

# Hydraulic Fracturing: Views from the Oil & Gas Industry

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# No doubt that hydraulic fracturing is an “inflammatory” issue

Oil and Gas Industry

v.

Environmental Groups



# Oil and Gas Industry Perspective

Many benefits resulting from HF

- Reduced reliance on foreign oil
- Job creation
- Increased state and local tax revenues
- Rebuilding and growing domestic oil and gas reserves

# Environmentalists Opposition to all fossil fuels

- **Statement of Policy.** The Sierra Club opposes the use of hydraulic fracturing (fracking).
- **Rationale.** There are no “clean” fossil fuels. The Sierra Club is committed to eliminating the use of fossil fuels, including coal, natural gas and oil, as soon as possible. We must replace all fossil fuels with clean renewable energy, efficiency and conservation. **Fracking poses unacceptable risks to our communities, our environment and our climate.** \*\*\*\* Fracking has contaminated the drinking water of hundred of thousands of Americas. Fracking’s physical impacts have devastated thousands of neighborhoods and thousand of square miles of landscapes that are important to people and/or wildlife. Fracking has negative impacts on air and water quality and frequently necessitates unacceptable drawdowns on surface water and groundwater. Fracking and its associated waste disposal can cause seismic events; mining for fracking sand causes air contamination and public-health impacts. \*\*\*\*
- Sierra Club, Board of Directors, January 22, 2015

# What is hydraulic fracturing (HF)?

- Well stimulation technique – occurs after the well is drilled
- HF fluid pumped into producing formation under pressure
- Creates pathways for oil and gas to flow
- Propping agent (such as sand) keeps those pathways open
- Designed based on in-situ conditions; monitored and controlled

# ADDRESSING SOME OF THE MYTHS ASSOCIATED WITH HYDRAULIC FRACTURING

# Myth #1: Fracking is a novel untested technique.

- HF used in Kansas since 1947
- HF has been used in more than 1.2 million wells over the last 60 years
- KGS: 90% of all new wells drilled in Kansas will use HF
- Groundwater is adequately protected by well construction rules – multiple layers of steel and concrete

## **Myth #2: HF consumes excessive amounts of water and causes water scarcity.**

Typical Kansas well – water used to HF

Vertical well: 10,000 – 100,000

HZ well: 2 million

Sources of water for HF

Surface water – rivers, ponds

Municipal water supplies



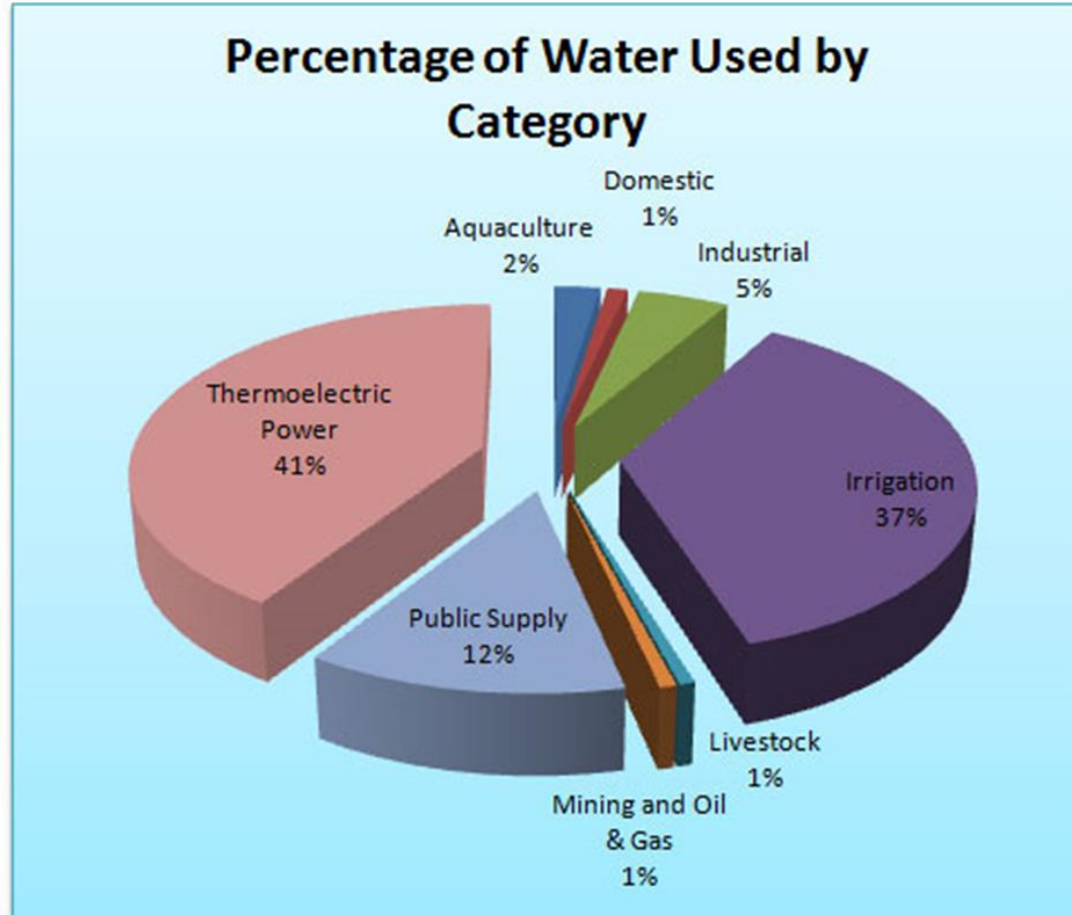
HF water use small when compared to other water users:

e.g., irrigated crops

1" on 1 acre = 27,225 gal.

1" x 640 acres = 17,424,000 gal.

University of Texas (2014): HF is not more water intensive per unit of oil produced



## **Myth #3: HF poses a threat to groundwater and streams.**

Methane contamination

Gasland debunked

Methane naturally occurring

HF fluid contamination

Geologic isolation of fluid

No documented cases

## **Myth #4: HF fluid is a toxic chemical cocktail.**

Contents of HF fluids:

90% water

9.5% sand

0.5% chemicals

Chemicals generally consist of:

Sodium chloride (salt)

Guar gum (ice cream)

Borate salts (cosmetics)

Ethylene glycol (household  
cleaners)

Sodium potassium carbonate  
(detergents)

Isopropanol (deodorant)

## **Myth #5: HF causes earthquakes.**

Incidents of seismic activity in Kansas has increased (USGS):

1981 – 2010: 30 recorded EQ

2013: 4 recorded EQ

2014: 127 recorded EQ

# Kansas Geological Survey

“To be absolutely clear, we have no reason to believe that this seismic activity is caused by hydraulic fracturing.”

-Rex Buchanan, Interim Director

# U. S. Geological Survey

“Fracking is NOT causing most of the induced earthquakes.”

USGS website: Myths and Misconceptions regarding Induced Seismicity



# What is the cause of increased seismic activity in Kansas?

Increased number of recorded EQ has coincided with two things:

- more seismic monitors
- increased volumes of injected produced water

# Kansas' Response

2014: Induced Seismicity Task Force formed by the Governor

2015: KCC opened investigative docket; reduced volume of permitted injection in area of concern; enhanced monitoring

Spring 2017: Report due

# Conclusion

Hydraulic fracturing presents no greater environmental impact than conventional oilfield operations.

As with all oilfield operations, reasonable regulation by state regulatory bodies is effective and appropriate.



# Questions



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