

**Stanford** | NATURAL GAS INITIATIVE  
School of Earth, Energy & Environmental Sciences  
and Precourt Institute for Energy

**NGI Annual Affiliates Meeting and Research Review  
8 & 9 November 2017  
Tresidder Memorial Union**

Stanford map: <https://campus-map.stanford.edu>

DAY 1 – November 8<sup>th</sup>

- 8:00 Light Breakfast
- 8:30 Welcome and Introduction: **Brad Ritts**, Stanford
- 8:35 Opening Remarks: **Steve Graham**, Dean, School of Earth, Energy, and Environmental Sciences, Stanford
- 8:45 Opening Keynote: Natural gas, renewable energy, storage and energy grids: **Kyle Isakower**, API Vice President of Regulatory and Economic Policy
- 9:15 Highlights of Stanford Research: Economics, Global Markets, and Governance
- 9:20 Game-Based Simulation of the Gas-Fired Generation Mix With High Renewable Energy Shares: **Mark Thurber**, Stanford
- 9:45 Modeling global coal-natural gas competition: **Frank Wolak**, Stanford
- 10:10 Modeling the Economics of the Shale Revolution: What Have We Learned? **Hill Huntington**, Stanford
- 10:25 **Break**
- 10:40 Natural Gas Supply and the Industry Impacts of a Carbon Tax, **Larry Goulder**, Stanford
- 11:00 Session on Energy Access in the Developing World
- 11:00 Stanford activities and plans: **Brad Ritts** and **Tisha Schuller**, Stanford
- 11:30 Data powered rural electrification: **Mansoor Hamayun**, BBOX CEO

- 12:00 Natural gas and the clean energy revolution: **Mike Ming**, Vice President Executive Liaison, Baker Hughes, a GE Company
- 12:30 **Lunch**
- 1:40 Stanford Research on Lifecycle Assessment in Energy Systems: **Adam Brandt**, Stanford
- 2:00 Global sensitivity analysis in complex systems: implications for unconventional reservoir production: **Jef Caers**, Stanford
- 2:35 Strategic directions in natural gas research: **Eddie Johnston**, Gas Technology Institute SVP of Research Highlights of Stanford NGI Research
- 3:05 **Break**
- 3:25 Highlights of Stanford Research in Natural Gas Technology
- 3:25 Microporous Ladder Polymers for Membrane Gas Separation: **Yan Xia**, Stanford
- 3:45 Engineering the Viscoelastic Flow of Fracing Fluids via Computer Simulation: **Eric Shaqfeh**, Stanford
- 4:15 Micro-electrochemical gas sensor development: **Beth Pruitt** and **Pierre Gross**, Stanford Mechanical Engineering
- 4:35 Identifying and measuring methane emissions from oil and gas production: **Adam Brandt**, Stanford Professor of Energy Resources Engineering
- 5:00 Stewardship and Sensitive Habitat Mapping: **Dan Domeracki**, Schlumberger VP Government and Industry Relations
- 5:45 Introduction of Poster Session Thematic Areas: **Brad Ritts**, Stanford
- 5:45 Reception and Poster Session
- 7:30 Reception Concludes

DAY 2 – November 9<sup>th</sup> (morning only)

8:00 Light Breakfast

8:30 Welcome and Look Ahead: **Mark Zoback**, Stanford

8:50 Insights from Mission Innovation planning for a clean energy research agenda: **Tom Jaramillo**, Stanford

9:10 Roundtable discussion of natural gas storage and future role of natural gas infrastructure in energy systems and energy storage

Moderator: **Rob Jackson**, Stanford

Panelists: **Jane Long**, LLNL (retired)  
**Michael Wara**, Stanford

10:00 The global methane cycle and significance of fossil fuel emissions: **Rob Jackson**, Stanford

10:20 Break

10:35 Highlights from Stanford Methane Conversion Focus Area

**Matteo Cargnello**, Stanford

**Melis Duyar**, Stanford

11:05 Sustainable Energy Finance

Opening Remarks: **Dan Reicher**, Stanford

Unconventional Resource Finance: **Francesco Mele**, Azimuth Capital Management

11:45 Concluding Remarks: **Mark Zoback** and **Brad Ritts**

12:00 Light lunch

\*\*The NGI workshop on unconventional reservoirs begins at 2:00 in the afternoon on the 9<sup>th</sup> and requires a separate registration\*\*