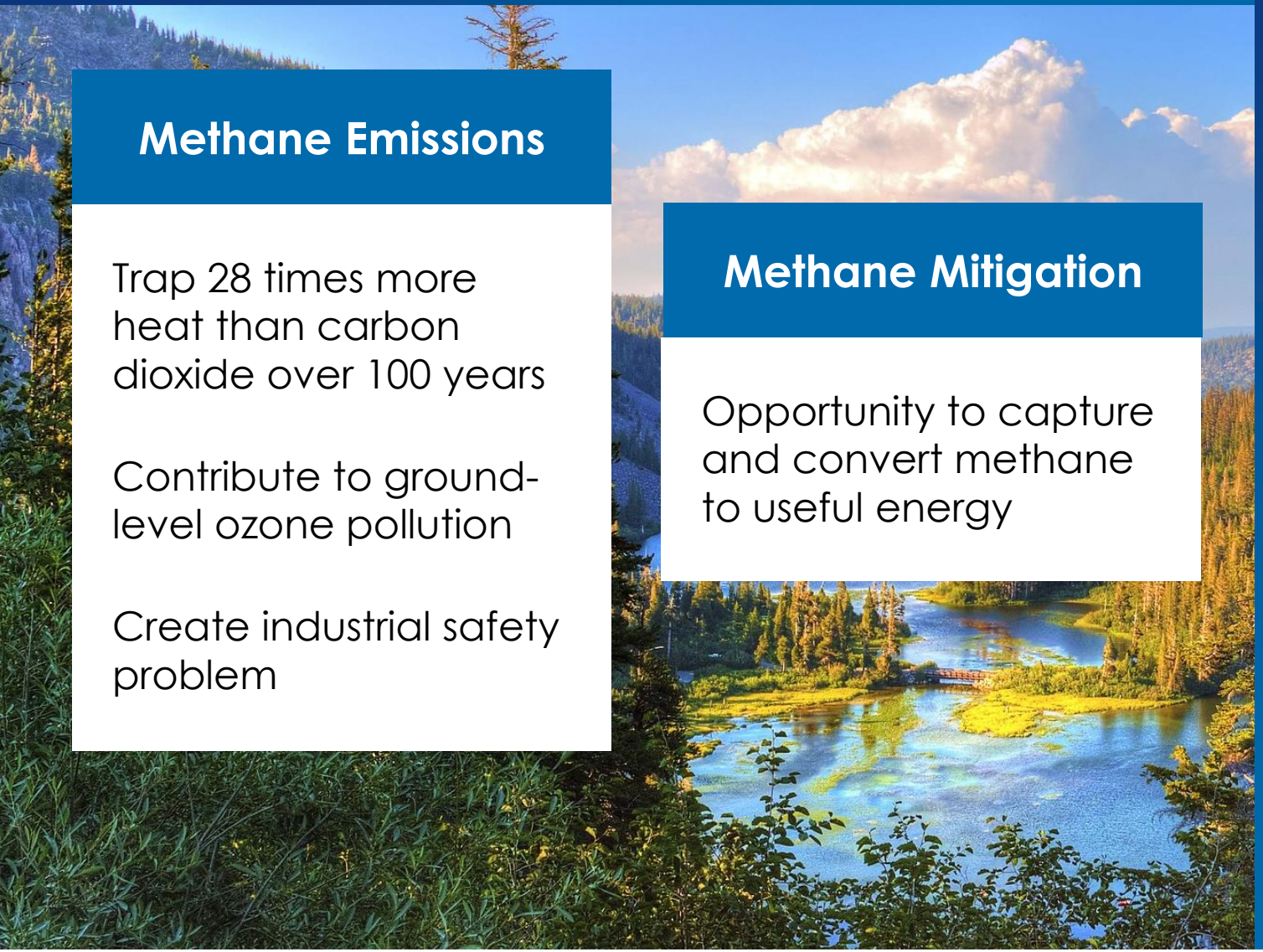
500 Billion pounds of coal burned

58 Trillion smartphones charged

* https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator

Paris Climate Agreement and Global Biogas Opportunity

Why Methane Matters



Methane Emissions

Trap 28 times more heat than carbon dioxide over 100 years

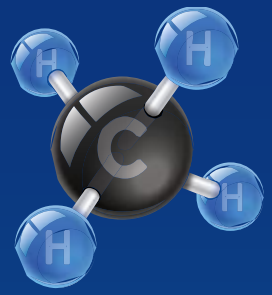
Contribute to ground-level ozone pollution

Create industrial safety problem

Methane Mitigation

Opportunity to capture and convert methane to useful energy

Positive Outcomes of Capturing and Using Methane



- ✓ Better air and water quality
- ✓ Improved human health
- ✓ Increased worker safety
- ✓ Enhanced energy security
- ✓ Increased economic value
- ✓ Reduced odors

Paris Climate Agreement

- Article 2 of the Paris Agreement sets a goal to limit global temperature increase to well below 2 degrees Celsius, while pursuing efforts to limit the increase to 1.5 degrees.
- 195 countries have signed the agreement, including all GMI partner countries.

