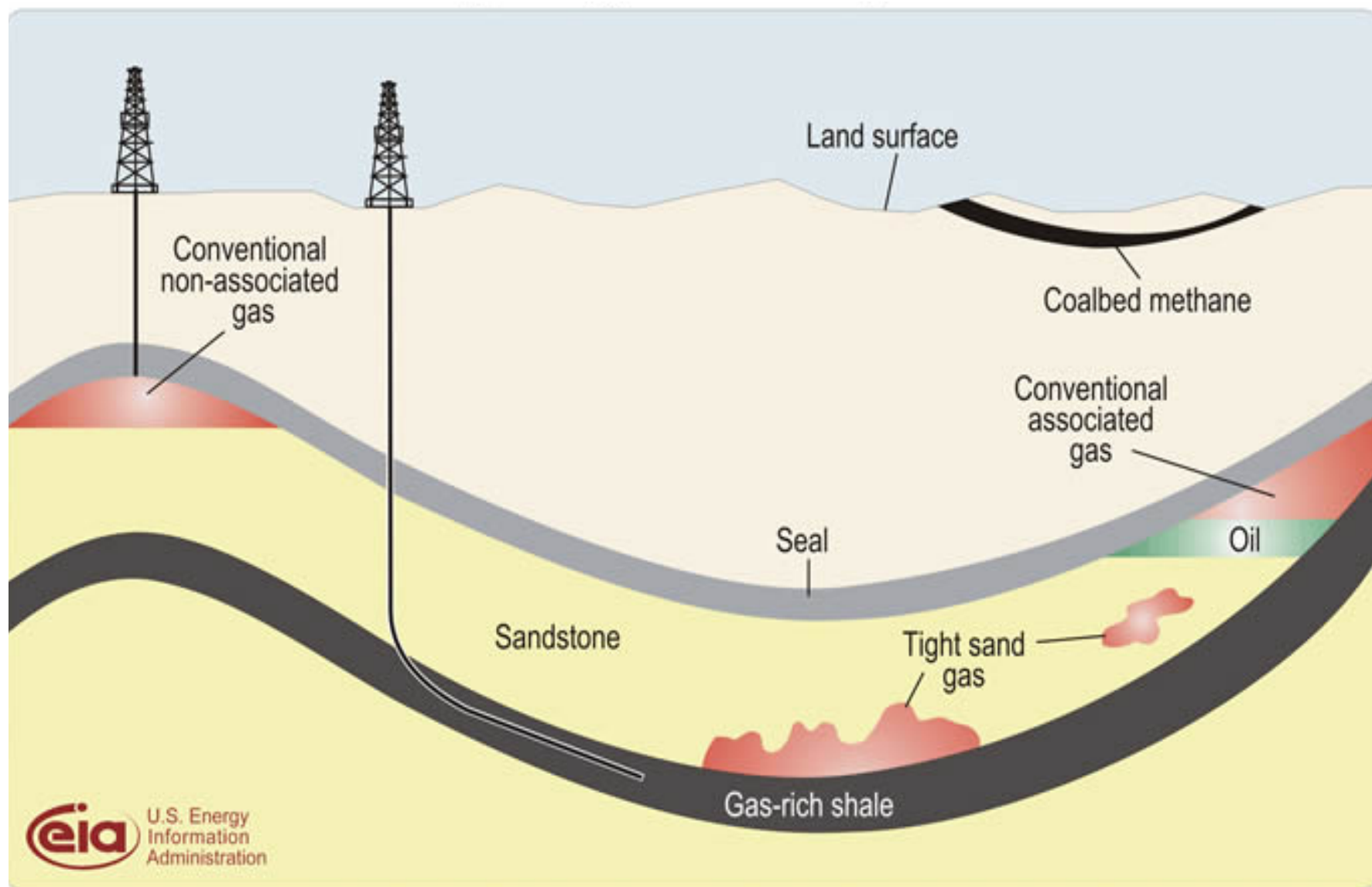


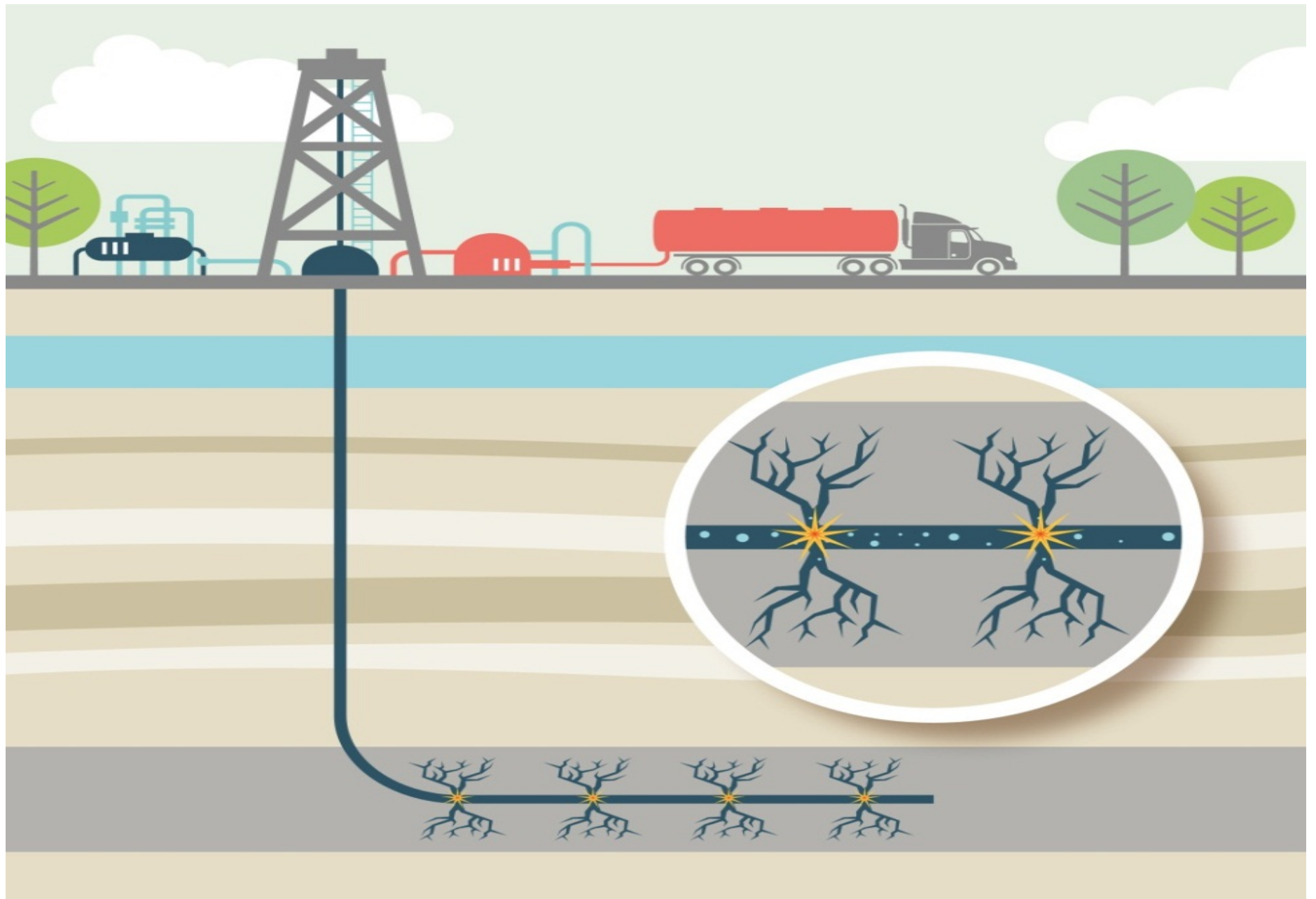
Comparing Perceptions about Hydraulic Fracturing in Colorado, Texas, and New York

Tanya Heikkila & Chris Weible
Associate Professors
School of Public Affairs
University of Colorado Denver

