

Natural Gas Extraction: Issues and Policy Options

Farm Foundation Forum National Press Club Washington, DC

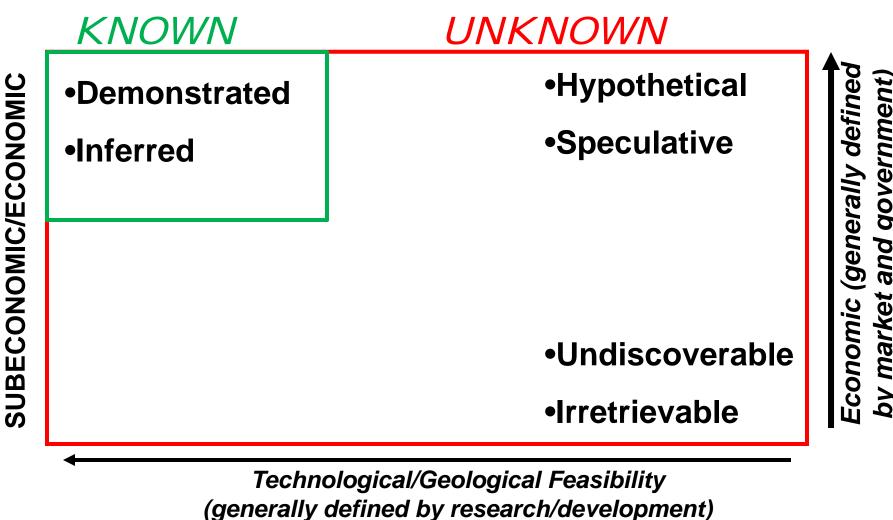
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What are the "real" issues?

Harris, J., Environmental and Natural Resource Economics, Houghton Mifflin Co., 2002 (adapted from US Bureau of Mines & USGS, 1976).



by market and government,

Key question: "Do benefits of fracking outweigh the costs?"

- Likely benefits
 - Cheap energy
 - Economic development/jobs
 - Energy independence
 - Export energy
 - Environmental benefits

- Likely costs
 - Damage to environment
 - High infrastructure costs
 - Opportunity costs
 - Alternative water use
 - Energy/environment for future generations
 - Alternative land use

Answer: "It depends, and we may not know yet."

Regulatory Philosophy

Innocent until proven guilty

- Allow activity to proceed until objective proof of harm is found
- Presumes benign nature of activity
- Assumes markets can quickly find equilibrium
- Who pays?
- Standard of proof?

Guilty until proven innocent

- Regulate activity until objectively proven benign or of acceptable impact
- Presumes harmful nature of activity
- Who pays?
- Standard of proof?

Locus of Control

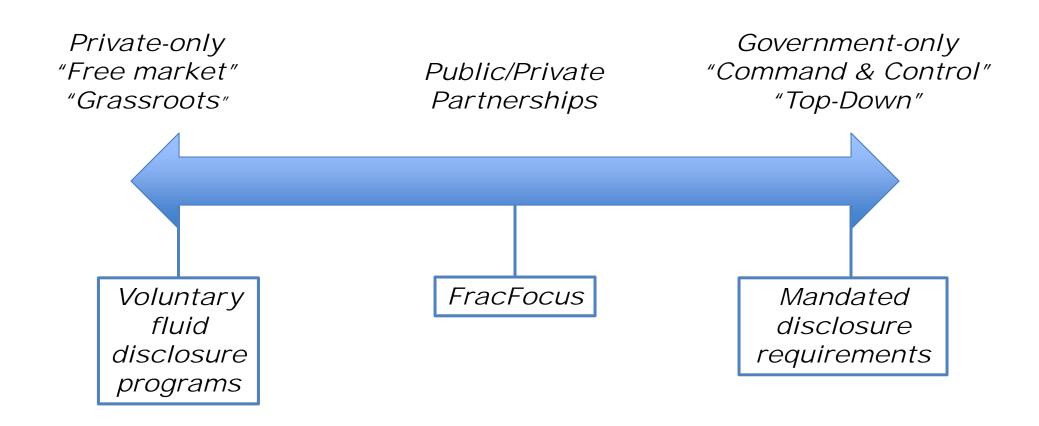
Local Level State Level Federal Level

Local knowledge
Locus of impact
Available resources?
Authorization?
Uniformity?