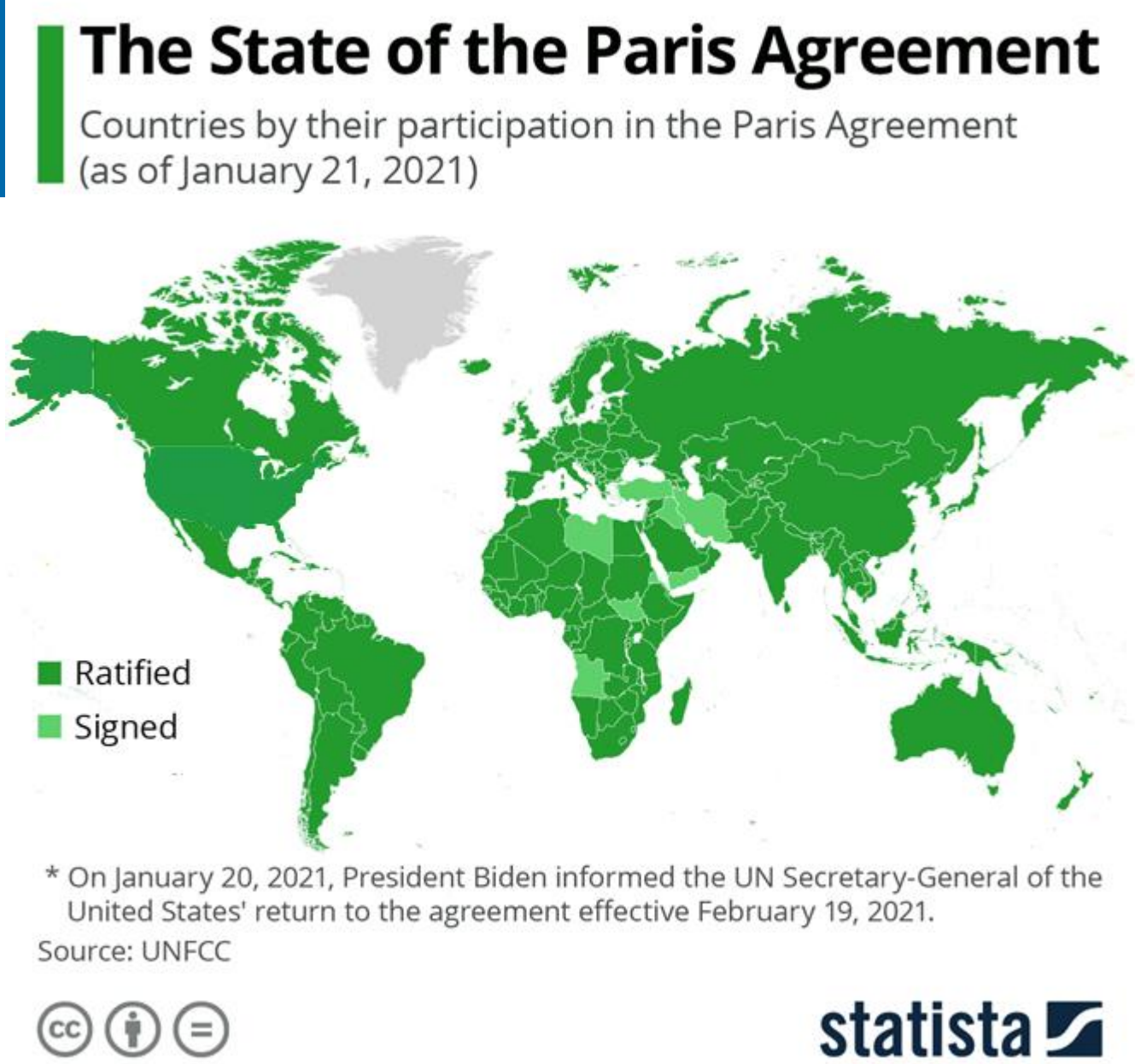


Image Source: Martin Armstrong, Statista
(modified to update US ratification)

Map includes both GMI & Non-GMI countries

Paris Agreement Update

- The Paris Agreement entered into force on 4 November 2016, less than one year after it was adopted by the Conference of Parties (COP)
- 165 Parties submitted their first Nationally Determined Contributions (NDC), representing 88% of global emissions
- Countries are expected to submit updated NDCs that increase ambition every 5 years
- Latest updates are expected by COP26 (November 2021)

UN CLIMATE CHANGE CONFERENCE UK 2021

IN PARTNERSHIP WITH ITALY

Image Source: COP26

Paris Decarbonization Targets

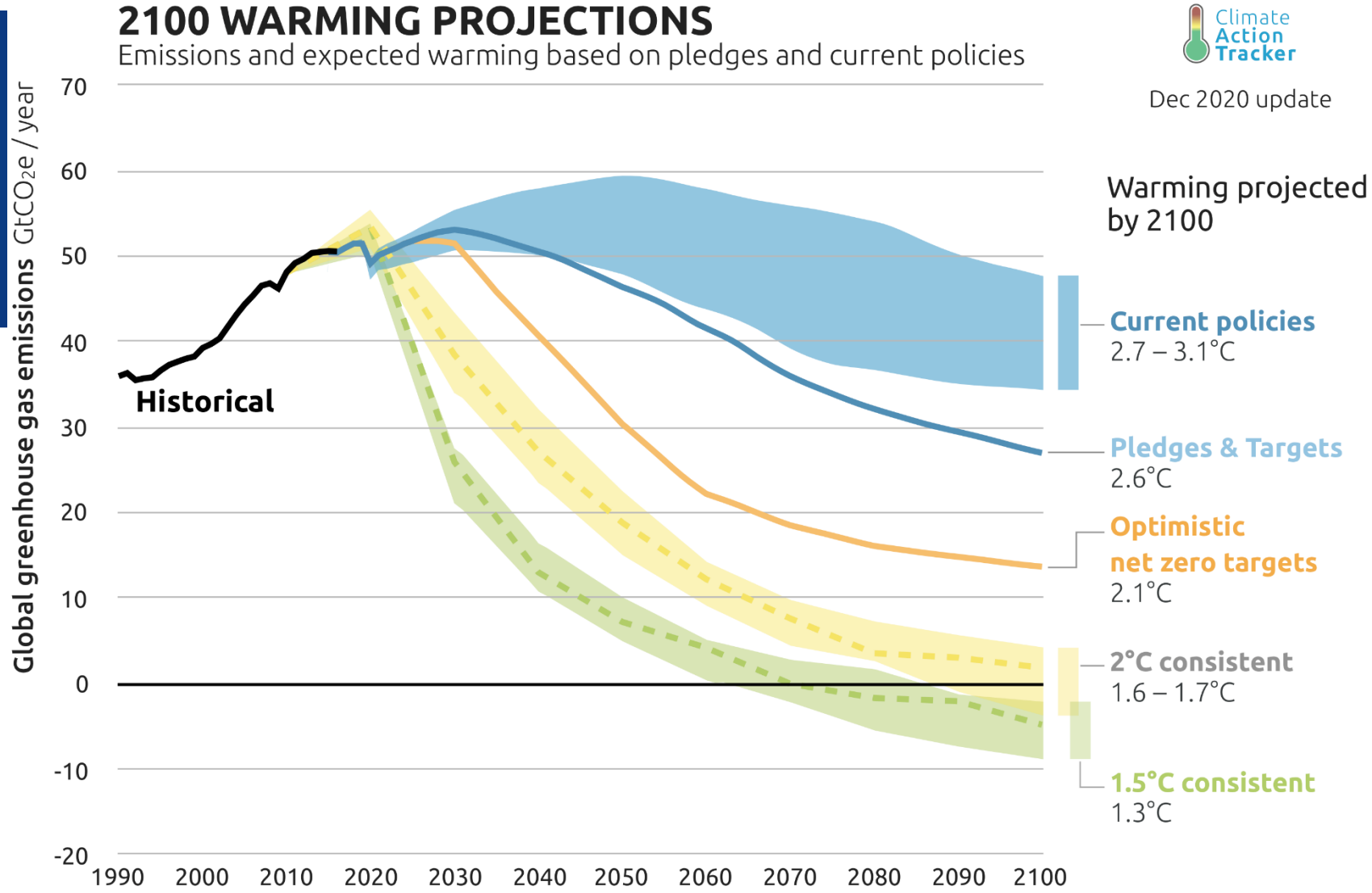


Image Source: [Climate Action Tracker Global Update: Paris Agreement Turning Point]

