

# Fighting Fracking: A Toolkit for Activists

Tips, Tactics, and Resources for Your Local Campaign









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## Dear Neighbor,

Across the country, fracking is endangering our health, contaminating our drinking water, and worsening the climate crisis. From the chemicals used to the toxic wastewater produced to the methane emitted, every aspect of the fracking process is putting our families and our communities at risk.

With over 1,000 documented cases of water contamination linked to fracking, 679,000 acres of land destroyed since 2005, and 5.3 billion pounds of methane emitted in a single year, it's no surprise that over 500 communities have taken action to stop fracking and a majority of Americans now oppose dirty drilling.<sup>1</sup>

Unfortunately, the oil and gas industry is fighting back. Already, they have sued in places like Colorado, Texas, and Ohio to overturn local bans and in places like North Carolina and Florida have lobbied state legislatures to prevent communities from enacting future fracking bans and regulations. What's worse is that fracking operations remain exempt from the very laws designed to protect our environment and public health, such as the Clean Water Act, the Clean Air Act, the Safe Drinking Water Act, and hazardous waste requirements.

Now more than ever we need to be equipped to fight fracking. By educating people about fracking's harms, mobilizing our neighbors to take action, and holding industry accountable for their harms, we can continue winning victories against frackers to protect our climate and health.

We hope this toolkit provides you with the resources you need to fight fracking in your own community.

Sincerely,

Margie Alt, Executive Director Environment America Research & Policy Center

# Why Fight Fracking?

## **Toxic Chemicals**

Fracking uses vast quantities of chemicals known to harm human health. According to industry-reported data in the FracFocus database, oil and gas wells fracked across the U.S. between 2005 and 2015 used at least:

- •5 billion pounds of hydrochloric acid, a caustic acid;
- •1.2 billion pounds of petroleum distillates, which can irritate the throat, lungs and eyes; cause dizziness and nausea; and can include toxic and cancer-causing agents; and
- •445 million pounds of methanol, which is suspected of causing birth defects.

People living or working nearby can be exposed to these dangerous substances if chemicals enter drinking water after a spill or if volatile pollutants become airborne.

# **Threatening Drinking Water**

Across the country, fracking wastewater has leaked from retention ponds or escaped from faulty disposal wells, putting drinking water at risk. Fracking wells produced at least 14 billion gallons of wastewater in 2014.

# **Triggering Earthquakes**

The injection of this fracking wastewater into underground disposal wells has been

linked to earthquakes in several states. Such induced quakes have happened in Arkansas, Colorado, Kansas, Ohio, Oklahoma and Texas. Oklahoma has been particularly hard hit, with seismic activity 40 times greater since 2008 than in previous years.

## **Adding to Global Warming**

Methane from fracking operations adds global warming pollution to the atmosphere. Methane, a global warming pollutant 86 times more powerful than carbon dioxide over the course of 20 years, is released at multiple steps during fracking, including during hydraulic fracturing and well completion, and in the processing and transport of gas to end users.

# **Fracking Damages Habitat**

Well pads, new access roads, pipelines and other infrastructure built for fracking turn forests and rural landscapes into industrial zones.

- •Infrastructure to support fracking has directly damaged at least 679,000 acres of land since 2005, an area slightly smaller than Yosemite National Park.<sup>i</sup>
- •Well operators are supposed to restore damaged landscapes after drilling operations are complete, but full restoration is nearly impossible, especially as oil and gas producers struggle financially and may lack the resources to fund land restoration.

# **Fracking Victories**

Communities are taking a stand against fracking and winning. From stronger regulations to outright bans, localities are passing restrictions on dirty drilling to protect themselves from harm. The risks that fracking poses to public health and the environment are too great to be ignored, which is why people are joining the fight to stop fracking across the country. Here are some of the places where citizens are saying "no" to fracking.