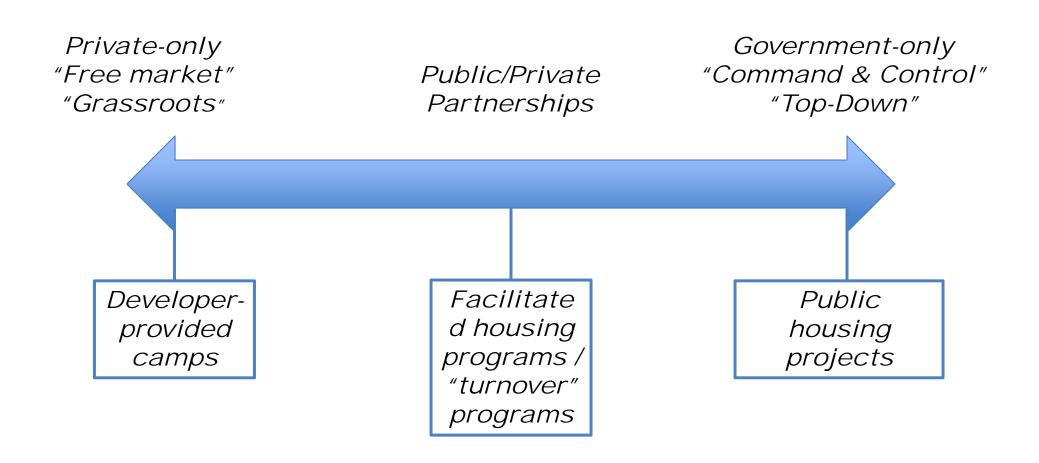
Regional knowledge
Plenary statutory authority*
Delegation of programs
Removed from impacts?

Access to expertise
Uniformity
Most removed
Uniformity desired?

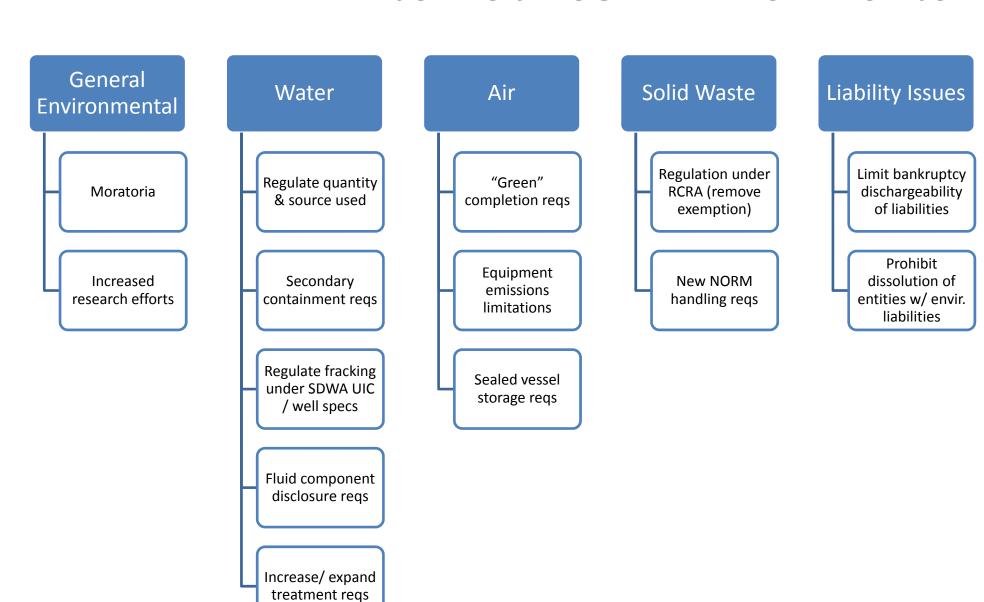
Alternatives to resolve concerns Environmental & Community



Alternatives to resolve concerns Environmental & Community



Alternatives: Environmental



Alternatives: Community

Financing responses to NGE impacts

Ad valorem severance tax

Fixed (per unit) severance tax

Resource revenue trust funds

Voluntary mitigation funds

Revenue-sharing between governmental levels/units Engaging community stakeholders

Education efforts for community leaders

Public deliberation forums

Community social events engaging current & new residents

Housing

Community-built housing

Developer-built housing

Facilitation of private housing development

Streamline housing approval / permit process

Voucher / subsidy programs for low- or fixedincome residents Sociological impacts

Crime prevention through community engagement programs

On-site drug abuse prevention programs

Public-private partnerships to address sexual abuse / disease

Community programs for supportive youth environments

Domestic violence support / therapy programs

Alternatives: Community

Education

Temporary facilities

Alternative class schedules

Alternative schooling arrangements (online / homeschooling)

Workforce availability

Accelerated training programs

Public-private training partnerships

Transportation infrastructure

Posting vehicle weight limits

Well permit fees allocated to transportation systems

Road maintenance agreements

Landowner impacts

Visual impact mitigation

Auditory impact mitigation

Setbacks / siting requirements

Surface damage compensation requirements

Landowner / mineral owner education programs

Conclusions

- Much uncertainty about natural gas extraction issues remains
- All stakeholders have numerous options for action
- Informed dialog among stakeholders at every level is critical

- Short term impacts are generally known
- Long term impacts less certain
- More research on fracking is needed
- More research on alternative solutions is needed
- Education and transparency are important



THANKS!

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