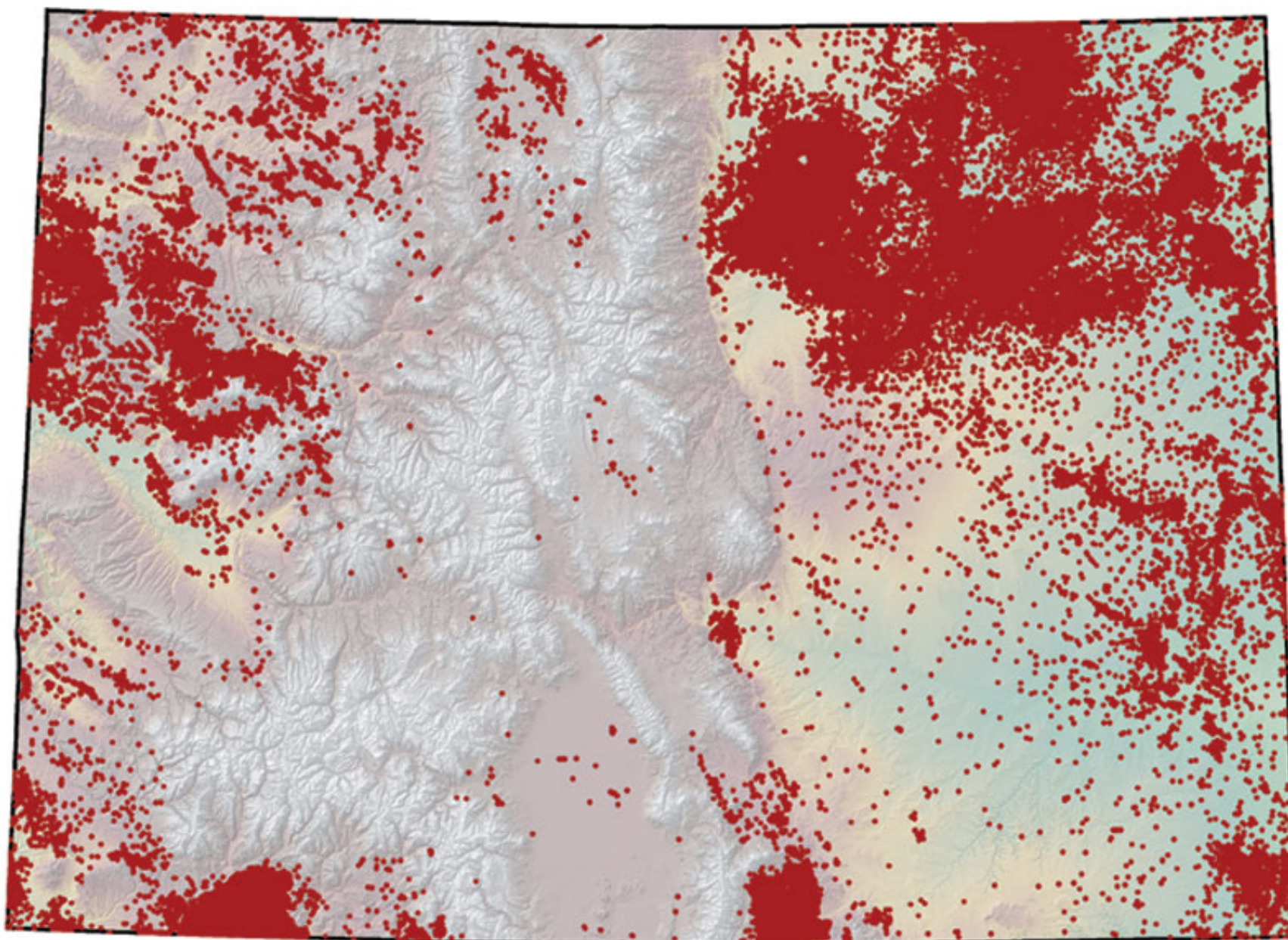


University of Colorado
Denver





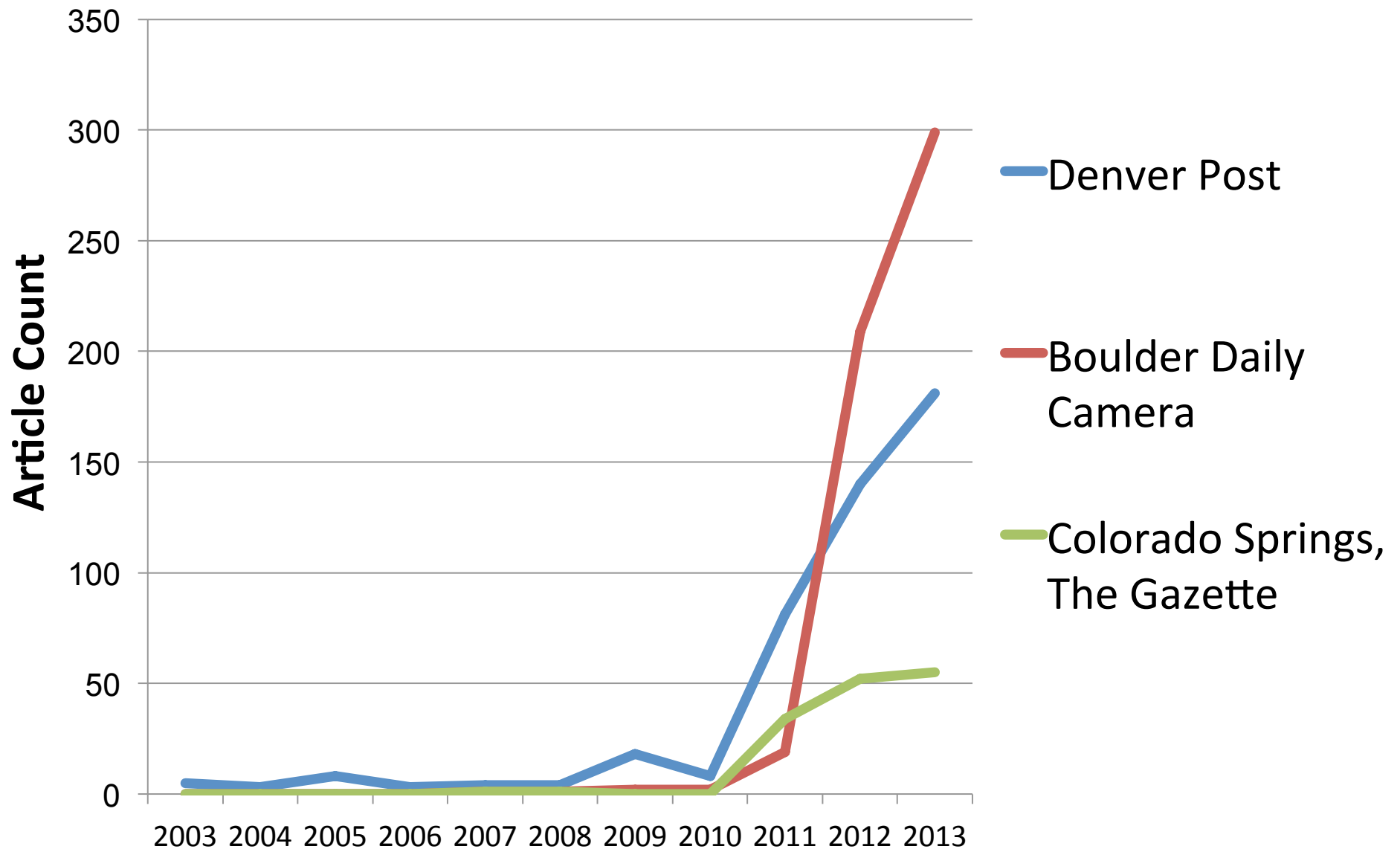




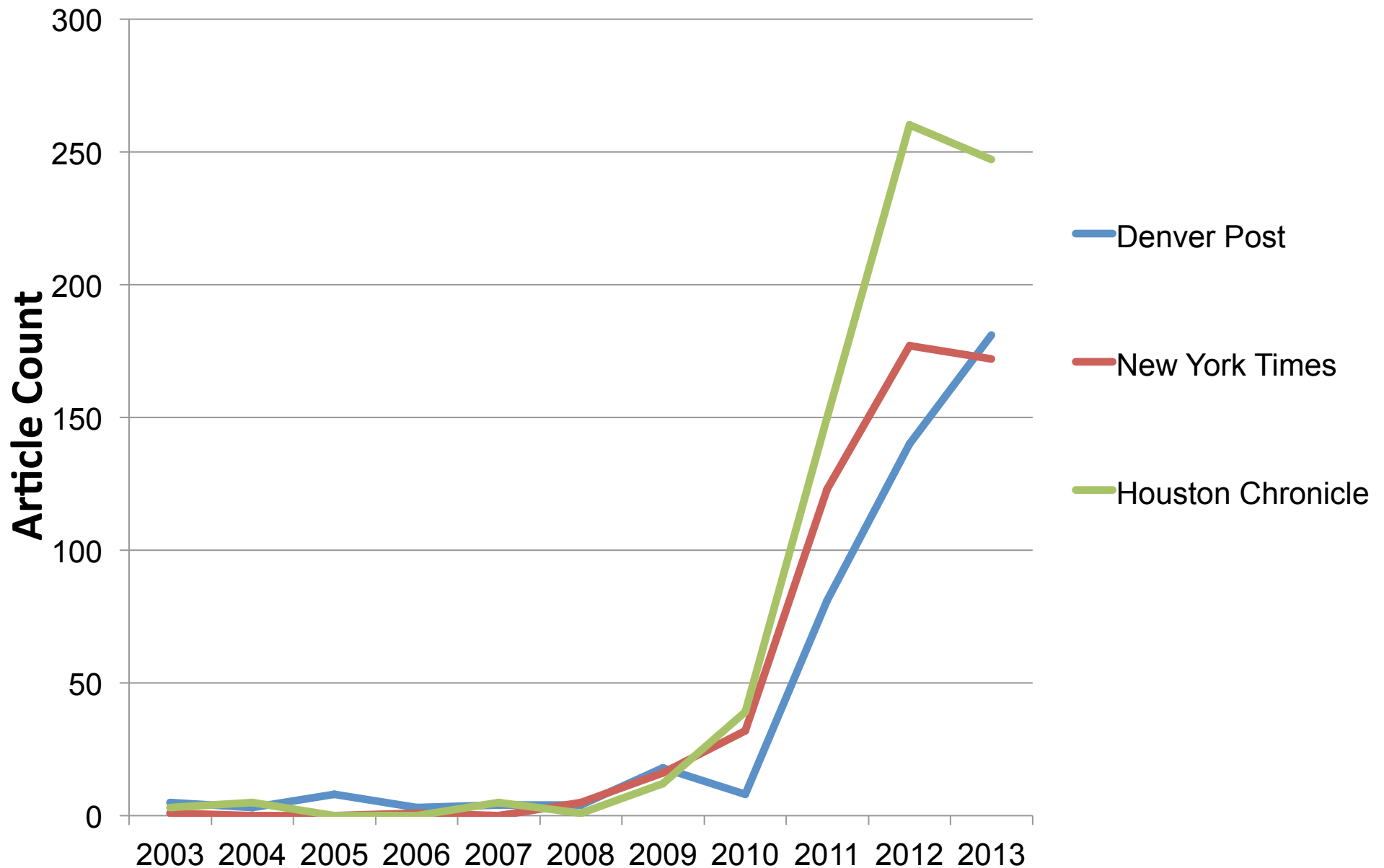
Source: Colorado Geological Survey

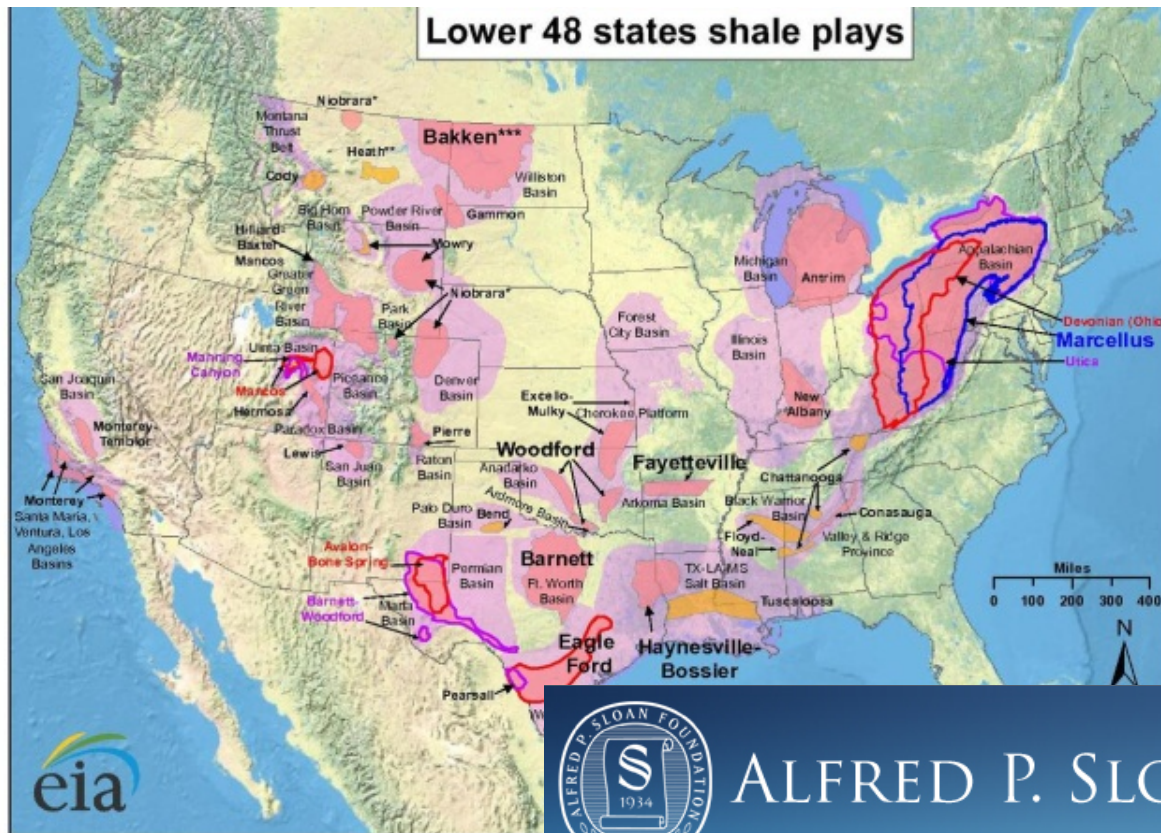


Colorado Newspaper Coverage of “Hydraulic Fracturing”, “Fracking”, or “Fracing”



New York, Texas, Colorado Newspaper Coverage of “Hydraulic Fracturing”, “Fracking”, or “Fracing”





ALFRED P. SLOAN FOUNDATION

Alfred P. Sloan Foundation

Major Program Areas

- Basic Research
- STEM Higher Education
- Public Understanding of Science, Technology & Economics
- Digital Information Technology
- Economic Performance and Quality of Life

Select Issues

- Recently Completed Programs

Sloan Research Fellowships

Select Issues

Energy

Grantmaking in this small interdisciplinary program looks for unique opportunities to expand our understanding of the economic, technological, organizational, regulatory, national security, and environmental consequences of energy production and consumption.

Past grantmaking in this program has led to the publication of the influential MIT reports, *The Future of Nuclear Power* (2003), and *The Future of Coal* (2007) and the Foundation is currently supporting a similar project which focuses on economic, technological, and institutional issues associated with the use of solar energy. Other recent Foundation