Supra-regulatory Agreements and Public Perceptions of Unconventional Energy Development in Colorado

Dr. Jessica Smith (Assistant Professor of Energy Policy & Anthropology)
Skylar Zilliox (Masters student in Civil & Environmental Engineering)
Austin Shaffer (Undergraduate student in Petroleum Engineering)
“The greatest challenge for the industry in the 21st century will be compatibility.”

- Practicing engineer on the Colorado Front Range
Well density
As an opportunity to drill for oil and gas in unincorporated areas of the Front Range, companies are drilling closer to cities. In Weld County, the city of Greeley remains relatively untapped.

http://www.commondreams.org/news/2014/08/05/outrage-colorado-over-fracking-betrayal-top-democrats
Colorado is home to the first national experiments in MOUs as a strategy to overcome political stalemates

- Offer **industry** a permitting process that is quicker and more certain
- Offer **communities** more control in establishing best practices for issues that concern them, such as environmental management and setbacks
- Over a dozen on the books, might become more common after Supreme Court ruling
Politics in Erie

- Politically Diverse
- Demographics: Upper-Middle-Class Young Families
- Highly Educated
- Growing Quickly!
  - 6,000 in 2005
  - 20,000+ in 2015

Images courtesy of Google Maps
RESEARCH QUESTIONS AND METHODS

In Erie, a relatively affluent, well-educated and politically heterogeneous suburb:

*Do MOUs increase public trust in industry and local government?*

*What features increase effectiveness in addressing community concerns and resolving conflict?*

*What political and social environments are most conducive to effective agreements?*

Qualitative and Quantitative methods:

*Transcription and coding of town hall meetings*

*Semi-structured interviews with key players*

*Content analysis of signed agreements*
A TALE OF TWO WELLS

Canyon Creek, 2011-2012
(proposed 1500 feet from two elementary schools)

Pratt, 2014-2015
(everything that can go wrong, does)

Image source: "Air Emissions Case Study Related to Oil and Gas Development in Erie, Colorado", CDPHE, December 2012
• How did public opinion change during these two periods?

• How did these events change relationships between the local government and the community?

• How did the MOU process change between these two wells?

• Is the MOU process effective in addressing community concerns during both periods?
How did the community react to these different “crises”?
COMPARISON OF PUBLIC COMMENT CONTENT

Canyon Creek

Pratt

- Noise/Vibration
- Air Pollution
- Water Pollution
- Health
- Light/Visual
- Setbacks
- Environment
- Climate Change
- Water Use
- Traffic
- Other Amenities

- 1/10/12
- 8/14/12
- 8/28/12

- 8/12/14
- 1/13/15
- 1/20/15
- 1/27/15
Topics Addressed in Public Comments

- Noise/vibration
- Air Pollution
- Water Pollution
- Health
- Light/Visual
- Setbacks
- Environment
- Climate Change
- Water Use
- Traffic
- Other Amenities

Dates:
- 1/10/12
- 8/14/12
- 8/28/12
- 2013
- 2014
- 8/12/14
- 1/13/15
- 1/20/15
- 1/27/15
COMPARISON OF PUBLIC COMMENT CONTENT

Why did public comments shift?

• Two sites raised different concerns
  • Canyon Creek well was not operational, meaning that noise wouldn’t be an immediate experience

• Original MOU addressed many of the concerns raised by the community
  • Air and water pollution, human health
  • But it wasn’t sufficient to prevent the initial outrage over the Pratt well disaster
FINDINGS: INCREASED TRUST IN GOVERNMENT

- Government transparency
- Industry transparency
- Critique a govt official
- Critique of govt
- Praise of specific govt officials
- Praise of govt
- Mistrust of industry
- Mistrust of government

Bars represent the findings for Canyon Creek and Pratt.
Trust & Scientism

Canyon Creek well

- Board of Trustees and community rely on science to guide policy
  - NOAA, CDPHE, industry experts
  - Bucket Brigade

- Antagonism and Conflict:
  - “Don’t engage them.”
  - “You are...a feckless coward. I hope your children are proud of you.”

Election & Board turnover

- “Our trustees now, at least some of them, are way more responsive than back then. Back then, I would send emails, and nobody would respond for a week, not a single one of the seven. I'd send another email, and then one person responds. Now, when you send an email to the trustees, there are usually two or three people that respond immediately.”
Shifts in expressions of mistrust

Even though public commenters did not express increased trust in industry, they did express more favorable opinions about oil and gas development.

