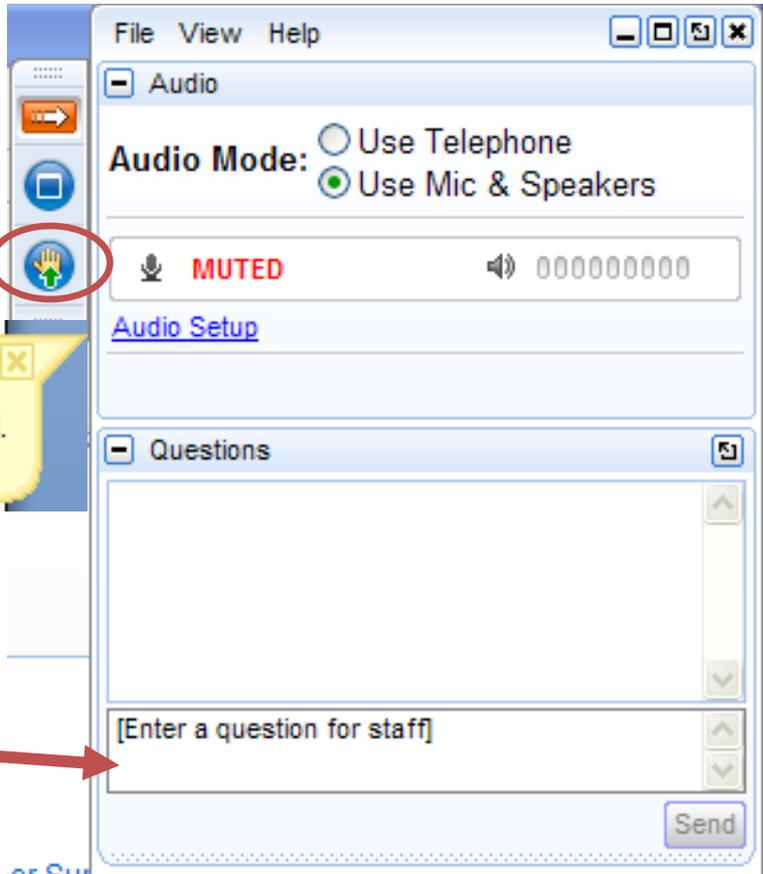


The Oil & Gas Subcommittee Meeting will begin shortly...

AUDIO INSTRUCTIONS:

We have muted your telephone or microphone.

To request to speak during the meeting, click



ASG Staff will unmute you

You can also type a question to ASG Staff

Global Methane Initiative

Oil & Gas Subcommittee Meeting

10 December 2013

Introductions

- Oil & Gas Subcommittee Co-chairs
 - *Javier Bocanegra (Mexico)*
 - *Michael Layer (Canada)*
- US Representatives to Oil & Gas Subcommittee
 - *Carey Bylin (EPA)*
 - *Scott Bartos (EPA)*
- Administrative Support Group
 - *Henry Ferland (ASG)*
 - *Allison Berkowitz (ERG)*
 - *Sarah Greenberg (ERG)*
- Meeting participants introduce themselves
 - *Please include name and organization*

Agenda

- **Welcome**
 - Introductions and brief country updates
- **ASG Update**
 - Outcomes of Methane Expo 2013
 - 10th year Anniversary Activities
 - Statement of purpose
 - Next meeting
- **CCAC Update**
- **NAMA Discussion**
- **Country-Specific Strategies and Activity Update**
 - Brief updates
- **Adjournment**

Update from the Administrative Support Group (ASG)

Henry Ferland, ASG

ASG Update: Outcomes from Vancouver

- Outcomes from Methane Expo 2013
 - Continue engaging with CCAC
 - Identify barriers and project implementation opportunities
 - Organize next opportunity to convene global methane community
 - Action Planning/Develop Country Action Plans



Photo by Bayne Stanley/Courtesy of Environment Canada

ASG Update: Action Planning

- Develop Country Action Plans
 - Country's current and future work in methane reduction
 - changes over time as each partner's goals and commitment evolve
 - Could be part of country's overall climate strategy documents, such as NAMA plans
 - Benefits:
 - Identify country's needs and opportunities for methane reductions
 - Communicate to the global community

ASG Update: Action Planning (continued)

