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**Committee on Anthropogenic Methane Emissions in the US:
Improving Measurement, Monitoring, Presentation of Results, and Development of Inventories**

May 16, 2017

University of California, Davis
ARC Conference Center, Meeting Room #1

BACKGROUND

The committee is charged to examine approaches for measuring, monitoring, presenting, and developing inventories of anthropogenic methane emissions to the atmosphere, with focus on the United States. Specifically the committee will write a report that:

- (1) discusses how methane emissions measurements, monitoring data, and inventories are used and usable for managing emissions, scientific research, and other purposes;
- (2) assesses scientific understanding with respect to published inventories of US anthropogenic methane emissions, including estimates of current emissions, recent trends, and projections of future emissions;
- (3) describes and evaluates approaches used to measure and monitor methane emissions;
- (4) recommends how to present results of methane emissions studies to facilitate comparisons among studies and to ensure results are useful for policymaking;
- (5) describes and evaluates approaches used to develop inventories of past, present and future methane emissions;
- (6) recommends best available approaches for addressing key uncertainties, areas of incomplete understanding, and technical challenges in developing methane inventories; and
- (7) recommends research needed to improve methane emissions measurement, monitoring, and inventory development.

This workshop serves as one of several meetings being held to inform the committee in the development of their report. The committee anticipates gathering information on a wide variety of topics related to their charge throughout the study. Because this workshop will take place in California, some emphasis has been placed on topics relevant to the expertise of local scientists and stakeholders.

Tuesday, May 16, 2017

CLOSED SESSION (8:30 a.m. – 10:15 a.m.)

OPEN SESSION (10:30 a.m. – 3:45 p.m.)

10:30 A.M.

Welcome and introductions

- Context and purpose of the study
- Objectives of the meeting

James White, U of Colorado Boulder
Committee Chair

10:45 A.M. **Session 1: Methane measurement methodologies and taxonomy**

Session objective: to improve understanding of methane measurement research in California for state and regional uses, and learn about approaches to best compare results across studies

Committee moderator: Fiji George, Southwestern Energy

Marc Fischer, Lawrence Berkley National Laboratory – quantifying sources of methane emissions

Abhinav Guha, Bay Area Air Quality Management District – methane emissions from the San Francisco Bay Area

Nazli Yesiller, California Polytechnic State University – landfill methane measurement methodologies (remote participation)

Garvin Heath, National Renewable Energy Laboratory – taxonomy, life cycle analysis, and meta-analyses for improving emissions estimates from oil and gas

Discussion questions:

- What are the current challenges for measuring methane emissions for state or regional scale inventory development? Are these similar or distinct from challenges of developing a national scale inventory?
- What are possible ways the current challenges in methane data collection and reporting could be addressed by the research community? How can data be made more readily usable by policy makers?

12:15 P.M. **Grab Lunch**

12:45 P.M. **Joseph King**, U.S. Dept. of Energy - update on ARPA-E methane emissions technology testing (remote participation)

1:15 P.M. **Session 2: California methane activities: stakeholder engagement, regulations, and state-level decision making**

Session objective: learn about various methane activities occurring at the state and local level and discuss opportunities to improve communication of methane emissions information and use in state-level decision making

Committee moderator: April Leytem, USDA Agricultural Research Service

Ryan McCarthy, California Air Resources Board – use of methane emissions information in the decision making process

Frank Caponi, Los Angeles County Sanitation Districts – engineering landfills to meet air quality and methane regulations

Cynthia Cory, California Farm Bureau Federation – methane information needs for the California farmers and ranchers

J.P. Cativiela, Dairy Cares – sustainability and methane information needs for dairy farmers

Discussion questions:

- What are the primary methane emissions information needs for various stakeholder groups in California?
- What information (local, state, or national) on methane emissions is needed from the research community to improve data collection or usability of existing data?
- What are the strengths and weaknesses of existing data? How is this information used in the state regulatory process?

2:45 P.M. **Break**

3:00 P.M. **Session 3: Measuring methane emissions from the agricultural sector**

Session objective: to learn about the research and methodologies for quantifying methane emissions from livestock and manure management

Committee moderator: Ermias Kebreab, UC Davis

Kris Johnson, Washington State University – methane emissions measurement methodologies from ruminant livestock

Rick Todd, U.S. Dept. of Agriculture, Agricultural Research Service – manure management and methane emissions

Discussion questions:

- What are the largest challenges to the agricultural sector with respect to methane emissions?
- What additional information is needed to improve measurement methodologies and/or the development of inventories?

3:45 P.M. **Open session adjourns**

NOTE FOR PUBLIC MEETINGS: This meeting is being held to gather information to help the committee conduct its study. This committee will examine the information and material obtained during this, and other public meetings, in an effort to inform its work. Although opinions may be stated and lively discussion may ensue, no conclusions are being drawn at this time; no recommendations will be made. In fact, the committee will deliberate thoroughly before writing its draft report. Moreover, once the draft report is written, it must go through a rigorous review by experts who are anonymous to the committee, and the committee then must respond to this review with appropriate revisions that adequately satisfy the

Academies' Report Review Committee and the NAS president before it is considered an official Academies report. Therefore, observers who draw conclusions about the committee's work based on today's discussions will be doing so prematurely.

Furthermore, individual committee members often engage in discussion and questioning for the specific purpose of probing an issue and sharpening an argument. The comments of any given committee member may not necessarily reflect the position he or she may actually hold on the subject under discussion, to say nothing of that person's future position as it may evolve in the course of the project. Any inference about an individual's position regarding findings or recommendations in the final report is therefore also premature.

WebEx Instructions

Topic: Methane Day 1 Open Session

Date: Tuesday, May 16, 2017

Time: 10:30 am, Pacific Daylight Time (San Francisco, GMT-07:00)

Meeting Number: 740 669 804

Meeting Password: bS8NbUHT

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