grants in this area support the exploration of strategies for the safe, responsible expansion of nuclear power around the world, a project to examine the feasibility of extending the life of existing nuclear plants, a project to disseminate safety guidelines for the responsible use of radioactive materials at academic, industrial and medical institutions, a project examining a variety of questions related to energy security, and three projects on natural gas: one examining the economics of state-of-the-art natural gas extraction based on detailed analyses of the geological and economic attributes of five important U.S. shale gas deposits; one examining

Headlines

[Shale Development Generally 1 Local Government Coffers, Stu](#)
Duke University

[The Politics of Shale Gas in York](#)
University of Colorado

[New Aerial Methane Study Finds Emissions from Oil and Gas Fa](#)
Environmental Defense Fund

[Evan Michelson to Join Alfred P. Sloan Foundation as Program Officer](#)
Press Release

Study Population: 'Policy Actors' (Govt., NGOs, Industry, Consultants, Academics, etc.)

Study Locations: Colorado, New York, Texas

Methods: Interviews, Surveys, Media/Document analyses, Hyperlink analyses

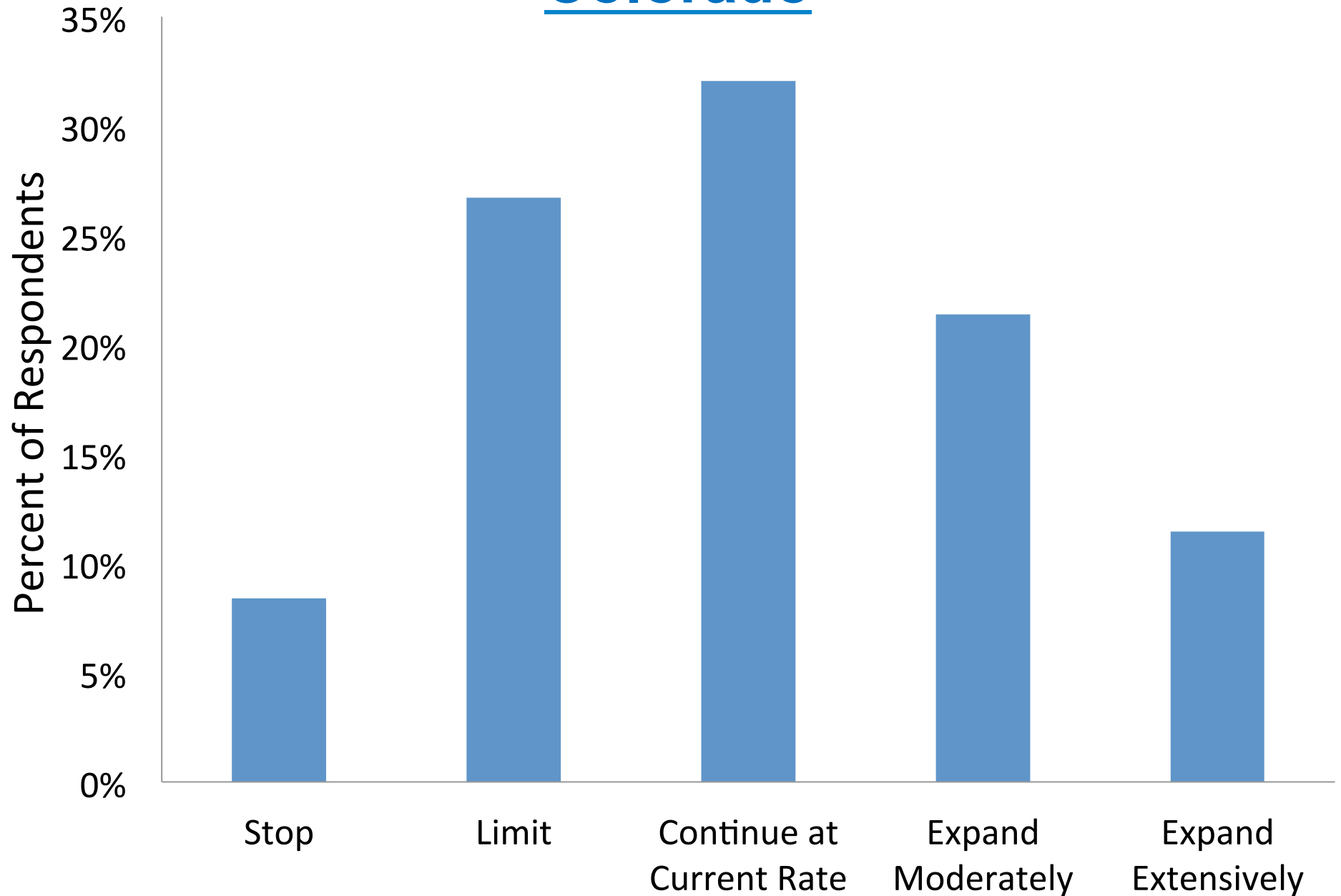
Key Questions: General positions, problem perceptions, preferences for who addresses problems, evaluation of recent regulations and policies