- In Pennsylvania, PennEnvironment, along with a network of environmental groups, fought against former Governor Corbett's proposition to allow fracking in state parks and forests. They celebrated a victory when newly elected Gov. Wolf reinstated a moratorium to keep fracking out of Pennsylvania's parks and forests in January of 2015. ii
- In Florida, Senate Bill 318, which would have nullified existing and future bans on fracking, was defeated in committee in March of 2016. Environment Florida in partnership with allies, citizens, and elected officials fought hard to stop this bill, protecting the rights of communities

to have control of fracking activities within their borders.<sup>iii</sup>

• In New York, Governor Cuomo made an historic decision to ban fracking statewide. This decision came after countless citizens, health professionals, local elected officials and others organized and spoke out against fracking in the Empire State. Environment New York was part of a broad coalition in advance of the ban, running a door-to-door field operation that held face to face conversations with more than 100,000 New Yorkers and released several research reports documenting the damage of dirty drilling. iv



# **Local Action**

There are a variety of regulations that towns, counties, and states have used to combat fracking. Below are descriptions and examples of some of the different actions that have been taken.

Bans: Complete ban of fracking activities.

• e.g., Gov. Cuomo of New York decided to ban fracking altogether in the state in late 2014 in response to concerns about the health and environmental effects of fracking.

Moratoriums: A temporary prohibition of fracking.

• e.g., A Maryland law passed in 2015 prohibits fracking in the state until 2017.

**Fracking Waste Disposal Restrictions:** Bans/moratoriums on how wastewater from fracking is disposed of.

• e.g., In 2014, Connecticut Legislature passed a bill which establishes a minimum three year moratorium on the disposal of fracking wastewater in the state. vi

**Water Sampling Baselines:** Required sampling of water to record potential contamination that could be hazardous to public health and the environment.

 $\bullet$  e.g., The Colorado Oil and Gas Conservation Commission (COGCC) passed Rule 609 in 2013 which requires statewide groundwater testing in order to determine if the water is safe for the public.

**Resolutions:** An official statement by a local governing body opposing fracking.

• e.g., The city commission of Tallahassee passed a resolution against fracking in Florida in 2015.



Susan Yin (chesapeakeclimate) via flickr CC BY-NC-ND 2.0

# Organizing a local effort

# What is your goal?

Before launching your campaign you will need to determine your goal. Choose a goal that is feasible and addresses the problem.

# **Identifying Targets**

Sometimes there will be decision makers who will be key in accomplishing your campaign goal. Even if you don't need an elected official to take a specific action, you may determine in order to achieve your goal you need the high-profile support of an elected official.

You will need to research which policy-makers are your targets and learn about them in order to select a strategy they are likely to respond to. Identify those who will support your cause and which ones may be more hesitant, that way you will be able to tailor your approach to each individual.

# **Influencing Your Targets**

In order to influence your targets, framing your cause based on what you know about them may be effective. If they are known for their leadership on the environment, gaining the support of environmental organizations in your community for your campaign will be key. If they are particularly sensitive to the views of the medical community, organizing "grasstops" constituencies to support your cause such as doctors and nurses, could help influence your target.

If you're fighting a specific fracking proposal, you should also figure out the decision-making process and what kind of public participation is required by law. Sometimes there are public comment periods, public hearings, or similar meetings where community members can engage. If this is the case, you will want to come out in full force to show your target(s) the breadth of support for the cause.

# **Target Audiences**

In addition to identifying target decision makers, you should define your audience. In almost every campaign, you will have two: your base and the engaged public.

Your base is comprised of the people who are already with you on the issue. These are the people you will want to reach out to in order to build support for your campaign.

The engaged public refers to other community members who are likely to pay attention to local issues. Sometimes, you will need to make sure you're engaging your base without alienating the rest of the engaged public. Other times, you may determine you only need to mobilize your base to win.

Whatever your target audience, you will want to keep them in mind as you're determining campaign messaging and tactics.

# Messaging

An important factor in local campaigning is messaging. How you talk about your campaign can determine its success. Keep it simple and use strong language that evokes emotion. Depending on your audience you will also need to frame your campaign in a specific way in order to draw supporters. Here are some ways you can frame your fracking campaign to gain support:

- If the effects of global warming are prevalent in your community, you could focus on the emissions from fracking that will amplify the climate crisis.
- If your town has scarce water resources, you could focus on how fracking is water intensive.
- If there is a large population of children or the elderly, you could focus on the health effects of fracking.
- If vibrant ecosystems will be destroyed by fracking plans, you could focus on how natural landscapes will be impacted by fracking.

