

AGENDA

WORKSHOP ON THE HEALTH IMPACT ASSESSMENT OF NEW ENERGY SOURCES: SHALE GAS EXTRACTION

Sponsored by
The Roundtable on Environmental Health Sciences, Research, and Medicine

April 30-May 1, 2012
House of Sweden
2900 K Street NW
Washington, DC

Workshop Goals and Objectives

1. Use shale gas extraction to explore the health impacts of emerging energy technologies.
2. Application of health impact assessments to identify ways to mitigate adverse health effects; state of the science.
3. Identify direct and indirect health risks and solutions from a cradle-to-grave approach. Draw from analogous conditions when data is incomplete.
4. Identify vulnerable populations and stakeholders.
5. Describe research questions, data sources, data gaps, and how to address uncertainty. Identify opportunities to draw from insights from similar and well characterized operations conducted in different regions of the country or world.
6. Discuss next steps for stakeholders.

8:00 am **Welcome**

Harvey V. Fineberg, M.D., Ph.D.
President
Institute of Medicine

8:10 am **Opening**

Lynn Goldman, M.D., M.P.H.
Vice Chair, Roundtable on Environmental Health Sciences, Research and
Medicine
Dean, School of Public Health
George Washington University

8:20 am **Charge of the Workshop**

Christopher Portier, Ph.D.
Director
National Center for Environmental Health and
Agency for Toxic Substances and Disease Registry
Centers for Disease Control and Prevention

- 8:35am **Hydraulic Fracturing: Accessing Shale and Tight Gas**
 David Cole, M.S.
 Regional Discipline Leader - Production Technology/Chemistry
 Shell Upstream Americas
- 8:55 am **Health Impact Assessment for Shale Gas Extraction**
 Aaron Wernham, M.D., M.S.
 Project Director
 Health Impact Project
 Pew Charitable Trusts
- 9:15 am **Discussion**
 Moderator: Lynn Goldman, M.D., M.P.H.
- 9:35 am **BREAK**
- 9:50 am **Setting the Stage for Health: Why Fracking, Why Now? Identifying Key
 Issues That Are Unique And Potential Priorities**
 Linda McCauley, Ph.D., R.N., FAAN, FAAOHN
 Dean
 Nell Hodgson Woodruff School of Nursing
 Emory University
- 10:10 am **The Geographic Footprint**
 Michael Focazio, Ph.D.
 Assistant Program Coordinator
 Toxic Substances Hydrology Program
 U.S. Geological Survey
- 10:30 am **Assessing the Perceived and Real Environmental Consequences of Shale Gas
 Development**
 Charles Groat, Ph.D.
 John A. and Katherine G. Jackson Chair in Energy and Mineral Resources
 Department of Geological Sciences
 Professor of Geological Sciences and Public Affairs
 Lyndon B. Johnson School of Public Affairs
 The University of Texas at Austin
- 10:50 am **Discussion**
 Moderator: Anne M. Sweeney, Ph.D.
 Professor
 Department of Epidemiology and Biostatistics
 School of Rural Public Health
 Texas A&M University
- 11:20 am **NIOSH Field Effort to Assess Chemical Exposures in Oil and Gas Workers**
 Eric J. Esswein, M.S.P.H.
 Senior Industrial Hygienist
 National Institute for Occupational Safety and Health (NIOSH)
 Centers for Disease Control and Prevention

- 11:40 am **Discussion**
Moderator: Linda McCauley, Ph.D., R.N., FAAN, FAAOHN
- 12:05 pm **LUNCH BREAK**
- 1:00 pm **Community Impacts of Natural Gas Development and Human Health**
 Roxana Witter, M.D., M.S.P.H., M.S.
 Assistant Research Professor
 Environmental and Occupational Health
 Colorado School of Public Health
- 1:20 pm **Economic and Community Impacts of Gas Shale in Pennsylvania**
 Timothy Kelsey, Ph.D.
 Professor of Agricultural Economics
 State Program Leader, Economic & Community Development
 The Pennsylvania State University
- 1:40 pm **Discussion**
Moderator: Linda McCauley, Ph.D., R.N., FAAN, FAAOHN
- 2:00 pm **Potential Air Quality Impacts of the Development and Production of Marcellus Shale Gas**
 Allen Robinson, Ph.D.
 Professor
 Engineering and Public Policy
 Mechanical Engineering
 Carnegie Mellon University
- 2:20 pm **Air Quality Impacts of Natural Gas Operations in Texas**
 Michael Honeycutt, Ph.D.
 Toxicology Division Director
 Texas Commission on Environmental Quality
- 2:40 pm **Air Pollution Exposure and Risk Near Unconventional Natural Gas Drill Sites: An Example in Garfield County, Colorado**
 John Adgate, Ph.D., M.S.P.H.
 Professor and Chair
 Department of Environmental & Occupational Health
 Colorado School of Public Health
- 3:00 pm **Air Respondent**
 Bernie Goldstein, M.D.
 Professor Emeritus
 Department of Environmental and Occupational Health
 Graduate School of Public Health
 University of Pittsburgh
- 3:05 pm **Discussion**
Moderator: Richard Fenske, Ph.D., M.P.H.
 Associate Chair and Professor
 Department of Environmental and Occupational Health Sciences
 School of Public Health
 University of Washington