Guiding Framework: Advocacy Coalition Framework

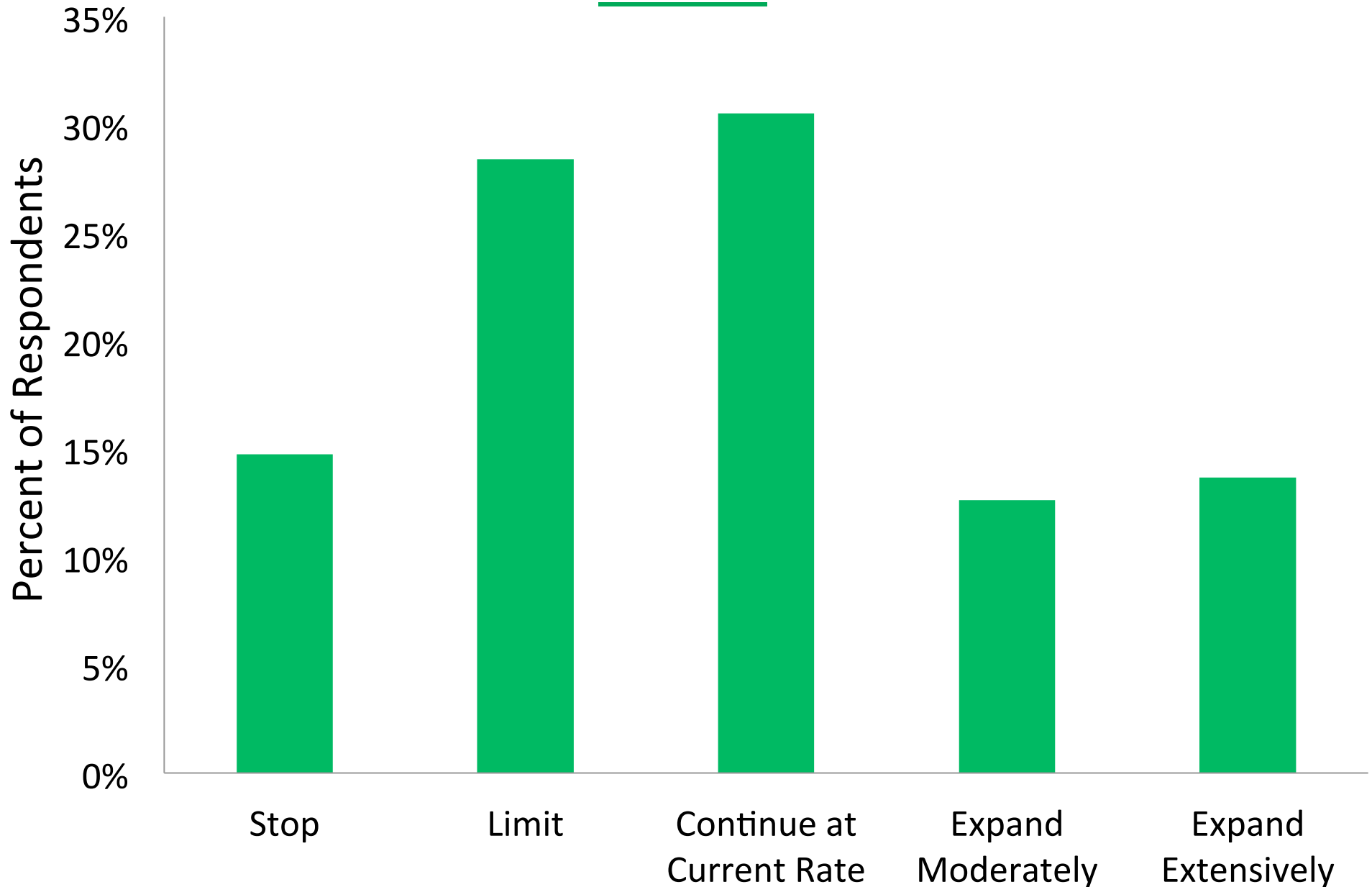
Research Team: Jon Pierce, Sam Gallaher, Jennifer Kagan, Ben Blair, and Kristin Olofsson

***What are policy actors'
positions on hydraulic fracturing in
Colorado, New York, and Texas?***

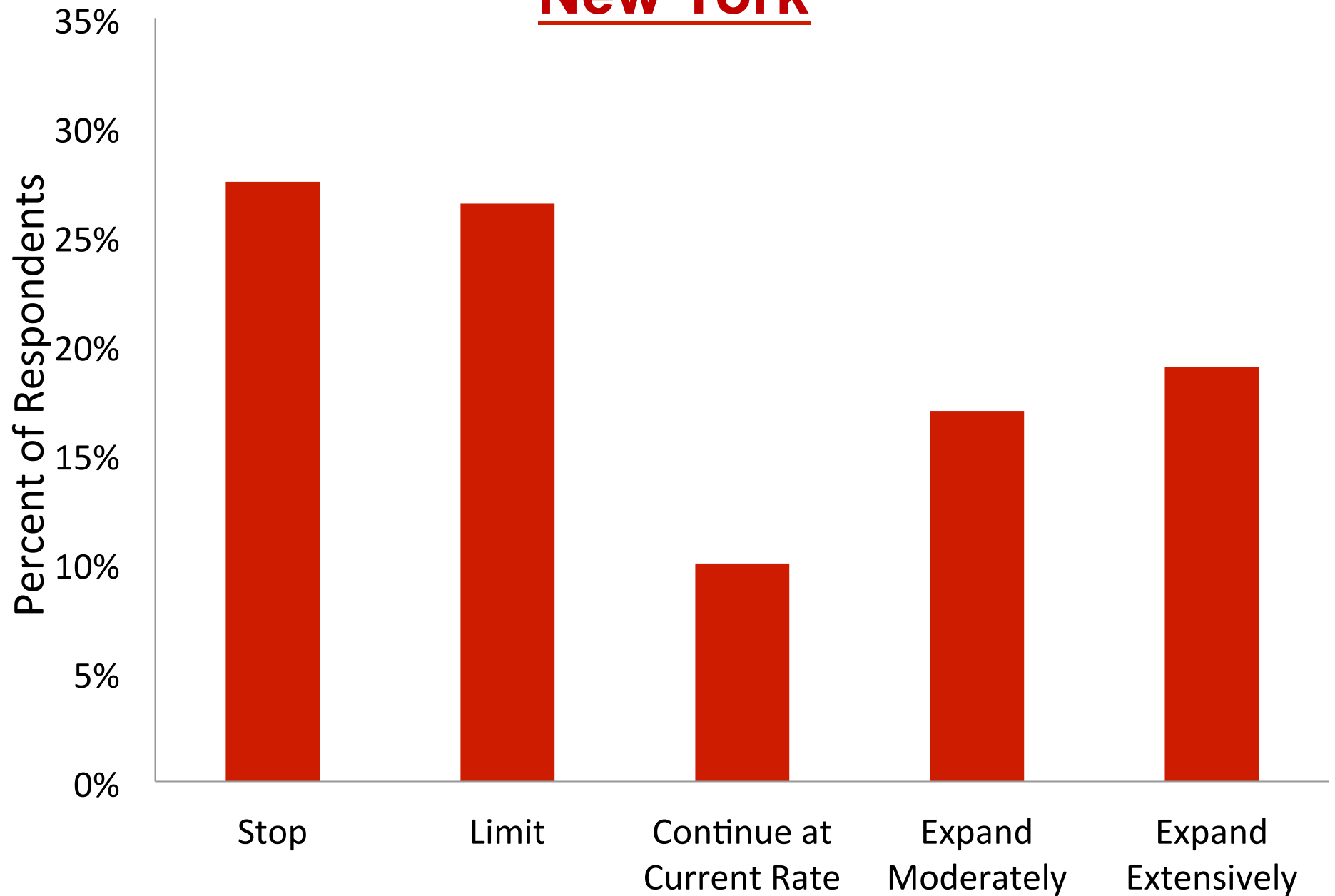
Positions on Hydraulic Fracturing in Colorado



