

WORKSHOP ON GOVERNANCE OF RISKS OF UNCONVENTIONAL SHALE GAS DEVELOPMENT

National Research Council
Division of Behavioral and Social Sciences
Board on Environmental Change and Society
500 Fifth St., N.W., Washington DC, Room 100
August 15-16, 2013

DRAFT AGENDA

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Thursday, August 15, 2013

8:30 Welcome and brief remarks – *Meredith A. Lane, Board on Environmental Change and Society, director* [PPT](#) [Remarks](#)

Introduction of the workshop organizing committee – *Paul C. Stern, National Research Council, study director* [PPT](#)

Purposes of the project and workshop procedures – [Mitchell Small, Carnegie Mellon University, committee chair](#) [PPT](#)

8:45 **IDENTIFYING GOVERNANCE CONCERNS AND CHALLENGES**
Moderator: [Mitchell Small, Carnegie Mellon University](#)

Responses Related to Shale Gas Governance from the General Elicitation–
[Gabrielle Wong-Parodi, Carnegie Mellon University](#) [PPT](#) [Abstract](#)

Presentation will report on results of an elicitation of concerns (discussed at the first workshop in this series) about shale gas development that were shared with the committee by a range of interested and affected parties. Focus will be on the subset of these concerns that relate to governance issues.

Governance Concerns and Government Capacity - [Barry Rabe, University of Michigan](#) [PPT](#)

Presentation will review the evolving intergovernmental distribution of responsibilities for shale gas governance in the United States. It will note formal limitations on any federal government role in contrast to the substantial latitude that most state and local governments retain to either sustain existing governance approaches or initiate new ones. A highly-decentralized system has emerged, one raising significant opportunities and challenges for sub-federal governments that are experiencing considerable fiscal and political transitions.

Governance Considerations from a Technical Perspective – [Mark Zoback, Stanford University](#) [PPT](#)

Presentation will identify a set of conditions and processes in the operations of the industry that might pose risks that need to be managed. It will not attempt to comment on how well current practices perform in managing these conditions and processes.

9:25 Questions from participants (webcast and in-person)

9:45 **GOVERNMENTS' ABILITY TO MEET GOVERNANCE CHALLENGES**
 Moderator: [Susan Tierney](#), Analysis Group, Boston MA

9:45 The Capacity of State Governments to Perform Risk Governance Functions
Presenter: [Hannah Wiseman](#), Florida State University [PPT](#) [Abstract](#)
Discussants: [R. Steven Brown](#), Environmental Council of the States, Washington DC
[Jim Richenderfer](#), Susquehanna River Basin Commission, Harrisburg, PA [PPT](#)

Presentation will consider the extent to which regulations and other substantive controls address the risks of expanding unconventional oil and gas development and will explore institutional implementation of these controls. Focus will be mostly on state capacity, examining the types and numbers of staff employed by agencies that oversee well development, the number of well site inspections and the types of data produced by these inspections, and the means by which agencies enforce regulatory violations they identify. It will outline creative mechanisms by which state agencies might be able to hire adequate numbers of staff, as well as better enlist industry participation in compliance efforts without placing additional demands on already-stretched state budgets. Finally, it will explore some means through which the federal government could enhance state agency capacity and produce and synthesize information needed to improve risk governance.

10:30 Open Discussion

11:00 Coffee break

11:15 The Potential for Coordinating State and Local Authorities for Managing and Reducing Risks
Presenter: [Charles Davis](#), Colorado State University [PPT](#) [Abstract](#)
Discussants: [Sarah Fullenwider](#), City of Fort Worth, Texas
[William Lowry](#), Washington University [PPT](#)

The presentation will examine state-local relations in the governance of shale gas development in three states: Texas, Colorado, and Pennsylvania, considering their different ways of allocating regulatory authority and responsibility between state and local levels and the ways these relations are changing. It will focus on the political feasibility of the differing approaches to state and local governance adopted by these states based upon institutional, economic, and political factors discussed within the text of the paper.

12:00 Open Discussion

12:30 Lunch (on your own)

1:30 **CONTINUED DISCUSSION OF GOVERNMENT ABILITIES**
 Moderator: [Susan Christopherson](#), Cornell University

The Potential for Managing and Reducing Risk through Non-Traditional Regulatory Approaches
Presenter: [Sheila Olmstead](#), University of Texas at Austin [PPT](#) [Abstract](#)

Discussant: [Kate Konschnik](#), Harvard Law School

The presentation will examine past experience with three types of approaches: (a) “market-based” approaches (e.g., information disclosure policies, impact fees and severance taxes, tradable permits); (b) changing liability rules (financial responsibility requirements, bonding requirements, changed standards of liability, changed burden of proof, expanded types of liability); and (c) cooperative approaches with voluntary compliance. It will consider knowledge of the effectiveness of these approaches from industrial experience and explore their feasibility for governing shale gas risks.

2:15 Open discussion

2:45 Coffee break

3:00 SHALE GAS GOVERNANCE IN OTHER FEDERAL SYSTEMS

Governing Shale Gas Development in the European Union: Principles, Practice and Insights

Presenter: [Elizabeth Bomberg](#), University of Edinburgh

[PPT](#) [Abstract](#)

The presentation will analyze the key factors underlying Europe's approach to shale gas governance, with a particular emphasis on how the principles and practices adopted in Europe might inform practices in the US. The development of shale gas operations has been marked by several transatlantic differences linked to geology, technology, legal norms, and economic structures. Despite these differences, Europe and the US share several challenges of governance, including the absence of an overall regulatory framework, internal diversity amongst states, and powerful, competing interests. The presentation will consider several key governing principles characterizing shale governance in Europe: the precautionary principle, sustainability, transparency, and consultation (or 'stakeholder buy-in'). It will identify the legal basis for these principles, but also explain how and to what extent they are invoked by political interests seeking to shape decision-making in this realm. Knowledge of the legal and political rationale for these principles, as well as their application in a multi-level system, will help us extract lessons for shale governance in the US.

