

# Transparency Failures of the Third Kind in Unconventional Gas Drilling (UGD)

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# Overview of Presentation

- In recent decades, governmental environmental policy in the US and elsewhere has moved toward enhanced citizen involvement in decision making for which transparency is necessary
- The typology of barriers to transparency usually divides them into forms of secrecy and impediments to obtaining available information
- Based on Pennsylvania's experience with UGD, we demonstrate that a third barrier to transparency is the intentional failure to obtain information pertinent to citizen involvement - and that this failure has been counterproductive to the UGD industry



# My View: What's the Rush to Drill?

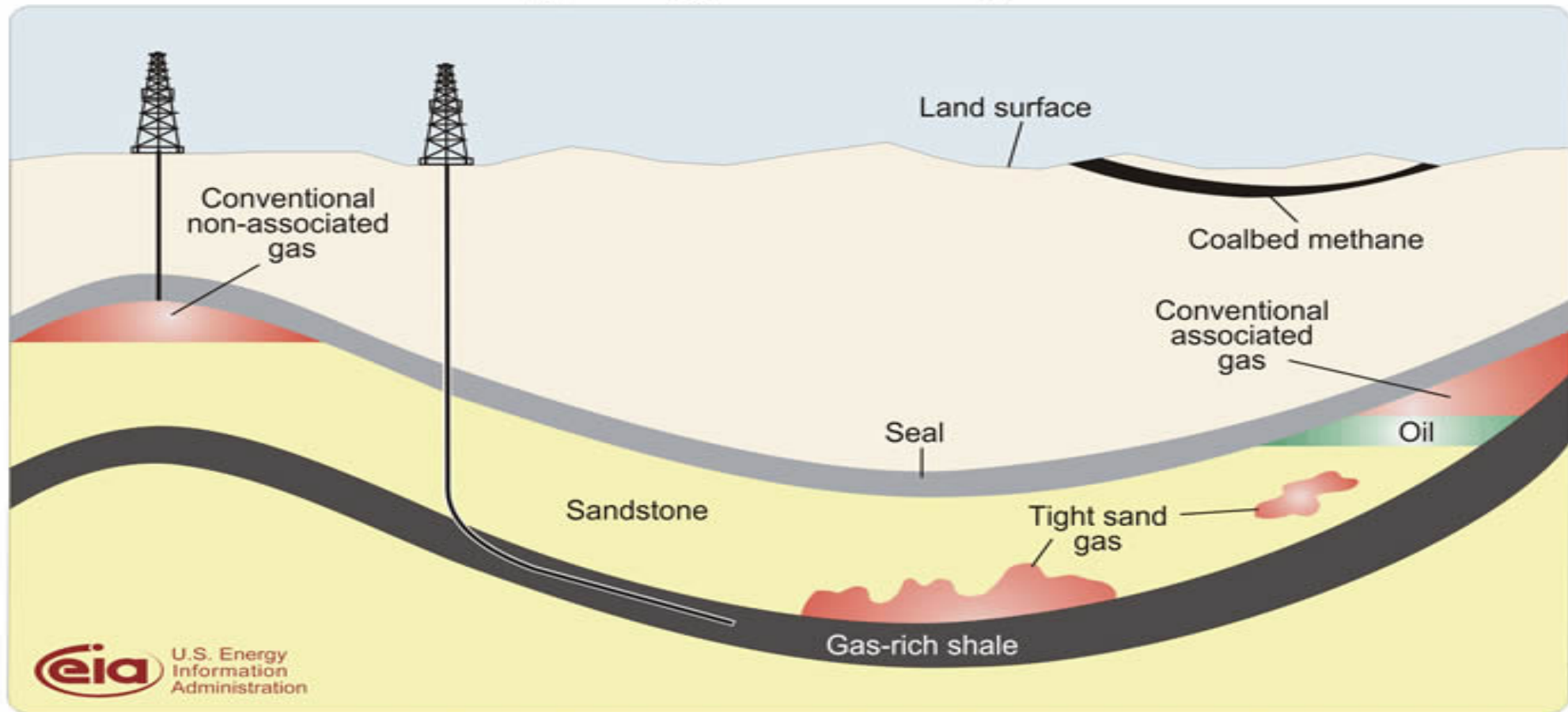
- There is no reasonable scenario in which non-fossil fuels or energy conservation will completely obviate our national need for fossil fuels in the next few decades
- During this time it is certain that virtually all of the natural gas within the US tight shale formations will be tapped
- In contrast to the Gulf oil deposits, which might be tapped by other countries, the shale gas deposits of natural gas are ours
- **So what's the rush?**

