



THE GAS RUSH

LOCKING AMERICA INTO
ANOTHER FOSSIL FUEL
FOR DECADES

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Introduction

The following report is an online tool to help shine a spotlight on the unprecedented rush to spend billions investing in gas, supporting the construction of more than 200 new gas plants and thousands of miles of new gas pipelines across the country. As the U.S. leads the world in phasing out coal and expanding clean energy, the fossil fuel industry is rushing to block further progress with a build out of new gas-fired power plants and gas pipelines.

To date, there has been little public debate about the dangers of the proposed investment of hundreds of billions of dollars in new fossil fuel infrastructure at the very time the planet is warming faster than at any point in human history. This report seeks to provide a fact-based tool that can serve to engage the public, policy makers, and the media around the extent of the threat and why it must be stopped. Simply put, gas is dirty, expensive, and unnecessary.

A joint effort of the Sierra Club's Beyond Coal and Beyond Dirty Fuels campaigns, the gas pipeline and power plants trackers document how the proposed gas buildout collectively endangers thousands of communities and will make it impossible for the U.S. to meet its Paris commitments and tackle the climate crisis.

The science is clear: At every stage in its life cycle, gas releases dangerous air pollution that contributes to smog, and is a potent contributor to

climate change. Gas leaks releases large amounts of methane, a pollutant that is 87-times more potent than carbon dioxide at trapping heat in the Earth's atmosphere over a 20-year span. According to a [study](#) published by the National Academy of Sciences, methane leakage can as much as double the climate effect of gas.

The threat posed by gas, which saw record highs for production in 2015, will only accelerate if the United States continues down the path outlined in this report.

If America is to meet its climate commitments and prevent further climate disruption, we must reject a massive new gas infrastructure expansion. The only solution for preventing further climate disruption is to redirect the proposed fossil fuel investment into accelerating our transition to 100% clean, renewable energy like wind and solar, and keep as much of the dirty fuels in the ground as possible.

The Lay of the Land

The science is clear, from extraction to production to consumption, gas produces significant amounts of pollution, threatening our air, water, and climate. If America is to remain on the current path, we will be locked into a dirty, destructive fuel for decades, sealing our climate's fate.

THE EXISTING THREAT

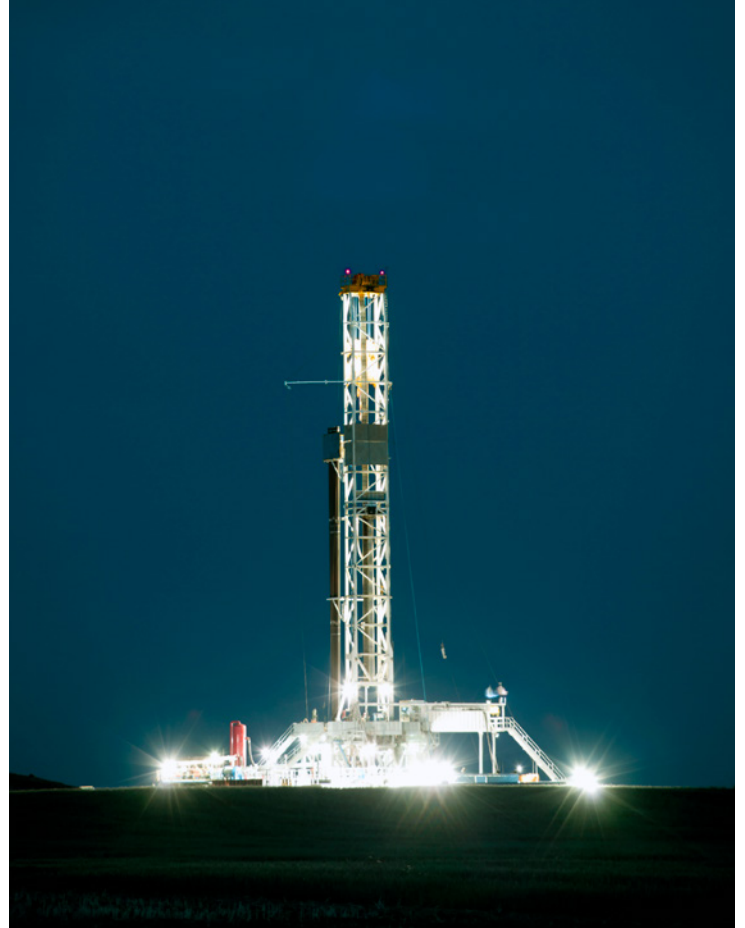
The year 2016 represented a turning point in terms of America's reliance on fossil fuels. According to the U.S. Energy Information Administration (EIA), carbon dioxide emissions from gas surpassed those from coal for the first time ever. If America is to continue a precipitous build-out of gas infrastructure, we will blow through our international climate commitments, causing further climate disruption, rising sea levels, and increasing the threat to the public's health.

