



GLOBAL METHANE INITIATIVE
AGRICULTURE SUBCOMMITTEE
INTERNET-BASED MEETING

Fifteenth Session of the Agriculture Subcommittee
Internet-Based Meeting
24 September 2013

Minutes

- 1 The Global Methane Initiative (GMI) Agriculture Subcommittee conducted its fifteenth session via an Internet- and telephone-based meeting on 24 September 2013.
- 2 Jorge Hilbert of the Argentine Instituto Nacional de Tecnología Agropecuaria (INTA), an Agriculture Subcommittee Co-Chair, welcomed meeting participants on behalf of Agriculture Subcommittee Co-Chairs Allison Costa of the United States Environmental Protection Agency (U.S. EPA) and Anil Dhussa of the Indian Ministry of New and Renewable Energy. Mr. Hilbert reviewed the meeting agenda, which included:
 - Welcome and Introductions
 - Country Updates
 - Subcommittee Activities
 - Anaerobic Digestion (AD) Benefits Guide
 - AD Incentives and Policy Guides
 - Update from the Administrative Support Group (ASG)
 - Next Agriculture Subcommittee Meeting
- 3 The subcommittee meeting agenda and a recording of the meeting are posted on the [GMI website](#).
- 4 Mr. Dhussa invited all meeting participants to introduce themselves. The meeting participants included GMI Partner Country delegates and Project Network members in addition to ASG personnel. A participant list is presented in [Annex 1](#).

Country Updates

- 5 Mr. Dhussa invited country delegates to provide brief country updates.
- 6 **Argentina.** Mr. Hilbert provided an update on Argentina's activities. Since the last GMI meeting, there has been an increase in staff at INTA and the Institute of Industrial Technology (INTI) dedicated to promoting AD in Argentina. A new on-farm, two-megawatt (MW) codigestion AD plant was installed and there are now more than 30 operating AD plants in Argentina. Argentina is currently experiencing an energy shortage, which is driving an increase in interest and financing for renewable energy technologies. A new program called Probiomass, which is supported by the United Nations Food and Agriculture Organization (FAO) and the Argentina Department of Energy, encourages the use of biomass to produce energy as a Nationally Appropriate Mitigation Action (NAMA). FAO is conducting surveys of the organic material available in each province. There have been some technology problems, including performance problems with covered lagoons due to maintenance issues. To help address these issues, new AD firms are entering the Argentine market with new technologies and technical assistance from Germany.

- 7 **India.** Mr. Dhussa shared an update on India, noting there are more than 4.6 million household biogas plants in India. There are approximately 150,000 new plants each year. A new, large-scale AD project that became operational this year digests poultry and cattle manure with other agro-industrial wastes and produces 2.4 MW of electricity. In addition, there have been about 10 biogas-to-compressed natural gas (CNG) projects to date, and there are more planned. The government is providing financial support to these projects under the Waste-to-Energy Program. The Indian government also supports capital expenditures, tariffs, tax concessions, program implementation, and research and development for AD projects.
- 8 **United States.** Ms. Costa provided a country update for the United States. She explained the U.S. EPA and Department of Agriculture support the AgSTAR Program, which promotes AD projects in the United States. She stated there are over 200 operating digesters in the United States using livestock manure, mostly on dairy farms. There is significant interest in maximizing codigestion in order to increase methane production. Nutrient management is a concern in the United States, due to limits on amounts of nitrogen and phosphorus that can be applied to farm lands.
- 9 The AgSTAR program has been working with state and local governments, private industry, universities, and other associations to address barriers to AD projects. The workgroup is developing general information to educate the public about AD opportunities and benefits. In addition, the workgroup is developing a compilation of AD policy and regulatory issues across the country for all types of AD systems, including wastewater and industrial systems.
- 10 Seth Snyder from Argonne National Lab in the United States stated the U.S. Department of Energy (DOE) Bioenergy Technologies Office is starting a new initiative on waste-to-energy and AD will be considered one of the options. DOE will be issuing contracts to research and promote waste-to-energy activities. Mr. Snyder is currently working on research to accelerate AD processes. The DOE is also interested in doing life cycle analyses of waste-to-energy projects.
- 11 **Canada.** Chris Bush with the Catalyst Agri-Innovations Society stated he built the first agricultural AD project in British Columbia (BC), Canada. There are several more AD systems that are currently operational in BC. All of these projects produce pipeline gas. Mr. Bush is also working on a project that uses duckweed to extract nitrogen from AD effluent.
- 12 Chris Duke of the Guelph Ministry of Agriculture and Food explained that Canada provided 11.2 million dollars to help early AD innovators from 2007 to 2010. At the beginning of the project, there was only one operational AD system and two under construction. By the end of the program, there were 25 AD systems, which were sized between 110 kW to 1.6 MW. Currently, there are 30 AD systems in Canada and the most common AD system size is 250 to 500 kW. A new 2.85 MW HarvestPower industrial AD project started in 2013 and another 2.85 MW project will begin operating next year.
- 13 Mr. Duke explained the main driver for AD systems in Canada is the feed-in-tariff program, which applies to renewable energy projects. This program provides 16 to 19.5 cents per kWh for biogas systems; however, these prices are proposed to increase for smaller systems. During the 2012 feed-in-tariff application period, 15 new projects received feed-in-tariffs. There will be new round of applications in late 2013.
- 14 Mr. Duke also noted the Canadian Ministry of Agriculture and Ministry of Environment together implement the Nutrient Management Act, which regulates land application of farm materials. This regulation is being modified to allow farms to accept up to 50 percent of off-farm materials.
- 15 **Belgium.** Hilde De Wachter of DLV noted many farms in Belgium are co-digesting. The average co-digestion AD system size is 1 MW, processing 60,000 tons of waste, using the heat, and generating