Paris Climate Agreement and GMI: A Critical Role

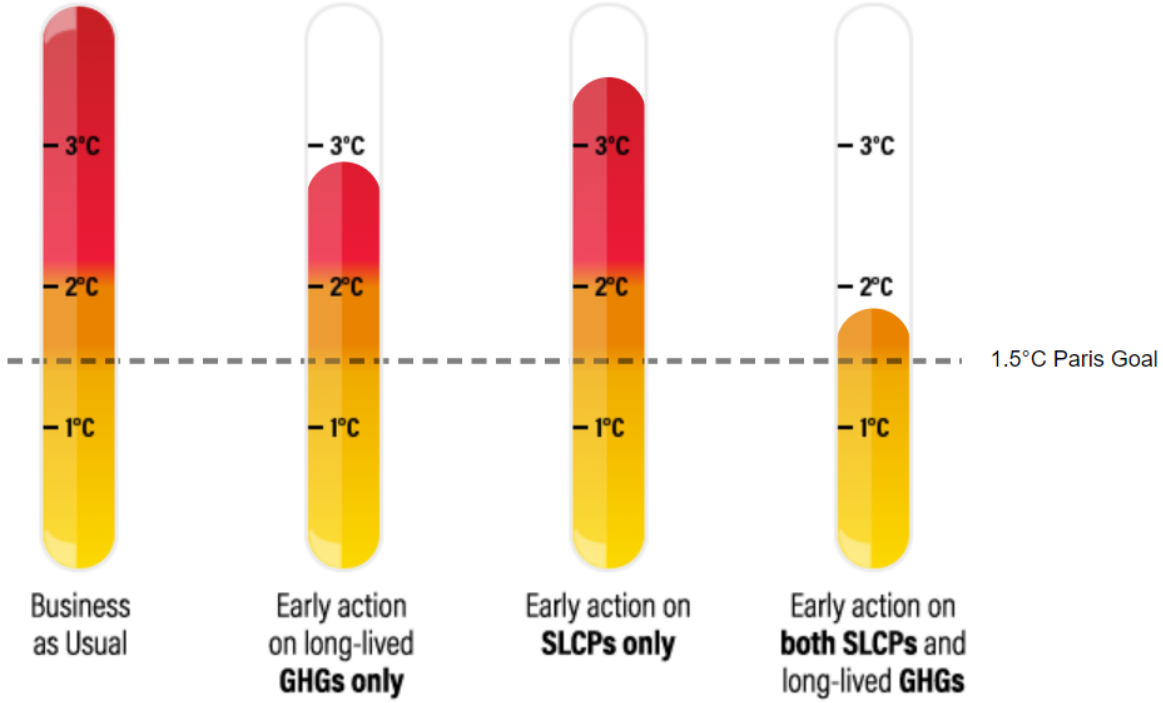
- **Reducing methane emissions is an effective strategy** to achieve near-term, impactful Greenhouse Gas (GHG) emissions reductions.
- GMI can leverage its network of 45 country partners, private sector organizations, and multilateral partners, and unparalleled track record of **developing and disseminating technical expertise, tools, and resources**, enabling countries to reduce emissions and meet goals set out in the Paris Agreement.

Global Methane Initiative

Meeting Paris Goals Through Methane Mitigation

- Research indicates that without addressing Short Lived Climate Pollutants (SLCPs,) like methane, the Paris goals will be unsuccessful.
- According to Climate & Clean Air Coalition (CCAC), there is a potential for a 40% methane emissions reduction globally by 2030 through better agricultural practices, waste management, along with reduction in fossil fuel leakage.

Effects of Taking Early Action on SLCPs and long-lived GHGs on global climate temperature increases by 2100.

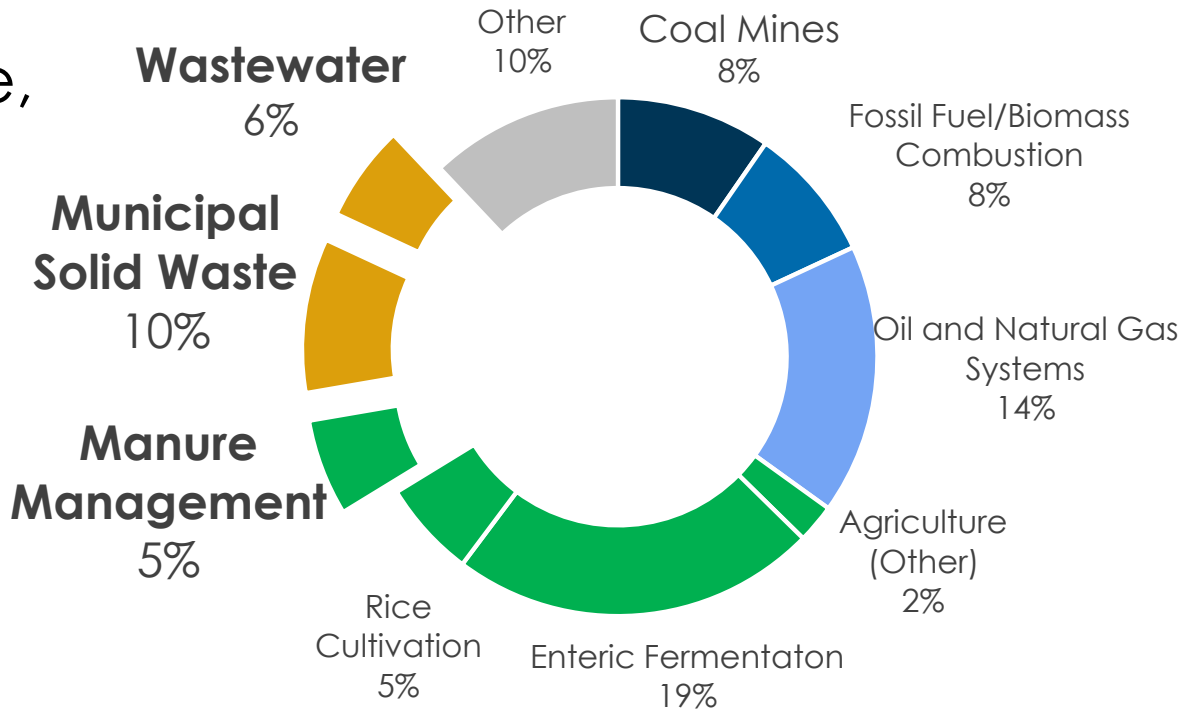


Source: https://www.wri.org/blog/2018/10/3-charts-explain-one-most-overlooked-opportunities-address-climate-change-and-poverty

Role of Biogas Sector in Meeting Paris Goals

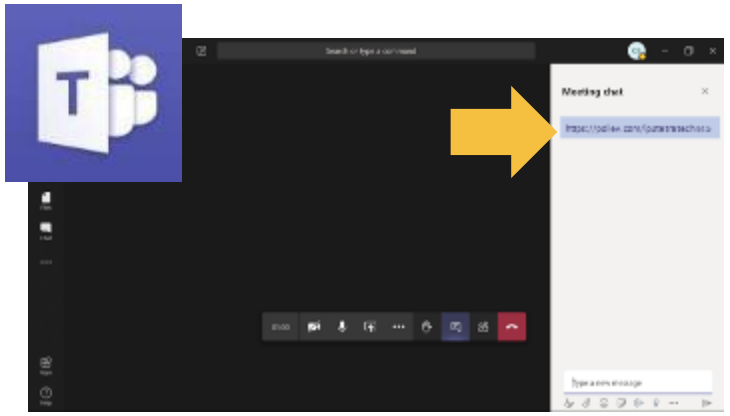
- Approximately 21% of anthropogenic methane emissions are from the biogas sector (agriculture, municipal solid waste, wastewater)
- Countries should include methane mitigation and biogas strategies in National Energy and Climate Plans and NDCs.

