United States Senate
Committee on Environment and Public Works
Minority Staff Report

Setting the Record Straight:

Hydraulic Fracturing and America's Energy Revolution

October 23, 2014

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EXECUTIVE SUMMARY

In his October 2, 2014, remarks to Northwestern University, President Obama boasted, "Today, the number-one oil and [natural] gas producer in the world is no longer Russia or Saudi Arabia. It's America."[1] In his speech, the President also touted "our 100-year supply of natural gas [as] a big factor in drawing jobs back to our shores. Many are in manufacturing, which produce the quintessential middle-class job."[2] The President's attempt to claim success from the very industry he has worked so hard to undermine is sadly ironic. Then again, it would have made little sense for the President to take credit for the numerous failed "green" stimulus projects, including Solyndra, or otherwise for him to have been honest about the fact that without the private sector's investment in oil and natural gas development the economy would still be in a deep recession. Instead, he chose to celebrate—along with all the undeniable benefits it has for our nation—the success of an industry he and his far-left environmental activist base despise.

This report by the United States Senate Committee on Environment and Public Works illustrates the clear disparity between the President's rhetoric and the multitude of nonsensical claims from the far-left environmental activist organizations—such as the Natural Resources Defense Council, Sierra Club, and Center for American Progress—versus the reality of American ingenuity, including hydraulic fracturing, to develop our vast fossil resources.

Despite his Administration's actions against hydraulic fracturing, President Obama's rhetoric was correct in espousing the enormously positive impacts of America's oil and natural gas renaissance, which has:

- Created and sustained millions of jobs for hard working Americans, not only in the oil and natural gas industry but through revitalizing our manufacturing sector;
- Provided the nation with greater energy security and geopolitical strength, while simultaneously making significant reductions to our trade deficit;
- Lowered domestic prices of energy both in our homes and at the gasoline pump, while stabilizing prices world-wide and lessening the impacts that volatility in the Middle East and other regions traditionally have had on our energy needs; and
- Led to greater environmental benefits and stability, which have buffered our citizens from the devastating energy poverty impacts being felt in European countries that have adopted climate policies substantially similar to what the Obama Administration has planned.

These remarkable benefits, which even the President proclaims as unequivocal, largely stem from and are impossible without one thing: the increased use of hydraulic fracturing coupled with horizontal drilling. However, in close coordination with corporate environmentalism and their wealthy foundations, primarily based out of New York, California, and Washington, D.C., the Administration is seeking to end further development and use of

[1] President Barack Obama, Remarks on the Economy at Northwestern University (Oct. 2, 2014), *available at* http://www.whitehouse.gov/photos-and-video/video/2014/10/02/president-obama-delivers-remarks-northwestern-university#transcript.
[2] *Id.*

hydraulic fracturing, ultimately negating all of the economic and geopolitical progress this completion technique has brought to the U.S.

As this report evidences, President Obama, in coordination with far-left environmental activists is waging an all-out assault to shut down domestic production of American oil and natural gas and, in particular, targeting the use of hydraulic fracturing. This report examines how this strategically organized alliance has gone to great lengths to misconstrue facts, falsify science, and manufacture risks in order to vilify hydraulic fracturing with the long-term goal of ending the production of our nation's oil and natural gas resources.

The most significant long-term problem facing the U.S. is lack of economic growth, which has been exacerbated by the well-financed propaganda and litigation strategy of environmental elites. Many of the organizations and foundations pulling the strings behind the war on affordable energy are made up of wealthy individuals who have already made their fortune and can thus afford gasoline prices above $4.00 per gallon and skyrocketing utility bills. They are unconcerned about the livelihoods they are set to ruin and the opportunities they are destroying for the next generation of Americans. Out of touch far-left environmental extremists have unprecedented access to the Obama Administration and have helped coordinate the blueprint for their attacks on fossil energy both through the federal government as well as with phony grassroots campaigns.

This report highlights the incontrovertible benefits derived from the domestic production of oil and natural gas through the use of hydraulic fracturing. At the same time, it thoroughly discredits the leading claims made by the Obama Administration and their far-left allies who are rooted firmly in the fight against accessing America's abundant domestic energy. It subsequently undermines the credibility of those who are seeking to devastate America's energy security, economic opportunity and the livelihoods of families across the country through a coordinated war on hydraulic fracturing and domestic oil and natural gas.

FINDINGS

Overview:

- The United States is in the midst of an energy renaissance, as a result of the combination of two key techniques in oil and natural gas development: hydraulic fracturing and horizontal drilling.

- Hydraulic fracturing is constantly under attack from the Obama Administration and their well-funded far-left environmental allies, with major financing of phony "grassroots campaigns" coming out of California, New York, and Washington, D.C.

- However, their attacks are misguided, intentionally blur the line between what is and what is not hydraulic fracturing, and attempt to manufacture risks and associate them with the practice.

Economic Benefits:

- While the number of oil and gas industry jobs increased by an impressive 40% from just 2007 to 2012, the rest of the private sector only saw an abysmal increase of 1% during that time.

- There is significant opportunity for a plethora of backgrounds and educations in the oil and gas industry. As of 2010, women made up 19% of the oil, gas and petrochemical industry workforce, and minorities made up 25% of the industries' jobs. The oil and natural gas industries are hugely beneficial to the middle class and blue-collar workers as 63% of new jobs created do not require higher education and are ideal for those with high school diplomas or skills training.

- States embracing hydraulic fracturing and traditional energy production are stronger economically than those that have succumbed to the false campaigns and political pressures of the anti-fossil fuel lobby.

- Public school districts in the U.S. spent $740.9 million less for electricity and $466.9 million less for natural gas during the fiscal year 2012. This amounts to a combined savings of $1,207.8 million, a number equivalent to the salary of 14,246 teachers.

Separating Fact from Fiction:

- Hydraulic fracturing is not insupportably dangerous: Far-left environmental groups have teamed up with President Obama's federal bureaucrats and the Hollywood elite in a coordinated effort to distort the truth about hydraulic fracturing and try to sway public opinion against it.

- Hydraulic fracturing is not a significant threat to the environment: Environmental activists insist that hydraulic fracturing itself has a devastating impact on the

environment, but decades of studies and empirical evidence have debunked these claims and proved otherwise.

- Cornell Professors Howarth and Ingraffea are not credible sources: Steven Chu, President Obama's former Secretary of Energy and Nobel Prize winning scientist stated that he "didn't think it [the Howarth study] was credible." In addition, Howarth's colleagues from Cornell University published a paper scolding the study, revealing that it used data from 2007, well before current hydraulic fracturing and horizontal drilling practices were being conducted.

- There is no record of groundwater contamination: Extreme environmental groups continue to make unsubstantiated claims such as "[m]ethane concentrations are higher in drinking-water wells near fracturing sites than in normal wells," and "hydraulic fracturing fluids contain toxic chemicals and are being injected into and near drinking water supplies." However, when pressed these groups are continuously unable to prove their claims, the reason being because they are untrue.

- Josh Fox is not an honest source for information: Far-left environmental groups often cite the anti-fracking and anti-science documentary, *Gasland*, that blames hydraulic fracturing for methane gas that supposedly contaminated local drinking water sources. Claims that have been discredited and debunked.

- The Environmental Protection Agency (EPA) does not have the competency to make informed decisions on hydraulic fracturing: Over the last four years, EPA has repeatedly abused its power in premeditated and concerted attacks on hydraulic fracturing highlighted in three specific cases: Dimock, Pennsylvania, Pavillion, Wyoming, and Parker County, Texas.

Obama Administration's War on Hydraulic Fracturing:

- All told, there are over one dozen federal agencies attempting to justify the federal usurpation of states' rights to regulate hydraulic fracturing. Since 1997, EPA regulation of oil and natural gas extraction grew 145.29% while federal government regulation grew 25.93%.

- The Administration is also obstructing oil and natural gas development on offshore and federal lands by denying permits and lease sales. Most recent Bureau of Land Management estimates show 90% of natural gas and 92% of oil on federal lands is either inaccessible or restricted. From 2009 to 2013, there was a 6% fall in oil production and 28% fall in natural gas production on federal lands, while at the same time production on private lands increased dramatically.