- Revised guidance (July 2013)
 - www.globalmethane.org/documents/GMI_PartnerSectorActionPlansAppendix_REV_June2013.pdf
- Partner Sector Action Plans
 - <https://www.globalmethane.org/oil-gas/index.aspx#actionplans>
- Schedule for Completion

ASG Update: 10th Anniversary

- 10-years of Global Methane Reductions and Capacity Building
 - To highlight GMI's accomplishments:
 - Develop video and pamphlet
 - Call for video footage sent 21 November
 - Partnership-wide Meeting 2014
 - Location to be announced
 - October or November 2014

ASG Update: Statement of Purpose

- Develop Subcommittee Statement of Purpose
 - Benefit
 - Additional guidance on future direction and work
 - Defines
 - Mission
 - Focus
 - Roles
 - Next Steps
 - Schedule for completion



GLOBAL METHANE INITIATIVE AGRICULTURE SUBCOMMITTEE STATEMENT OF PURPOSE

MISSION

The GMI Agriculture Subcommittee is dedicated to reducing the impacts of climate change by providing international leadership to mitigate global methane emissions through the abatement, recovery, and use of methane from agricultural sources. The Subcommittee promotes collaboration between delegates from Partner Countries and Project Network members to build capacity, develop strategies and markets, and remove barriers to methane mitigation project development in order to increase environmental quality, improve rural livelihoods, strengthen the economy, and expand opportunities for renewable energy production and use.

FOCUS

The Subcommittee primarily focuses on promoting the reduction of methane emissions from livestock manure and agro-industrial wastewater and residues through the use of anaerobic digestion (AD) for conversion into biogas.

ROLES

Delegates work to achieve these goals by:

- Serving as the country point of contact for information about the Initiative;
- Preparing and updating country agriculture sector action plans;
- Sharing country policies, incentives, standards, plans, and success stories through participation at GMI events and contributions to GMI resources (including GMI website, documents, international AD database, etc.);
- Conducting research, performance evaluations of operating AD systems, technical assistance, workshops or meetings, technology transfer activities, and training;
- Developing fact sheets, tools, guides, training plans, country AD databases, and methane inventories or reduction estimates; and/or
- Funding the activities above in other Partner countries.

Project Network members assist in these efforts by:

- Providing funding opportunities,
- Participating at events,
- Sharing industry expertise and research,
- Representing similar organizations,
- Implementing methane reduction projects, and
- Publicizing success stories.

Next Subcommittee Meeting

- Next Subcommittee Meeting
 - In-person meeting, co-located with the Natural Gas STAR Annual Implementation Workshop
 - 12 May 2014
 - San Antonio, Texas
- Any suggested agenda topics?
- Help us spread the news about the meeting

Climate and Clean Air Coalition (CCAC) Update

Carey Bylin, U.S. EPA

Climate and Clean Air Coalition

- Founded in February 2012
- 7 partners → now, over 70
- 34 countries to date and key non-state partners (e.g., World Bank, UNEP, WHO)
- Voluntary international effort bringing together countries, companies, and others to work together to substantially and cost-effectively reduce methane, black carbon, and HFCs
- Action-oriented, ambitious, and high political interest
- 10 initiatives; Science Advisory Panel; UNEP Secretariat

CCAC Ministers Statement (January 25, 2013)

Signed by 13 CCAC Ministers:

- Australia
- Denmark
- France
- Italy
- Nigeria
- Norway (x2)
- Sweden (x2)
- United Kingdom
- United States (x2)
- UNEP

Accelerating Cost-Effective Reductions of Short-Lived Climate Pollutants from Global Oil and Natural Gas Operations

As partners to the Climate and Clean Air Coalition,¹ we declare our support for substantially reducing venting, leakage, and flaring of natural gas from oil and gas operations worldwide, and invite oil and gas companies to join us in this effort.

While recognizing existing efforts, new impetus is today needed to accelerate action. It is estimated that over 8 percent of total worldwide natural gas production is lost annually to venting, leakage, and flaring. In addition to U.S. \$27 to \$63 billion in energy and economic losses, these activities result in nearly two gigatons of CO₂ equivalent of greenhouse gas emissions per year, over 80 percent of which are methane emissions – making oil and gas operations the second-largest source of global anthropogenic methane emissions behind agriculture. Flaring also releases substantial amounts of black carbon, which is particularly harmful to human health and areas like the Arctic.

