

EARTHWORKS JOURNAL



Methane from oil and gas is a climate **CRISIS**



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EARTHWORKS

Dedicated to protecting communities and the environment from the adverse impacts of mineral and energy development while promoting sustainable solutions.

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INTERN – Eric Robinson

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ON THE COVER

Optical gas imaging reveals normally invisible air pollution from an unlit flare operated by Primexx Energy Partners in Reeves County, Texas (main image). A photo taken at the same time and place shows what the naked eye sees (inset).



EARTHWORKS

Toward a bold Climate Solution



In this Earthworks Journal, Sharon Wilson writes about perhaps the most urgent environmental problem we have ever faced: methane pollution. Sharon is a certified thermographer, trained to use an infrared optical gas imaging camera that makes visible normally invisible oil and gas air pollution.

The oil and gas air pollution that Sharon and the rest of the Community Empowerment Project team reveal is made of up of methane and toxic volatile organic compounds like benzene, a carcinogen. Oil and gas production – drilling, fracking, refining, and transport – emits this climate damaging pollution every step of the way.

Our board member Dr. Tony Ingraffea, and his colleague Dr. Robert Howarth, first sounded the alarm about oil and gas methane pollution in 2011, raising the possibility that

natural gas might actually be worse for our climate than coal. Earlier this year Environmental Defense Fund published an in-depth analysis leaving little room for doubt: **Oil and gas is at least as damaging to climate as coal. And probably worse.**

Our climate solution has been fairly obvious for some time now: we must make a rapid, clean, and just transition to a renewable fossil fuel free economy. But in doing so we can't afford to make the same mistake as when the U.S. embraced fracked natural gas.

The true climate solution is a renewable energy economy – solar, wind, and battery based storage. However, renewables will rapidly and perhaps even exponentially increase demand for certain metals and other raw materials. In today's global economy, where any widely adopted choice means billions of

people are going to be using it, the potential for environmental damage is enormous. Given the toxic nature of most metal mining, we have to be especially careful.

That's why Earthworks' is dedicated to Making Clean Energy Clean. As the world increasingly turns towards renewables, we will watchdog the transition to ensure we learn from experience and not not jump from the frying pan into the fire. Stay tuned.

Jennifer Krill, Executive Director

Standing Up to Mining Executives

MONTANA'S BAD ACTOR LAW DEMANDS ACCOUNTABILITY FROM MINING INDUSTRY

By Bonnie Gestring

Montana is known as the Treasure State. With its long history of mining, the state has seen more than its fair share of treasure hunters. Far too often mining companies extract their treasure and run – leaving the public with abandoned mines and enormous clean-up costs. In a bold step, the Montana State legislature decided enough was enough, and enacted the “bad actor” law, which prohibits mining companies and their senior executives from receiving permits for new mines if they've reneged on past obligations, unless they reimburse the state for those clean-up costs

The law was enacted after one of the most notorious mining bankruptcies in the state's history: Pegasus Gold. When Pegasus Gold pulled up stakes, it left Montana with lasting water pollution, damaged agricultural lands, impaired fish and wildlife habitat, and a fortune in clean-up costs.

Now, the former Vice President of Pegasus Gold is back in Montana as the CEO of Hecla Minerals, proposing two new mines adjacent and underneath the Cabinet Mountains Wilderness. The two projects are highly controversial and threaten the grizzly bears, bull trout, and some of the cleanest waters in the nation.

The proposal has not gone unnoticed. Earthworks and our partners petitioned the state to enforce the “bad actor” law. The state issued a notice of violation to Hecla and its CEO, Phillips Baker. The “bad actor” law is being enforced for the first time on a major mining company – a major victory for clean water.

Ironically, Baker is also the Chair of the National Mining Association, the leading lobbying group for the mining industry. Rather than taking responsibility for clean-up, Hecla's subsidiaries have taken Montana to court over the notice of violation.