- Many of the Administration's policies affecting oil and natural gas were laid out in a 2007 Natural Resources Defense Council (NRDC) report outlining the group's regulatory agenda to attack domestic oil and natural gas development. The EPA and its far-left

allies are accomplishing many of NRDC's stated policy goals in response to sue-and-settle arrangements or through a similar friendly petition process.

Bad Science:

- Despite the Agency's efforts and their political agenda in its three hallmark cases of abuse, EPA is zero for three as the facts led them to reverse course and end their investigations without the smoking gun they so hoped to manufacture.

- These three examples have been highly criticized by state regulators, state and federal elected officials, the regulated community, and even other federal agencies under President Obama.

- EPA and the Obama Administration did however gain the support of a new ally, the EPA Office of Inspector General, who issued a report setting a dangerous precedent for EPA enforcement actions stating that the Agency can now halt any actions—by private citizens, businesses, and industries like oil and natural gas operations—based solely on their own made-up assumptions.

Collusion Between the Administration and Wealthy Activists:

- Deep pocket donors are among the most prominent activists with ties to the Administration's efforts to phase out hydraulic fracturing. Major environmental organizations such as the Sierra Club and the NRDC are at the forefront, coordinating with the EPA, initiating legal challenges to prompt federal action, and blurring the scientific literature with spurious studies.

- The efforts to attack domestic energy production are largely elitist, financed by wealthy individuals to whom the price of energy is no object as they can afford to pay their energy bills at virtually any price. These wealthy individuals dump hundreds of millions of dollars into a coordinated campaign against affordable energy, which will decrease the standard of living for America's middle-class and severely disadvantage the Nation's most vulnerable. Among the most visible far-left activists carrying out the anti-fossil fuel agenda is billionaire Tom Steyer who has pledged over $100 million in campaign funds to leftist democrats who support his anti-fossil fuel agenda.

- One of the most recent illustrations of Hollywood anti-fracking activists' hypocritical nature involved two film producers eager to accept Middle Eastern oil money to create an American anti-fracking film. Another is highlighted by anti-fossil fuel activist Leonardo DiCaprio who advocates for killing the fossil fuel industry while riding around the world on yachts with an estimated fuel economy of one mile per gallon and paid for by oil rich Middle Eastern regimes.

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INTRODUCTION

The United States is in the midst of an energy revolution as a result of two key techniques in oil and natural gas development: hydraulic fracturing and horizontal drilling. While hydraulic fracturing is a technique that has been employed for more than 60 years, its use in conjunction with horizontal drilling technology has recently become more widespread. This technological innovation—born in the private sector—has proven to be a security and economic boon, opening up areas rich with oil and natural gas in the U.S. that geologists once believed were inaccessible.

Importantly, America's energy revolution has been achieved despite the best efforts of the Obama Administration to cripple the fossil energy sector. A one-size-fits-all federal approach to the regulation of hydraulic fracturing is both wholly inappropriate and inferior to thoughtfully tailored, existing state-based regulations that address the unique differences between states. Nonetheless, the Obama Administration has set out on a mission to seize every opportunity to regulate hydraulic fracturing, closely partnering with extreme environmentalists and Hollywood anti-fracking activists that champion their endeavor. Unfortunately, facts are routinely obfuscated in this coordinated effort to sway public opinion.

At the outset, it is important to distinguish hydraulic fracturing, commonly known as "fracking," from other steps in oil and natural gas development. Hydraulic fracturing is not a drilling process. It is a technique used after a well has been drilled to facilitate recovery and access more of the targeted natural resources. Far-left environmentalists and anti-fossil fuel activists have launched a misinformation campaign to smear hydraulic fracturing as part of their ongoing persecution of the oil and gas industry. Their efforts to confuse the general understanding of what actually constitutes hydraulic fracturing are key to impeding development by promoting a grossly exaggerated public perception of risks associated with the practice.

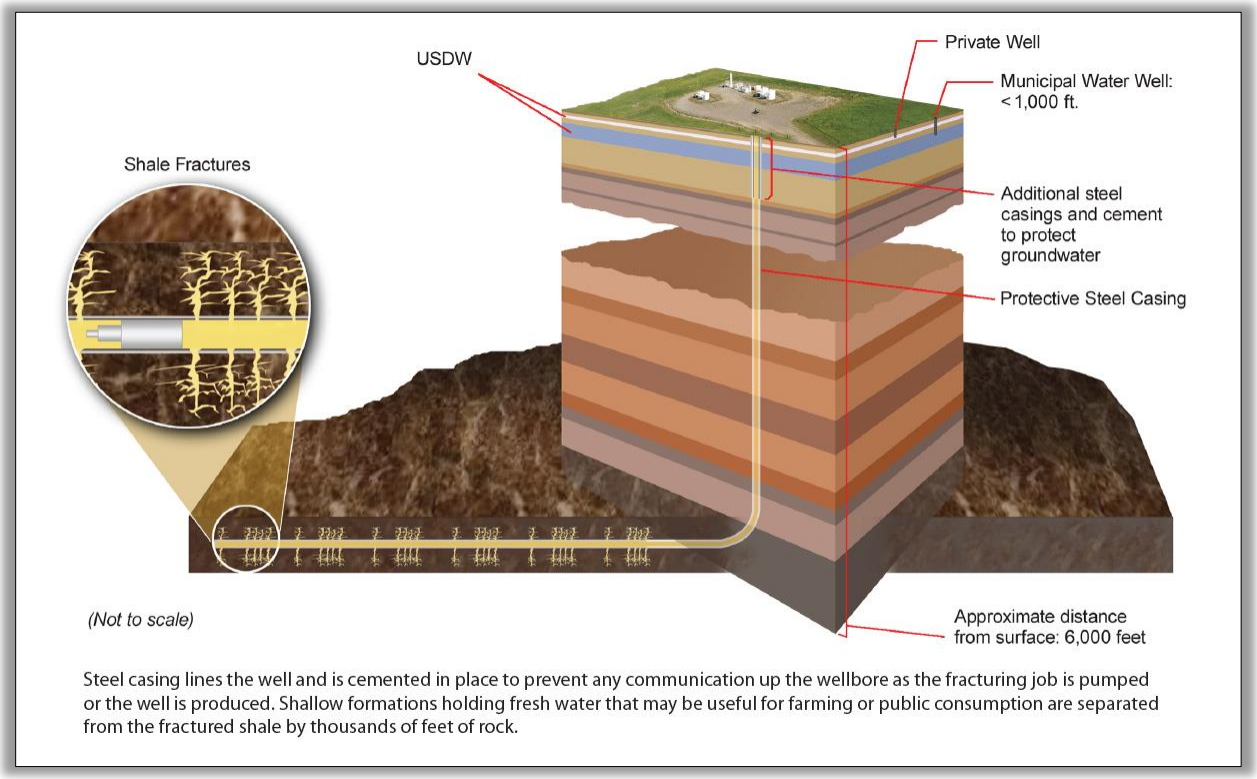
The Obama Administration routinely accommodates these well-funded and often elitist groups in their campaign to sway public opinion against hydraulic fracturing and fossil fuel development and as a component of their collusion more broadly. After three investigations attempting to manufacture a smoking gun, all of which failed, and new regulatory proposals that would usurp effective state programs, the Administration's actions have done little more than attempt to convince the public of the false notion that hydraulic fracturing is insupportably dangerous.

Given that hydraulic fracturing facilitates affordable, domestic, abundant, and reliable energy, the motivations of the President and his allies run contrary to the desires of everyday Americans. Unfortunately, far-left environmentalists and President Obama[3] have advocated for higher fuel prices in order to make their preferred, unreliable, and intermittent alternative energy sources more competitive. As the Administration continues to conduct its non-scientific investigations and advance unwarranted regulations, it will ultimately inhibit domestic oil and natural gas production, limit access to affordable and reliable energy, and cause devastating economic impacts to every American family.

[3] *See* Erica Martinson, *Uttered in 2008, Still Haunting Obama in 2012*, POLITICO PRO (Apr. 5, 2012), http://www.politico.com/news/stories/0412/74892.html ("Under my plan … electricity rates would necessarily skyrocket.").

WHAT IS HYDRAULIC FRACTURING?