More than one frame may work in any given community. If this is the case, determine what frame most people already think of the issue in and what works best for your campaign.

By choosing a frame people are already familiar with, you can spend more time building support for your campaign instead of informing the public to get them up to speed.

# What the Opposition is Saying

Generally, you will have more success if you are operating on your terms and using frames and messages that boost your cause instead of catering to what the opposition is saying. However, it's important to be aware of your opponent's arguments and respond to them with sound research and compelling facts.

For example, if your opponent is a representative from the oil industry who claims that fracking activists rely on junk science and exaggerate fracking's impacts, instead of responding directly to this allegation and firing back with a similar argument, you should be prepared to reference findings from recent studies, facts on fracking's impacts, and arm yourself with industry-reported data that supports your arguments to effectively counter their claims without seeming defensive. You can find some of these supporting facts in our "Fracking Facts" section in the back of this toolkit.



Food & Water Watch via Flickr CC BY-NC 2.0

# **Individual Tactics**

# **Grassroots organizing**

Grassroots organizing can include any tactic that mobilizes the public. For example, phone banking, petitioning and organizing an event are all examples of grassroots organizing.

- Phone-banking/Canvassing: Talking to people face to face is the most effective way to gain support for your cause, but can also be time consuming. If you have a lot of volunteer capacity, organizing a neighborhood canvass can cover a lot of ground. If you have limited time or capacity and are going for quantity of conversations, organizing a phone bank where you can reach more households might be the better option (see page 14 for sample calling raps).
- **Petitioning:** A great way to show public support for your issue is by collecting signatures on a petition (see page 13 for a sample petition).
- Planning an Event: Hosting an event is a great way to get your message out and attract media. It's your event so you have the power to decide how it goes. Carefully plan out details that will reinforce your message and make sure that everything is prepared beforehand (see page 11 for tips on organizing an event).

## **Coalitions**

Coalitions are an effective way to increase power by uniting groups toward shared goals. Having more groups and individuals involved in your campaign means more resources, more people, and more influence. Building a local coalition could be an effective way to fight fracking in your community.



- 1. Use existing contacts that could be sympathetic to the cause, such as environmental groups, social justice organizations and landowner's associations (see page 14 for a list of organizations by state).
- 2. Educate the public in order to make new contacts. This can be done online via social media, knocking on doors in your community or holding a house party for your friends and neighbors.
- 3. Reach out to all contacts you make in order to maintain their involvement with newsletters, emails, calls, or anything that continues to keep the issue on their minds.



## **Traditional Media**

Having a strong media presence is vital to making sure that your message is heard. There are a variety of outlets and ways to get media attention.

- •Press Releases: Notify local media about your recent campaign activity with a press release. Whether it's a successful event that you hosted or a petition that you delivered, press releases provide the media with relevant information on your campaign (see page 11 for more about press releases).
- •Letters to the Editor: Getting on the opinion page is a great way to make your message heard and reach out to the engaged public (see page 15 for best practices and sample letters).
- •Pitching Reporters: Reporters get thousands of emails and news releases, so it's important to follow-up on any news story you send. Before you call, make sure you are prepared by doing some background research to look up past articles they've written, so you can pitch them something up their alley. When you pitch the story, first ask if the reporter has time to talk

or if they are on deadline. Use 2-3 hooks and keep your pitch organized and to-the-point and end by directly asking if they are interested in covering it.

## **Social Media**

Social media provides an efficient way to reach people. In order to have success online, you should be an active member and contribute powerful posts that have a great hook that people will want to share (see page 18 for social media best practices).

- •Twitter: A good way to send out a quick pitch is via Twitter. Use hashtags and remember the 140 character limit.
- •Facebook: There is no character limit on Facebook, however, you should still be pithy to catch people's attention and encourage likes, comments and shares. There are also a variety of tools on Facebook (e.g., pages and event pages) that you can take advantage of in order to keep your audience informed of campaign updates.