- 3:35 pm **BREAK**
- 3:50 pm **Potential Impacts of Hydraulic Fracturing on Water Resources**
 Deborah L. Swackhamer, Ph.D., M.S.
 Professor, Co-Director of the Water Resources Center
 Division of Environmental Health Sciences
 University of Minnesota School of Public Health
- 4:10 pm **Hydraulic Fracturing, Water Resources, and Human Health**
 Robert B. Jackson, Ph.D., M.S., M.S.
 Nicholas Chair of Global Environmental Change, Nicholas School of the
 Environment
 Professor, Department of Biology
 Duke University
- 4:30 pm **EPA Study Plan on the Potential Impacts of Hydraulic Fracturing on
 Drinking Water Resources: Approach to Study Potential Health Impacts**
 Jennifer Orme-Zavaleta, Ph.D.
 Director, National Exposure Research Laboratory
 Office of Research and Development
 U.S. Environmental Protection Agency
- 4:50 pm **Discussion**
 Moderator: Jamie Bartram, Ph.D.
 Professor of Environmental Sciences and Engineering
 Director of the Water Institute
 Gillings School of Global Public Health
 University of North Carolina
- 5:20 pm **Adjourn for the Day**

Day 2-May 1, 2012

- 8:00 am **Welcome Back**
 Lynn Goldman , M.D., M.P.H.
- 8:15 am **Sustainable Energy For All: Ensuring Health I**
 Steven Hamburg, Ph.D., M.F.S.
 Chief Scientist
 Environmental Defense Fund
- 8:35 am **Sustainable Energy For All: Ensuring Health throughout the Energy
 Production and Use Life Cycle**
 Daniel S. Greenbaum, M.S.
 President
 Health Effects Institute

8:55 am **Discussion**

9:20 am **Panel I: Research Community**

Each panelist will give a 5 minute presentation followed by discussion.

Assessment of the Science and Next Steps

- What evidence links adverse health effects and hydrofracking?
- What can be done to minimize adverse health effects as the technology evolves (e.g., best practices)?
- Where is there uncertainty (appropriate metrics)?
- What are the next steps for stakeholders?

Moderator: Richard J. Jackson, M.D., M.P.H.
Professor and Chair
Department of Environmental Health Sciences
School of Public Health
University of California, Los Angeles

David Carey, Ph.D.
Director
Weis Center for Research
Geisinger Health Center

Rob Donnelly, M.B. Ch.B., MFOM
Vice President of Health
Shell Oil Company

Bernie Goldstein, M.D.
Professor Emeritus
Department of Environmental and Occupational Health
Graduate School of Public Health
University of Pittsburgh

Roxana Witter, M.D., M.S.P.H.
Assistant Research Professor
Environmental and Occupational Health
Colorado School of Public Health

10:00 am **Discussion**

10:30 am **BREAK**

10:50 am **Environmental Health and Hydrofracking**

Bob Perciasepe, M.Pl., M.P.A.
Deputy Administrator
U.S. Environmental Protection Agency

11:05 am **Discussion**

11:15 am **Panel II: Federal Representatives**

Each panelist will give a 5 minute presentation followed by discussion.

Identification of Key Research and Regulatory Needs

- From your agency's perspective, what do you see as clear opportunities for action?
- What is your agency's critical advantage for addressing questions about shale gas extraction?
- What make shale gas extraction unique? What are opportunities to draw from insights from similar and well-characterized operations conducted in different regions of the country or world?
- How can local, state, and federal institutions coordinate to make efficient progress?
- Are there other partners that can help advance our knowledge?

Moderator: George Gray, Ph.D.

Professor, Department of Environmental and Occupational Health
Director, Center for Risk Science and Public Health
School of Public Health and Health Services
The George Washington University

John M. Balbus, M.D., M.P.H.
Senior Advisor for Public Health
National Institute of Environmental Health Sciences
National Institutes of Health

Suzette Kimball, Ph.D.
Deputy Director
United States Geological Survey - Water and Science
United States Department of the Interior

David Michaels, Ph.D., M.P.H.
Assistant Secretary of Labor
U.S. Department of Labor
Occupational Safety and Health Administration

Christopher Portier, Ph.D.
Director
National Center for Environmental Health and
Agency for Toxic Substances and Disease Registry
Centers for Disease Control and Prevention

12:00 pm **Discussion**

12:30 pm **Closing**

Frank Loy, LL.B.
Chair, Roundtable on Environmental Health Sciences, Research and
Medicine
U.S. Representative to the 66th Session of the General Assembly of the
United Nations

12:45 pm **ADJOURN**