Positions on Hydraulic Fracturing in Texas

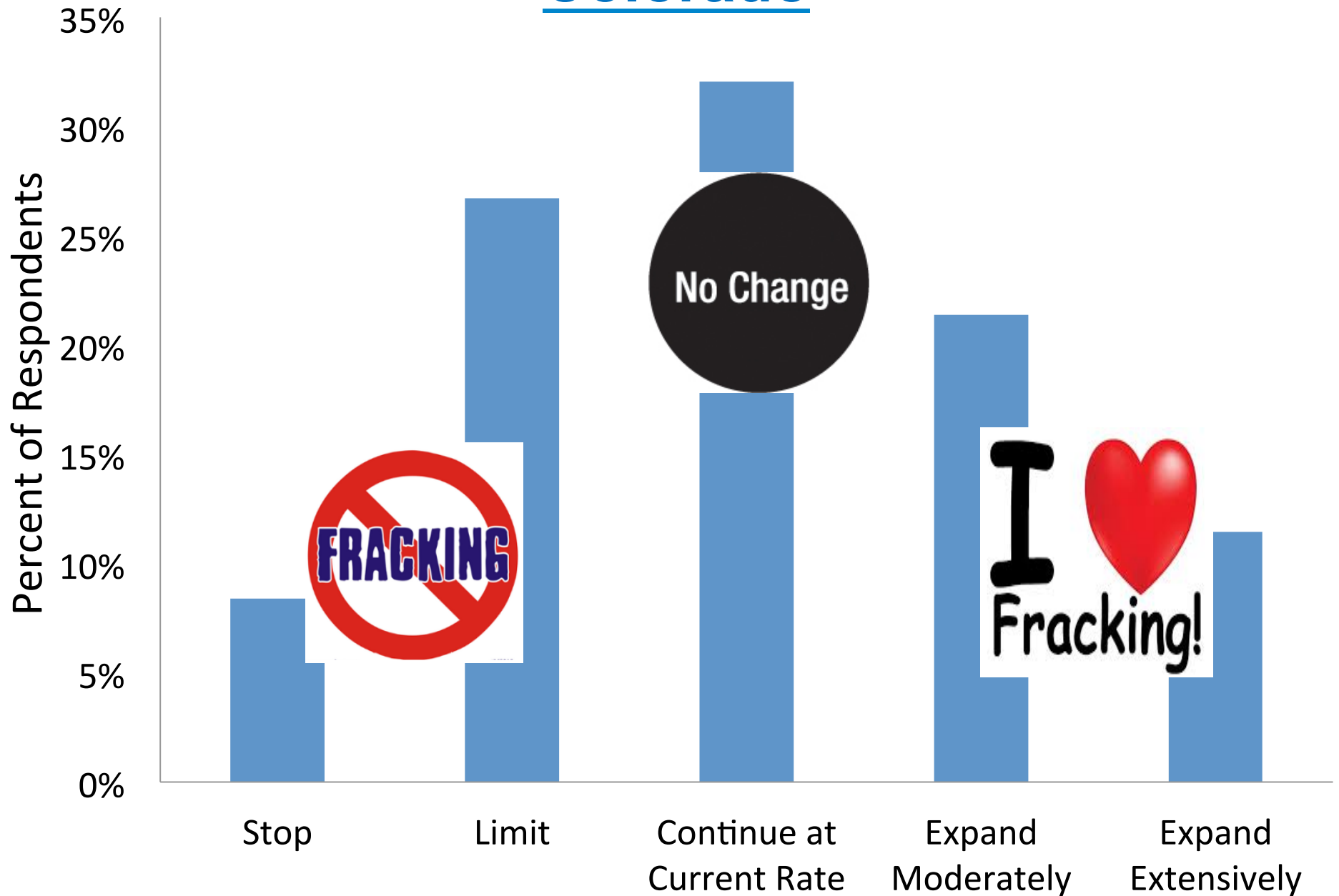


Positions on Hydraulic Fracturing in New York



Who are these policy actors?

Position on Hydraulic Fracturing in Colorado





Stop/Limit (n=48) Environmental groups, local government actors, organized citizens

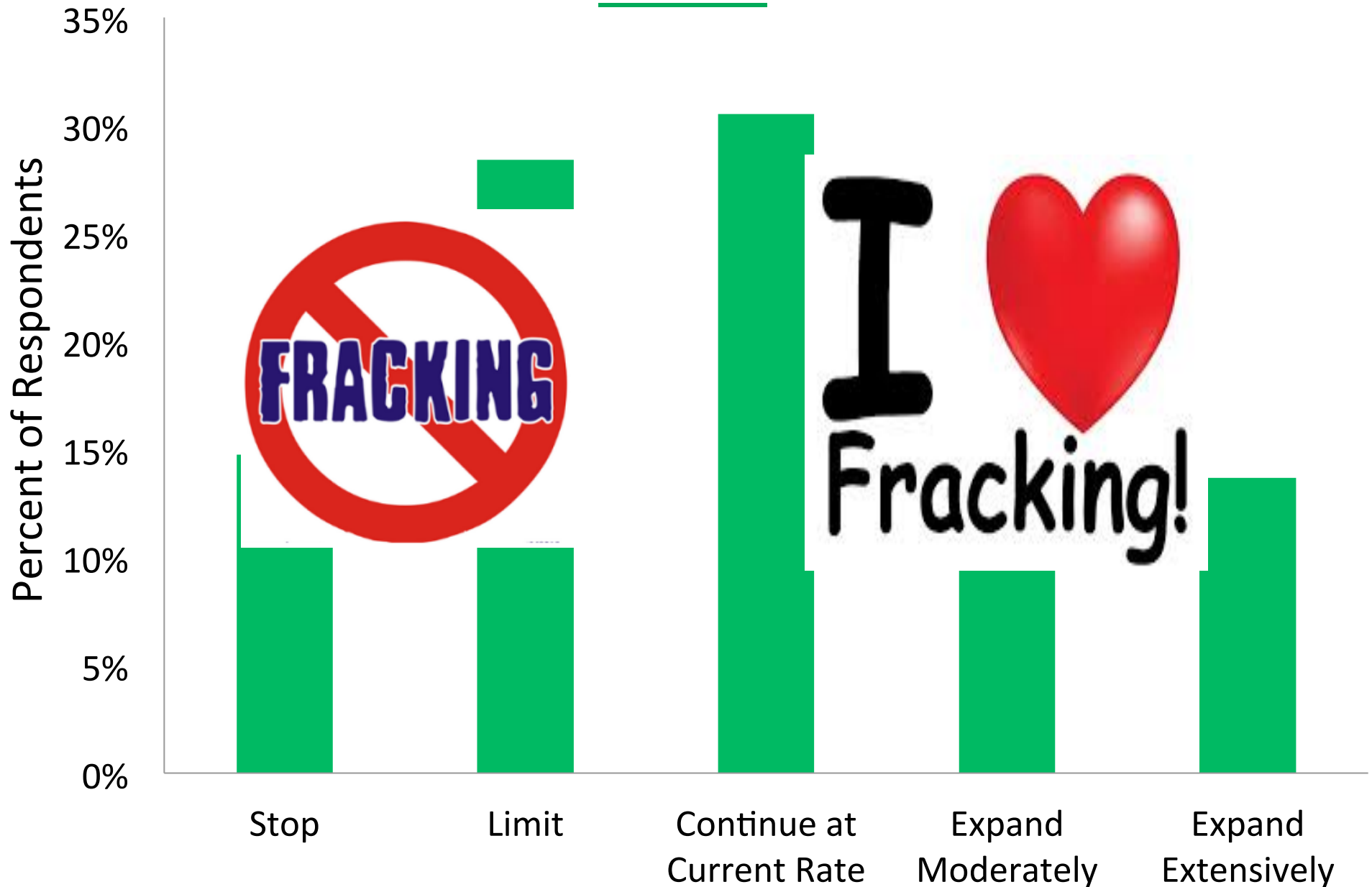


Continue at Current Rate (n=43) Local governments, oil and gas operators, federal and state government actors



Expand (n=46) Oil and gas operators, some local government actors, industry associations

Positions on Hydraulic Fracturing in Texas



Organizational Affiliation by Positions in Texas



Stop/Limit (n= 35) Organized citizen groups, environmental groups; some local and state government actors