# **Connect with Other Activists Near You**

Find your state below to see other organizations near you fighting fracking. To view a more comprehensive list or to add a state or organization, visit: http://bit.ly/FightingFrackingPartners

	of to add a state of organization, visit: http://oit.ly/rightingrackingratiners					
State	Organization	Contact				
CA	Californians Against Fracking	organizers@californiansagainstfracking.org				
	Center on Race, Poverty, and the Environment	vgorospe@crpe-ej.org, (661) 720-9140				
	Citizens Coalition for a Safe Community	ccfascdirector@gmail.com, (424) 209-2272				
	Environment California	environmentcalifornia.org, (213) 251-3688				
	Local Clean Energy Alliance	lcea-info@baylocalize.org,(510) 834-0420				
CO	Citizens for Huerfano County	citizensforhuerfanocounty@gmail.com				
	Coloradans Against Fracking	info@coloradansagainstfracking.us				
	Environment Colorado	environmentcolorado.org, (303) 573-3871				
	Erie Rising	Contact@erierising.com, (888) 293-0663 ext. 100				
	Frack Free Colorado	frackfreecoloradoteam@gmail.com				
FL	Environment Florida	environmentflorida.org, (727) 327-3138				
	Food & Water Watch	mallen@fwwatch.org				
	ReThink Energy Florida	(850) 888-2565				
NE	Bold Nebraska	jane@boldnebraska.org				
	Nebraska Wildlife Federation	Info@NebraskaWildlife.org ,402.477.1008				
	Sierra Club	dcorbin@sierranebraska.org				
NM	Environment New Mexico	environmentnewmexico.org, (505) 254-4819				
	Food & Water Watch	Ebravo@fwwatch.org, (505) 633-7366				
	Gila Resources Information Project	grip@gilaresources.info, 575.538.8078				
	New Mexico Wilderness Alliance	nmwa@nmwild.org, (505) 843-8696				
	The Southwest Environmental Center	info@wildmesquite.org, (575) 522-5552				
ОН	Athens County Fracking Action Network	acfanohio@gmail.com				
	Concerned Citizens of Ohio	info@concernedcitizensohio.org				
	Environment Ohio	environmentohio.org, 614-372-5989				
	Green Environmental Coalition	gec@greenlink.org, (937) 767-2109				
PA	Berks Gas Truth	berksgastruth@gmail.com, 610-678-7726				
	Food & Water Watch	sbernhardt@fwwatch.org				
	Marcellus Protest	info@marcellusprotest.org, (724) 485-9835				
	PennEnvironment	pennenvironment.org, (215) 732-5897				
	Pennsylvania Alliance for Clean Water and Air	pacwainfo@gmail.com				
TX	Earthworks	swilson@earthworksaction.org, 940-389-1622				
	Environment Texas	environmenttexas.org, (512) 479-0388				
	North Central Texas Communities Alliance	Hogangaryfwtx@aol.com				

# **Tactics Toolkit**

Here you will find how-to's for some of the tactics previously outlined along with sample materials and best practices.

# **Planning an Event:**

First you should determine what goal you want the event to accomplish. If it's demonstrating public support make sure you have a plan to recruit enough participants to fill the event. If it's educating decision makers about the harms of fracking, you may want to plan a tour of a fracking site or visit someone whose health has been affected by fracking. Whatever you decide, be sure to contact the media in order to get your event covered and make the necessary contacts to people who can help make your event a reality.

## 1. Plan the details of your event

- Who, What, Where, When
- Make sure your location, visuals, and speakers reinforce your message
- Decide what type of event is best
- Choose a time that works for media and doesn't conflict with another event
- Invite speakers and coordinate what they are saying and when

## 2. Share your event with members and reach out to others

- Create a Facebook event
- Send outreach emails to your network
- An in-person or phone RSVP is more likely to show than a Facebook or email response
- Expect half of those invited to say yes and half of the yeses to actually show up

#### 3. Invite Media

- Week before: give reporters a heads up call or email before the advisory goes out
- Few days before: Write a press advisory and send to potential media
- After sending the advisory, call reporters to follow up
- Give reporters a teaser, but don't give so much information that they no longer need to attend
- Highlight your "hooks" (e.g., VIP speakers and location)

#### 4. Day-of Preparation

- Make signs and print out materials (e.g., press releases, media sign-in sheet, petitions)
- Get there early to set up and make sure speakers are there as well

#### 5. Hold the event

- Format: Intro, Speakers, Conclude, Q&A
- Memorize your intro and conclusion statements
- Repeat your topline message as many times as possible

#### 6. Follow-up with media

- Touch base with all media there
- 1-2 hours after: check in with media who attended and pitch them on writing a story
- Email/call/drop off materials to the media who did not attend

Below is a sample outreach email that can be sent to media to draw their attention to your event. Make sure to follow up with them on the phone to make sure they are aware of the event and to check if they will be attending.