After a well is drilled vertically and multiple layers of cement and casing are installed, horizontal drilling—the drilling of a non-vertical well at an approximate 90 degree angle—is used to access hard-to-reach oil and natural gas. This technology is significant as six to eight wells can spawn from one vertical well allowing access to more resources and greatly lessening the industry's surface footprint. Once the drilling is completed, hydraulic fracturing is then used to create tiny pathways for oil and natural gas to travel up the well to the surface. The process involves a mixture, known as fracturing fluid, generally consisting of 99.5% water and sand and 0.5% additional additives, that is injected thousands of feet below groundwater aquifers through impermeable rock.



Source: The Palace Green Forum[4]

[4] *Is Hydraulic Fracturing Good or Bad for the Environment*, THE PALACE GREEN FORUM (Nov. 2, 2013), http://palacegreenforum.com/to-frack-or-not-to-frack/.

I. BENEFITS OF HYDRAULIC FRACTURING

Thanks to the recent expansion in the joint use of hydraulic fracturing and horizontal drilling, the U.S. is experiencing a massive energy revolution that is tremendously benefiting the country in a variety of ways.[5] Recent technological advances have helped to reinvigorate our sluggish economy after an extended downturn by providing well-paying jobs, increasing government revenues, and lowering the cost of energy, which has resulted in a domestic manufacturing resurgence, among other important benefits.[6] This energy revolution has also provided greater energy security for the U.S. by reducing the country's dependency on foreign oil and natural gas, particularly those imported from volatile and hostile regions. The hydraulic fracturing renaissance has additionally resulted in a significant increase in the number of U.S. oil and natural gas reserves as well as a valuable surge in actual production from these reserves.

a. Economic Benefits of the Energy Revolution

After an extended economic downturn from 2007 to 2009,[7] the recent energy revolution has given the U.S. a vital opportunity at greater prosperity. The huge uptick in oil and natural gas production is bringing enormous benefits to the U.S. economy. As production continues to expand over the next 25 years, the economic contributions will only become more profound. Research firm IHS conducted a series of studies on the U.S. energy boom and found in 2012 that oil and natural gas development sustained 2.1 million jobs and contributed a shocking $283 billion to U.S. gross domestic product (GDP).[8] These benefits will continue to increase, adding an expected 3.3 million jobs and $468 billion to U.S. GDP by 2020.[9] According to a study by the Manhattan Institute, these jobs are dispersed throughout the country and have positively impacted the economy in a number of states.[10] For example, "16 states have more than 150,000 jobs directly in the oil and natural gas sector and hundreds of thousands more [indirect] jobs due to growth in that sector."[11] Importantly, economic contributions related to the oil and natural gas boom are not limited to the industry, but they are spread across multiple sectors that permeate all facets of our economy.

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[5] *See* Dan Murtaugh & Lynn Doan, *Shale Boom Helping American Consumers as Never Before*, BLOOMBERG (Oct. 17, 2014), http://www.bloomberg.com/news/2014-10-16/shale-boom-helping-american-consumers-like-never-before.html.

[6] Larry Kudlow, *Lower Oil Prices Are Unambiguously Good*, NAT'L REVIEW ONLINE (Oct. 17, 2014), http://www.nationalreview.com/article/390623/lower-oil-prices-are-unambiguously-good-larry-kudlow.

[7] U.S. BUREAU OF LABOR STATISTICS, U.S. DEP'T OF LABOR, THE RECESSION OF 2007-2009 (2012), *available at* http://www.bls.gov/spotlight/2012/recession/pdf/recession_bls_spotlight.pdf.

[8] 3 IHS, AMERICA'S NEW ENERGY FUTURE: THE UNCONVENTIONAL OIL AND GAS REVOLUTION AND THE US ECONOMY: A MANUFACTURING RENAISSANCE - EXECUTIVE SUMMARY 1 (2013).

[9] *Id*.

[10] Mark P. Mills, Manhattan Institute, Where the Jobs Are: Small Businesses Unleash America's Energy Employment Boom 7 (2014) *available at* http://www.manhattan-institute.org/pdf/pgi_04.pdf.

[11] *Id*.

i. Job Creation and Local Impacts

Among the most visible benefits of the current energy revolution is the creation of additional jobs both directly in the oil and gas industry and throughout the economy in sectors like domestic manufacturing. According to IHS, in 2012 oil and natural gas activity "supported over 360,000 direct jobs, over 537,000 indirect jobs in supplying industries, and over 850,000 induced jobs" to total more than 1.7 million jobs in just the lower 48 states.[12] To put this in perspective, while the number of oil and gas industry jobs increased by an impressive 40% from just 2007 to 2012, the rest of the private sector only saw an abysmal increase during that time.[13] IHS also estimates that the greatest increase in job growth from oil and natural gas activities will occur between 2012 and 2020 and result in an additional 2.9 million jobs.[14]

While the number of oil and gas industry jobs increased by an impressive 40% from just 2007 to 2012, the rest of the private sector only saw an abysmal increase during that time.

These employment opportunities span across the country through more than 20,000 small and midsize businesses[15] and come with good paying wages. In 2012, oil and natural gas extraction jobs paid an average salary of $155,062.[16] From 2007 to 2012, the annual salary for oil and natural gas employment increased an average $13,624 (14.6%).[17] This is an astonishing figure considering how during that time span the U.S. median household income dropped 8% lower than before the recession began when adjusted for inflation.[18]

From 2007 to 2012, the annual salary for oil and natural gas employment increased an average $13,624 (14.6%). This is an astonishing figure considering how during that time span the U.S. median household income dropped 8% lower than before the recession began when adjusted for inflation.

The oil and natural gas resurgence has created employment opportunities for people of all backgrounds and training. As of 2010, women comprised 19% of the oil, gas, and petrochemical industry workforce, and minorities made up 23.9% of the industry's jobs.[19] The oil and gas industry hugely benefits middle class and blue-collar workers as 63% of

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[12] 1 IHS, AMERICA'S NEW ENERGY FUTURE: THE UNCONVENTIONAL OIL AND GAS REVOLUTION AND THE US ECONOMY: NATIONAL ECONOMIC CONTRIBUTIONS 7 (2012).
[13] *See* Mark P. Mills, Manhattan Institute, Where the Jobs Are: Small Businesses Unleash America's Energy Employment Boom (2014) *available at* http://www.manhattan-institute.org/pdf/pgi_04.pdf.
[14] 1 IHS, AMERICA'S NEW ENERGY FUTURE: THE UNCONVENTIONAL OIL AND GAS REVOLUTION AND THE US ECONOMY: NATIONAL ECONOMIC CONTRIBUTIONS 25 (2012).
[15] *See* Mark P. Mills, Manhattan Institute, Where the Jobs Are: Small Businesses Unleash America's Energy Employment Boom (2014) *available at* http://www.manhattan-institute.org/pdf/pgi_04.pdf.
[16] U.S. BUREAU OF LABOR STATISTICS, U.S. DEP'T OF LABOR, [FEB.] MONTHLY LABOR REVIEW, THE MARCELLUS SHALE GAS BOOM IN PENNSYLVANIA: EMPLOYMENT AND WAGE TRENDS (2014), *available at* www.bls.gov/opub/mlr/2014/article/the-marcellus-shale-gas-boom-in-pennsylvania.htm.
[17] *Id.*
[18] Ben Casselman, *Five Years of Recovery Haven't Boosted the Median Household Income*, FIVETHIRTYEIGHT, (Sept. 16, 2014), http://fivethirtyeight.com/datalab/five-years-of-recovery-havent-boosted-the-median-household-income/.
[19] IHS, MINORITY AND FEMALE EMPLOYMENT IN THE OIL & GAS AND PETROCHEMICAL INDUSTRIES 1 (2014), *available at* http://www.api.org/~/media/Files/Policy/Jobs/IHS-Minority-and-Female-Employment-Report.pdf.

the new jobs created do not require higher education and are ideal for those with high school diplomas or skills training.[20] In addition, 23% of new employment opportunities are for scientific and managerial positions.[21] Consequently, it is no wonder more college students are studying to become petroleum engineers as it is currently the highest paid college major with a starting average salary of $89,000 and mid-career average salary of $159,900.[22]

The oil and gas industry hugely benefits middle class and blue-collar workers as 63% of the new jobs created do not require higher education and are ideal for those with high school diplomas or skills training.