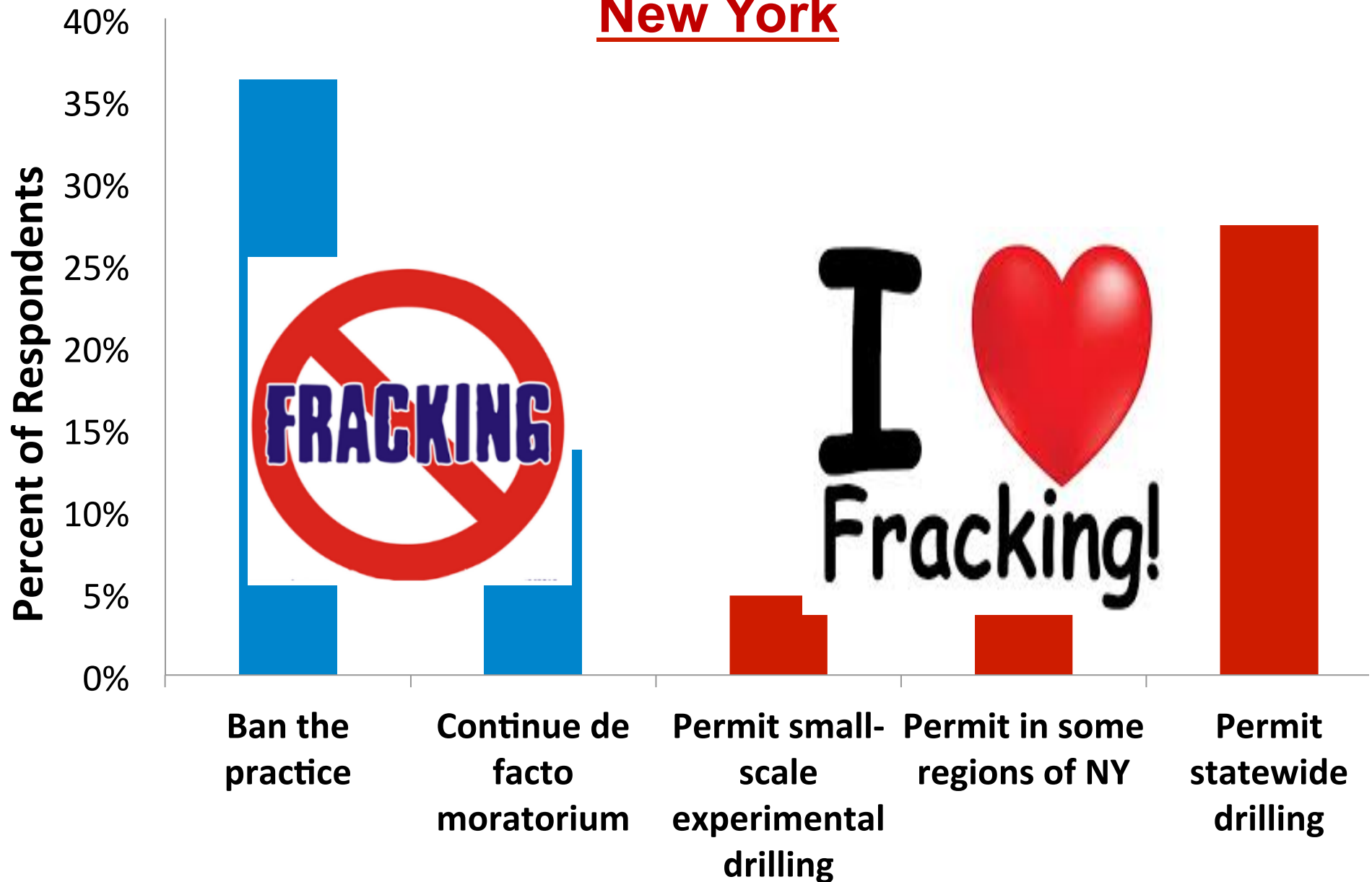


News media and academics & consultants are in both groups



Expand (n=43) Oil and gas industry; local, state and federal government actors

Position on Hydraulic Fracturing in New York



Organizational Affiliation by Positions in New York



Stop/Limit (n= 67) Environmental groups,
organized citizen groups, federal government



Local government actors and academics &
consultants are in both groups



Expand (n=57) Oil and gas industry, mineral
rights groups, state government actors

***What are policy actors' perceptions of
environmental problems with
hydraulic fracturing in Colorado,
Texas, and New York?***

Perceived Environmental Problems:

Colorado

Severe



Moderate



Not at all

*Air quality
degradation*

*Competition
over water
supplies*

*Nuisance from
well site*

*Contamination
of ground &
surface water*

Perceived Environmental Problems:

Texas

Severe



Moderate



Not at all

*Air quality
degradation*

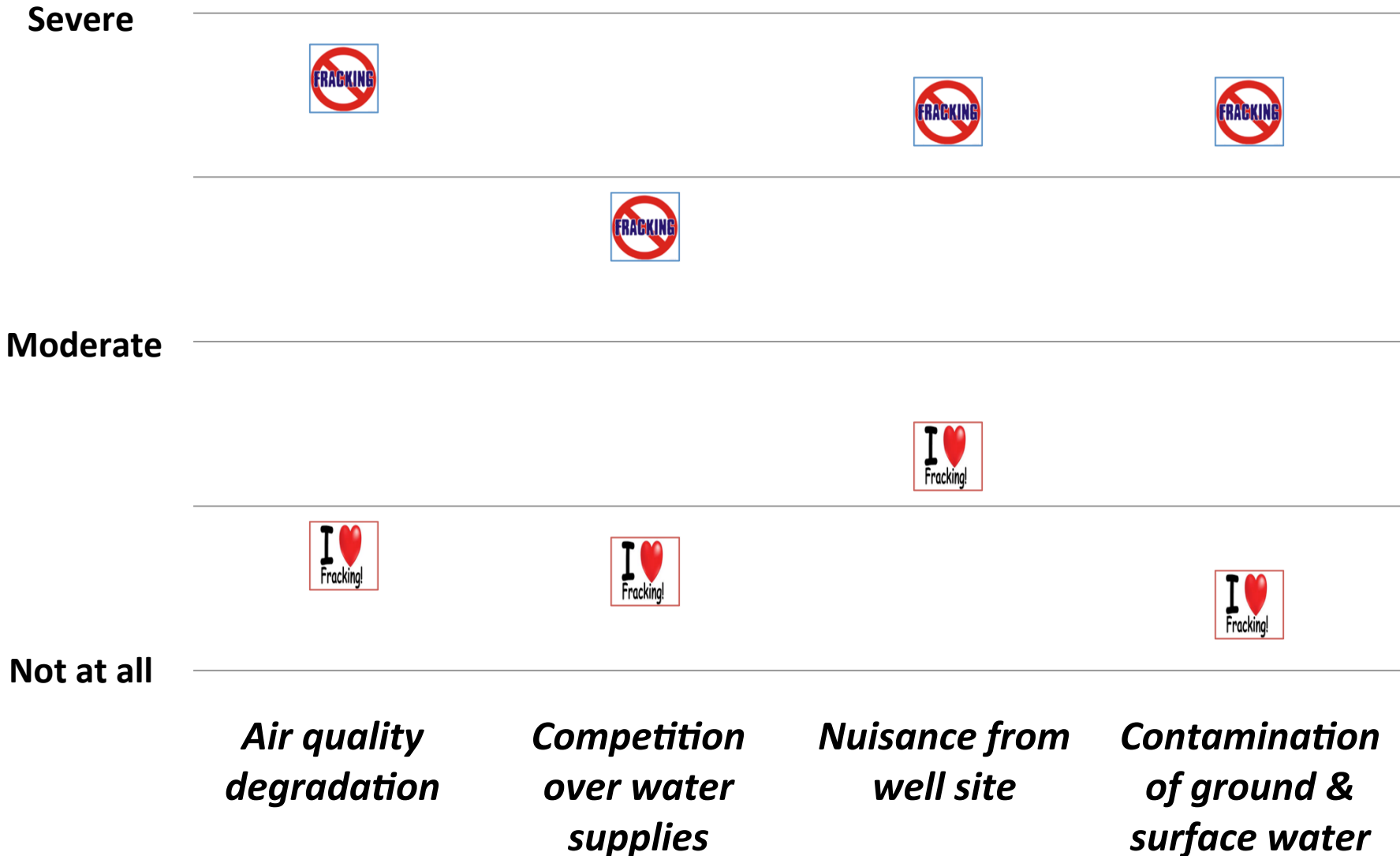
*Competition
over water
supplies*

*Nuisance from
well site*

*Contamination
of ground &
surface water*

Perceived Environmental Problems:

New York



***What are policy actors' perceptions of
political problems with hydraulic
fracturing in Colorado, Texas, and
New York?***

Perceived Political Problems:

Colorado

Severe



Moderate



Not at all

*Insufficient
capacity to
regulate or
monitor*

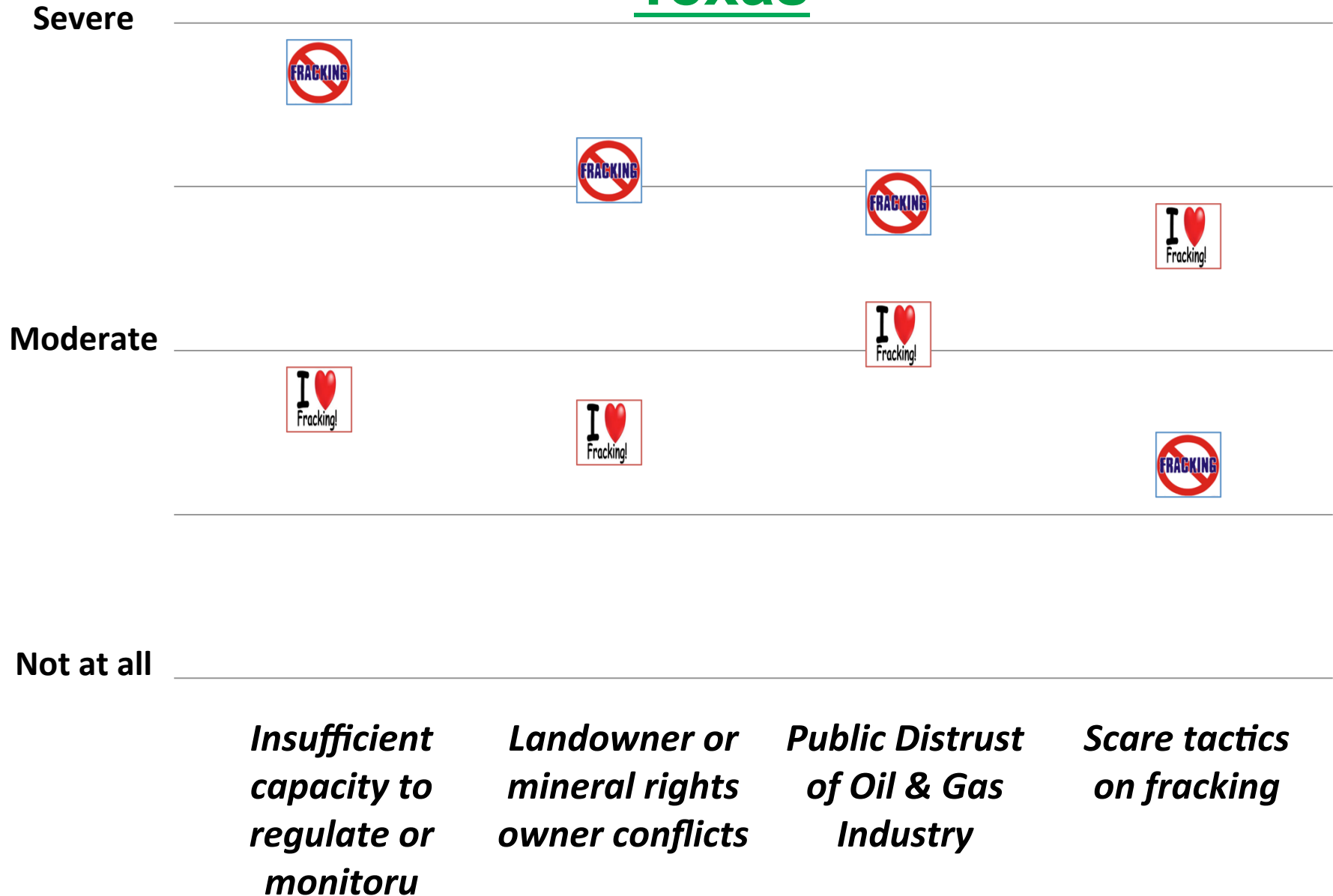
*Landowner or
mineral rights
owner conflicts*