electricity. There are numerous nutrient recovery projects to develop fertilizer from digesters and efforts to address policy constraints to applying the digester effluent to land. Researchers and developers are investigating alternative materials to co-digest, including wood cuttings and other community and industrial inputs. There are smaller systems currently operating as manure-only AD systems, and developers are determining what other inputs can be accepted by these systems and how the effluent can be managed.

- 16 **Nigeria.** Sidney Clouston of Clouston Energy Research Regional Sustainable Energy Center for Excellence expressed his interest in becoming more involved with GMI's work and has signed a memoranda of understanding with Nigeria's Energy Commission. .
- 17 **Climate and Clean Air Coalition (CCAC).** Sunny Uppal of Environment Canada provided an update on CCAC activities. The goal of the Coalition is to share and implement best management practices (BMPs) for minimizing short-lived climate pollutants (SLCPs) including methane, black carbon, and hydrofluorocarbons. CCAC was launched in 2012 and there are currently 70 participating members of the coalition.
- 18 CCAC has an Agriculture Initiative, which is lead by Bangladesh, Bellona (a European NGO), Canada, European Commission (DG Agriculture), Ghana, International Cryosphere Climate Institute, Stockholm Environment Institute, and the United States (both the State Department and Department of Agriculture). The Agriculture Initiative's goals are to share and implement best practices to reduce SLCPs from agriculture. The Initiative plans to develop BMPs on technologies, measurement and decision making tools, business models and incentives, awareness raising and activities, research, lessons learned, and policy suggestions.
- 19 CCAC plans to fund projects to reduce emissions from agricultural burning, rice cultivation, and the livestock sector. The United States is leading the manure management component. For this component CCAC proposes to capture methane as an energy source, reduce emissions, optimize nutrient management, and develop a manure management network to help disseminate information. GMI is participating on the advisory board for this activity.

Subcommittee Activities: AD Benefits Guide

- 20 Ms. Costa explained the subcommittee decided to develop an AD Benefits Guide as a means to encourage participation and make involvement in the organization more beneficial to its members. The goals of the document are to promote the health/social, financial and economic benefits of AD projects, while also demonstrating the varied technologies and partners involved in these projects throughout the world. The draft guide was discussed at the March 2013 GMI Agriculture Subcommittee meeting in Vancouver. Revisions were made based on comments received at the Vancouver meeting and the final version is now available on the [GMI website](#).

Subcommittee Activities: AD Policy and Incentives Guide

- 21 Mr. Costa noted the development of an International Best Practices Guide for Agriculture was discussed at the July 2012 Agriculture Subcommittee meeting in Singapore. The development of the AD Benefits Guide was the first step; the subcommittee will next create a guide to summarize policies and incentives that promote AD project development around the world. Ms. Costa asked the meeting participants for input into the guide's development in the form of poll questions, which are noted below.
- 22 Ms. Costa noted the goal of this task will be to produce a guide that summarizes policies and incentives that impact the use of AD. In addition, the guide will identify lessons learned and best practices to help direct future policy/incentive development and support AD best practices.