Aside from the employment benefits, hydraulic fracturing has enriched the lives of many citizens and their families. Many landowners sitting on top of energy reserves have earned huge profits from leasing their land for natural resource development. For example, a Pennsylvania dairy farmer, who struggled with outdated farm equipment, "was basically living from paycheck to paycheck" until he leased the rights to develop his property in 2012.[23] This allowed him to use his royalties to upgrade his farm equipment to increase agricultural output.[24] In Ohio, one farmer leased his property for over $700,000, thus enabling him and his wife to pay off debts,[25] while another farmer used his royalties to offset potential agricultural losses from droughts.[26] A Texas pastor used his royalties to expand his congregation's facilities,[27] and in Shreveport, Louisiana, a reverend was able to fund a new facility and Family Life Center.[28]

It is not just landowners fortunate enough to possess mineral rights who have benefited from increased oil and natural gas production. Hydraulic fracturing and the companies leading this renaissance have had tremendously positive impacts on many local communities. Continental Resources Inc., for example, provides grants for K–12 teachers to focus on reading, science, technology, engineering, or math.[29] Since 2006, the Independent Petroleum Association of America (IPAA) and Petroleum Equipment & Services Association (PESA) have sponsored an Energy Education Center in Houston, Texas that provides engineering, geoscience, and leadership academies for five area high schools.[30] Cabot Oil & Gas Corporation helped fund the construction of a new hospital in Montrose, Pennsylvania.[31] In Ohio, the industry donated

[20] *Id.* at 3.
[21] *Id.*
[22] Carly Stockwell, *Top 10 Highest Paying College Majors*, USA TODAY (July 30, 2014), http://college.usatoday.com/2014/07/30/top-10-highest-paying-college-majors/.
[23] Kevin Begos, *Pennsylvania Fracking Royalties Could Top $1 Billion As Private Landowners Rake In Cash*, BUS. INSIDER (Jan. 28, 2013), http://www.businessinsider.com/fracking-royalty-payments-in-pa-2013-1.
[24] *See Id.*
[25] *Fracking: Landowners profit from oil and gas boom* (WKYC-TV broadcast), *available at* http://www.wkyc.com/video/1934856469001/1/Fracking-Landowners-profit-.
[26] Dan O'Brien, *Now, the Real Utica Shale Money Begins to Flow*, THE BUS. JOURNAL, (May 18, 2013), http://businessjournaldaily.com/drilling-down/now-real-utica-shale-money-begins-flow-2013-5-18.
[27] *See* TRUTHLAND (Energy In Depth 2012), *available at* http://www.truthlandmovie.com/watch-movie/.
[28] Chesapeake Energy Corporation, *Royalty Owner: King's Temple United Pentecostal Church*, COMMUNITY TIES, Fall 2010, *available at* http://www.chk.com/media/publications/communityties/documents/pdf/2010-3-ct-hs.pdf.
[29] *Continental Cares: Funding the Future Grant*, CONTINENTAL RESOURCES, INC., http://www.contres.com/community/projects (last visited Oct. 17, 2014).
[30] *About IPAA/PESA Energy Education Center*, INDEP. PETROLEUM ASS'N OF AM., http://ipaa.org/education/about/overview.php (last visited Oct. 17, 2014).
[31] *Our Community*, CABOT OIL & GAS CORP., http://www.cabotog.com/our-community/ (last visited Oct. 17, 2014).

$50,000 in scholarship funds for veterans seeking employment in oil and natural gas development.[32] In the Marcellus Shale, an owner of a local trout hatchery was able to completely revamp his small business by selling excess water to natural gas developers in the area.[33] On the international level at the onset of the ongoing Ebola crisis, ExxonMobil Corporation announced a $225,000 donation to public health efforts in Liberia[34] and a $250,000 donation to Nigeria to help those struggling nations combat the disease.[35] In addition, Chevron Corporation donated $200,000 worth of equipment and materials, including protective equipment for medical workers.[36] Royal Dutch Shell PLC donated ambulances, trucks, and several months' worth of fuel.[37]

The energy revolution is not just benefitting those employed by oil and gas companies. It has revitalized towns and increased wages for all workers in areas that are booming due to increased resource development. In states like North Dakota and Louisiana, many businesses have struggled to find enough workers to support the increased demand from their regions' growing economic activity.[38] In these states, the free market successfully created an environment where employers—without any federal or state mandates—are able to pay employees well above minimum wage. Compared to the national minimum wage of $7.25 an hour,[39] McDonald's in North Dakota was offering $15 an hour, more than double the national rate, and even included a $300 signing bonus.[40] A Buffalo Wild Wings, franchise owner said she pays "more than twice the minimum wage for kitchen staff.[41] Further, a Walmart in North Dakota was hiring entry-level workers for $17.40 an

In these states, the free market successfully created an environment where employers—without any federal or state mandates—are able to pay employees well above minimum wage.

[32] Anne Carto, *ANGA Donates $50,000 to Train Veterans for Natural Gas Jobs*, ENERGY IN DEPTH (May 24, 2013), http://energyindepth.org/ohio/anga-donates-50000-to-train-veterans-for-natural-gas-jobs/.
[33] Nicole Jacobs, *The Mighty Marcellus Saves A Local Trout Hatchery*, ENERGY IN DEPTH (July 11, 2011), http://energyindepth.org/marcellus/the-mighty-marcellus-saves-a-local-trout-hatchery/.
[34] *ExxonMobil, Chevron Join NOCAL, Other Corporate Donors in Ebola Fight*, DAILY OBSERVER (Sept. 11, 2014), http://www.liberianobserver.com/editorials/exxonmobil-chevron-join-nocal-other-corporate-donors-ebola-fight.
[35] Press Release, ExxonMobil Corp., ExxonMobil Donates $250,000 to Support Ebola Response Efforts in Nigeria (Sept. 26, 2014), *available at* http://www.exxonmobil.com.ng/Nigeria-English/PA/news_lagos_240914.aspx.
[36] *ExxonMobil, Chevron Join NOCAL, Other Corporate Donors in Ebola Fight*, DAILY OBSERVER (Sept. 11, 2014), http://www.liberianobserver.com/editorials/exxonmobil-chevron-join-nocal-other-corporate-donors-ebola-fight.
[37] Ejiofor Alike, *Shell Donates Ambulances, Trucks to Fight Ebola*, THISDAY LIVE (Sept. 16, 2014), http://www.thisdaylive.com/articles/shell-donates-ambulances-trucks-to-fight-ebola/189125/.
[38] *See* Renita D. Young, *Lake Charles tops construction employment by percentage growth in July*, THE TIMES PICCAYUNE (Aug. 28, 2014), http://www.nola.com/business/baton-rouge/index.ssf/2014/08/lake_charles_tops_construction.html, see also, Blaire Briody, *11 Shocking Facts about the North Dakota Oil Boom*, THE FISCAL TIMES (Jun. 6, 2013), http://www.thefiscaltimes.com/Articles/2013/06/06/11-Shocking-Facts-about-the-North-Dakota-Oil-Boom.
[39] 29 U.S.C. § 206(a)(1)(c) (2012) (Fair Labor Standards Act establishes minimum wage, overtime pay, recordkeeping, and youth employment standards affecting employees in the private sector and in Federal, State, and local governments. Covered nonexempt workers are entitled to a minimum wage of not less than $7.25 per hour effective July 24, 2009. Overtime pay at a rate not less than one and one-half times the regular rate of pay is required after 40 hours of work in a workweek).
[40] Blaire Briody, *11 Shocking Facts about the North Dakota Oil Boom*, THE FISCAL TIMES (Jun. 6, 2013), http://www.thefiscaltimes.com/Articles/2013/06/06/11-Shocking-Facts-about-the-North-Dakota-Oil-Boom.
[41] Katie Little, *Boom helps fast-food workers bring home the Bakken*, CNBC (June 20, 2014), http://www.cnbc.com/id/101767406.

hour.[42] Thus, hydraulic fracturing is a key to growing the middle class and increasing wages for all levels of American workers at no cost to U.S. taxpayers.