2030 Projected Global Non-CO2 Emissions (14,031 MMTCO$_2$E Total)

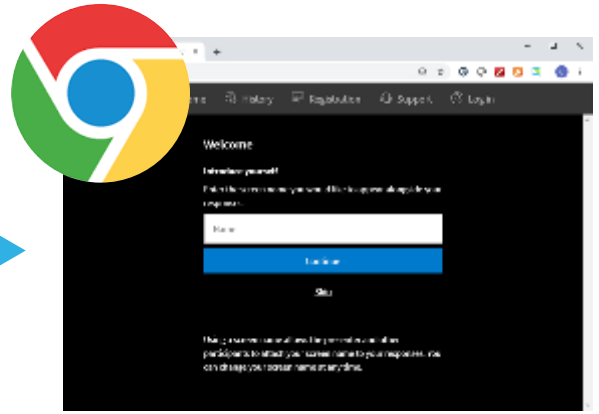


Source: Global Anthropogenic Emissions of Non-CO_2 Greenhouse Gases: 1990-2050

Feedback Questionnaire Instructions

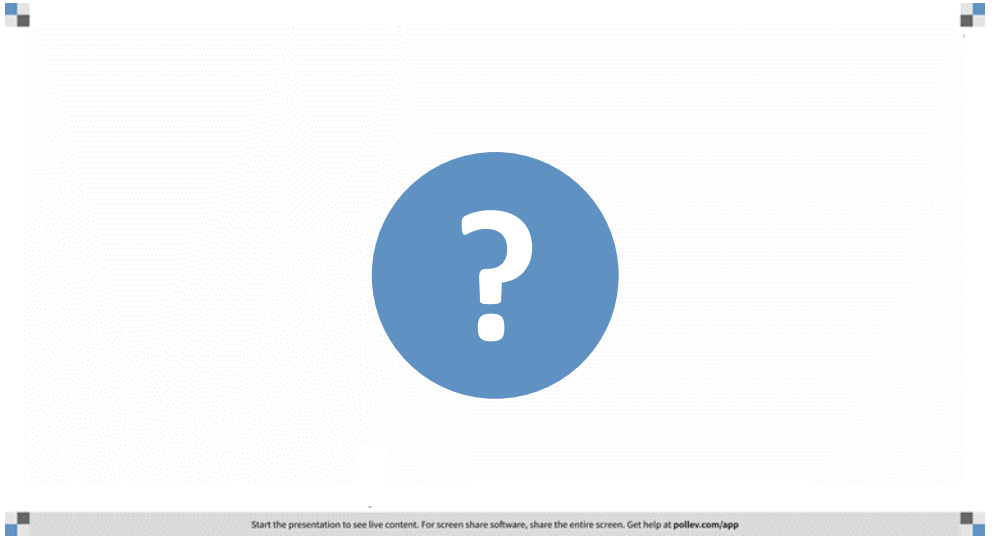


Click the web link provided in the “Chat” pane.



Respond yes or no to notification settings.

Enter a username or remain anonymous.



Answer the question and then navigate back to Teams.

The URL will also be displayed at the top of each question.

Help!

Need Help?

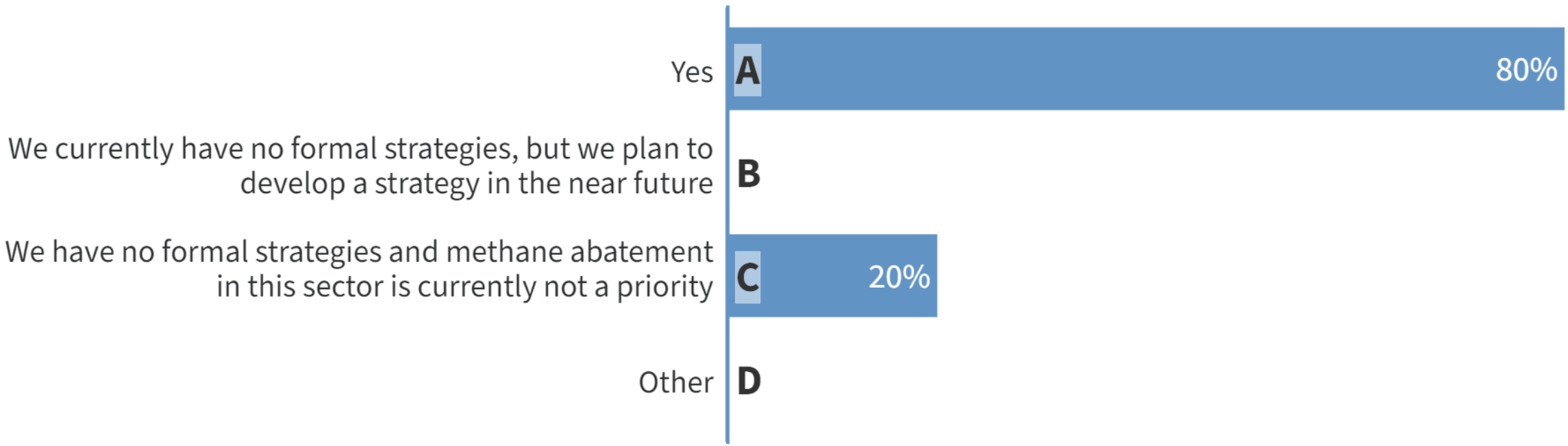
If you need help, please send an email to asg@globalmethane.org

- You may need to disconnect from VPN
- You will have the option to delete and resubmit your response

Question #1

- Does your country have strategies, targets, or NDCs to abate and/or recover methane emissions from biogas sources?

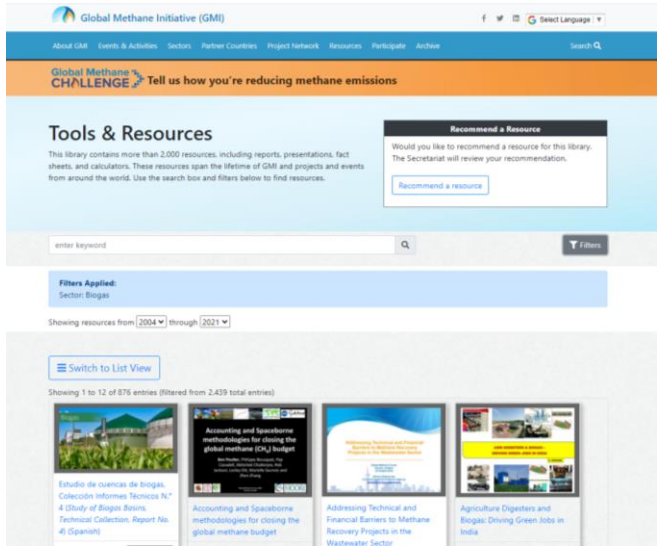
1. Does your country have strategies, targets, or NDCs to abate and/or recover methane emissions from biogas sources?