Gas is primarily comprised of methane, which is 87-times more potent than carbon dioxide at trapping heat over a 20-year span. In 2014, just drilling for oil and gas within the United States released 9.8 million metric tons of methane, or the [equivalent of more than 71 coal-fired plants being operated for one year.](#)

Gas operations cannot be made safe for our climate or public health, and the growth of pipelines and power plants would further pollute our air and water, fragment habitats, and threaten communities throughout the country.

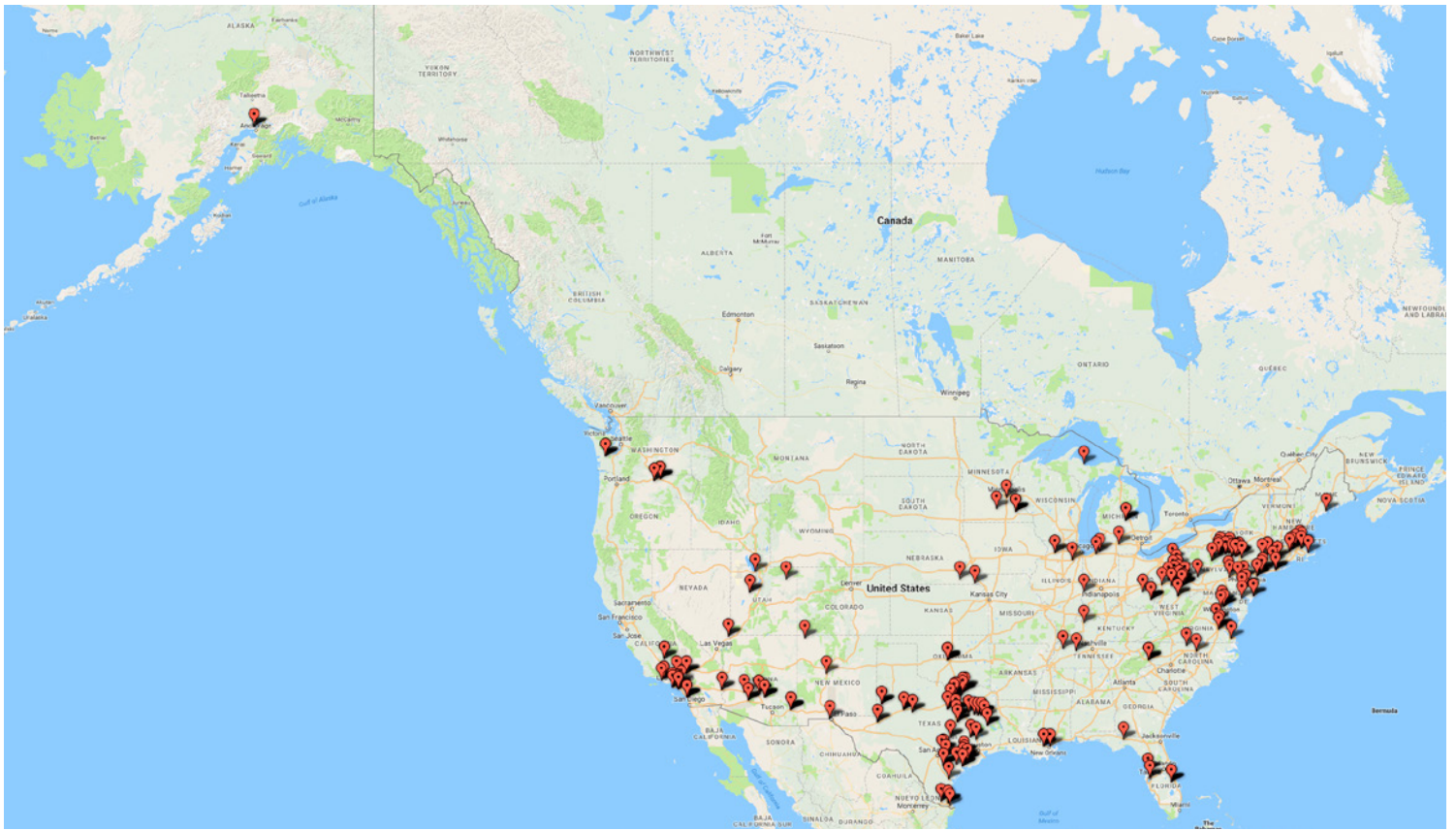
EXISTING INVESTMENTS IN GAS

Currently, there are over 500 GW of gas-fired power plants and 300 thousand miles of inter- and intrastate transmission gas pipelines already in operation, which has generated the existing threat. All of this is before you take into account the more than 31 GW worth of gas capacity currently



under construction and the 111 GW of proposed plants — plus the more than 9,000 miles of new interstate gas pipelines that have been proposed. Existing gas-fired power plants and pipelines often operate for 40 years or longer, well past their original engineering lifespan,¹ meaning that should the proposed gas infrastructure be constructed, America won't be building a bridge, but rather a superhighway to climate disaster.

¹ A review of engineering documents of gas turbine manufacturers suggests that the expected lifespan of gas plants is between 20 to 40 years depending on operation and maintenance practices.



THE NEW GAS RUSH COULD RESULT IN THE CONSTRUCTION OF MORE THAN 200 NEW GAS PLANTS, ACROSS THE COUNTRY, ALONG WITH MASSIVE PIPELINES.

The Reality We Face