#### Subject: Keep our Community Healthy and Safe

Dear (Recipient),

On (date) we are standing up to the oil/gas company that wants to frack in our town. Join us to help protect our home from the environmental, health, and safety risks that fracking creates. It's up to us to ensure fracking doesn't come near X community.

Join speakers A, B, C as we highlight our concerns. Add your voice to the fight to stop fracking at (location) at (time) and help us stand up for our community!

What: Name of rally Where: (location) When: (date, time)

Who: (list groups and/or speakers attending)

RSVP here (link to Facebook event or other RSVP system)

Sincerely,

(Your name)

# **Petitioning**

Create a petition that states your goal clearly and is addressed to your target. Make sure to describe why the solution is necessary and provide a clear call to action. It's a good idea to have your signers include their information so you can reach out to them in the future. The sample petition below provides an outline that you can build off of, but be sure to keep a strong ask.

Dear	
Dear	•

Fracking poses serious threats to our community and environment. From contaminating water supplies to making families sick to turning our backyards into industrial zones, the health and safety of our community is endangered by fracking.

In order to protect our families and friends from fracking's harms we are urging you to take action against dirty drilling. There is no substitute for our health and safety, and fracking is dangerous at every step of the process.

As concerned members of the community we are calling on you to make a change, so will you support/oppose X action in X community/town/state?

## Sincerely,



# Phone-banking and emailing



Hi can I please speak to [policymaker]?

Hi, this is [name] and I'm calling to discuss my concerns about fracking in our community.

Fracking pollutants have been linked to cancer, asthma, endocrine disruption, and a variety of neurological and immune system problems. I want to protect my family and friends from such harm and also protect our special places that could be damaged by fracking.

In the interest of our community's public and environmental health I urge you to [support a ban on fracking/fight for X protection/etc.]. Will you take action to protect [name of your community] from fracking?

IF YES: Great, I really appreciate your time and thank you so much for hearing me out!

IF MAYBE/NO: Okay, thank you for your time.

#### Voicemail:

My name is [name] and I support [insert desired outcome]! Fracking pollutants have been linked to cancer, asthma, endocrine disruptions, and a variety of neurological and immune system problems. I want to protect my family and friends from such harm and also protect our special places that could be damaged by fracking.

I urge you to protect our environment and public health against big oil/gas.



Dear [policymaker],

My name is [name] and I am a citizen of [local town/county.] I'm concerned about fracking in our community and I'm writing to urge you to [insert desired action].

Fracking exacerbates global warming, endangers our public health and risks our open spaces. I do not want to see my community destroyed by this practice.

I am a [mother, friend, daughter, etc.] and have lived in the town for X years. I want to protect our community and the people I love from the risks of fracking and I'm hoping you will support [insert desired action].

Sincerely,

[name]

# Writing a "Letter to the Editor"

In your letter be sure you have a hook. Keep it brief, stay on message, and read the rules (e.g., word limits, contact forms, and suggestions to get published). Lastly, it's a good idea to follow up with the opinion editor to be sure they received your letter and gauge if they would be interested in including it in the opinions section.

#### **General Format:**

- 1) Connect to an article or a real world event
  - 2) Make one point
    - 3) Back it up
  - 4) End on your terms

## Sample LTE #1

## Title: Why [insert town/county] Should Ban Fracking

As a mother, wife, and friend in [insert town/ county], I oppose fracking and insist that the town/county ban fracking altogether. I cannot and will not support a practice that endangers the lives of the people I love and destroys the community I live in.

Fracking contaminates drinking water and pollutes the air, which sacrifices the health of our community members. The pollution from fracking has been linked to cancer, asthma, endocrine disruption, and nervous and immune system impairments and I will not stand by and let my children be harmed. Worse, the pollution will also affect the health of our livestock that so many of us depend on for our livelihood. If my cows die from contaminated water I will have no way to make a living and the health of my family will deteriorate if I have no way to feed them.

