

# **Some Remarks on Marcellus Shale Natural Gas in Pennsylvania**

**Robert P. Strauss**

**[www.andrew.cmu.edu/user/rs9f](http://www.andrew.cmu.edu/user/rs9f)**

**Professor of Economics & Public Policy**

**School of Public Policy & Management**

**The Heinz College, Carnegie Mellon University**

**A Presentation at the Heinz College**

**September 15, 2010 Symposium**

**The Perils and Prospects of Marcellus Shale**

# Organization of Remarks

- 1. Some acknowledgements and background to my own tax, transportation and technology interests in Marcellus Shale developments in Pennsylvania**
- 2. A first principles approach to thinking about Marcellus Shale natural gas issues in Pa.**
- 3. Current education/research/public policy activities**
  - Severance tax project, Road Damage Assessment System**
  - Legislative briefings in Harrisburg**
- 4. Questions?**

# 1.0 Acknowledgements and Background (1)

- **Thanks to Heinz for opportunity to share publicly a few thoughts on a current public policy issue**
- **My interest in local water policy began with 2009-2010 independent study projects on Pittsburgh's Parking and Water & Sewer Authorities, see:**

[http://www.andrew.cmu.edu/user/rs9f/rpstrauss\\_written\\_remarks\\_2\\_25\\_2010.pdf](http://www.andrew.cmu.edu/user/rs9f/rpstrauss_written_remarks_2_25_2010.pdf)

[http://www.andrew.cmu.edu/user/rs9f/water\\_parking\\_10\\_30\\_09.pdf](http://www.andrew.cmu.edu/user/rs9f/water_parking_10_30_09.pdf)

- **Luncheon conversations with local water company indicated that Marcellus Shale exploration entailed local road and water quality public policy issues**
- **Earlier personal backgrounds in writing federal energy legislation for US Congress and policy research on Pa. transportation tax policy suggested possibility of making independent contributions to current policy developments in Pennsylvania.**

# 1.0 Acknowledgements and Background (2)

- **April 2010 development of fall systems project to deal with multiple aspects of Marcellus Shale exploration issues with promised industry and government funding (Pa Business Council and Pa Boroughs Association)**
- **Appearance of second systems project with adjunct Heinz faculty member to be funded by the Equitable Gas Foundation suggested that Marcellus Shale fever had hit Heinz hard**
- **Pa Boroughs Association withdrew interest, and Pa Business Council found its members uncertain about interest in supporting my activities**
- **Lesson: policy conflicts in Harrisburg and financial stakes are so large that they affect all forums**

# 1.0 Acknowledgements and Background (3)

## **Simplified Approach to Making Contributions to Policy Domains:**

- **Learn about the geology and business/government claims regarding transportation and water issues**
- **Focus on tax policy issues**
- **Focus on developing technological approach to authenticating complaints**

## **Methods:**

**Connect former students (Mark Muchow in WV; John Raymond, David Patti and Dan Hassell in Pa)**

**Meet with local government associations leadership (Pa. Counties Association, Pa. Boroughs Association),**

**Meet with industry (Consol)**

**Reach out to academic expertise on campus and around the US**

**Funders: Eden-Hall Foundation support for Commerce Clearing House subscription(\$3,200); Pa Business Council and CMU Robotics Institute internship support (\$2,500), PA Boroughs Association support (\$1,500) for AY 2010-2011**

## **2.0 A First Principles Approach to Thinking about Marcellus Shale Natural Gas Issues in Pa. (1)**

**Q1 Is natural gas a private or public good/service?**

**A1 Conceptually, natural gas consumption is rival and natural gas consumption readily permits exclusion, so it is inherently a private good.**

**A1 From a property rights perspective, ownership of Marcellus Shale mineral rights in Pennsylvania is clearly private, and the property rights are settled law *modula* title ambiguities. Note, such natural resources are not always privately held.**