These emissions can be readily and cost-effectively addressed with existing technologies and practices. In fact, a significant portion of leaked and vented methane can be reduced at zero net cost. Emerging technologies are also making it increasingly possible to profitably recover, rather than flare, the valuable light hydrocarbon liquids that are often found in flare streams and that contribute most significantly to black carbon emissions.

We are inviting oil and natural gas companies to work with the Climate and Clean Air Coalition to collaboratively design mechanisms and voluntary commitments to achieve substantial global methane and black carbon emission reductions. Such reductions would increase the volume of hydrocarbons going to productive use, improve operational efficiencies, and lead to substantial climate and health benefits.

We aim to help companies accelerate and expand voluntary emission reductions where there are cost-effective opportunities to do so, and to showcase progress by companies that are already taking significant action. This effort will build upon and scale-up the achievements of the Natural Gas STAR International Program, the Global Methane Initiative, and the Global Gas Flaring Reduction Partnership.

The Coalition stands ready to mobilize needed technical and policy capacity-building, and to provide forums and opportunities to recognize efforts by leading companies.

¹ The Coalition (www.unep.org/ccac) was launched in February 2012 with the goal of working collaboratively with countries, companies, financial institutions, and others to accelerate major, near-term reductions of methane, black carbon, and hydrofluorocarbon (HFC) emissions. These short-lived pollutants are responsible for a substantial fraction of current global warming and extensive health and environmental impacts. Since February, the Coalition has grown to more than 50 partners, established a Science Advisory Panel to ensure efforts are guided by cutting-edge science, and launched multiple initiatives to quickly reduce these emissions worldwide.



CCAC O&G Methane Partnership Overview

The CCAC Methane Partnership is designed so participating companies can more fully understand and manage their methane emissions over time, and be recognized for their leadership and progress

Technology application approach

Implementation flexibility

Transparency and recognition

Goal → Meaningful and Implementable Partnership



Methane Partnership: Proposed Key Elements

- **Implementation Plan:** company defines scope and pace of participation
 - Due 6 months from joining, updated over time
- **Scope:** Global operated assets; JV/non-operated assets encouraged
 - Company defined
 - Exceptions for JV/operational control, gas market, and other considerations
- **Emitting Sources:** Focus on nine core “major sources” that represent the majority of methane emissions from the upstream sector
- **Inventory Component:** For core sources within scope, partners conduct emission surveys to quantify:
 - Mitigated and unmitigated activity factors
 - Methane emissions (quantification methods recommended but not required)
- **Reduction Commitment:** Implement reductions for unmitigated core sources to greatest extent technically and economically feasible
- **Reporting:** Annually report to CCAC Administrator results of emission surveys, mitigation analyses, reductions implemented and planned, and progress against Implementation Plan
- **Public Recognition:** CCAC will report pre-defined information on company progress



Partnership Added-Value

Programmatic Components		Nat'l Gas STAR Int'l	Nat'l Gas STAR (US only)	GMI	GGFR	CCAC (as proposed)
Methane Venting/Leakage Focus		X	X	X	X*	X
Global		X		X	X	X
Pre-Defined, Broad Operational Participation						X
Inventory Component						X
Implementation Plan Requirement		X	X		X**	X
Project Analysis Requirement						X
Annual Reporting Requirement		X	X			X
Annual Reporting Components	Facilities Surveyed					X
	Emissions					X
	Reductions	X	X			X
	Projects Implemented	X	X		X***	X
	Reason for Reduction Projects Not Implemented					X
	Reduction Projects Planned for Next Year					X
	Implementation Plan Progress					X

* Continuous (due to lack of flaring facilities) and non continuous venting (upstream)

** Voluntary Gas Flaring Reduction Implementation Plan (not submitted to GGFR)

*** Phase IV KPI

CCAC Partner Contributions

- **Technical support and capacity-building** to assist companies in evaluating their methane emissions and analyzing methane emission reduction projects
- Encourage development of **policies and practices that promote and support oil and gas methane emission reduction activities** within CCAC countries
- **Country-to-country engagement** and sharing of best practices with other national governments and affiliated oil and gas companies to encourage and support oil and gas methane emission reduction activities outside current CCAC country borders
- **Fund the Administrator** coordinating implementation of partnership:
 - ✓ Independent, multilateral administrator
 - ✓ UNEP-hosted CCAC Secretariat
- Provide forums and opportunities to **recognize past, present, and future efforts by leading companies**, which includes vital messaging to institutional investors and other key stakeholders:
 - ✓ High-level recognition of leadership by participating companies – e.g., minister events, media outreach, etc.
 - ✓ Utilize / leverage high-level political interest in the CCAC