*Public Distrust
of Oil & Gas
Industry*

*Scare tactics on
fracking*

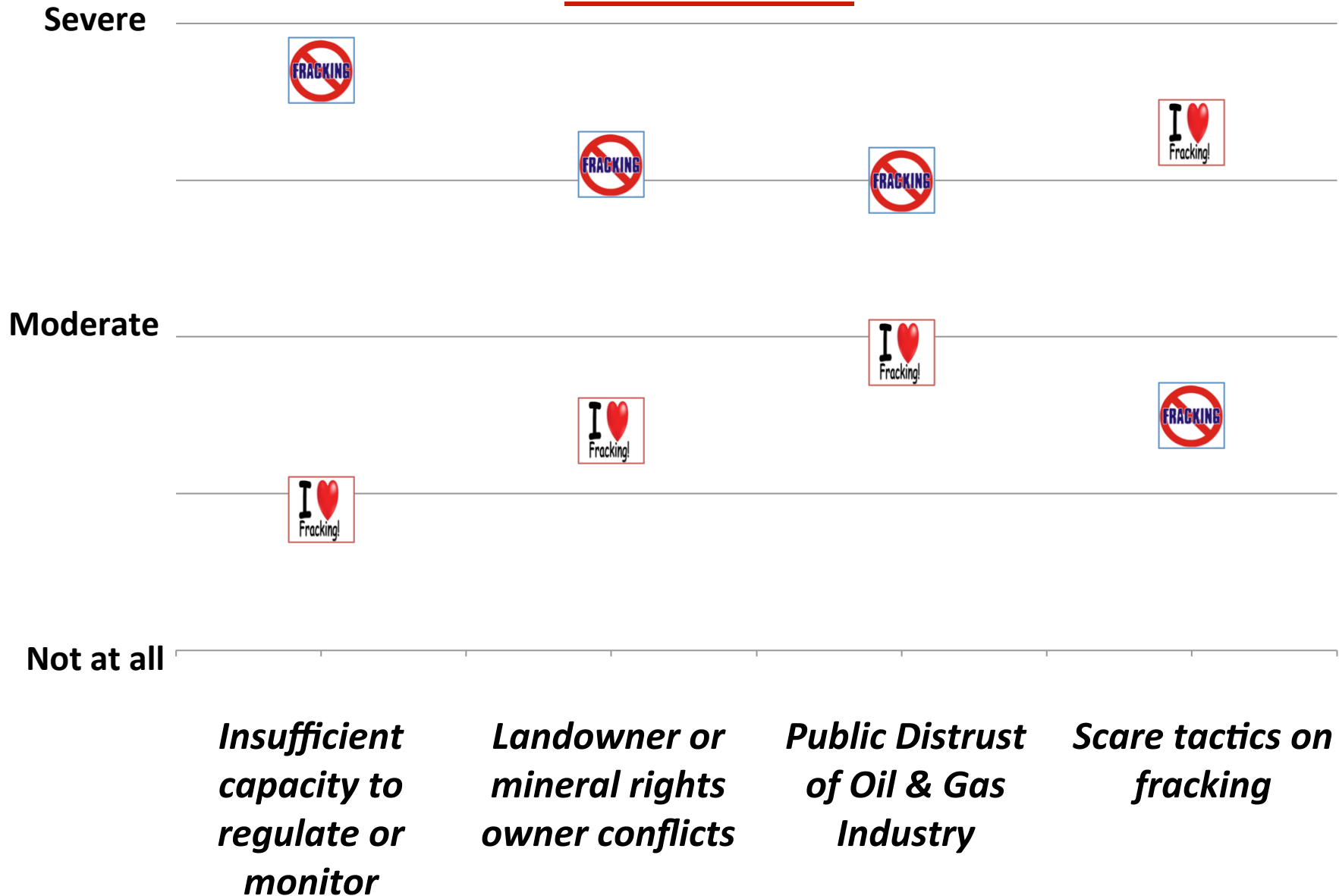
Perceived Political Problems:

Texas



Perceived Political Problems:

New York



***How do policy actors evaluate recent
state-level policies?***



“The new oil and gas setback buffer will not please the industry.”

Colorado Energy News
(Feb. 11, 2013)

“Colorado fracking chemicals subject to mandatory disclosure rule; potential trade secrets loophole still exists”

Huffington Post
(Dec. 13, 2011)