But this improvement is not associated with the MOU itself, but with the Board turnover.

Evolution of public comment over the Pratt well seems to reflect a process of learning.
What makes for a “good” agreement?

From studies of voluntary agreements between mines and communities, an effective agreement:

1. Addresses community concerns
2. Is enforceable
3. Meaningfully engages the community
What makes for a “good” agreement?

Community engagement standards:

1. Goals, purposes, and mandates: The stated goals of the agreement focus on encouraging and enhancing community participation.
2. Structures and decision-making: The structures created for decision-making and management support effective participation.
3. Resources: The agreement provides resources (financial or otherwise) to foster community involvement.
4. Expertise and knowledge: The agreement creates structures and programs assisting community members in gaining access to the scientific knowledge needed to understand and challenge industry actions.
5. Processes: The agreement establishes processes that foster community involvement.
6. Recognition and standing: The agreement recognizes the validity of the town’s interests and concerns.
## A better agreement?

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<thead>
<tr>
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<th>2012 MOU</th>
<th>2015 OA</th>
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<td>✔️</td>
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<tr>
<td>Enforceable</td>
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<td>Engages Community</td>
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Conclusions and Connections

- Public opinion did change over time to be less polarized and more positive about oil & gas activity and local government
- The agreements themselves were not primarily responsible for this shift in opinion
- The most significant factor was the election of a Board
  - Committed to transparency and efforts to engage the community
  - Explicitly respectful of citizens’ opinions
- The effectiveness of these agreements will rest on more meaningfully engaging community members.
AGREEMENTS & COMPLAINTS

Can the effect of MOUs be tracked in filed complaints and drilling activity?

Do MOUs increase public use of the COGCC complaint system?

How do public concerns change after agreements are established?

Methods:
Analysis of COGCC complaint database
Analysis of COGCC well file database
Transcription and coding of town hall meetings
Towns With Similar Demographics

Education and Income Comparison

![Bar chart comparing median household income, population density, high school or higher, and bachelors or higher between Erie and Firestone, normalized to Erie.]

Ethnicity Distribution

**Erie**
- White: 89%
- African American: 1%
- Asian: 3%
- Two or More: 3%
- Other: 6.3%

**Firestone**
- White: 87.8%
- African American: 0.7%
- Asian: 1.4%
- American Indian and Alaska Native: 0.8%
- Two or More: 3.0%
- Other: 6.3%
All Concerns 2010-2014

Firestone Complaint Type
- Sound/Noise/Vibrational: 1
- Land & Property Damages: 3
- Soil Sampling: 3
- Land Reclamation: 2
- Unrelated to Oil & Gas: 1
- Water Quality: 1
- Air Quality: 1
- Well Pad Grading: 1
- Aesthetics: 1
- Well Production: 5

33 Total Complaints

Erie Complaint Type
- Sound/Noise/Vibrational: 3
- Land & Property Damages: 3
- Soil Sampling: 2
- Land Reclamation: 1
- Unrelated to Oil & Gas: 1
- Water Quality: 1
- Air Quality: 1
- Well Pad Grading: 1
- Aesthetics: 1
- Well Production: 51

59 Total Complaints
47 Pratt Complaints
COMPARISON OF COMPLAINTS AND DRILLING ACTIVITY

Complaints and Drilling Activity in Communities by Year

- Firestone Complaints
- Erie Complaints
- Firestone Drilled Wells
- Erie Drilled Wells

Erie 2012 6-month Moratorium
Drilling Activity 2010-2014
Drilling Activity 2010-2014
KEY TAKEAWAYS

• Complaints were more homogenous in topic and less frequent in the MOU context
  • Do citizens prefer to engage local rather than state government?
• Citizens with the MOU used the complaint process when controversy arose
  • Did citizens have less trust in their local government initially? Did they recognize the limits of local governmental authority?
FUTURE RESEARCH

• Comparison with less privileged communities
  • Unincorporated Adams County, Commerce City
• How do members of the public use science-based arguments in public comments?
• How can community engagement be made more meaningful?
Thank you!

Questions?

jmsmith@mines.edu