Earthworks and our partners have received approval from the courts to intervene in support of the “bad actor” claim. We have been joined by Fort Belknap Tribes who are downstream from one of the mines, and continue to suffer from the devastating impacts of mine pollution. It's about time this mining executive is held accountable for this mining pollution.



Community members on the Fort Belknap Indian Reservation test for water pollution downstream from the Pegasus Gold-owned Zortman-Landusky Mine. Photo courtesy of the Assiniboine and Gros Ventre Tribes of Fort Belknap



Visit earthworks.org/badactor



methane from oil and gas is a climate crisis

By Sharon Wilson

Climate Change: the complex issue that we just can't seem to figure out. Confusion around the causes and effects of climate change make it easy for the oil and gas industry, its scientists for hire, and scheming politicians to muddy the issue.

Industry touted natural gas as a "bridge fuel" on the path to cleaner, more sustainable fuel sources, but climate change has accelerated beyond what most climate science predicted. Until recently, climate science focused on carbon dioxide (CO₂). It wasn't until 2011 that the first peer-reviewed study was published looking at the climate impacts of methane from fracking-related (oil and gas) development. When this study was released, it warned that fracked gas was not a suitable bridge fuel, we were well into the fracking boom that started in 2006.

Most people are still not fully aware of the fracked gas threat. When the media does write about fracked gas, they often use outdated information about its potential to warm the planet compared to CO₂, declaring that the methane released by fracking is "only" 30 times as powerful a greenhouse gas over 100 years.

HERE'S THE BREAKING NEWS: According to *Scientific American*, "Methane warms the planet on steroids for a decade or two before decaying to CO₂...Short-lived climate pollutants [like methane] that we emit from human activities [mainly oil and gas production] are basically controlling how fast the warming occurs."

So harmful is methane that the Intergovernmental Panel on Climate Change (IPCC) determined that it is 86 times more potent than CO₂ over a 20 year period. We now know methane is actually more like 100 times more potent than CO₂ over two decades.

As we say in Texas, it's time to fish or cut bait: Humanity is facing a crisis requiring immediate action for our survival.

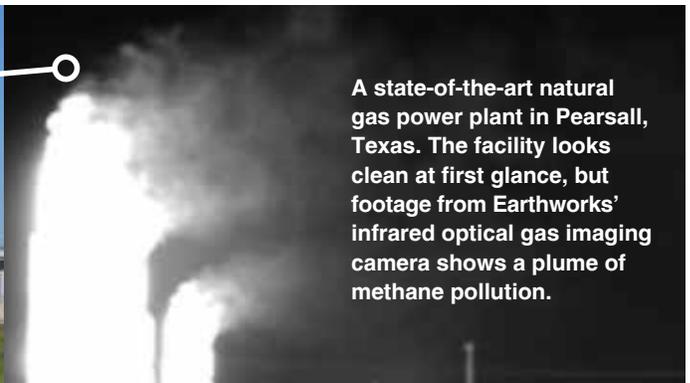
REDUCING METHANE EMISSIONS WILL SLOW CLIMATE CHANGE. An immediate reduction in methane pollution would give us more time to deal with the carbon dioxide threat. Cutting methane means putting an end to new oil and gas extraction and the buildout of infrastructure associated with oil and gas use.

methane is
86x
more potent
than CO₂ over
20 years

WE CAN'T AFFORD TO WAIT.

TAKE ACTION!

- 1 Talk about climate change and help others understand the issues.
- 2 Run for office.
- 3 Vote for the climate and our children's future.
- 4 Look into driving an electric vehicle.
- 5 Support renewable energy in your community.
- 6 Visit solutionsproject.com to learn how 100% renewable energy is possible right now.
- 7 Visit earthworks.org/FrackedGas to learn more!



A state-of-the-art natural gas power plant in Pearsall, Texas. The facility looks clean at first glance, but footage from Earthworks' infrared optical gas imaging camera shows a plume of methane pollution.

The biggest lie: “Natural gas is a bridge from coal to a truly clean energy future.”

Peer-reviewed research since 2011 has suggested otherwise.