There is no substitute for the health of my family and friends and that is why I stand firmly in opposition to fracking and call on policymakers to ban it in our town.



David R. Tribble via Wikimedia Commons CC BY-SA 3.0

#### Sample LTE #2

#### Title: Response to Recent Fraccident in Perrin, TX

In recent news, a water well exploded in Perrin, Texas, burning a family of four, one of whom was a 4-year-old child. This explosion has been linked to methane pollution from a nearby fracking plant which contaminated their drinking water.

I can't even begin to explain my grief over this incident, but I do know that this, among many other incidents, is proof that fracking needs to be stopped now. There have been many other incidents like the one I described, varying from pipe explosions to increased traffic accidents as infrastructure has expanded to support fracking. Across our nation these accidents continue to occur but few regulations have been placed on the practice.

I think of that 4-year-old child and envision my (daughter/niece/ neighbor, etc). If fracking came to my town I would fear for her safety every day. Ultimately, we must ban fracking to keep our communities safe, but in the meantime state and federal officials should enact stronger regulations to safeguard our communities.

#### Sample LTE #3

## **Title: Locally Regulate Fracking**

Following Longmont, Colorado's decision to ban fracking, the Colorado Supreme Court ruled in favor of the Colorado Oil and Gas Association to overturn the ban. I am deeply upset that the communities most impacted by fracking will now have no say in whether and how it occurs nearby.

Families living on fracking's front-lines will bear the burden of fracking's negative impacts from contaminated water to health risks to the devastation of natural landscapes to make way for pipelines and well pads. Even property values suffer from dirty drilling. A recent study found that property values decreased based on proximity to fracking wells.

The community members who find themselves closest to fracking will be the ones whose health, safety and environments are threatened the most, they should have a say in how best to protect their own communities.

## **Social Media Best Practices**

#### 1. Tailor your content

You may want to highlight different local risks, such as a particular natural space that will be destroyed or a school that is near proposed fracking. In order to have the most impact, make sure you have a strong message and tailor your social media content to match this.

#### 2. Make use of hashtags

Hashtags are ubiquitous on Twitter and can often be overused, but they serve several purposes and if used well will help you expand your audience. For example, #banfracking is commonly used by activists working to stop fracking.

#### 3. Tag relevant audiences or partners

If you want a decision maker to see your post you should tag them. Again, the more people who interact with the post, the more credibility you will have, so make sure to get friends and supporters to like and share your post.

#### 4. Keep your message concise

Social media is inundated with content. You are competing to be heard. For this reason, people want quick information as they scroll through their feeds. It is important to keep your message short and concise.

#### 5. Direct outreach can add to your social media presence

If you are hosting an event, tell people to share recent social media content to get the word out. If you have created a Facebook page, tell your friends and supporters to follow you. Let people know your Twitter handle so they can stay up-to-date on your work.

#### 6. Best posting times

There's no perfect time to post. However, research has shown some general trends. For Facebook, more people are likely to see your posts from 12-1PM on the weekend, and 1-4PM on Thursdays and Fridays. For Twitter, 12-3PM during the week is the ideal window.

#### 7. Images

Images grab people's attention when they are quickly scrolling through their feeds. When possible, include an image. Sample images you can use are below. If you find pictures online make sure to look for licensing information and, if it is licensed for reuse, give appropriate credit. The format should be: Author via Source, License.

Ex: John Doe via Wikimedia Commons CC BY-SA 2.0

Stand-alone images on Facebook are ideally sized at 940 pixels by 788 pixels. Twitter images should be sized at 1024 pixels by 512 pixels. The goal is to get your image to stand out, so make sure it's compelling and captures people's interest quickly.

# **Sample Social Media**



Fracking poses significant risks to our public health and environment by contaminating our water, devastating our lands, and polluting our air. Join us [date] at [time] to protect our community against this dirty drilling process. [event link]

Like · Comment · Share

Frac Tracker.org via Google Photos Lost Hills filed from road, CA 2014 January 30, 2014



Fracking releases methane, a greenhouse gas 86 times more potent than carbon dioxide. To protect our climate, it's time to ban fracking.