The proposed rush to gas is fast and nationwide, furthering the national climate and pollution threat. However, the specific regional siting of the new infrastructure also highlights specific problems for climate and environmental justice. Gas pipelines are proposed across the country, cutting through national treasures like the Appalachian Trail, numerous National Parks and Forests, and thousands of landowners' private property. Gas plants risk further polluting already vulnerable communities.

Additionally, these investments are not one-time affairs: building new gas infrastructure commits the U.S. to more dirty fossil fuels for decades. This would prolong our dependence on dirty fossil fuels, dealing a devastating blow to climate stability and environmental justice.

If all of the units identified were to be built, these new gas units alone could emit an amount of carbon dioxide pollution corresponding to more

than 15% of 2016 electric sector emissions.² The highest end estimates would be “game over” for our planet’s climate, and foul our air and water to unacceptable levels.

More than one quarter of the proposed new gas plant capacity is planned for Texas, and more than half is concentrated in just five states: Texas, Pennsylvania, California, North Carolina, and Virginia.

² Based on historical operational characteristics of gas generating units

We are concerned that concentrating gas capacity in these locations would risk laying the heaviest burdens on low-income families and communities of color. Take the state of California, for example, where fossil fuel plants disproportionately burden low-income communities and communities of color.



To address this issue, the State of California has developed a free tool called CalEnviroScreen. The tool uses existing environmental, health, demographic and socioeconomic data to create a screening score for communities across the state. An area with a high score would be expected to experience much higher impacts than areas with low scores.