We now know that the claim is categorically false: natural gas (fracked and otherwise) can only lead to a climate catastrophe.

It’s been more than ten years since the fracking boom started. The oil and gas industry has lied to us, denying long term impacts on our climate, our health, and our safety.

While natural gas burns cleaner than coal, it is by no means clean, as the infrared video still of a “state of the art” gas-fired power plant in Texas shows (below left). Multiple studies released earlier this year indicate that no matter how clean they burn, gas and oil emit so much methane during production that they’re at least as bad and probably worse for climate than coal.

While we’ve known for many years that global methane has increased dramatically since the start of the fracking boom, this year a NASA study authoritatively determined oil and gas production is responsible for this ongoing methane spike.

And with the data from the NASA and other studies, we now know why the historic climate change models have been so off. **Climate scientists didn’t properly account for methane pollution because it was assumed switching to natural gas would be good for climate. In a nightmarish turn of events, natural gas is instead making climate change worse.**

We don’t have time for more false promises from the very industry that created this problem. We need a real solution, and we need it now.

Rules and laws have not worked. Even if we are to believe that “fixes” are technically possible, time has shown us that the oil and gas industry won’t reform voluntarily. There is neither the money or the political will to hire enough regulators to enforce rules and laws.

“...a reduction in methane emissions now would slow the rate of global warming immediately.”

—Robert Howarth, Ph.D., The David R. Atkinson Professor of Ecology & Environmental Biology, Cornell University, co-author of *Methane and the greenhouse-gas footprint of natural gas from shale formations*

Earthworks will continue to expose what big industry is allowed to do to our earth and our climate. We will continue to advocate for the one true climate solution: **When it comes to natural gas, keep it in the ground.**

.....
It’s a Fact: Article Sources
earthworks.org/FrackedGas

Fracking Related Health Impacts

OIL AND GAS IS THE #1 METHANE POLLUTER IN THE U.S.

Methane brings with it a host of harmful chemicals, including:

- Benzene, a carcinogen
- Xylene, a neurotoxin
- Toluene, a teratogen (causes embryo malformation)

FRACKING-RELATED POLLUTION CAUSES:



750,000

summertime asthma attacks in children under 18 annually



600+

respiratory-related hospital admissions per year



2,000+

asthma-related emergency room visits each summer



500,000

missed school days nationally, each year

12.6 million people live within a half mile of oil and gas facilities

2.9 million

students attend school within a half mile of oil and gas facilities



The 115th Congress: A threat to our environment

By Aaron Mintzes

The 115th Congress may be the worst environmental Congress in the history of our union.

Undoing Regulations — Beginning with undoing 16 Obama Administration safeguards, by May of 2017, the 115th Congress focused on permanent repeal of the Bureau of Land Management’s (BLM) methane rule. The vote was a nail biter. In the end, the entire Democratic caucus along with GOP Senators Collins, McCain, and Murkowski defeated this ill-advised attempt to rip off American taxpayers and pollute our air. Congress has since considered a dozen other bills seeking to remove federal safeguards from fracking. The EPA has proposed a rollback of their methane rule, with a public hearing planned in Denver, possibly in October.

Congressional testimony, grassroots outreach, phone calls, emails, and letters from Earthworks members ultimately defeated the ill-conceived NDAA bill.

Limiting Environmental Oversight and Public Input — At last count, the 115th Congress considered over 60 attempts to limit or repeal the “Magna Carta” of environmental laws, the National Environmental Policy Act (NEPA). NEPA requires our government to seriously consider environmental impacts of its decisions and solicit public comment before implementing a decision.

Fast-Tracking Mining — Among the greatest NEPA threats Earthworks faced during this Congress came during consideration of so-called critical minerals legislation. At the beginning of this Congress, Rep. Amodei (R-NV) and Sen. Heller (R-NV) introduced H.R. 520/S. 145, the National Strategic and Critical Minerals Production Act. The legislation deemed virtually *all* minerals critical and waived NEPA for *all* mine permits.