# Potential Benefits Related to UGD

- National security
- Jobs
- Replacement of coal with natural gas leading to:
  - Decrease in particulate and other forms of air pollution
  - Greenhouse gas reduction

# Conventional and Non-conventional Natural Gas Extraction Methodologies

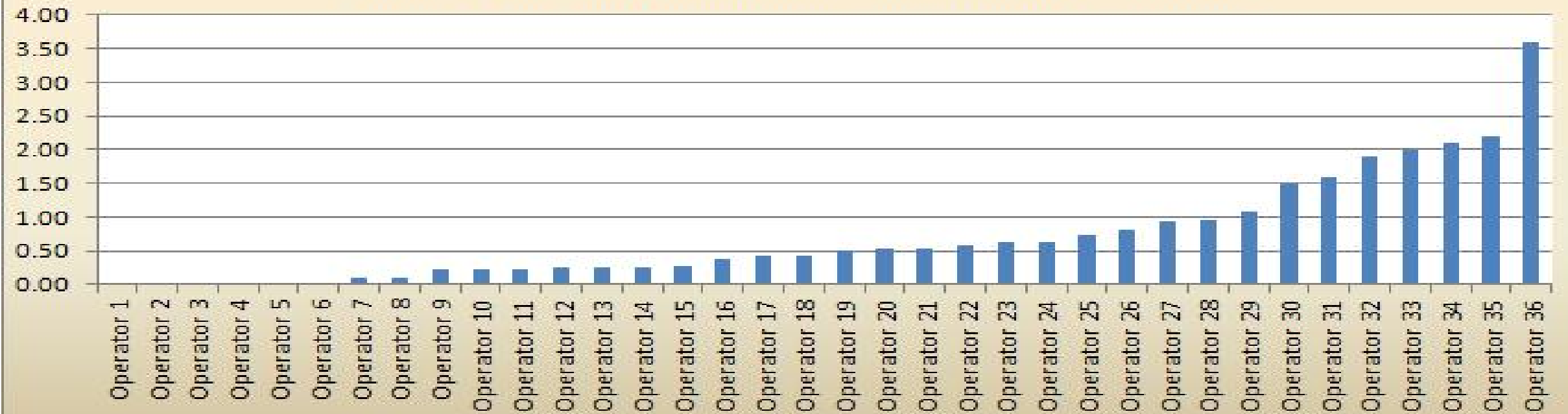
Schematic geology of natural gas resources



## PA Marcellus Shale Violations per Well

Wells Drilled from 3/6/2006 to 10/31/11. Violations from 1/1/2010 to 9/30/2011.

Operators with 10 or more Marcellus Shale wells in Pennsylvania



# A Typology of Transparency Failures

- Information is kept secret
- Information is obtained but availability is hindered or obfuscated
- Information could be available but is not obtained

# Stockholm: Principle 10

- Environmental issues are best handled with participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available.
- United Nations Environment Programme (1972). Report of the United Nations Conference on the Human Environment. Stockholm. Principle 10 <http://www.unep.org/Documents.Multilingual/Default.asp?documentid=78&articleid=1163>



# United Nations Global Compact

Principle 8: Businesses should undertake initiatives to promote greater environmental responsibility.

- Steps that the company could take to promote environmental responsibility would be the following:

Ensure **transparency** and unbiased dialogue with stakeholders.