ii. Federal, State, and Local Government Revenues

Another direct benefit of the energy revolution is the increase in government revenues at the federal, state, and local levels. According to IHS, in 2012 oil and natural gas activity "contributed nearly $62 billion in federal, state, and local tax receipts."[43] IHS estimates that by 2020, total government revenues will increase to more than $111 billion.[44] Furthermore, oil and natural gas activity is expected to generate more than $2.5 trillion in tax revenues between 2012 and 2035.[45] In stark contrast, as admitted even by mainstream media, the Administration's failed green energy policies have not lived up to their promises,[46] but instead cost taxpayers billions of dollars.[47]

On the state and local levels, royalties from oil and natural gas development have had tremendous impacts to struggling communities. Revenues from this industry have improved local schools, directly resulting in better educational facilitates for America's youth and lower school taxes for their parents. In San Antonio, Texas revenues from oil and natural gas activities on state lands have led to $1.26 billion in support of underfunded K–12 public education programs.[48] In Pennsylvania, Elk Lake School District received almost $2 million in royalties, which supported "maintenance projects, much needed new roofing and helped create new programs for the students" and a career center.[49] Even Chemung County, New York, where hydraulic fracturing has been suspended since 2008, is experiencing significant local revenues from the economic growth spurred by drillers moving to the area to work in neighboring Pennsylvania's natural gas

Even Chemung County, New York, where hydraulic fracturing has been suspended since 2008, is experiencing significant local revenues from the economic growth spurred by drillers moving to the area to work in neighboring Pennsylvania's natural gas operations.

[42] Tessa Berenson, *Oil Is The New Gold: Inside North Dakota's Oil Rush*, TIME (June 24, 2014), http://time.com/2911836/oil-north-dakota/.
[43] 1 IHS, AMERICA'S NEW ENERGY FUTURE: THE UNCONVENTIONAL OIL AND GAS REVOLUTION AND THE US ECONOMY: NATIONAL ECONOMIC CONTRIBUTIONS 8 (2012).
[44] *Id*. at 34.
[45] *Id*. at 9.
[46] *See* Aaron Glantz, *Number of Green Jobs Fails to Live Up to Promises*, N.Y. TIMES (Aug. 18, 2011), http://www.nytimes.com/2011/08/19/us/19bcgreen.html?pagewanted=all&_r=2&.
[47] Sterling Burnett, *New Report: Green Energy Technology Not Ready for Prime Time*, NAT'L CTR. FOR POLICY ANALYSIS (Oct. 24, 2013), http://environmentblog.ncpa.org/new-report-green-energy-technology-not-ready-for-prime-time/.
[48] Vicki Vaughan, *Drilling sends school fund to record high*, SAN ANTONIO EXPRESS-NEWS (Sept. 17, 2014), http://www.expressnews.com/business/eagle-ford-energy/article/Drilling-sends-school-fund-to-record-high-5763113.php.
[49] Joe Massaro, *Shale Development Boosts School District Revenues*, ENERGY IN DEPTH (Sept. 26, 2014), http://energyindepth.org/marcellus/shale-development-boosts-school-district-revenues/.

operations.[50] As explained in a *New York Times* article, in 2010 "Chemung led all New York counties in the growth of sales tax and hotel tax revenue, as well as in the expansion of its tax base, avoiding the property tax increases and economic doldrums faced by local governments elsewhere in the state."[51]

iii. State Economies

Top 10 states ranked by employment in oil and natural gas industry saw sector increases in employment from 2007–2012

State	Employment Increase	Percent Increase
Texas	64,515	33.1
Pennsylvania	15,114	259.3
North Dakota[1]	12,477	354.3
Oklahoma	12,035	27.3
Colorado	5,135	27.2
California	4,230	23.0
Louisiana	4,071	8.7
New Mexico	3,467	23.0
Alaska	1,990	17.1
Arkansas	1,897	40.5

[1] North Dakota's 2012 employment level and over-the-period increase in employment may be understated because they are calculated on the basis of an incomplete sum.

Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages program.[52]

It should come as no surprise that states embracing hydraulic fracturing and traditional energy production are stronger economically than those that have succumbed to the misinformation campaigns and political pressures of the anti-fossil fuel lobby. Since the shale gas energy boom launched in 2008, states producing oil and natural gas have experienced vast growth in employment. In 2012, the top ten states with the most employment gains from oil and natural gas activity "contributed a combined total of nearly 1.2 million jobs, and that figure is projected to exceed 2.3 million in 2035."[53] As depicted in the U.S. Bureau of Labor Statistics table to the left, employment rates in states like Pennsylvania and North Dakota skyrocketed more than 200% from 2007.[54]

Oil and natural gas producing states' economies and jobs have grown faster than in nonproducing states, while their unemployment rates are well below the U.S. average, which long hovered over 6%.[55] In states that were previously suffering from a stagnant economy,

[50] Mireya Navarro, *With Gas Drilling Next Door, County in New York Gets an Economic Lift*, N.Y. TIMES (Dec. 27, 2011), http://www.nytimes.com/2011/12/28/nyregion/hydrofracking-gives-chemung-county-ny-economic-boost.html?pagewanted=all&_r=2&.
[51] *Id.*
[52] *Id. See also Quarterly Census of Employment and Wages*, U.S. BUREAU OF LABOR STATISTICS, U.S. DEP'T OF LABOR, http://www.bls.gov/cew/ (last visited Oct. 20, 2014).
[53] 2 IHS, AMERICA'S NEW ENERGY FUTURE: THE UNCONVENTIONAL OIL AND GAS REVOLUTION AND THE US ECONOMY: STATE ECONOMIC CONTRIBUTIONS 3 (2012).
[54] U.S. BUREAU OF LABOR STATISTICS, U.S. DEP'T OF LABOR, [FEB.] MONTHLY LABOR REVIEW, THE MARCELLUS SHALE GAS BOOM IN PENNSYLVANIA: EMPLOYMENT AND WAGE TRENDS (2014), *available at* www.bls.gov/opub/mlr/2014/article/the-marcellus-shale-gas-boom-in-pennsylvania.htm.
[55] *Labor Force Statistics from the Current Population Survey*, U.S. BUREAU OF LABOR STATISTICS, U.S. DEP'T OF LABOR, http://data.bls.gov/timeseries/LNS14000000 (last visited Oct. 20, 2014).

hydraulic fracturing has created a multitude of new opportunities for renewed economic growth. For example, Ohio's unemployment rate dropped from 10.6% in 2010 to 5.7% in 2014.[56] Currently, Texas, one of the top producing states in the country, has one of the lowest unemployment rates at 5.3%.[57] North Dakota, another top producing state, has the nation's lowest unemployment rate of 2.8%,[58] while the booming town of Williston's unemployment rate is less than 1%.[59]

In the Marcellus Shale region, Pennsylvania has an unemployment rate of 5.8%.[60] In contrast, neighboring states such as New York that do not embrace hydraulic fracturing have areas that continue to struggle.[61] New York has imposed a politically motivated[62] moratorium on hydraulic fracturing and horizontal drilling while the state's Health Department finding that hydraulic fracturing can be conducted safely.[63] As a result, the state has often suffered local unemployment rates much higher than those of neighboring counties in Pennsylvania.[64] Notably, in August 2014, the state of New York's unemployment rate fell to 6.4%, "its lowest level since late 2008."[65]

When comparing state unemployment rates, the differences between reported and true unemployment rates become apparent.[66] The U.S. Department of Labor has several different measures of unemployment rates.[67] The U-3 is the official and most cited unemployment rate, but excludes those who are discouraged or underemployed,[68] making it an inaccurate portrayal of