- **Poll question 1:** Are these goals still relevant today?
Poll response 1: 90 percent of participants responded YES.
- 23 Ms. Costa described the guide’s target audience will be: GMI delegates and Project Network members; local, regional, and national policy influencers; project developers and financing institutions; industry representatives; nongovernment organizations; and universities, academics and researchers.
- **Poll question 2:** Do you have any changes to the target audience?
Poll response 2: 77 percent of participants responded NO. One meeting participant suggested local consultants should be included.
- 24 Ms. Costa noted the guide would be used to promote policy development in both GMI and non-GMI countries and encourage national leaders to improve existing AD policies and incentives. Additionally, the guide would serve as a resource library for international policies, programs, and incentives that impact AD projects. The guide would also support future research and resource development to advance AD project development (i.e., beneficial policies and incentives).
- 25 The guide will feature existing incentives and policies to promote AD development in both GMI member and non-member countries . GMI will conduct research into policies from the following member countries: Argentina, Belgium, Brazil, Canada, China, Ethiopia, Finland, Germany, India, Pakistan, Peru, Philippines, Poland, Serbia, Thailand, United Kingdom, and United States. In addition, research will be conducted for policies from the following non-member countries: France, Ireland, Netherlands, New Zealand, South Africa, and Sweden.
- **Poll question 3:** Are there any additional countries with effective programs, regulations/policies, or incentives for AD projects that should be included in the report?
Poll response 3: 73 percent of participants responded NO. Meeting participants provided suggestions including Bangladesh, Chile, Denmark, and “European countries” in addition to those listed.
- 26 Ms. Costa stated the guide will summarize regulations and policies which promote AD, including agriculture-related regulations (e.g., air emissions, water emissions), general energy/environmental-related regulations, and other policy drivers, such as country-wide action plans. Examples of these types of plans are Ethiopia’s Green Economy Plan and the United Kingdom’s AD Strategy and Action Plan.
- **Poll question 4:** Does your country have specific current regulations/policies that positively impacts anaerobic digester projects?
Poll response 4: 92 percent of participants responded YES.
- 27 Ms. Costa explained the guide will also include a summary of incentives provided by countries to encourage AD. Incentives might include feed-in tariffs, renewable energy credits (RECs), renewable obligation certificates (ROCs), renewable heat incentives (RHI), levy exemptions, renewable transport fuel obligations (RTFOs), nutrient credits, or nutrient trading programs.
- **Poll question 5:** Does your country have specific current incentives that positively impacts anaerobic digester projects?
Poll responses 5: 90 percent of participants responded YES.
 - **Poll question 6:** What countries do you think have the best policies and incentives?

Poll response 6: Participants noted Canada has a good feed-in-tariff program in Ontario, although there are uncertainties with the program's future. In addition, participants suggested Germany.

- 28 Ms. Costa thanked the participants for their input and asked them to provide any additional suggestions to Nicole Henderson (Nicole_henderson@sra.com) before 4 October 2013.

Update From the ASG

- 29 Ms. Monica Shimamura of the GMI ASG provided an update on ASG activities. She noted that GMI conducted its third Expo in March 2013 in Vancouver, Canada. Approximately 450 attendees from more than 40 countries attended the event and nearly 100 project opportunity and success story posters were presented.
- 30 During discussions at the Expo, the GMI Steering Committee agreed to:
- Continue engagement with Climate and Clean Air Coalition (CCAC)
 - Continue to look at barriers and needs related to each sector
 - Organize the next opportunity to convene the global methane community
 - Encourage Partner Countries to undertake/update action planning
- 31 The Steering Committee adopted draft guidance for Country Action Plans. The purpose of an action plan is to describe a country's current and future activities for methane reduction, help guide a country's climate strategy, communicate the country's goals and progress to the global community, and identify a country's needs and opportunities for methane reduction. ASG revised the action planning [guidance](#) in July 2013 and encourages all members to develop or update their action plans.
- 32 Ms. Shimamura noted GMI will be celebrating the 10-year anniversary of its establishment in 2014. The ASG will be working to develop a video and pamphlet to highlight Initiative successes. In addition, there will be a partnership-wide meeting in September or October 2014.