United Nations. (2009, 12 February 2009). Businesses should undertake initiatives to promote greater environmental responsibility. *Global Compact Principle 8*. from <http://www.unglobalcompact.org/aboutthegc/thetenprinciples/principle8.html>

# World Business Council for Sustainable Development

- “Governance also enables and guides markets by clarifying limits and establishing frameworks that promote **transparency**, inclusiveness, internalized externalities, and other characteristics of sustainability.”

- World Business Council for Sustainable Development (2010). Vision 2050. Geneva, Switzerland: 1-21.  
<http://www.wbcsd.org/pages/edocument/edocumentdetails.aspx?id=219&nosearchcontextkey=true>

# EPA's Mission Statement

- “all parts of society -- communities, individuals, businesses, and state, local and tribal governments -- have access to accurate information sufficient to effectively participate in managing human health and environmental risks.”

**Environmental Protection Agency. (2013). Our Mission and What We Do.**  
**<http://www2.epa.gov/aboutepa/our-mission-and-what-we-do>**

Margaret Hamburg, M.D.  
Commissioner of the Food and Drug  
Administration

- “**Transparency** is a potent element of a successful strategy to enhance the work of the FDA and its credibility with the public. Whenever possible, the FDA should provide the data on which it bases its regulatory decisions and other guidance and explain its decision-making process to the public.”
- Hamburg, M. A. and J. M. Sharfstein (2009). "The FDA as a public health agency." N Engl J Med 360(24): 2493-2495.

# Government's Role in Protecting Health and Safety

## **Potential Public Health Actions of a Responsive Government**

- Promoting Free and Open Information
- Protecting Individuals from Harm Caused by Other People or by Groups
- Taking Societal Action to Protect and Promote Health

**Frieden, T. R. (2013). Government's Role in Protecting Health and Safety. *New England Journal of Medicine*, 368(20), 1857-1859.**

# White House Open Government Working Group

## **Principles of Open Government**

- Complete
- Primary
- Timely
- Accessible
- Machine-processable
- Non-discriminatory
- Non-proprietary
- License-free

Open Government Working Group. (2007). Open Government Data principles. Retrieved September 24, 2013, from [https://public.resource.org/8\\_principles.html](https://public.resource.org/8_principles.html)

# Language of the Executive Orders Creating Unconventional Natural Gas Drilling Advisory Committees

(Goldstein et al, Env Hlth Persp 120:483-486, 2012)

“...task the Secretary of Energy Advisory Board (SEAB) with establishing a subcommittee...to develop, within six months, consensus recommended advice to the agencies on practices for shale extraction **to ensure the protection of public health and the environment**” (emphasis added)

-President Barak Obama in

*Blueprint for a Secure Energy Future* (March 2011)

The Marcellus Shale Safe Drilling Initiative will assist State policymakers and regulators in determining how gas production from the Marcellus shale in Maryland can be accomplished **without unacceptable risks of adverse impacts to public health, safety, the environment and natural resources**” (emphasis added)

-Maryland Governor Martin O’Malley in

*Executive Order 01.01.2011.11: The Marcellus Shale Safe Drilling Initiative* (June 2011)

“WHEREAS, the Commonwealth takes seriously its responsibility to ensure the development of natural gas in a manner that **protects the environment and safeguards the health and welfare of its citizens**” (emphasis added)

-Pennsylvania Governor Tom Corbett in

*Executive Order 2011-011: Creation of Governor’s Marcellus Shale Advisory Commission* (March 2011)

# Role of the Pennsylvania Department of Health in Responding to Concerns about Shale Gas

- PADOH not one of the 17 state agencies, commissions, etc funded by the approx. \$200 million annual impact fee
- Recommendations from the Governor's Marcellus Shale Advisory Commission for registry, epidemiological studies, education of health care providers and the public, etc – all ignored





# Environmental Impacts of Shale Gas Extraction in Canada

*Presentation to the Sponsor,  
Environment Canada  
April 23, 2014*

John Cherry, Chair

Rick Chalaturnyk, Expert Panel Member

# Shale Gas Development and the Canadian Context

Canadian plays differ significantly. Environmental impacts will vary regionally.