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[56] Nelson D. Schwartz, *Boom in Energy Spurs Industry in the Rust Belt*, N.Y. TIMES (Sept. 8, 2014), http://www.nytimes.com/2014/09/09/business/an-energy-boom-lifts-the-heartland.html?_r=3; *see also Unemployment Rates for States*, U.S. BUREAU OF LABOR STATISTICS, U.S. DEP'T OF LABOR, http://www.bls.gov/web/laus/laumstrk.htm (last visited Oct. 20, 2014).
[57] *Unemployment Rates for States*, U.S. BUREAU OF LABOR STATISTICS, U.S. DEP'T OF LABOR, http://www.bls.gov/web/laus/laumstrk.htm (last visited Oct. 20, 2014).
[58] *Id.*
[59] Gail Collins, *Where the Jobs Are*, N.Y. TIMES (July 25, 2012), http://www.nytimes.com/2012/07/26/opinion/collins-where-the-jobs-are.html?_r=0.
[60] *Unemployment Rates for States*, U.S. BUREAU OF LABOR STATISTICS, U.S. DEP'T OF LABOR, http://www.bls.gov/web/laus/laumstrk.htm (last visited Oct. 20, 2014).
[61] *See* Press Release, N.Y. State Dep't of Labor, State Labor Department Releases Preliminary August 2014 Area Unemployment Rates (Sept. 23, 2014), *available at* http://labor.ny.gov/stats/pressreleases/prlaus.shtm.
[62] INST. FOR ENERGY RESEARCH, NEW YORK STATE PROHIBITS HYDRAULIC FRACTURING, BUT SUBSIDIZES SOLAR (2014), *available at* http://instituteforenergyresearch.org/analysis/new-york-state-has-a-moratorium-on-hydraulic-fracturing-but-subsidizes-solar/.
[63] N.Y. STATE DEP'T OF ENVTL. CONSERVATION, REVISED DRAFT SUPPLEMENTAL GENERIC ENVIRONMENTAL IMPACT STATEMENT ON THE OIL, GAS AND SOLUTION MINING REGULATORY PROGRAM (2011), *available at* http://breakingenergy.sites.breakingmedia.com/wp-content/uploads/sites/2/2011/09/rdsgeisexecsum0911.pdf; *see also* Danny Hakim, *Gas Drilling Is Called Safe in New York*, N.Y. TIMES (Jan. 3, 2013), http://www.nytimes.com/2013/01/03/nyregion/hydrofracking-safe-says-ny-health-dept-analysis.html.
[64] Brian McMahon, *NY's Missing Jobs*, N.Y. POST (Mar. 27, 2012), http://nypost.com/2012/03/27/nys-missing-jobs/.
[65] *See* Press Release, N.Y. State Dep't of Labor, State Labor Department Releases Preliminary August 2014 Area Unemployment Rates (Sept. 23, 2014), *available at* http://labor.ny.gov/stats/pressreleases/prlaus.shtm.
[66] *See Alternative Measures of Labor Underutilization for States, Third Quarter of 2013 through Second Quarter of 2014*, U.S. BUREAU OF LABOR STATISTICS, U.S. DEP'T OF LABOR, http://www.bls.gov/lau/stalt.htm (last visited Oct. 20, 2014).
[67] *See Id.*
[68] *See Id.*

actual unemployment rates.[69] On the other hand, the U-6 unemployment rate is more comprehensive and includes not only the total number of unemployed workers but also those underemployed or so discouraged they have given up looking for work.[70] The U-6 unemployment rate in many states remains in double digits as Americans struggle to find full-time employment.[71] This is exemplified by unemployment rates in states such as New York, with a U-3 rate of 7.1% and a U-6 rate of 13.3%, and California, with a U-3 rate of 8.2% and a U-6 rate of 16.2%.[72] Contrast these numbers with those of top producing states such as North Dakota, which has a U-3 rate of 2.8% and a U-6 rate of 5.5%.[73] This is significant because both of North Dakota's unemployment rates are less than the national U-3 unemployment average of 5.9%.[74] These comparisons illustrate how states that embrace hydraulic fracturing are overcoming many of the unemployment challenges brought on by the recent recession.

In 2012, the annual disposable income of U.S. households increased by $1,200 as a result of increased domestic energy production and hydraulic fracturing.

iv. Consumer Savings

While many Americans are suffering from the effects of stagnant salaries and mounting inflation, the U.S. energy revolution has conferred a sigh of relief in the form of lower energy prices for consumers. These lower energy prices have led to a rise in consumer surplus, which is "the difference between the market price and what a consumer is willing to pay" for energy.[75] In 2010, national consumer surplus from shale gas was estimated at $100 billion.[76] This is critical because a higher consumer surplus means more disposable income. In 2012, the annual disposable income of U.S. households increased by $1,200 as a result of increased domestic energy production and hydraulic fracturing.[77]

Low income households spend four times more of their income on home energy (10.4%) than do non-low income households (2.6%).

In addition, lower energy prices are most beneficial to individuals with low incomes as they spend a much larger percentage of their budgets on energy costs. According to the annual report of the federal Low Income Home Energy Assistance Program (LIHEAP), low income households spend four times more of their income on home energy (10.4%) than do non-low income households (2.6%) making it clear that even minor increases in

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[69] *See Id*; *see also* Ben Berkowitz , *Chart of the Day: The real unemployment rate?*, CNBC (Jan. 10, 2014), http://www.cnbc.com/id/101326426.
[70] *See Alternative Measures of Labor Underutilization for States, Third Quarter of 2013 through Second Quarter of 2014*, U.S. BUREAU OF LABOR STATISTICS, U.S. DEP'T OF LABOR, http://www.bls.gov/lau/stalt.htm (last visited Oct. 20, 2014).
[71] *See Id*.
[72] *See Id*.
[73] *See Id*.
[74] *Labor Force Statistics from the Current Population Survey*, U.S. BUREAU OF LABOR STATISTICS, U.S. DEP'T OF LABOR, http://data.bls.gov/timeseries/LNS14000000 (last visited Oct. 20, 2014).
[75] Robert Ames et al., *The Arithmetic of Shale Gas*, SOCIAL SCI. RESEARCH NETWORK, June 2005, at 5, *available at* http://ssrn.com/abstract=2085027.
[76] *Id*. at 9.
[77] 3 IHS, AMERICA'S NEW ENERGY FUTURE: THE UNCONVENTIONAL OIL AND GAS REVOLUTION AND THE US ECONOMY: A MANUFACTURING RENAISSANCE - MAIN REPORT 55 (2013).

energy prices have disproportionately negative impacts on low income families.[78] Moreover, it is unfortunate when wealthy individuals, their foundations, and the Hollywood elite advocate for policies that would undermine the standard of living for America's most vulnerable and try to bring to the U.S. the energy poverty now threatening in Europe.[79]

According to IHS, public school districts in the U.S. spent $740.9 million less for electricity and $466.9 million less for natural gas during fiscal year (FY) 2012. This amounts to a combined savings of $1,207.8 million, a number equivalent to the salary of 14,246 teachers.

State and local governments, including public schools, also saw increased savings from lower energy prices. According to IHS, public school districts in the U.S. spent $740.9 million less for electricity and $466.9 million less for natural gas during fiscal year (FY) 2012.[80] This amounts to a combined savings of $1,207.8 million,[81] a number equivalent to the salary of 14,246 teachers.[82] State and local governments saved a total of $467.2 million on electricity and $252.9 on natural gas during the FY2012.[83] This amounts to a combined savings of $720.1 million,[84] equivalent to the salaries of an additional 10,995 government employees, such as police officers and firefighters.[85] This stands in stark contrast to New England states, which routinely oppose hydraulic fracturing and are members of the Regional Greenhouse Gas Initiative (RGGI),[86] and are now expecting their citizens to see electricity rates increase by 37% beginning November 1, 2014.[87]

American families have benefited from this domestic energy revolution not just in their homes but on the road as well. Thanks to greater U.S. oil production, prices at the pump are soon predicted to hit four year lows.[88] During the week of October 1, 2014, gas prices fell to a national average of $3.33 a gallon with monthly prices averaging $0.44 less than they were in

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[78] U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, LOW INCOME HOME ENERGY ASSISTANCE PROGRAM: REPORT TO CONGRESS FOR FISCAL YEAR 2009 26 (2014), *available at* https://www.acf.hhs.gov/sites/default/files/ocs/rpt_fy09_liheap_rtc_final_052114_2.pdf.

[79] *Examining the Threats Posed by Climate Change: Hearing Before the Subcomm. on Clean Air and Nuclear Safety of the S. Comm. on Env't and Pub. Works*, 113th Cong. (2014) (statement of Dr. Bjorn Lomborg, Ph.D., Adjunct Professor, Copenhagen Consensus Ctr., Copenhagen Bus. Sch.) *available at* http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=82dbfab3-bd9b-4a89-8fd3-9f66e9b72398.