Our analysis found that nearly 50% of existing natural gas plants in California are located in areas with scores in the top 30% of the state. In addition, 60% of planned new gas plants in the state would be built in these already overburdened areas.³

While siting presents particular concerns, the massive scope of the potential buildout guarantees that a large percentage of Americans would be affected. Based on the gas pipeline tracker, industry is proposing more than 9,000 miles of new gas pipelines, all of which come with more fragmented forests, more air pollution from compressor stations and more water pollution. These pipelines would carry dangerous and dirty fuels to gas plants of immense size, and could end up supporting between 50 and 200 thousand new gas wells.⁴

Even if we do not factor in the costs of building gas pipelines and other gas infrastructure; even if we ignore the price of fuel and operating costs; even if we utterly discount these realistic costs, relying on gas in this way would cost more than \$110 billion. Once built, the burden of paying for many of these investments will fall on ratepayers. For the investors, there exists a distinct and real possibility that these investments won't pay off, leaving them with stranded assets and unrecoverable debt.

³ The percentages are based on plants with a known latitude and longitude only. Plants in census tracts with no CES score are excluded.

⁴ Based on historical trends of national average well production, accounting for declining production at individual wells and varying utilization factors of gas pipelines.



The Energy Solution That's Already Available

Perhaps worst of all, the gas rush is the wrong “solution” to America’s energy needs. Clean energy is here, already reducing pollution and creating jobs across our country, and the significant financial investments currently planned for gas could be transformative if applied to clean energy.

The price of clean energy makes it the best bet economically as well as environmentally. Since the [implementation of the Investment Tax Credit](#) in 2006, the cost to install solar has dropped by more than 73%, making it a spectacular bang for the buck and cheaper than coal in many places. Wind power prices are coming down fast, too: in the past six years, the cost of wind power has dropped by two thirds and is still decreasing. Despite recent sharp declines in the market price of gas, utility-

scale solar and wind power remain cost-competitive alternatives to dirty fuels, even without subsidies [according to](#) the investment firm Lazard.

As noted, the gas rush will hit Texas hardest, yet the cheapest solar power in the U.S. is now on offer there. Austin Energy recently made a request for bids for solar energy, and were offered over 1,295 MW of solar energy for under 4 cents per kilowatt-hour, an unprecedented price.⁵ Choosing more gas over cheap, abundant, renewable and job-creating

⁵ <http://www.greentechmedia.com/articles/read/cheapest-solar-ever-austin-energy-gets-1.2-gigawatts-of-solar-bids-for-less>

solar energy in Texas — let alone concentrating 27 percent of the gas rush there — is nonsensical.

In order to build the amount of gas capacity currently being proposed, the fossil fuel industry would have to invest over \$110 billion dollars in capital, plus hundreds of billions more in fuel costs. That money would be far better spent on projects that directly benefit consumers, like rooftop or community solar and energy efficiency. That amount of capital investment could cover the entire upfront costs of over 5.5 million rooftop-solar systems. Alternatively, it could be enough to pay for up to the next two decades of efficiency programs.

CLEAN ENERGY JOB CREATION

More broadly, studies show that decarbonizing the electric sector entirely would create millions of new jobs. According to research Sierra Club commissioned from the University of California, Berkeley Don Vial Center on Employment in the Green Economy, the Sierra Club goal to replace all fossil fuel-based electricity with renewable sources of energy would create 4.3 million direct job years in construction and related services and could indirectly create more than 5 million job years through the construction supply chain by 2030.⁶

It is crucially important to pay close attention to creating union and family-wage jobs — job quality in the clean energy industry is highly variable from region to region. But the sooner we acknowledge the reality that investing in clean, renewable energy is wiser than committing to decades of dirty fuels, the more effective we can be in doing that work.



Here is the stark reality: *new investment in gas should instead be applied to clean energy, which is more sustainable, economically productive, and conducive to environmental justice.* To spend billions on a fuel that contributes to deadly climate change, threatens our communities with its pollution and saddles us with daily dangers for decades instead of clean energy that will create millions of new, good-paying jobs would be a tragedy.

⁶ Based on conservative assumptions regarding the amount of clean energy and energy efficiency needed to replace all fossil fuels.

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