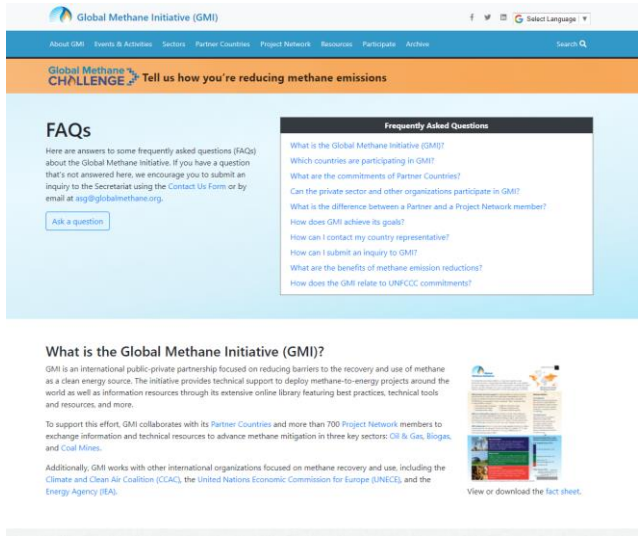


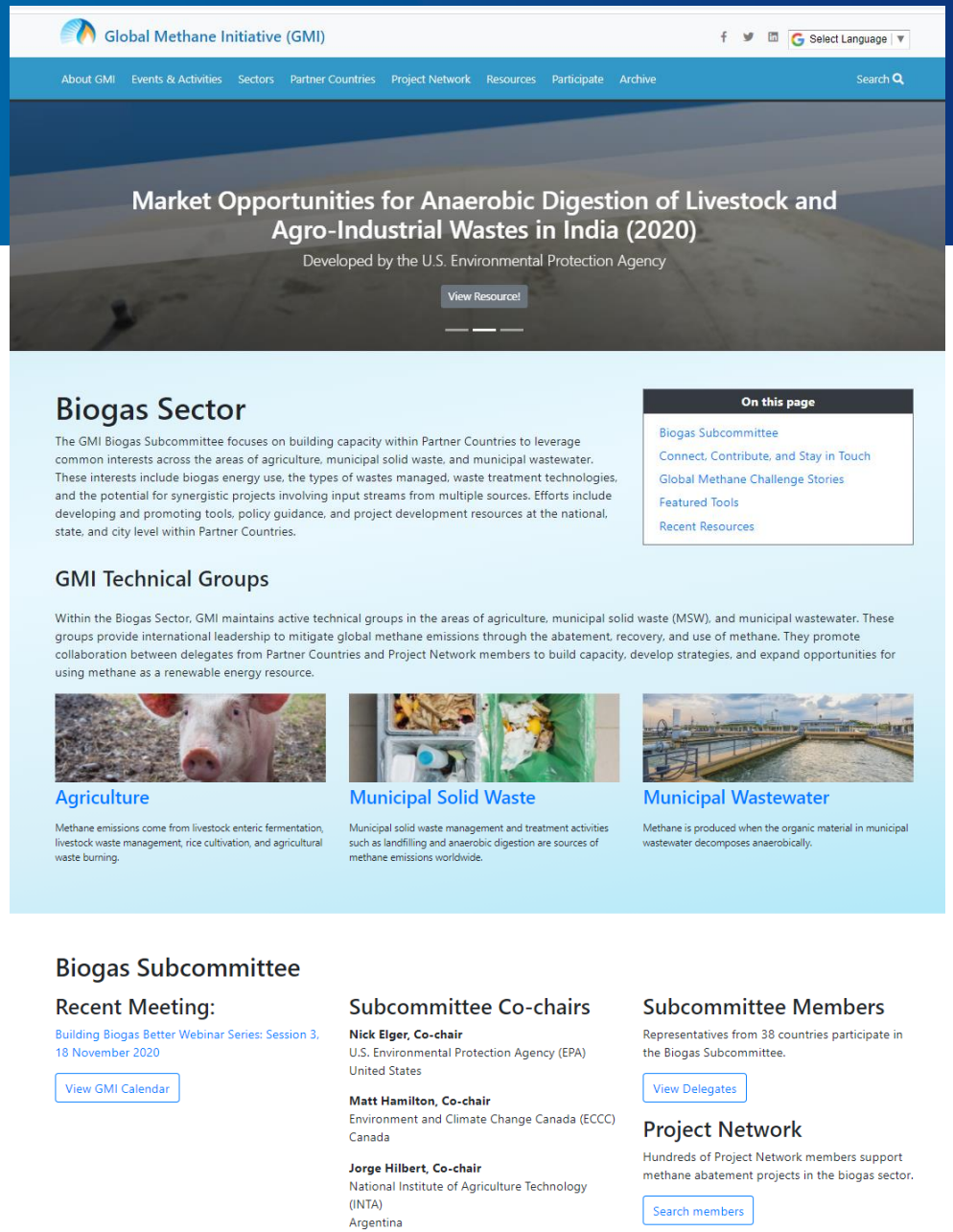
Latest GMI Biogas Tools and Resources

Updated GMI website

- Better navigation and organization
- More direct outreach to stakeholders
- Easier access to tools and resources







Available at: globalmethane.org

EPA Biogas Toolkit

- A web-based toolkit with **36 tools and resources** to facilitate biogas project development.
- **Roadmap for planning and implementing biogas projects** and quantifying economic and environmental impacts.
- Audience: Project implementers, developers, financiers, and policymakers.

Tool available at: [Biogas Toolkit]

Filters

Project Phase
- ☐ Getting Started
- ☐ Pre-Feasibility
- ☐ Feasibility Assessment
- ☐ Development and Construction
- ☐ Operations and Management

Biogas Sector
- ☐ Agriculture
- ☐ Solid Waste
- ☐ Wastewater

Topic
- ☐ Engineering and Technology
- ☐ Finance
- ☐ Business Planning
- ☐ Regulatory Compliance
- ☐ Environment and Social

Displaying 36 of 36 resources.

CHECKLIST **10 Keys to Digester Success**
Many factors are required to successfully implement and operate an anaerobic digestion/biogas system. This resource lists 10 key factors essential for a successful farm-based digester project.

DOCUMENT **AgSTAR Operator Guidebook**
This guidebook helps operators increase operational performance and efficiency of AD systems, and avoid common challenges.

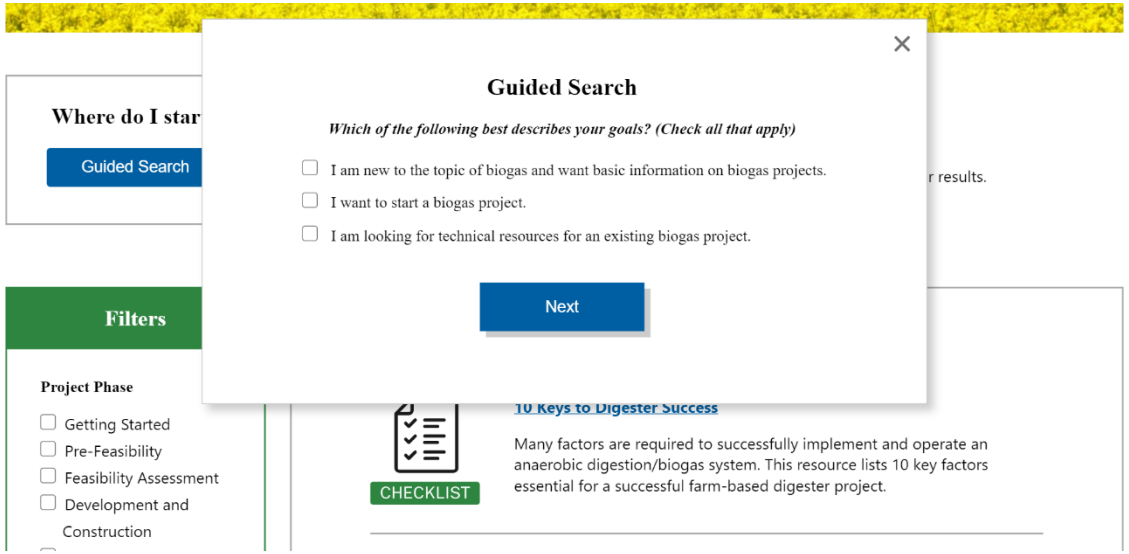
DOCUMENT **Is An Anaerobic Digestion Project Appropriate?**
Anaerobic Digester Project Development Handbook, Chapter 1
This chapter of the AgSTAR Project Development Handbook outlines the factors to consider to successfully implement and operate an AD/biogas system, provides characteristics for farms that might indicate an AD/biogas system is appropriate, and provides limitations and conditions that would determine that AD/biogas is not applicable.