The real danger emerged when the legislation appeared as an amendment to the FY’19 John S. McCain National Defense Authorization Act (NDAA), the must pass funding bill for our troops and military needs. Our efforts to defeat this act involved lobbying from community advocates and Earthworks Board members, and a communications blitz.

What’s Next? — Washington, D.C. gridlock works to our advantage as we try to fight off Congressional attacks to our air, land, water, and health. Earthworks members have been very active opposing many federal policies to emerge over the last couple years. **Defeating bills still happens by lending your voice to the debate – so keep calling and writing!** Mid-term elections are just around the corner, so this November, we can put an end to this madness.

Fractions and Legacies

How does the new tax law affect you?

Due to the increased standard deduction, the Tax Cuts and Jobs Act (TCJA) reduces tax benefits from charitable giving for many taxpayers. Yet there are still many ways you can continue to give to your favorite nonprofits and save on your taxes.

Consider bunching donations through a Donor Advised Fund

If you place two or more years’ worth of your total annual donations to all charities into a Donor Advised Fund, you can deduct the full sum in one tax year. And you could still provide annual support to your favorite non profit by recommending grants to them each year.

Are you age 70½ or older with an IRA?

Talk to your plan’s administrator about setting up a Charitable IRA Rollover. Instead of paying taxes on your Required Minimum Distribution, you can send it directly to Earthworks.

Do you own stock or other assets that have gone up in value?

Donating appreciated assets will enable you to avoid income tax on the increased value. If you are able to itemize deductions, you will also avoid paying capital gains taxes.

Thinking about your legacy?

Figuring out how to divide assets after end of life is a very personal decision, and it often starts with thoughts about one’s children. But it doesn’t have to end there.

Including a bequest gift in your will for a nonprofit organization won’t affect your current lifestyle, but it has the potential to create a lasting legacy for a charitable cause that’s important to you, like Earthworks.

There are many options for including support for Earthworks in your estate plans, depending on your own unique situation.

If including Earthworks in your estate plans would help you reach a personal charitable goal, we are happy to help you find just the right way to express what’s important to you. Contact Ann Corbett at acorbett@earthworks.org.

Learn more online:
earthworks.org/donate/join-legacy-circle

Let’s work together to protect communities and the environment!



Photo by Charlene Anderson, Creative Geckos



PLASTICS

The Oil & Gas Industry's Dirty Little Secret

By Phil Dickieson

It can take 200 years for a single plastic bag to biodegrade in a landfill. The debate over plastic reached a crescendo this summer when Starbucks committed to phasing out straws, and more cities considered plastic bag bans. Still, most organizations and corporations have only begun focusing on the *end* of the plastic life cycle.

Most consumers, though, are still not aware of how plastic is made. Oil and gas produces the base chemicals for 99% of all plastics. **Much of the plastic in use today is actually a byproduct of fracking** – and the oil and gas industry is anxious to create more demand for plastic, so they can earn even more money off the fracking boom.



Break Free From Plastics US Grassroots Tour stops in Houston to meet with Texas Campaign for the Environment to discuss how plastics impact fisherfolk in the Philippines and similarities between plastics campaigns in Pune, India and Houston, Texas.

We are addressing the source of plastics and working to prevent production from increasing. Earthworks teamed up with the #BreakFree-FromPlastics Coalition to host the “Stopping Plastic Where It Starts” speaking tour, featuring Lakshmi Narayan, co-founder of an Indian waste pickers’ union and cooperative from Pune, India, and Myrna Dominguez, secretariat for the national fisherfolk organization (PANGISDA), from Manila, Philippines.

The speaking tour visited Texas, Louisiana, Pennsylvania, and West Virginia, and addressed the lasting impacts of plastics – from the manufacturing process to the impacts on waste pickers and fisherfolk in Asia.

From the manufacturing process to the waste products that choke our oceans, plastic represents a significant threat to our land and our water.

Visit earthworks.org/plastic to learn about the fight!



You Told Banks to Ditch Ocean Dumping AND THEY'RE LISTENING!

