

# Across the Country

## Local Control

Cities and municipalities across the country are attempting to prohibit fracking in their borders, but in many cases are being blocked by state regulation. Below are three examples:

- Texas:** Following a yearlong battle with the Denton City Council, the Texas legislature passed a bill prohibiting local entities from restricting oil and gas activities.
- Oklahoma:** Two bills passed that restrict local entities from addressing fracking. One prevents outright bans, while another makes cities liable for lost royalties if they interfere with drilling.
- Colorado:** An introduced bill would make municipalities that ban fracking liable for lost royalties incurred by the affected oil and gas companies.

## Bans and Moratoria

Ten states—Arizona, Florida, Hawaii, Massachusetts, Maryland, New Hampshire, New Jersey, New York and Oregon and Vermont—have introduced or passed legislation aimed at halting fracking until the science is clearer regarding impacts to human health and the environment.

## Methane Reduction

Colorado is leading the way on methane reduction strategies, but Wyoming, Pennsylvania, and Ohio have also made important strides towards reducing methane leaks. Equipment and measures to reduce emissions are currently available, and are highly cost-effective.

## Terms to Know

- **High-Volume Hydrofracking**  
Hydrofracking is a horizontal drilling technique where thousands of gallons of water are injected into shale formations along with sand and a mix of chemicals to break up the shale and release oil or natural gas.
- **Horizontal vs. vertical drilling**  
Both horizontal and vertical wells go straight into the ground, but horizontal wells curve into an “L” shape to access more of the resources surrounding the drill site whereas vertical wells are limited to the area immediately below the drill site.
- **Conventional vs. unconventional wells**  
Conventional methods are ones where oil flows naturally or can be pumped to the surface, whereas unconventional methods--like fracking--create cracks in the underground rock to obtain the resources.

# Hydraulic Fracturing

## An Elected Official's Guide



Hydraulic Fracturing—or fracking—for oil and natural gas has grown substantially in the past decade. The drilling process involves pumping thousands of gallons of fracking fluid—a mix of water, sand and chemicals—underground to release oil or natural gas.

Recently, new evidence has identified risks to human health and the environment, which has motivated several states to establish safety measures or ban the practice until further research is conducted. Public opinion is shifting against fracking, and this guide provides a policy primer for addressing the associated risks.

### Key Points

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| 1) Fracking creates boom and bust economic cycles, leaving towns worse off when drilling stops. | 2) Hundreds of chemicals are used in drilling, many of which can cause cancer or other illnesses. | 3) Equipment to reduce methane emissions is currently available, and highly cost-effective. |
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# Protecting Public Health

Nearly **700 unique chemicals** are used in fracking, yet the individual impact of these chemicals on public health remains **largely unknown**.

## Talking Points

- 51 percent of Americans oppose fracking, up 13 percent since 2013. *Pew Research Center*
- Shale development accounts for just one out of every 249 jobs in Pennsylvania, while education and healthcare represent one out of every six jobs. *MSSRC*
- Fracking uses as much as 9.7 million gallons of water per well, more than 20 times what it required 15 years ago. *US Geological Survey*
- Nine percent of unconventional wells drilled since 2009 already have structural integrity issues. *PNAS*
- Natural gas and petroleum systems account for 29 percent of U.S. methane emissions. *EPA*

### 1) **Message theme: Fracking creates a boom and bust cycle that ultimately hurts communities.**

The economic benefits of fracking come at a price, and can disappear as quickly as they arrive. A case study of Tioga County in Pennsylvania found short-lived job growth that was accompanied by an increase in housing costs, crime and homelessness. When the drilling companies moved on, businesses closed and unemployment quickly rose again.

### 2) **Message theme: Chemical disclosure is a practical way to protect our communities.**

The disclosure of chemicals used in fracking continues to be optional in many states, and when mandatory, it is through an industry-influenced website called FracFocus. This limits the ability of health care providers to treat ailments for those living near drilling sites. Mandatory chemical disclosure—without exceptions for “trade secrets”—is essential for healthy and thriving communities.

### 3) **Message theme: Energy production should not jeopardize public health.**

Drilling can put communities at risk by releasing dangerous chemicals into the air and water. Studies have found carcinogens and other harmful substances near drilling sites. Moreover, fracking typically occurs in rural communities, meaning low-income communities suffer disproportionately.

#### Sources of Talking Points:

1. *Attitudes and Beliefs on Science and Technology Topics*. Pew Research Center, 2015.
2. *Exaggerating the Employment Impacts of Shale Drilling*. Multi-State Shale Research Collaborative, 2013.
3. *Water Used in Hydraulic Fracturing Varies Widely Across United States*. Water Resources Research, USGS, 2015.
4. *Assessment and risk analysis of casing and cement impairment in oil and gas wells in Pennsylvania, 2000–2012*. Proceedings of the National Academy of Sciences, 2014.
5. *Inventory of U.S. Greenhouse Gas Emissions and Sinks*. Environmental Protection Agency, 2014.

# Understanding the Risks

Research has identified several ways to improve the **efficiency and safety** of fracking. The top three are listed below.

## 1) Methane Leaks

As much as 10 percent of methane is lost to leaks in the average gas operation, meaning lost profits and air pollution. Natural gas is 75-98% methane, and studies show the industry could save upwards of \$1 billion by capturing wasted gas.

## 2) Faulty Well Casings

Studies have found that even recent well casings are prone to cracking, which can lead to contamination of the water supply.

## 3) Earthquake Increases

Fracking wastewater is pumped into underground wells for disposal, but this practice has been linked to increases in earthquake frequencies. Oklahoma received 30 magnitude 3.0 or higher quakes in 2013, but was rocked by 300 such events in 2014.

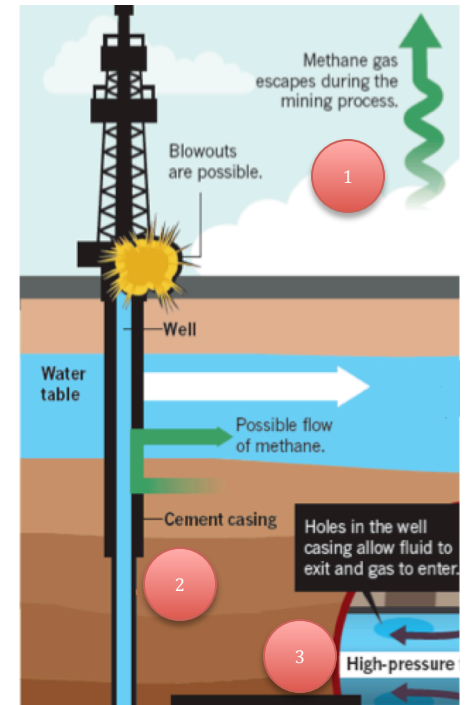


Photo from Partners Global 2015

## Common Questions

“ *Didn't the EPA declare fracking safe?* ”

Despite recent headlines, EPA identified issues with drilling and has clarified that their report highlights vulnerabilities in the water system that are important to address to minimize risks.

“ *Isn't Methane Natural?* ”

Methane has always been present in in *low quantities*, but methane is a greenhouse gas 20 times more potent than carbon dioxide, further exacerbating climate change.