EPA Biogas Toolkit

Global Methane Initiative

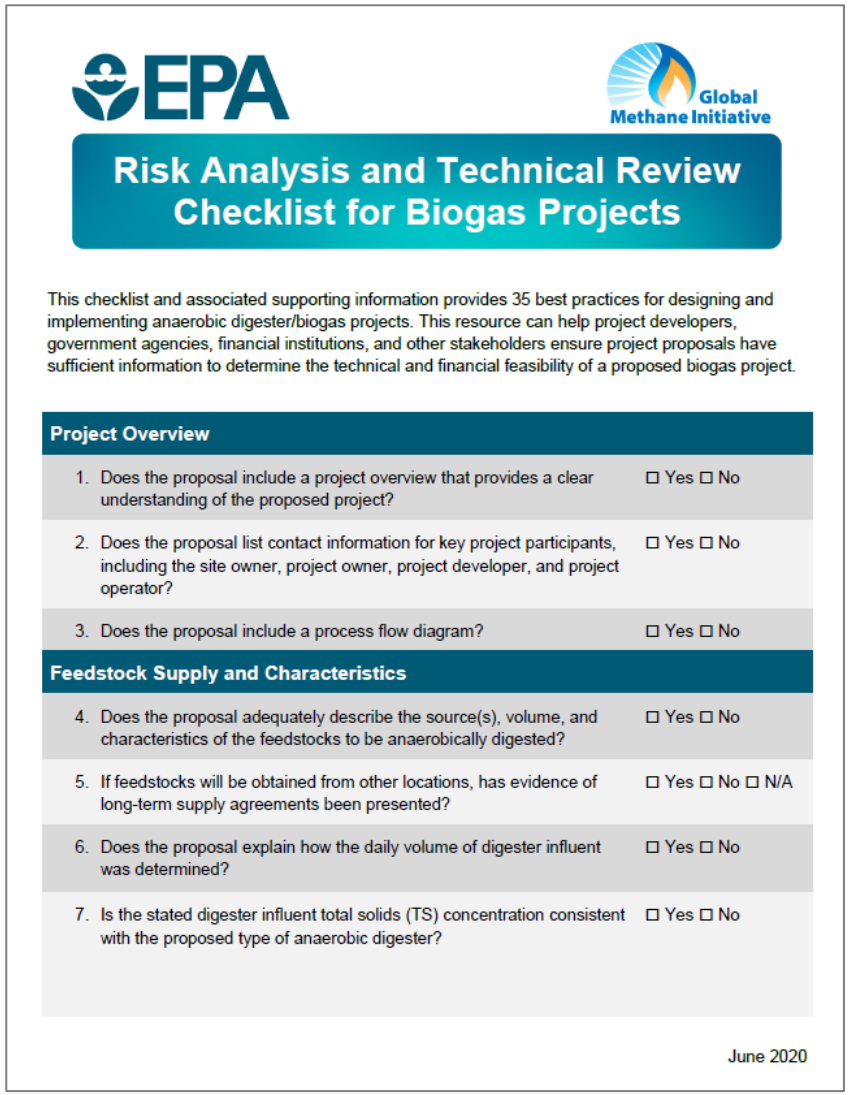
Highlights of Toolkit:

- **Centralized location** for all U.S. EPA and GMI biogas tools
- **Filter categories** and guided search to help users find exactly what they need
- Intended for **U.S. and international audience**
- Usable by **all knowledge levels** (getting started to advanced)



Risk Analysis and Technical Review Checklist for Biogas Projects

- Supports development and review of projects to **assess technical and financial viability**.
- Provides **guidance and reference materials** for project reviewers (e.g., rules of thumb for biogas production).
- Goal is to **reduce real and perceived risks** of biogas projects.



EPA

Global Methane Initiative

Risk Analysis and Technical Review Checklist for Biogas Projects

This checklist and associated supporting information provides 35 best practices for designing and implementing anaerobic digester/biogas projects. This resource can help project developers, government agencies, financial institutions, and other stakeholders ensure project proposals have sufficient information to determine the technical and financial feasibility of a proposed biogas project.

Project Overview	
1. Does the proposal include a project overview that provides a clear understanding of the proposed project?	☐ Yes ☐ No
2. Does the proposal list contact information for key project participants, including the site owner, project owner, project developer, and project operator?	☐ Yes ☐ No
3. Does the proposal include a process flow diagram?	☐ Yes ☐ No
Feedstock Supply and Characteristics	
4. Does the proposal adequately describe the source(s), volume, and characteristics of the feedstocks to be anaerobically digested?	☐ Yes ☐ No
5. If feedstocks will be obtained from other locations, has evidence of long-term supply agreements been presented?	☐ Yes ☐ No ☐ N/A
6. Does the proposal explain how the daily volume of digester influent was determined?	☐ Yes ☐ No
7. Is the stated digester influent total solids (TS) concentration consistent with the proposed type of anaerobic digester?	☐ Yes ☐ No

June 2020

Tool available at: Risk Analysis Checklist and Guidance

Solid Waste Emissions Estimation Tool (SWEET)

- Excel-based tool for **quantifying pollutant emissions** from sources across the waste sector
  - **Project-, source-, or system-level** emissions estimates
  - **Methane**, black carbon, PM, and other pollutants
  - **Helps policymakers understand the emissions implications** of different waste management scenarios.
- Increasing usage
  - Used in **40+ cities to date**
  - Adopted by ISWA for Closing Dumpsites campaign
  - Incorporated into UN Habitat's Waste Wise Cities Tool
  - Used by WHO as part of Urban Health Initiative

Solid Waste Emissions Estimation Tool (SWEET)

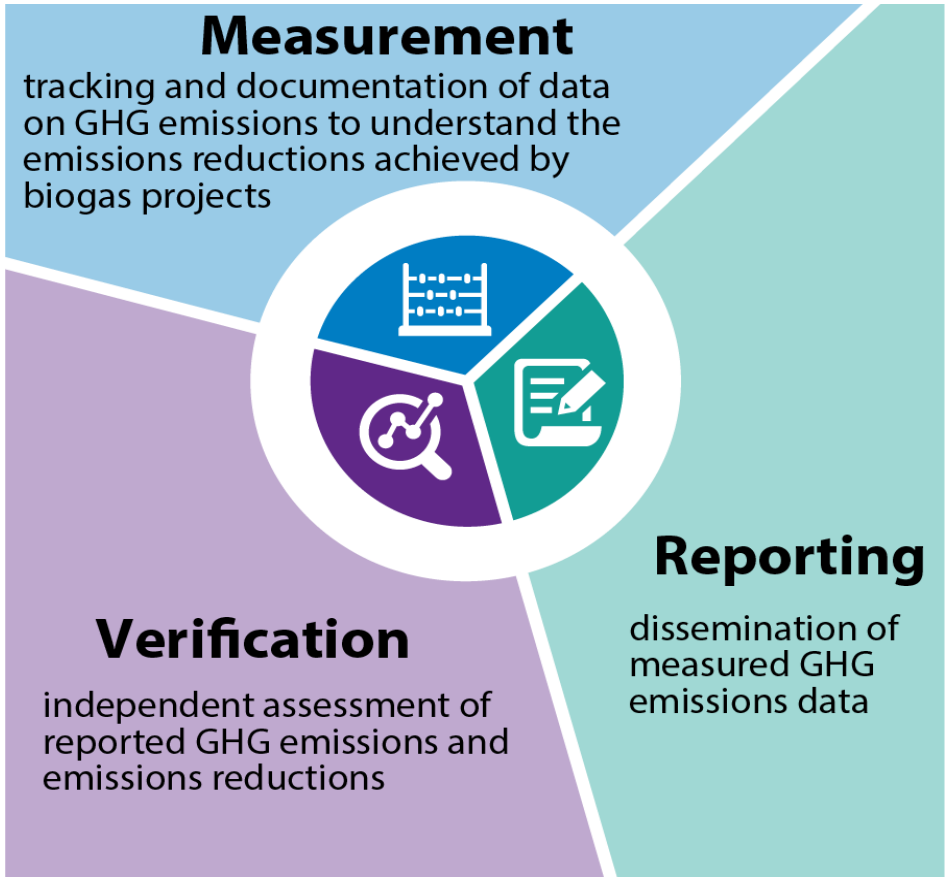
- New version of SWEET coming in 2021
- Re-releasing with additional resources
  - Case studies
  - Updated user manual
  - Training and awareness raising resources
  - Dedicated web area on GMI website