Like · Comment · Share

Public Domain via Pixabay





# Fracking puts public health at risk by contaminating our water and polluting our air #StopFrackingOurFuture



2:48 PM - 28 July 2016

Public Domain via Pixabay





# It's time we protect [X's] special places from fracking's harms #banfrackingnow



2:12 PM - 27 July 2016

# **Fracking Facts**

# **Worsening the Climate Crisis**

Every step of the fracking process, from drilling to transportation to storage, releases methane, a greenhouse gas that is 86 times more potent than carbon dioxide. VIII However studies have shown that the actual rate of methane released during fracking is much higher than that, effectively negating any climate benefits.

#### Methane released during fracking is

## Methane Emissions from Wells Completed in 2014

State	Methane (pounds)	Equivalent to emissions from this many cars
California	139,782,500	453,836
Colorado	395,476,950	1,284,006
Kansas	38,063,850	123,583
Louisiana	49,891,600	161,984
Mississippi	9,892,300	32,118
Montana	24,945,800	80,992
New Mexico	124,944,050	405,659
North Dakota	517,195,250	1,679,192
Ohio	135,596,550	440,570
Oklahoma	546,011,950	1,772,752
Pennsylvania	295,478,700	959,339
Texas	2,520,816,100	8,184,404
Utah	185,803,200	603,252
Wyoming	115,911,950	376,335
TOTAL	5,339,906,550	17,337,224

#### more potent than CO2

- Over a 20-year period methane is 86 times more potent than CO2. viii
- Over a 100-year period methane is 34 times more potent than CO2. viii

Methane leaks throughout multiple steps of the fracking process where it escapes into the atmosphere, leaked both accidentally and intentionally. ix

- A study by CU Boulder, NOAA, and UC Davis estimated that 4.1 percent of natural gas produced in Colorado's Front Range escapes.\*
- In Pennsylvania, experts from Purdue, Cornell, CU Boulder, Penn State and NOAA estimated that 7 percent of natural gas produced in the region escapes.<sup>xi</sup>
- A 2014 analysis of satellite measurements of air composition found an estimated 10.1 percent of natural gas produced in the Bakken formation and 9.1 percent at the Eagle Ford Shale leaked.xii

In addition to methane's climate impacts, exposure to methane and volatile organic compounds (VOCs) -- which are also emitted during fracking -- has been linked to a range of acute and chronic health problems, including headaches, eye irritation, respiratory problems, and nausea.xiii

# **Endangering Our Health**

Because of its threats to our clean air and water, fracking has emerged as a major toxic health threat. Families living on its front lines suffer from nausea, headaches, and other illnesses that some experts call just the tip of the iceberg.

## Fracking Risks Our Drinking Water:

- •Pollutants get into our groundwater and surface water through surface leaks, spills of fracking fluid, well blowouts, escape of methane and other contaminants from the well due to faulty casing, migration into the ground, and improper disposal of wastewater.
- •The chemicals in fracking fluids have been linked to cancer, endocrine disruption, and neurological and immune problems.xiv
- •A 2013 EPA report estimated that there are 1.3 spills on or near well pads for every 100 fracked wells in Colorado.xv In Pennsylvania, spill rate estimates range from 0.4 to 12.2 per 100 fracked wells.xvi
- •Contamination also occurs underground. A study by Duke University showed that Pennsylvania residential drinking water wells located close to fracking wells were

more likely to be contaminated with methane, due to faulty fracking well casings. xvii

#### **Fracking Releases Air Pollution:**

- •Fracking produces air pollution as the well is drilled and fracked and the gas is vented or flared. In addition, transportation and machinery at fracking sites burn fossil fuels to operate.
- •Volatile organic compounds (VOCs) are released by fracking practices which have been linked to eye irritation, headaches, asthma, and cancer.\*\*
- •VOCs combine with nitrogen oxides to produce smog which causes respiratory issues.
- •Polycyclic aromatic hydrocarbons (PAHs) emitted by fracking have been shown to increase the risk of cancer by 30 percent in people who live within 1/10 of a mile of a fracking well.xix
- •Fracking workers especially suffer from air pollution as they are exposed to airborne benzene which can cause damage to the nervous system, kidneys, liver, and blood and immune systems, as well as silica dust which can increase the risk of lung disease.