# Environmental Impacts of Shale Gas Development in Canada: Human Health

- Health and well-being may be adversely affected:
  - Occupational Health: silica exposure, accidents on crowded pad
  - Physical effects: related to air and water contamination
  - Psychosocial: individual quality of life, anxiety
  - Community disruption and quality of life, income inequality, health and safety, and strain on local services
  - Ethical: risks to future generations
- Aboriginal peoples' concerns: well-being, quality of life, and rights, erosion of rights through habitat destruction.
- **Overall, health Impacts are not well understood and require additional research.**

# State Hydraulic Fracturing Disclosure Rules and Enforcement: A Comparison

McFeeley, M. (2012). *NRDC Issues Brief (Vol. IB: 12-06-A, pp. 1-16)*

- “Trade secret exemptions create loopholes in most rules, allowing companies to deem information proprietary and prevent disclosure. In many states, disclosure requirements written into state rules are not consistently enforced ... And some states provide certain information to the public only via physical inspection of well records, severely limiting its availability.”

# Why Requiring Disclosure of Site-Specific Hydrofracturing Chemicals is in Industry's Best Interest

- Consider a physician responding to a family concerned about whether a child's symptoms could be due to living near a drill site.
  - Without site-specific requirements: MD would consult a list of hundreds of chemical and would certainly find one that could cause the symptoms
  - With site-specific requirements: MD would consult a list of perhaps 8 chemicals and is likely not to find a possible causal link

What his/her lawyer should tell a health provider who might want Confidential Business Information (CBI)

- Once you sign the document allowing you to obtain CBI
  - If you release the information you are legally liable for any business loss sustained by the company. (Halliburton values their hydrofracturing secrets at upwards of \$200 million)
  - It is highly unlikely that any such law suit will be covered by your malpractice insurance. So you would need to hire your own lawyers.
  - If you think the CBI chemical could be causing health problems, state law requires you to divulge this secret information to public health authorities. It is not clear whether you are liable if the public health authorities then release the secret information

**It would take an exceptionally brave (or foolhardy) health care provider to request CBI**

# More Important than the CBI issue:

## Disclosures Not Required in State Laws

**“Notwithstanding any other provision of this chapter, a vendor, service provider or operator shall not be required to do any of the following:**

- (1) Disclose chemicals that are not disclosed to it by the manufacturer, vendor or service provider.
- (2) Disclose chemicals that ***were not intentionally added*** to the stimulation fluid.
- (3) Disclose chemicals that occur ***incidentally*** or are otherwise ***unintentionally present*** in trace amounts, may be the incidental ***result of a chemical reaction*** or chemical process or may be constituents of ***naturally occurring materials*** that become part of a stimulation fluid.”

**(Language from PA Act 13: Emphases added)**

# COREXIT 9500 MSDS: NALCO

(edited)

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Our hazard evaluation has identified the following chemical substance(s) as hazardous:

<b><u>Hazardous Substance(s)</u></b>	<b><u>(w/w)</u></b>
- Distillates, petroleum, hydrotreated light	10.0 - 30.0%
- Propylene Glycol	1.0 - 5.0%
- Organic sulfonic acid salt (Proprietary)	10.0 - 30.0%





# Stressors in those who believe their health has been affected by Marcellus Shale activities (1)

Stressor	(n=33)
Denied or provided false information	79%
Corruption	61%
Concerns/complaints ignored	58%
Being taken advantage of	52%
Financial damages	45%
Noise pollution	45%

# Risk Amplification

- “...personal experience of a natural hazard and trust—or lack of trust—in authorities and experts have the most substantial impact on risk perception. Cultural and individual factors such as age, gender, education, income, social status, and others do not play such an important role but act as mediators or amplifiers of the main causal connections between experience, trust, perception, and preparedness to take protective actions.”
- Wachinger, G., et al. (2013). "The Risk Perception Paradox—Implications for Governance and Communication of Natural Hazards." Risk Analysis **33**(6): 1049-1065.