Tool available at: [SWEET Tool]

Coming Soon: Measurement, Reporting, and Verification (MRV) Handbook for Governments

Global Methane Initiative

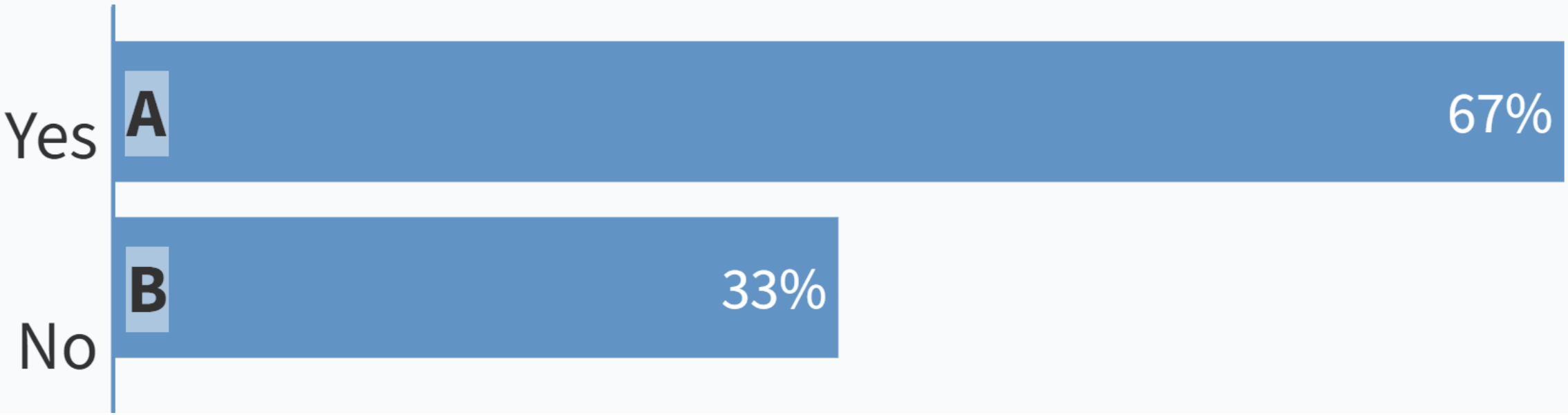
- Currently developing a **handbook on MRV in the biogas sector** for national governments.
- High-level **guiding principles** for conducting MRV for biogas projects.
- Focus on applying project-level MRV best practices to
  - Improve **national GHG inventories**
  - Enhance methane mitigation through **NDCs**
- Release expected **2021**
- **Additional MRV resources to come!**



Question #2

- Does your country have tools and/or guidance documents for the development of biogas projects?

2. Does your country have tools and/or guidance documents for the development of biogas projects?



Developing a Collective Vision

Survey of Delegates and Action Plan

- Over next several months, GMI Co-Chairs will conduct a survey of country delegates.
- Objectives of survey:
  - Ensure that the Subcommittee is working toward collective interests
  - Learn more about current biogas goals, policies, programs and incentives in Partner Countries
  - Learn more about Partner Country interests and needs, and their perspectives on how the Subcommittee's work could support them
- Feedback from GMI Delegates will drive the development of an Action Plan for the Biogas Subcommittee.

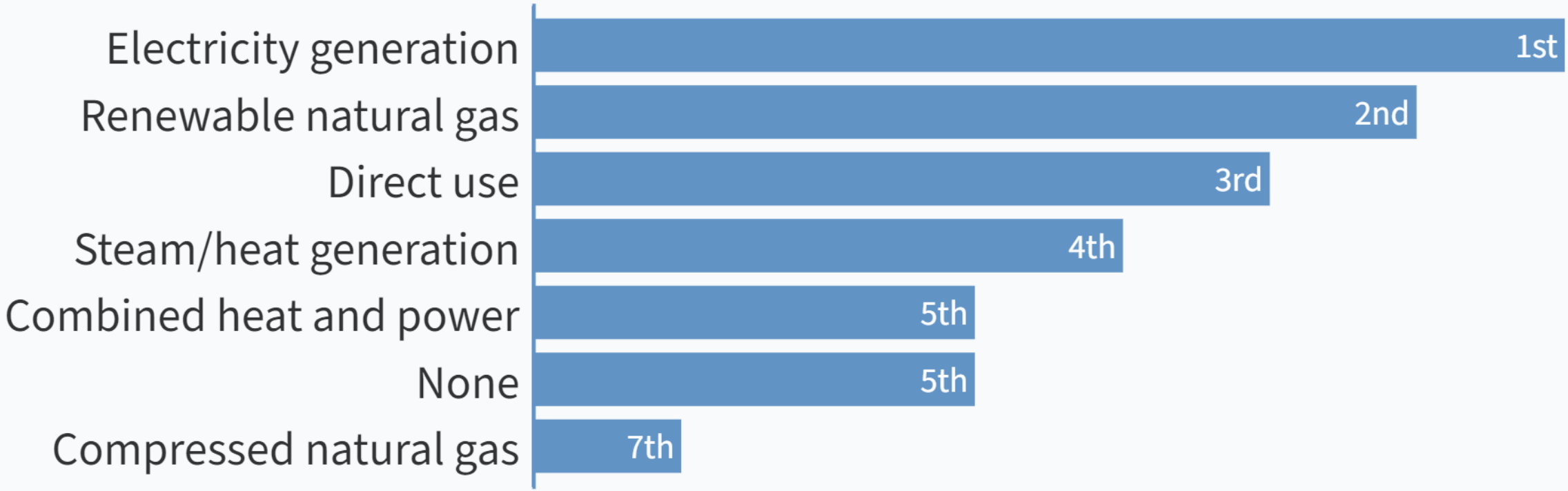
Timeline for Feedback Process

- **March 2021:** Feedback Survey to be sent to Delegates
- **April – June 2021:** Co-chairs will follow up with delegates individually to discuss survey
- **July 2021:** Annual Biogas Subcommittee Meeting (Virtual)
  - Summarize what we have learned and report back to delegates
  - Collaborate with delegates to develop a new Action Plan for the Subcommittee that reflects collective interests

Question #3

- What are the fastest growing uses for biogas in your country?

