

Joint Symposium and IEPR Workshop  
Methane Emissions from California's Natural Gas System:  
Challenges and Solutions  
June 6-7, 2016  
Cal EPA Byron Sher Auditorium

**Objective:** To bring industry, academics, government and non-government entities, and other interested stakeholders together to: discuss the current understanding of methane emissions across the natural gas supply chain; share ideas to increase knowledge and inform policies; and foster stakeholder interaction on current research and promote dialogue for next steps for reducing methane emissions in the natural gas system.

**Monday June 6, 2016**

8:15-9:10am *Opening Session*

Agency Priorities (*Richard Corey, ARB; Karen Douglas, Commissioner, CEC; Tim Sullivan, CPUC*)

Symposium Overview (*Kathleen Kozawa, ARB*)

9:10-10:10am *Session 1. Research Initiatives and Needs*

Moderator-Kathleen Kozawa, ARB)

Methane Research Initiatives and Needs (*Jorn Herner, ARB*)

Investigating Methane Emissions from California's Natural Gas System (*Yu Hou, CEC*)

U.S. Federal Strategies to Cut Methane Emissions from Natural Gas Systems (*James Bradbury, DOE*)

Stanford Natural Gas Initiative (*Adam Brandt, Stanford*)

10:10-10:20am      Break

10:20-12:00pm *Session 2. Methane Emissions and Measurements (AM)*

Moderator-Laurie ten Hope (CEC)

California Methane Inventory-Needs and Gaps (*Anny Huang, ARB*)

EDF Studies Overview (*Ramon Alvarez, EDF*)

Methane Emissions from Natural Gas Distribution Pipelines in California (*Kristine Wiley, GTI*)

Distribution systems, pipeline replacement, and abandoned wells (*Robert Jackson, Stanford*)

12:00-1:15      Lunch (lunch will not be provided)

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1:15-2:55pm *Session 2. Methane Emissions and Measurements (PM)*

Moderator-Bart Croes (ARB)

Improvement of an Airborne Natural Gas Leak-Detection System for  
Transmission Pipelines (*Steve Conley, UCD*)

From Wells to Burners: Methane Emissions from California Natural Gas  
(*Marc Fischer, LBNL*)

Methane Hot Spots in California (*Chip Miller, JPL*)

Aerial mass balance studies throughout the US and implications for policy  
(*Colm Sweeny, NOAA*)

2:55-3:05pm Break

3:05-4:45pm *Session 3. Current and Emerging Technologies-Methane Measurements*

Moderator-Tim O'Connor, EDF

From Mobile to Stationary: Current and Emerging Technologies in  
Methane Measurements (*Tim O'Connor, EDF*)

Advanced Research Projects Agency-Energy (ARPA-E) MONITOR  
Projects (Methane Observation Networks with Innovative Technology to  
Obtain Reductions) (*Nate Gorence, DOE*)

sUAS (small unmanned aerial system) and application for methane  
measurement (*Lance Christensen, JPL*)

Assessing Emissions from the Natural Gas Distribution System Using  
Mobile Methane Techniques (*Chris Rella, Picarro*)

4:45 Day 1 Wrap Up

Public Comment Period-CEC IEPR WORKSHOP ONLY

End Day 1

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**Tuesday June 7, 2016**

9:00-11:00pm *Session 4. Big Gas, Big Data, and Methane: Building a Monitoring, Verification and Performance Management System to Meet Climate Goals*

Moderator-Martin Kurtovich, CPUC

The Interaction of Methane Emissions Data and Mitigation, and an Investor's Perspective on Risk (*Tim O'Connor*)

Perspectives and Successes in Mitigating Methane Emissions from Energy Pipeline (*Robert Smith, PHMSA*)

NETL's Natural Gas Midstream Research Program (*Cynthia Powell-National Energy Technology Lab*)

Converting Challenges into Opportunities: Software for Distributed Methane Abatement (*Keith Driver, CapOp Energy*)

(*San Gunawardana, Enviroview*)

All Day Showcase (2<sup>nd</sup> floor lobby and courtyard)

- ABB
- Aeris Technologies
- ARB Research Division (GHG Mobile Platform)
- ARB Monitoring and Laboratory Division
- Heath Consultants
- FLIR
- LDAR Tools
- NASA Jet Propulsion Laboratory
- Picarro
- Pipeline Research Council International
- Pixel Velocity
- Physical Sciences
- Providence Photonics
- Thermo Fisher Scientific

11:00-12:30pm Showcase and Lunch (lunch will not be provided)

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12:30-4:30 Session 5. *Policy Panel(s) Current and Emerging Policies: Reducing Emissions of Natural Gas Used by Californians*

12:30-2:00pm Regulatory Panel

Moderator-Saul Gomez, California Natural Resources Agency

*Trina Martynowicz, Clean Energy and Climate Change Office, U.S. EPA Region 9*

*Arthur O'Donnell, Supervisor, Risk Assessment, Office of Utility Safety and Reliability, Safety and Enforcement Division, CPUC*

*Elizabeth Scheehle, Chief, Oil and Gas and GHG Mitigation Branch, ARB*

*Laurie ten Hope, Deputy Director, ERDD, Energy Commission*

*Additional Panelist Pending*

2:00-2:10pm Break

2:10-3:40 Stakeholders Panel

Moderator-Arthur O'Donnell, CPUC

*Christine Cowsert, Senior Director of Asset Knowledge and Integrity Management, Pacific Gas and Electric*

*Deanna Haines, Director-Gas Engineering, Gas Engineering and System Integrity, Sempra Utilities*

*Kevin Hamilton, Central California Asthma Collaborative*

*Briana Mordick, Senior Scientist, NRDC*

*John Shears, Center for Energy Efficiency and Renewable Technologies*

3:40 Closing Remarks, Next Steps (*Elizabeth Scheele, ARB*)

4:00 Public Comment Period-CEC IEPR WORKSHOP ONLY

End Symposium