Governing Shale Gas Development in Canada: The Case of New Brunswick

Presenter: [Louis LaPierre](#), University of Moncton

[PPT](#) [Abstract](#)

Presentation will describe an effort in New Brunswick, Canada to elicit public concerns about shale gas development and to create a system within the provincial government structure to address the concerns expressed by the citizens within an adaptive management framework. Key strategies will focus on ground water and air emission issues and the development of an independent office to address any environmental impacts.

3:40 Open discussion

4:00 Discussion Panel: Challenges and Opportunities for Governments in Managing Shale Gas Risks

Discussants: [Kate Konschnik](#), Harvard Law School

[Hannah Wiseman](#), Florida State University

[Sarah Fullenwider](#), City of Fort Worth, Texas

[Elizabeth Bomberg](#), University of Edinburgh

5:00 Adjourn for the day

Friday, August 16, 2013

8:30 **POTENTIAL ROLES OF NON-GOVERNMENTAL ENTITIES IN GOVERNANCE**

Moderator: [Barbara Zielinska](#), Desert Research Institute

8:30 Environmental Self-Governance: Conditions for Industry Effectiveness

Presenter: [Aseem Prakash](#), University of Washington

Presentation will summarize available knowledge on the performance of industry environmental self-governance programs and institutions across several industries, and identify the conditions under which these efforts do or do not improve environmental performance in those industries.

[PPT](#) [Abstract](#)

Assessing the Potential for Self-Regulation in the Shale Gas Industry

Presenter: [Jennifer Nash](#), Harvard University

This presentation will consider what self-regulatory strategies are appropriate given the nature of the fracking "industry" and its risks. It will begin by characterizing the "industry" engaged in activities related to fracking, focusing primarily on firms working in Pennsylvania: the types of businesses engaged and their characteristics in terms of size, sector, public profile, trade association affiliation, etc. For some actors in the industry, especially some of the smaller companies not directly engaged in drilling, self-regulation poses distinct challenges. It will consider the relative potential of strategies such as industry codes of practice and supply chain sourcing standards in encouraging companies to adhere to best practices.

[PPT](#) [Abstract](#)

9:15 Open discussion

9:45 Coffee Break

10:00 The Potential for Risk Governance through Organizational Safety Culture

Presenter: [Nancy Leveson](#), Massachusetts Institute of Technology

Discussants: [Jennifer Howard-Grenville](#), University of Oregon

[Donald C. Winter](#), University of Michigan

[PPT](#)

[PPT](#)

Presentation will address organizational factors affecting the "safety culture" of industrial organizations (including the "culture" surrounding environmental and public health performance), the effects of industry structure and regulatory environment on safety culture, and lessons from efforts to analyze accident precursors in industrial systems. It will conclude by offering thoughts about the potential and challenges of developing and maintaining a strong safety culture across the entities involved in developing shale gas resources and in monitoring and regulating development.

10:45 Open discussion

11:15 Public and Stakeholder Participation for Managing and Reducing Risks

Presenter: [Warner North](#), Northworks, Inc.

Discussant: [Patrick Field](#), Consensus Building Institute, Boston, MA

[PPT](#)

[PPT](#)

Presentation will briefly review the results of major relevant research, including the syntheses in the NRC reports *Understanding Risk: Informing Decisions in a Democratic Society* (1996) and *Public Participation in Environmental Assessment and Decision Making* (2008), noting the principles identified there for public engagement in assessing and managing risks, particularly for

emerging technologies. It will offer thoughts about how these insights might be applied to the shale gas industry, including how public engagement may need to vary depending on the risks to be managed and the activities and actors that generate them.

11:50 Open discussion

12:15 Lunch (on your own)

1:15 NEW APPROACHES IN RISK GOVERNANCE

Moderator: Committee Member

These presentations and discussions will examine two efforts that have recently emerged to address the risk governance challenges associated with shale gas development. They will consider the governance challenges these new approaches were created to meet, the expected benefits, and the difficulties they may face.

1:15 *A Public-Private Partnership:*

The Center for Sustainable Shale Development

Presenter: Andrew Place, Center for Sustainable Shale Development, Pittsburgh, Pennsylvania

[PPT](#)

1:35 *Comprehensive Development Plans:*

The Maryland Comprehensive Development Plan Process

*Presenters: Brigid Kenney, Maryland Department of the Environment
Christine Conn, Maryland Department of Natural Resources*

[PPT](#) [Abstract](#)

1:55 *Discussants: Kate Sinding, Natural Resources Defense Council*

Mark Boling, Southwestern Energy, Houston, Texas

[PPT](#)

2:15 Open discussion

2:45 Coffee Break

3:00 CONCLUDING SESSION: PERSPECTIVES ON GOVERNANCE CHALLENGES

Moderator: Mitchell Small

Speakers will present ideas, informed by the workshop, about possible ways to address key governance challenges.

*Kate Sinding, Natural Resources Defense Council
Mark Boling, Southwestern Energy, Houston, Texas
Bernard Goldstein, University of Pittsburgh
Susan Tierney, Analysis Group, Boston MA*

4:00 Open discussion of ideas presented and presentation of additional ideas.

5:00 Adjourn