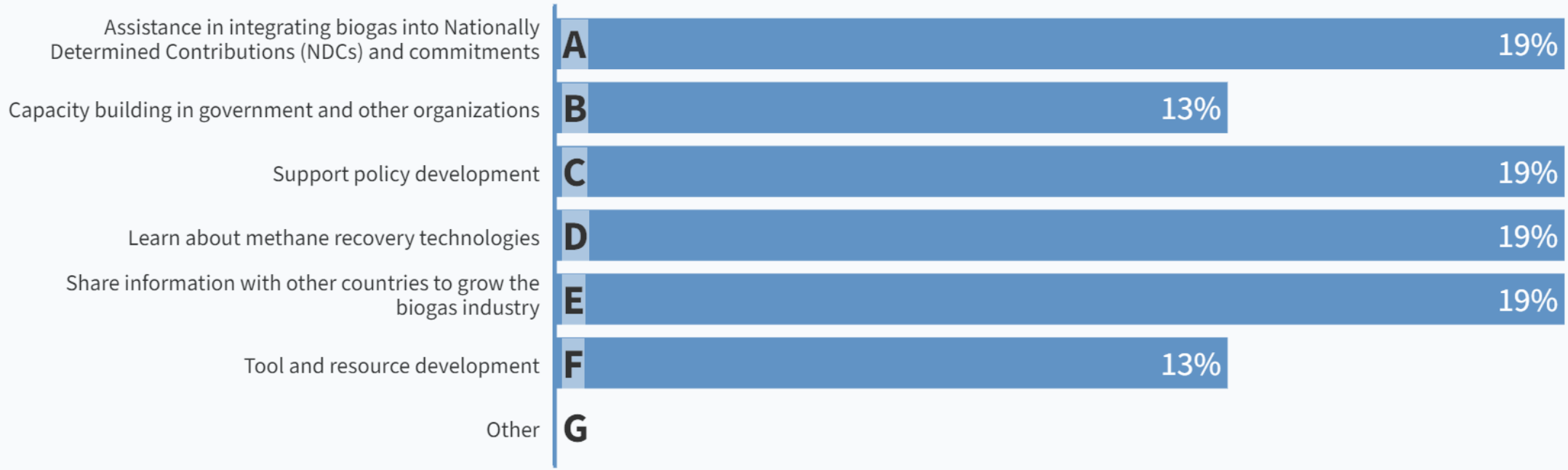
3. What are the fastest growing uses for biogas in your country? Use the arrow buttons to rank the following uses.



Question #4

- What would your country like to gain from its participation in the Biogas Subcommittee?

4. What would your country like to gain from its participation in the Biogas Subcommittee? Select all that apply.



Opportunities to Engage with GMI

- Host or chair an event or meeting
- Contribute to the development of the Action Plan
- Contribute to learning and information exchange opportunities (e.g. workshops, webinars)
- Shared research
- Tool and resource development

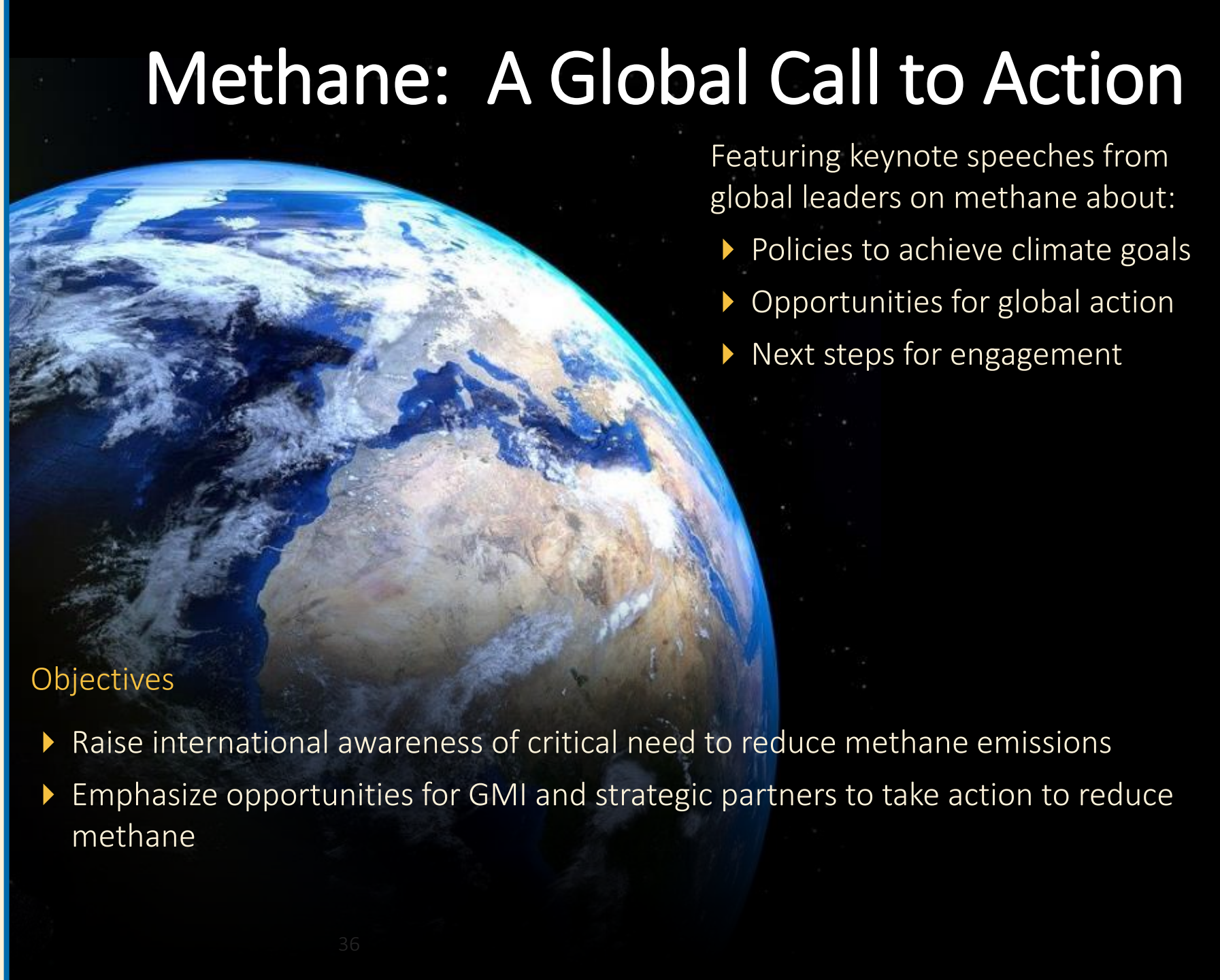
Global Methane Initiative

GMI Virtual Event

Date:
Wednesday, 3 June 2021
Microsoft Live event

Outcome:
Engaged, empowered government partners prepared to act on methane

Methane: A Global Call to Action



Featuring keynote speeches from global leaders on methane about:

- Policies to achieve climate goals
- Opportunities for global action
- Next steps for engagement

Objectives

- Raise international awareness of critical need to reduce methane emissions
- Emphasize opportunities for GMI and strategic partners to take action to reduce methane

Co-Chair Contact Information

Matt Hamilton	Co-Chair, GMI Biogas Subcommittee, Environment Canada	Matthew.hamilton@canada.ca
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Nick Elger	Co-Chair, GMI Biogas Subcommittee, United States Environmental Protection Agency	Elger.Nicholas@epa.gov

Thank you for participating today

Global Methane Initiative