[80] IHS, THE UNCONVENTIONAL ENERGY REVOLUTION: ESTIMATED ENERGY SAVINGS FOR PUBLIC SCHOOL DISTRICTS AND STATE AND LOCAL GOVERNMENTS 16 (2014), *available at* http://www.api.org/globalitems/~/media/Files/Policy/Hydraulic_Fracturing/IHS-Govt-and-School-Savings-June2014.pdf.

[81] *Id*. at 16.

[82] *Id*. at 17.

[83] *Id*.

[84] *Id*.

[85] *Id*. at 1.

[86] *RGGI, Inc.*, REG'L GREENHOUSE GAS INITIATIVE, http://www.rggi.org/rggi (last visited Oct. 20, 2014) ("RGGI is a cooperative effort among nine states – Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island and Vermont – to reduce greenhouse gas emissions.").

[87] Peter Howe, *Massachusetts' Electric Rates Soar*, NEW ENGLAND CABLE NEWS (Sept. 25, 2014), http://www.necn.com/news/business/Massachusetts-Electric-Rates-Soar-277009371.html.

[88] Karl de Vries, *US gas prices set to hit 4-year low, analysts say*, FOX NEWS (Sept. 16, 2014), http://www.foxnews.com/us/2014/09/16/us-gas-prices-set-to-hit-4-year-low-analysts-say/.

2012.[89] The recent substantial increase in domestic oil production has also had a significant impact on global oil prices. According to the Chief of the U.S. Energy Information Administration (EIA) Adam Sieminski, "If we did not have the growth in North Dakota, in the Eagle Ford and the Permian, oil could be $150 (per barrel)."[90] Yet, because of increased domestic oil production, prices in September 2014 remained steadily under the symbolic $100 per barrel threshold.[91] Then on October 17, 2014, the price fell to $81.72 per barrel, a two year low.[92]

Detractors of oil and natural gas continue to claim that increased domestic fossil fuel production is not benefiting American consumers at the pump or elsewhere, but "reality is outpacing the rhetoric."[93] Instability in the Middle East and around the world once had crippling and volatile effects on the U.S. economy, often causing price spikes at the pump. Even as this instability continues today, oil prices have "fallen dramatically on the world markets"[94] in large part due to a four-decade high in U.S. oil production.[95] Some have estimated that the increased U.S. oil production from shale formations is directly responsible for saving the global economy $5 billion a day, particularly in the midst of the turmoil in places like Russia, Iraq, and Libya.[96]

v. Manufacturing Resurgence

Domestic resources accessed via hydraulic fracturing provide more than just affordable forms of energy; they serve as the basic building blocks of the vast majority of products manufactured today. Specifically, the hydrocarbon molecules in oil and natural gas break apart to serve as raw materials for a variety of everyday products from chemicals and fertilizers to iPads, televisions, cell phones, and advanced medical equipment.[97] The National Association of Manufacturers (NAM) explained in a recent report that increased natural gas production benefits the manufacturing sector in two primary ways: it lowers feedstock and energy costs for manufacturers and increases the demand for manufactured products needed to extract natural gas.[98]

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[89] Elana Schor, *Brave new world meets same old rhetoric*, POLITICO PRO (Oct. 2, 2014), http://www.politico.com/story/2014/10/us-gas-prices-democrats-republicans-111554.html.
[90] Ernest Scheyder, *UPDATE 1-Oil prices would hit $150/barrel without U.S. shale, EIA says*, THOMSON REUTERS (Sept. 24, 2014), http://www.reuters.com/article/2014/09/24/eia-forecast-idUSL2N0RP1PP20140924.
[91] *See Cushing, OK WTI Spot Price FOB (Dollars per Barrel)*, U.S. ENERGY INFO. ADMIN., U.S. DEP'T OF ENERGY, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=RWTC&f=D (last visited Oct. 20, 2014).
[92] *Id.*
[93] Elana Schor, *Brave new world meets same old rhetoric*, POLITICO PRO (Oct. 2, 2014), http://www.politico.com/story/2014/10/us-gas-prices-democrats-republicans-111554.html.
[94] *Id.*
[95] *Id.*
[96] Shane Thielges, *The world saves $5 billion a day from U.S. shale*, BAKKEN.COM (Sept. 15, 2014), http://bakken.com/news/id/221229/world-saves-5-billion-day-u-s-shale/.
[97] *See Do you consume natural gas?*, BARNETT SHALE ENERGY EDUCATION COUNCIL, http://bseec.org/articles/do-you-consume-natural-gas (last visited Oct. 21, 2014); *see also* Ken Cohen, *There's more in a barrel of oil than just gasoline*, EXXONMOBIL PERSPECTIVES (June 5, 2011), http://www.exxonmobilperspectives.com/2011/06/05/theres-more-in-a-barrel-of-oil-than-just-gasoline/.
[98] PRICEWATERHOUSECOOPERS, *SHALE GAS: A RENAISSANCE IN US MANUFACTURING*? (2011), *available at*, http://www.pwc.com/en_US/us/industrial-products/assets/pwc-shale-gas-us-manufacturing-renaissance.pdf.

According to a recent IHS study, 524,000 jobs in the oil and natural gas supply chain were added in 2012, including manufacturers of steel pipe, construction equipment, and railcars as well as sand and gravel producers.[99] By 2025, the industry's supply chain employment is expected to increase 45% adding 757,000 jobs.[100] Since 2011, over 128 new manufacturing plants have been announced in the Gulf Coast alone.[101] The American Chemistry Council (ACC) reported 197 chemical projects that will attribute more than $125 billion in potential capital investment[102] with 64% by firms based outside the U.S.[103] The fertilizer industry is also planning to spend $12.7 billion in new domestic fertilizer plants.[104] All of this investment is threatened by President Obama's war on hydraulic fracturing and the oil and gas industry.

This stands in stark contrast to the deteriorating situation for industrial manufacturers in Germany, which disavows hydraulic fracturing while embracing climate policies similar to those being pushed by environmentalists and the Obama Administration.

Affordable natural gas prices resulting from an increase in hydraulic fracturing has given U.S. industries a cost advantage over foreign competitors. As a result, the energy revolution has created a new American manufacturing renaissance. Manufacturing is an energy-intensive sector, and industries such as "chemicals, petroleum refining, aluminum, steel, glass, cement, and the food industry" are all expected to increase capacity as a result of low cost and readily available natural gas.[105] This increased manufacturing activity will lead to significant job creation.[106] By 2025, one in eight jobs spawning from oil and natural gas development will be in manufacturing.[107] This stands in stark contrast to the deteriorating situation for industrial manufacturers in Germany, which disavows hydraulic fracturing while embracing climate policies similar to those being pushed by environmentalists and the Obama Administration.[108]

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[99] IHS, SUPPLYING THE UNCONVENTIONAL REVOLUTION: SIZING THE UNCONVENTIONAL OIL AND GAS SUPPLY CHAIN 3-4 (2014).
[100] *Id*. at 3
[101] *From sunset to new dawn*, ECONOMIST (Nov. 16, 2013), http://www.economist.com/news/business/21589870-capitalists-not-just-greens-are-now-questioning-how-significant-benefits-shale-gas-and.
[102] AM. CHEM. COUNCIL, U.S. CHEMICAL INVESTMENT LINKED TO SHALE GAS: $125 BILLION AND COUNTING (2014), available at http://www.americanchemistry.com/Policy/Energy/Shale-Gas/Fact-Sheet-US-Chemical-Investment-Linked-to-Shale-Gas-Reaches-125-Billion.pdf.
[103] *Id*.
[104] Jack Kaskey & Christopher Donville, *CF-Yara Talks Show How Shale Gas Is Shaking Up Fertilize*, BLOOMBERG (Sept. 24, 2014), http://www.bloomberg.com/news/2014-09-23/cf-yara-talks-show-how-shale-gas-is-shaking-up-fertilizer.html.
[105] 3 IHS, AMERICA'S NEW ENERGY FUTURE: THE UNCONVENTIONAL OIL AND GAS REVOLUTION AND THE US ECONOMY: A MANUFACTURING RENAISSANCE - EXECUTIVE SUMMARY 10 (2013).
[106] *See* 3 IHS, AMERICA'S NEW ENERGY FUTURE: THE UNCONVENTIONAL OIL AND GAS REVOLUTION AND THE US ECONOMY: A MANUFACTURING RENAISSANCE – MAIN REPORT (2013).
[107] 3 IHS, AMERICA'S NEW ENERGY FUTURE: THE UNCONVENTIONAL OIL AND GAS REVOLUTION AND THE US ECONOMY: A MANUFACTURING RENAISSANCE – MAIN REPORT 43 (2013).
[108] Matthew Karnitschnig, *Germany's Expensive Gamble on Renewable Energy*, WALL ST. J. (Aug. 26, 2014), http://online.wsj.com/articles/germanys-expensive-gamble-on-renewable-energy-1409106602. *See also* Letter from Dr. Helge Braun, Minister of State to the Fed. C., Member of the Ger. Bundestag, to David Vitter, Sen., U.S. S. (July 9, 2014) (on file with the U.S. S. Comm. on Env't and Pub. Works).