## 2.0 First Principles Approach to Analyzing Marcellus Shale Issues in Pa. (2)

- **Q2 Do alleged private road and surface environmental destruction by gas drillers warrant government intervention? What about alleged public road destruction?**
- **A21 Damage on private property for exploration is primarily a negotiation/contracts matter between the surface owner and the exploration company, *modula* the competence and integrity of the Pa. judicial system. Is it government's role to tell people not to write stupid, one-sided contracts? (Nope).**
- **A22 Unforeseen or uncompensated damage to local public roads is both a state/local enforcement issue and is in principle judiciable. Note: one may readily inquire if there currently is state/local administrative capacity to enforce current law, and if not, what would be required to accomplish that. Note: we do have elections if there are leadership issues.**

## 2.0 First Principles Approach to Analyzing Marcellus Shale Issues in Pa. (3)

- **Q3 Does alleged private ground water contamination by gas drillers warrant government intervention? What about alleged public water (streams, lakes) contamination?**
- **A3 This raises a series of subsequent questions that I don't have particular expertise to answer, but can clearly pose:**

## 2.0 First Principles Approach to Analyzing Marcellus Shale Issues in Pa. (4)

- **I surmise that more rather than less is known about the science of fracking water getting into ground water. There's probably safe fracking and reckless fracking. Liability for any sort of polluting likely leads to sanctions. Taxation is not going to alter the choice by a driller to use safe vs. reckless fracking, but criminal vs. civil penalties will. Also, I don't think it makes sense to use severance tax dollars paid by safe fracking to pay for the clean up due to reckless fracking. Polluters should pay for cleanup.**
- **Is the science about ground or stream water contamination from fracking obvious? (Probably) Do drilling contracts obligate drillers to use safe/best drilling practices that are known to avoid ground water contamination? (likely unknown) Is state or federal environmental law clear on liabilities for such contamination? (probably) Is there currently sufficient independent monitoring and data collection to answer these questions? (I doubt it).**

## 3.0 Some Related Marcellus Shale Research and Public Policy Activities (1)

- **June, 2010 invitation to West Virginia tax department chief counsel to conduct commentary on Pa. SB 1254; widely disseminated around Pa.**
- **Summer 2010 independent study project by MPM student, Niyazi Ozpehriz, who performed an interstate comparison of state severance taxes and also Pa. SB 1254 and HB 1489; widely disseminated around Pa.; see**

**[http://www.andrew.cmu.edu/user/rs9f/niyazi\\_ozpehriz\\_severance\\_taxation\\_7\\_31A\\_2010.pdf](http://www.andrew.cmu.edu/user/rs9f/niyazi_ozpehriz_severance_taxation_7_31A_2010.pdf)**

- **Summer 2010 internship by MSPPM student, Veronica Acha. to design a system for independent authentication of road damage using mobile phone technology; so called RODAS project which is being continued this fall.**
- **Fall 2010 independent study of state receipts and revenue estimating models and methods by Heinz student Kendal Fowler with Federation of Tax Administrators support/endorsement**

## 3.0 Some Related Marcellus Shale Research and Public Policy Activities (2)

- **August 16, 2010 separate Harrisburg briefings on tax, transportation issues related to Marcellus Shale to:**
  - **Pennsylvania Business Council (2 hours)**
  - **Pennsylvania Senate, Democratic Staff working group on Marcellus Shale tax (2 hours)**
  - **Pennsylvania Senate, Republican Staff majority leader's office, (2 hours)**
- **My consistent advice to all 3 groups (who would not meet together):**

## 3.0 Some Related Marcellus Shale Research and Public Policy Activities (3)

- **General advice: subscribe to CCH, read summer paper by Niyazi to find out what ought to be in a serious severance tax bill**
- **Develop a sound tax instrument that obligates the Pa. Revenue Department and Pa. Dept of Conservation and Natural Resources and Pa. Dept of Environmental Protection to collect and share data; require monthly reporting of gas volume, public reporting of all extraction activities**
- **Don't give Pa local governments liquid fuels tax monies unless they agree to be GAAP compliant; nobody currently really knows what is being spent for local roads/bridges right now;**
- **Don't dedicate severance tax proceeds for public education or General Fund; relate the specific excise tax to specific purpose [s]**
- **Don't distribute severance tax proceeds simply on share of active gas wells (in several legislative proposals)**
- **The distribution/pipelines of gas from Pa to markets is as important as the drilling and requires some serious thought;**
- **And good luck trying to get conflicting parties to agree!**

# 4.0 Questions?