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# **Devastating Open Spaces**

Fracking transforms rural and natural landscapes into industrial zones to make way for roads, waste pits, well pads and related infrastructure. This can destroy ecosystems and endanger animals by fracturing habitat, depleting water resources, and polluting the area. Some of our most treasured places are at risk including:

- **Desolation Canyon:** One of the nation's top river-rafting destinations in Utah. The government has given initial approval of 1,300 oil and gas wells in the area. xxi
- Everglades: An important habitat for many fish and animal species and drinking water source for more than 7.7 million people, the Everglades are at risk of being fracked by oil companies despite their ecological value.xxii



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• Mesa Verde National Monument: A World Heritage Site in Colorado that is home to many rare species of animals and plants such as the peregrine falcon. xxiii Fracking already occurs 10 miles away from this iconic National Park and has been proposed within its borders.

# Studies show that fracking is highly damaging to the land.

- Since 2005, 679,000 acres have been damaged by fracking to make way for drilling sites, roads and pipelines.
- Fracking development causes forest fragmentation, resulting in loss of wildlife habitat and affecting twice as much land as direct development. xxiv
- In Colorado, fracking activity has damaged more than 100,000 acres, which is roughly equal to the land within Denver city limits. xxv

#### Wildlife is at risk from fracking activity.

- Roads, pipelines and well pads for fracking may fragment grassland into segments too small to provide adequate habitat for many species. \*\*xvi\*
- Birds are especially vulnerable. Species like the northern harrier, upland sandpiper, snowy owl, roughlegged hawk and American kestrel require 30 to 100 acres of undisturbed grassland for habitat, which is at risk of being disrupted by fracking.xxvii
- Clearing the land may increase sedimentation of nearby water and decrease shade, making waters uninhabitable for fish.xxviii
- Fish kills often occur as a result of fracking accidents. In Pennsylvania in 2009, a pipe ruptured at a well drilled in a public park, killing fish and other aquatic life along a three-quarter-mile segment of a stream. xxix

# **Conclusion**

Across the U.S., fracking is putting public health and the environment at risk by worsening the climate crisis, endangering public health, and devastating our lands. Since 2005, more than 137,000 fracking wells have been drilled or permitted, endangering communities in more than 20 states. With such high risks, it's no wonder that many of these communities are fighting back. From Pennsylvania to New Mexico, residents are joining together to oppose fracking activity by regulating wastewater disposal, educating the public about dirty drilling, and more.

People like you are standing up for their communities -- and winning! If fracking is an issue in your area, there are a variety of things you can do to combat it. Our hope is that this toolkit will be a helpful resource for your campaign, whether you use all of the tactics we have provided or just one. We rely on people like you to protect the people and places we love from fracking's harm.

# **Additional Resources**

1) "Fracking by the Numbers" quantifies the key environmental and public health related impacts of fracking.

http://www.environmentamerica.org/sites/environment/files/reports/Fracking %20by%20the%20 Numbers%20vUS.pdf

- 2) "Fracking Failures" outlines the violations that fracking operators continue to commit. http://www.environmentamerica.org/sites/environment/files/reports/ EA\_PA\_fracking\_scrn.pdf
- 3) "Who Pays the Cost of Fracking?" looks at how the oil/gas industry fails to take on the costs associated with fracking.

http://www.environmentamerica.org/sites/environment/files/reports/Who%20Pays %20the%20 Cost%20of%20Fracking\_vUS%20screen\_0.pdf

- 4) "Shalefield Stories" tells the personal stories of people affected by fracking. http://www.environmentamerica.org/sites/environment/files/reports/ ShalefieldStoriesnp.pdf
- 5) "Toxic Stew: What's in Fracking Wastewater?" highlights the numerous toxic chemicals found in fracking wastewater.

http://static.ewg.org/reports/2015/toxic\_stew/toxic\_stew.pdf? \_ga=1.67543698.2084292866.14652 38613

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https://thesolutionsproject.formstack.com/forms/fighterfundapplication

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