# Managing the Story

## **Is hydrofracturing old or new?**

- 1) To the nation's benefit, new hydrofracturing-related technology now permits extraction of gas that we have long known is trapped in the tight shale formations
- 2) We have been doing hydrofracturing for decades so there is nothing to worry about

# Managing the Story

## **Does hydrofracturing cause groundwater contamination?**

- 1) There is no proven incident in which hydrofracturing has caused groundwater contamination
- 2) Major water contamination with hydrofracturing agents has occurred as a result of unconventional shale gas drilling activities

# Anecdotal Data from Justice Castille's Decision Overturning PA ACT 13

“the homeowner abandoned her family home because the exposure to the toxic water and air caused her and her children severe health problems such as constant and debilitating headaches, nosebleeds, nausea, difficulty and shortness of breath, skin rashes and lesions, bone and muscle pain, inability to concentrate, and severe fatigue.”

Robinson Township v. Commonwealth of Pennsylvania, \_\_\_ A.3d \_\_\_, 2013 WL 6687290 at \*23. (Pa. 2013)

# Transparency of the Third Kind: The lack of Independent Scientific Study in the Overturning ACT 13

The Environmental Quality Board is to articulate criteria for granting permits premised on consideration of the impact on public natural resources, including ... sources used for public drinking supplies. **It is worth noting that the Commonwealth does not specify whether any independent scientific study has been commissioned or what data will be used to assess the impact on any or all of the public natural resources that the Board is to consider in promulgating regulations.**

In addition to strengthening the citizens' claims that the statutory scheme offers no clear standards for determining permit applications, **the absence of data also suggests that the Commonwealth has failed to discharge its trustee duty of gathering and making available to the beneficiaries complete and accurate information** as to the nature and amount of the trust property. (emphases added)

*Justice Ronald D. Castille, Robinson Township, etc. v. Commonwealth (Supreme Court of Pennsylvania Middle District ed., 2013). Footnote 60.*

Kathryn Klaber, President of the Marcellus Shale Coalition, said "**Every single Pennsylvanian has more money in their pocket today — to save, invest and help make ends meet — as a result of plentiful natural gas development from the Marcellus Shale,**" (emphasis added)

<http://www.lchic.org/safe-communities/marcellus-shale-information/marcellus-shale-news/172-benefits-of-natural-gas-production-realized-by-every-single-pennsylvanian>

# “Marcellus Natural Gas Developments Effect on Housing in Pennsylvania”

Center for the Study of the Community and the Economy

- **Landlord Response**

Landlords are responding to the increased demand for rental property. A few have decided to not raise rents and stay with current renters. More landlords are not renewing leases or even evicting current renters so that they can raise the rent to a level that only gas industry employees can pay.

Williamson and Kolb; Lycoming College; Sept 31, 2011, p12

[http://www.housingalliancepa.org/sites/default/files/resources/Lycoming-PHFA%20Marcellus\\_report.pdf](http://www.housingalliancepa.org/sites/default/files/resources/Lycoming-PHFA%20Marcellus_report.pdf)



# PA ONE CALL EXEMPTION STATUS DISPUTED

“The two camps are at odds over an exemption enjoyed by oil and gas wells and pipelines in rural areas from having to register their facilities with PA One Call, also known as ‘Call Before You Dig’

The Public Utility Commission and PA One Call would like to see the exemption lifted .... (Industry) argues that there are no safety issues, as evidenced by no catalog of incidents in which unregistered gathering lines caused explosions or fatalities

‘It’s a solution in search of a problem. There is no problem’ , said Mr Moody”  
(Vice President of the Pennsylvania Independent Oil & Gas Association)

- Reported by Anya Litvak; Pittsburgh Post-Gazette May 20, 2014