By Ellen Moore

Momentum continues to build for big banks to stop financing companies poisoning our water with toxic mine waste. In May, our coalition of more than 40 groups worldwide celebrated the news that banking giant Standard Chartered joined Citigroup in ending financing for companies using the outdated practice of ocean mine waste dumping. Managing Director and Global Head of Environmental and Social Risk Management at the bank, Amit Puri, said, “We have long held the view that marine or riverine tailings disposal is not good industry practice, and we are proud to add it to our prohibited activities list.”

Meet two of our partners from front-line communities in Norway who are leading the fight to protect wildlife and livelihoods from new mines that would use ocean mine waste dumping. Together we are calling on big banks #DitchOceanDumping.



Good News!

Standard Chartered joined Citigroup to end financing for companies dumping mine waste.



Follow us on twitter! #DitchOceanDumping

As a member of the Governing Council of the Saami Indigenous Parliament in northern Norway, Silje Muotka

is fighting a proposed copper mine that would dump a total of 25 million tonnes of waste into the Repparfjord. For Silje and the people she represents in Parliament, opposing irresponsible mining practices is both a question of economics and values. “I do recognize that we need materials for new technologies – so we should look for better projects that don’t harm the environment and destroy our culture.”



Eiliv Erdal, a small-scale dairy farmer and member of the Association of Norwegian Salmon River Owners,

is fighting an open-pit mine that would dump a total of 250 million tonnes of mine waste into the Førdefjord. The dumping would disrupt the migration of wild salmon, the backbone of the local economy. Once a supporter of the project, Eiliv became disillusioned with company tactics and their science. “I used to see the mine as positive for the region,” he says. “But now it is clear we aren’t going to benefit. The fjord will be destroyed and the profit will go elsewhere.”





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Defend the Defenders

By Ethan Buckner

In late July, 63-year old grandmother, retired special ed teacher, and dedicated environmental advocate Ellen Sue Gerhart was arrested on her own property in Huntingdon County, Pennsylvania. She was promptly held in solitary confinement, and one painful week later, sentenced to two to six months in jail and a \$2,000 fine. Ultimately, Ellen was incarcerated at the Centre County Correctional Facility for two months before finally being released on September 26 – all for peacefully opposing construction of Energy Transfer Partners' (ETP) Mariner East plastics pipeline **on her own land.**



Ellen Sue Gerhart leads a tour of her property in Huntingdon, Pennsylvania. Construction of the Mariner East 2 pipeline is behind her.

The Gerhart's land was expropriated via eminent domain, implying that the seized property is supposed to be used for the American public's benefit. To the contrary, the petrochemicals being transported are intended for export. Using a variety of creative nonviolent tactics,

Ellen and her family blocked the pipeline for over two years. Eventually, ETP managed to begin construction. Horrifically, the Gerhart's worst fears came to pass, with ETP spilling 4,000 gallons of hazardous drilling fluid in May, threatening the family's well water.

Since deciding to oppose ETP, Ellen and her family have been subjected to tremendous harassment, intimidation, surveillance, and violence, but persist in their work. The Gerharts continue to use all legal avenues to oppose the project, including contesting permits granted to ETP and the abuse of eminent domain.

ETP's multi-year effort to silence Ellen has failed. Even from jail, she inspired opposition to pipeline construction across the state. On August 25, communities across Pennsylvania participated in a statewide day of community resistance. Three women, inspired by Ellen's 'mama bear' nickname, were arrested in Delaware County to highlight risks that the pipeline poses to an elementary school next door. Countless others are bearing the torch that Ellen lit, demanding an end to ETP's destruction.

Ellen's case is not isolated. **Basic civil liberties are increasingly threatened by a hostile administration that continues to embolden the hard right across all levels of government.** It is more important than ever to defend the defenders, follow their bold leadership, and more than anything, to not allow attempts to silence voices prevent us from doing the critical work that needs to be done to protect our communities, air, water, and climate.

At Earthworks, we #StandWithEllen, and encourage you to do so as well.