2011 Disclosure Rule Resolving Problems:

Colorado

Strongly
agree

Agree

Neither
agree or
disagree

Disagree

Strongly
disagree



*What chemical
information must
be disclosed*

*Protection of
trade secrets*

*Disclosure of
chemical
information in an
emergency*

*Public distrust of
hydraulic
fracturing*

2013 Setback Rule Resolving Problems:

Colorado

Strongly
agree

Agree

Neither
agree or
disagree

Disagree

Strongly
disagree



*Public nuisance
impacts*

*Priorities of
mineral rights
owners*

*Priorities of
surface owners*

*Public distrust of
hydraulic
fracturing*

2011 Disclosure Rule Resolving Problems

Texas

Strongly
agree

Agree

Neither
agree or
disagree

Disagree

Strongly
disagree



*What chemical
information
must be
disclosed*

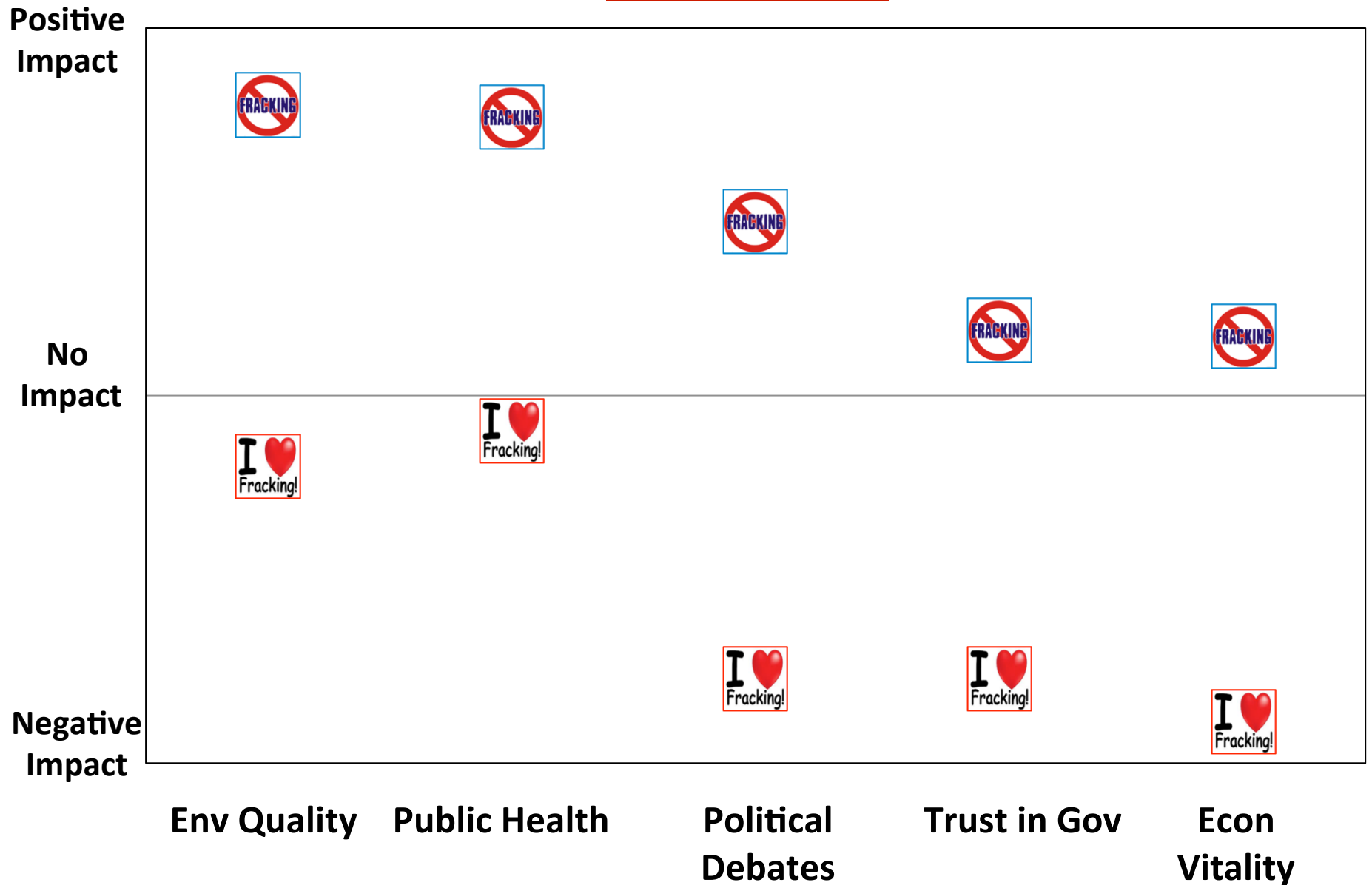
*Protection of
trade secrets*

*Accessibility of
chemical
information to
the public*

*Public distrust
of hydraulic
fracturing*

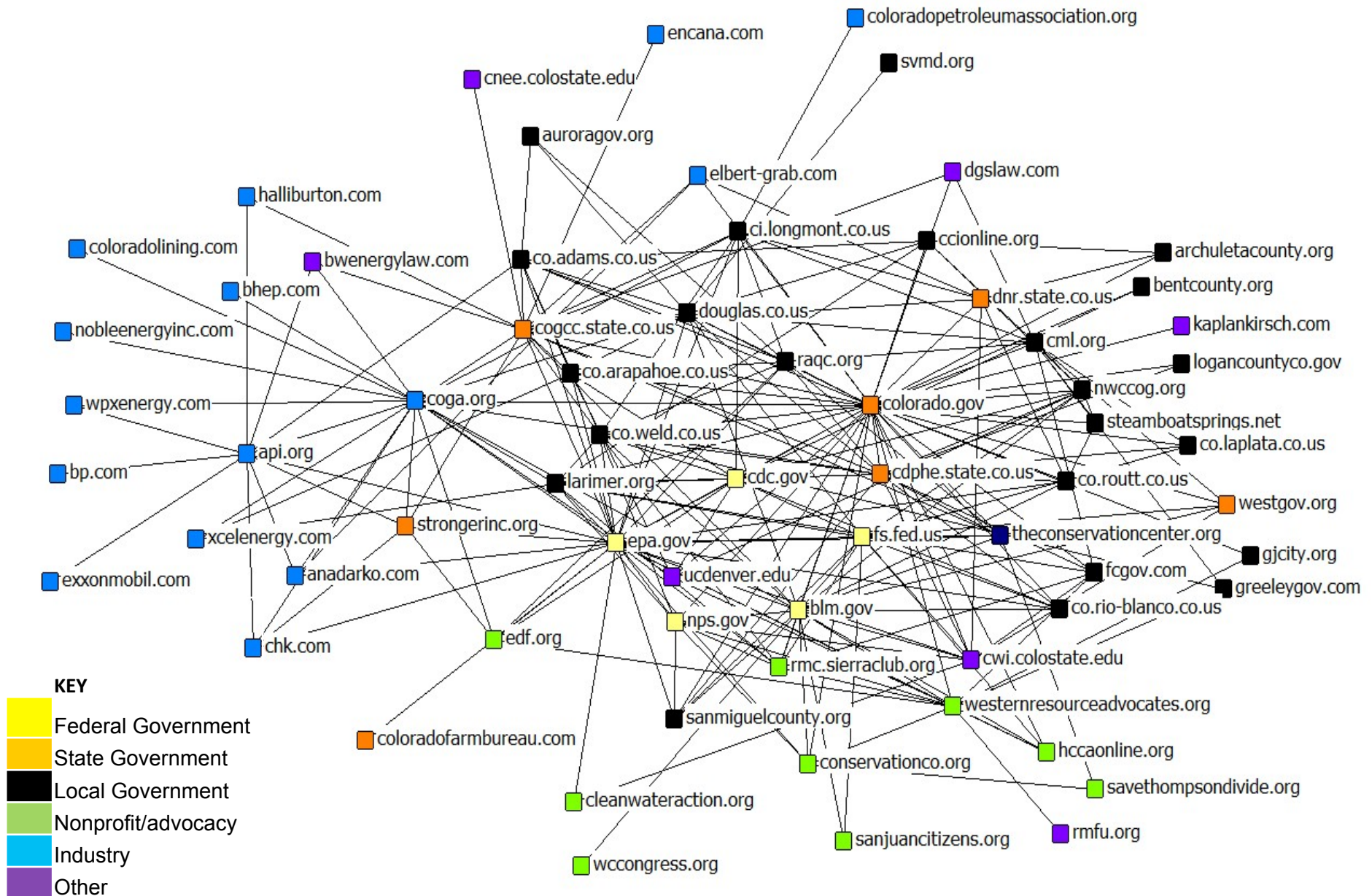
Perceived Impact of Moratorium:

New York



Who do policy actors interact with to achieve their goals in Colorado, Texas, and New York?

2014 Hyperlink Network in Colorado





Percent of Policy Actors Interacting with the Following Actor Types in Colorado





| | | | |
|----------------------|------------|------------|------------|
| Local government | 79% | 63% | 70% |
| State government | 69% | 81% | 80% |
| Federal government | 52% | 51% | 54% |
| Oil and gas industry | 42% | 72% | 87% |
| Environmental orgs | 79% | 58% | 52% |
| Citizen groups | 71% | 37% | 30% |
| News media | 50% | 35% | 50% |
| Academics | 58% | 35% | 46% |

Percent of Policy Actors Interacting with the Following Actor Types in Texas

| |  |  |
|-------------------------|---|---|
| Local government | 63% | 70% |
| State regulatory agency | 82% | 77% |
| Federal government | 60% | 60% |
| Oil and gas industry | 77% | 80% |
| Environmental orgs | 83% | 83% |
| Citizen groups | 73% | 77% |
| News media | 86% | 79% |

Percent of Policy Actors Interacting with the Following Actor Types in New York

| |  |  |
|-------------------------|---|---|
| Local government | 75% | 46% |
| State regulatory agency | 71% | 64% |
| Federal government | 36% | 38% |
| Oil and gas industry | 25% | 64% |
| Environmental orgs | 93% | 43% |
| Citizen groups | 93% | 49% |
| News media | 82% | 56% |
| Academics | 83% | 66% |

Summary:

***How perceptions about hydraulic
fracturing compare across Colorado,
Texas, and New York?***

Positions and Problem Perceptions

Positions

- CO and TX less polarized than NY

Environmental Problem Perceptions

- CO and TX shared concerns about public nuisances at well sites
- Concerns about water competition were higher for those in favor of hydraulic fracturing in TX compared to CO
- Polarized positions across all states on surface and ground water contamination and on air quality degradation

Political Problem Perceptions

- Concerns about scare tactics by fracking opponents was higher in CO compared to NY and TX for those in favor of hydraulic fracturing
- All states shared concerns about public distrust of the industry
- All states polarized on sufficient regulatory capacity and on conflicts between surface and mineral right owners

Impacts of State Policies on Resolving Problems

Disclosure vs. Setbacks in CO

- More polarization that disclosure rule resolved problems
- Less agreement that the setback rule resolved problems
- Common concerns that neither rule has improved public trust

Disclosure CO vs. Disclosure TX

- Similar polarized patterns between CO and TX
- Common concerns that the disclosure rules did not improve public trust

De Facto Moratorium in NY

- Those against hydraulic fracturing see positive impacts on environmental issues and neutral impact on political/economic issues
- Those for hydraulic fracturing see neutral impact on environmental issues and negative impact on political/economic issues

How Policy Actors Interact to Achieve their Goals

Interactions of Those Against Hydraulic Fracturing

- Commonly engaged with environmental orgs, citizens groups, and state and local governments across all states
- More frequently engaged with industry in TX than in CO and NY
- Less frequently engaged with the media in CO than in TX and NY

Interactions of Those For Hydraulic Fracturing

- Commonly engaged with industry across all states
- More likely engaged with state and local governments in TX and CO than in NY
- Generally more engaged with all actor types in TX than in CO and NY

Interactions of Those For & Against Hydraulic Fracturing

- Academics are more engaged in NY than in CO

***What are some of the lessons learned
from other natural resource conflicts
that can inform how we deal with
debates over hydraulic fracturing?***

Lessons learned from Other Natural Resource Conflicts

- More technical and scientific information is not the answer, as it is often used as political salvo
 - Start by understanding citizen priorities, values, and interests, which are more likely the underlying sources of the debate
- Learning can occur in professionalized forums
 - Develop them based on shared rules of transparency, negotiations, and representativeness and expect such forums to take time (possibly years)
- Consensus is often undesired and negotiations are unlikely until there is a “hurting stalemate”
 - Look for possible brokers to help and strive to develop conflict mitigation strategies
- Threats, risks, and benefits of the issue spill across levels and jurisdictions of government
 - Embrace our federal system of government and consider “polycentric” arrangements



Thank You

Tanya Heikkila & Chris Weible

Associate Professors

School of Public Affairs

University of Colorado Denver



University of Colorado
Denver