Nationally Appropriate Mitigation Action (NAMA) Development

**Canada-Colombia-Mexico Oil & Gas
Industry Collaboration**

Michael Layer, Natural Resources Canada

Oil & Gas NAMA Project Background

- December 2011 – Canada, Colombia & Mexico began formal collaboration to support development of sector NAMAs for upstream, midstream and downstream O & G
- Credible NAMAs will require verifiable:
 - Baseline activity determination
 - Quantification of emission reduction opportunities
 - Economic business case development
 - Environmental performance improvements that can be measured, monitored and sustained

Oil & Gas NAMA Development Project Objectives

- Identify “Mitigation Action” opportunities which:
 - **Address country’s priorities** for management of energy, environment and the economy
 - **Ensure economic, environmental & social sustainability** of country’s oil and gas production
 - Develop new and profitable opportunities to **measurably improve resource recovery and environmental quality**
 - Advance the development and **transfer of knowledge and clean energy technologies**

Scope

- Detailed measurement to identify opportunities for increased energy efficiency, and reduced flaring, venting and fugitives emissions
- Strategically selected facilities are highly representative of upstream, midstream & downstream sectors in Colombia & Mexico
- **This enables a “bottom up” approach for successful development of projects, programs or policies**
 - For local, State or Federal implementation
 - All of which complement stated objectives for NAMA definition

Outcome Potential

Measurement based NAMA development at sector representative O&G facilities supports:

- Verifiable facility baseline and benchmark development
 - For activities like flaring, venting, energy utilization
- Statistical extrapolation certainty to develop
 - Verifiable determination of facility & sector emissions reduction potentials
 - Accurate sector emissions inventories
- Development of **facility based projects or sector strategies**

Current Status

- Significant “Mitigation Action” opportunities identified at selected Ecopetrol & Pemex facilities
- Must now work to:
 - Develop implementation activities for “Mitigation Actions” at facility project level
 - Extrapolate measured facility opportunities to develop Sector NAMAs
 - Countries register NAMAs with the UNFCCC
- Identify ongoing collaboration opportunities to advance NAMA development
 - **CCAC, GMI**



Country Specific Strategies and Activity Updates

Javier Bocanegra and Michael Layer,
Subcommittee Co-Chairs

Country-Specific Strategies and Activity Update

- Brief updates
 - Canada
 - Mexico
 - United States
 - Other members

US Government Contributions to the GMI

Scott Bartos, U.S. EPA



U.S. Activities

- **U.S. methane emissions reduction opportunities/projects are realized at the company level**
- **Natural Gas STAR and Natural Gas STAR International have nearly 130 partner companies—18 of which are international partners**
- **U.S. oil and gas partner companies reduced methane emissions by approximately 66 Bcf in 2012**
- **International partner companies reduced methane emissions by 7.6 Bcf in 2012**

U.S. Activities

- **The Natural Gas STAR Program hosted Technology Transfer Workshops that focused on methane emissions reductions from the distribution and productions sectors**
 - **Domestic**
 - Detailed information on the workshops are posted at: <http://www.epa.gov/gasstar/workshops/techtransfer/index.html>
 - **International**
 - 2013 International Conference on QHSSE conference in Palembang, Indonesia
 - Indonesia MEMR Workshop
 - ASCOPE Meeting in Kuala Lumpur
 - 1st India Natural Gas STAR International Workshop hosted by ONGC in Delhi, India

U.S. Activities

- **Additional workshops (domestic and international) are anticipated in 2014**
 - **Production Technology Transfer Workshop on 11 February 2014**
- **The Natural Gas STAR Annual Implementation Workshop and awards luncheon is scheduled for 13-14 May 2014**

U.S. Cooperative Activities

- **Outreach and promotional trips to the Middle East, China, Indonesia, Uruguay, Russia and Ukraine**
- **Continuing to execute field measurement campaigns in China and completed first field measurement campaign with PTT (Thailand)**
- **Developing implementation plan with GAIL (India)**

Thank you

Thank you for your participation today.
We look forward to seeing you in San Antonio!