Next Agriculture Subcommittee Meeting

- 33 Mr. Hilbert explained the next Agriculture Subcommittee meeting will be held in conjunction with meetings of the Municipal Solid Waste and Municipal Wastewater Subcommittees. The meeting will be held on 12-13 March 2014 in Santa Catarina, Brazil. Mr. Hilbert asked for suggested agenda topics, to which meeting participants provided the following suggestions:
- Livestock waste-to-energy
 - Biogas-to-CNG/transportation fuel
 - Upgrading/delivering biogas to the natural gas grid
 - Combined use of AD with a distributed heating system (e.g., combined heat and power)
- 34 Mr. Hilbert thanked the participants for their time and input and adjourned the meeting.

GLOBAL METHANE INITIATIVE
AGRICULTURE SUBCOMMITTEE INTERNET-BASED MEETING
24 SEPTEMBER 2013

ANNEX 1.
FINAL PARTICIPANT LIST

Argentina

***Jorge Hilbert**
INTA
C 25 1712 Castelar
Buenos Aires, 1033
Argentina
hilbert@cnia.inta.gov.ar

◆Hernan Suarez
Buenos Aires
Argentina
hsuarez@agro.uba.ar

Belgium

◆Hilde De Wachter
DLV
Bierbeek
hdw@dlv.be

Canada

◆Christopher Bush
Catalyst Agri-Innovations Society
Abbotsford, BC
chris@aces-bc.ca

Maria Clavijo
Environment Canada
Gatineau, CA
maria.clavijo@ec.gc.ca

***Ray Desjardins**
Agriculture and Agri-Food Canada
Ottawa, ON
ray.desjardins@agr.gc.ca

◆Chris Duke
OMAFRA
Guelph, ON
chris.duke@ontario.ca

◆William Powell
Environmental Depot for Wastewater to Energy
Grand Forks, BC
Canada
bill@environmentdepot.ca

◆Sunny Uppal
Environment Canada
sunny.uppal@ec.gc.ca

Chile

***Carolina Urmeneta**

Chile

carolina.urmeneta@poch.cl

India

***Anil Dhussa**

Ministry of New and Renewable Energy, Government of India

Block 14 CGO Complex, Lodi Road

New Delhi, 110003

India

+91 9810861131

Fax: +91 11 24364188

akdhussa@nic.in

United States

◆Richard Aho

EWS LLC

Marquette, MI

ewsraho@charter.net

***Allison Costa**

U.S. EPA

1200 Pennsylvania Avenue, NW (MC: 6207J)

Washington, DC 20460

+1-202-343-9468

Costa.Allison@epa.gov

◆Sidney Clouston

Clouston Energy Research

Allen Park, MI

cloustonenergy@aol.com

◆Bob Hamburg

Omega-Alpha Recycling Systems

Glenside, PA

bhanomalous7@gmail.com

●Sarah Greenberg

ASG Contractor Support

ERG

Lexington, MA

Sarah.Greenberg@erg.com

●Matthew McMurtry

SRA International

Arlington, VA

matthew_mcmurtry@sra.com

◆Marvin Mears

Environmental Products and Technologies

Visalia, CA

marvin@eptcorp.com

●Ben Miller

ASG Contractor Support

ERG

Lexington, MA

Desiree.Hamelin@erg.com

●Nicole Henderson

SRA International

Houston, PA

nicole_henderson@sra.com

●Cortney Itle

ASG Contractor Support

ERG

Chantilly, VA 20151

+1-703-424-8360

Cortney.Itle@erg.com

United States (continued)

◆**Brad Johnson**

RMA
Washington, DC
bjohnson@rmaconsult.com

●**Lauren Lariviere**

ASG Contractor Support
ERG
Lexington, MA
Lauren.Lariviere@erg.com

◆**Karen Schaffner**

RTI
Research Triangle Park, NC
ksschaffner@rti.org

◆**Seth Snyder**

Argonne National Laboratory
Argonne, IL
seth@anl.gov

***Monica Shimamura**

Co-director
Global Methane Initiative
U.S. EPA
1200 Pennsylvania Avenue, NW
Washington, DC 20460
+1-202-343-9330
Shimamura.Monica@epa.gov

◆**Scott Shroyer**

Ecomembrane
AR
sshroyer@ecomembrane.com