A decade ago, domestic manufacturing jobs were rushing overseas to places like China and India.[109] However, manufacturers are now moving facilities back to the U.S. and building new plants because of the access to an abundant supply of stable and affordable resources, which simultaneously increases demand in manufactured equipment for oil and natural gas operations.[110] In recent years companies manufacturing petrochemicals, steel, and fertilizers have been encouraged to return to the U.S.[111] To name a few specific examples, Germany's Siemens AG is moving to the U.S. to produce natural gas extraction equipment.[112] One Canadian-based company is moving two of its chemical factories from Chile to Geismar, Louisiana,[113] investing over $1 billion to manufacture methanol, a chemical "used in products from windshield washer fluid to recyclable plastic bottles, plywood floors, paint, silicone sealants and synthetic fibers."[114]

U.S.-based companies are also expanding manufacturing operations and reopening facilities once thought gone forever. Dow Chemical Co. is planning to spend $4 billion to reopen a plant in Louisiana and build new factories in Texas.[115] Steelmaker Nucor Corporation moved operations from Trinidad to Louisiana to open a $750 million facility.[116] The corporation moved there because of the easy access to low-priced natural gas that is a critical component to steel manufacturing.[117] The increased production of oil due to hydraulic fracturing has been credited with saving the shipbuilding industry in places like Philadelphia, Pennsylvania.[118] There, one company tripled employment thanks to a surge in demand for vessels to transport the oil produced in North Dakota and Texas.[119]

The increased production of oil due to hydraulic fracturing has been credited with saving the shipbuilding industry in places like Philadelphia, Pennsylvania. There, one company tripled employment thanks to a surge in demand for vessels to transport the oil produced in North Dakota and Texas.

[109] Chad Brooks, *What's Bringing US Jobs Back From Overseas?*, BUS. NEWS DAILY (Oct. 2, 2012), http://www.businessnewsdaily.com/3208-american-jobs-coming-back.html.
[110] Meagan Clark, *Natural Gas Boom Is Attracting Manufacturing To The US From Overseas To Take Advantage Of Cheaper Fuel, Feedstock*, INT'L BUS. TIMES (May 9, 2014), http://www.ibtimes.com/natural-gas-boom-attracting-manufacturing-us-overseas-take-advantage-cheaper-fuel-1582512.
[111] *See Id*.
[112] *Id*.
[113] Jack Kaskey, *Chemical Companies Rush to the U.S. Thanks to Cheap Natural Gas*, BLOOMBERG BUSINESSWEEK (July 25, 2013), http://www.businessweek.com/articles/2013-07-25/chemical-companies-rush-to-the-u-dot-s-dot-thanks-to-cheap-natural-gas.
[114] The Associated Press, *Canadian Company Plans $550 Million Methane Plant in Ascension Parish*, THE TIMES-PICAYUNE (Apr. 26, 2013), http://www.nola.com/business/index.ssf/2013/04/canadian_company_plans_550_mil.html.
[115] Jack Kaskey, *Chemical Companies Rush to the U.S. Thanks to Cheap Natural Gas*, BLOOMBERG BUSINESSWEEK (July 25, 2013), http://www.businessweek.com/articles/2013-07-25/chemical-companies-rush-to-the-u-dot-s-dot-thanks-to-cheap-natural-gas.
[116] John W. Miller, *Cheaper Natural Gas Lets Nucor Factory Rise Again on Bayou*, WALL ST. J. (Feb. 1, 2013), http://online.wsj.com/news/articles/SB10001424127887323854904578264080157966810.
[117] *Id.*
[118] *See* Dan Murtaugh, *Birthplace of USS New Jersey Saved by Shale Production*, BLOOMBERG (May 29, 2014), http://www.bloomberg.com/news/2014-05-28/birthplace-of-uss-new-jersey-saved-by-shale-production-freight.html.
[119] *Id.*

In making the largest capital investment in a half-century in Youngstown, Vallourec spent over $1 billion in its recently finished one-million-square-foot facility to build steel pipe for companies extracting shale gas.

These manufacturing companies have become a lifeline to many cities now growing as a direct result of increased oil and natural gas production. For example, Vallourec SA is a foreign industrial company that moved to an otherwise grim Youngstown, Ohio to take advantage of the Utica shale boom.[120] In making the largest capital investment in a half-century in Youngstown, Vallourec spent over $1 billion in its recently finished one-million-square-foot facility to build steel pipe for companies extracting shale gas.[121] This economic growth has expanded across the economy as one Youngstown deli owner near the Vallourec facility said, "The Utica shale brought in Vallourec, which brought in more workers and helped me hire more people."[122]

vi. Trade Deficit Reduction

Another major economic benefit of increased oil and natural gas production through hydraulic fracturing has been the sharp narrowing of the U.S.'s trade deficit.[123] Trade deficits can act as "a huge drag on the economy" and any time Americans buy more domestic products and less from overseas it has the potential to greatly boost economic growth.[124] This year the importation of petroleum products has fallen and lowered our petroleum trade deficit to its lowest level in four years.[125] At the same time our imports are declining, our exports have increased to an all-time high on stronger overseas sales of not only crude oil but also chemicals and other manufactured goods, which may harness fossil fuels as their feedstock.[126]

According to IHS, by 2020 the increase in domestic oil production will displace crude oil imports and reduce the U.S. trade deficit by $164 billion.[127] On October 3, 2014, the *Wall Street Journal* reported, "In a testament to the domestic energy-production boom, U.S. petroleum exports were the highest on record in August [2014] and petroleum imports were the lowest seen since November 2010."[128] Further, in 2014, "[t]he nation's seasonally adjusted petroleum trade deficit was at its lowest level since July 2004."[129]

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[120] Nelson D. Schwartz, *Boom in Energy Spurs Industry in the Rust Belt*, N.Y. TIMES (Sept. 8, 2014), http://www.nytimes.com/2014/09/09/business/an-energy-boom-lifts-the-heartland.html?_r=3.
[121] *Id*.
[122] *Id*.
[123] Lucia Mutikani, *U.S. Trade Deficit Narrows as Petroleum Imports Fall*, THOMSON REUTERS (Aug 6, 2014), http://www.reuters.com/article/2014/08/06/us-usa-trade-balance-idUSKBN0G61B120140806.
[124] Christopher S. Rugaber, *US Trade Deficit Shrinks to 5-Month Low in June as Imports Drop Sharply, Exports Tick Up*, NEWS1130 (Aug. 6, 2014), http://www.news1130.com/2014/08/06/us-trade-deficit-shrinks-to-5-month-low-in-june-as-imports-drop-sharply-exports-tick-up/.
[125] Paul Davidson, *U.S. Trade Deficit Drops to 4-Year Low*, USA TODAY (Jan. 7, 2014), http://www.usatoday.com/story/money/business/2014/01/07/us-trade-deficit-declines/4353357/.
[126] *Id*.
[127] *See* 3 IHS, AMERICA'S NEW ENERGY FUTURE: THE UNCONVENTIONAL OIL AND GAS REVOLUTION AND THE US ECONOMY: A MANUFACTURING RENAISSANCE – MAIN REPORT (2013).
[128] Ben Leubsdorf, U.S. TRADE GAP NARROWS IN AUGUST, EXPORTS INCREASE, WALL ST. J. (Oct. 3, 2014), http://online.wsj.com/articles/u-s-trade-gap-narrowed-in-august-1412339508.
[129] *Id*.

b. Rebuilding Reserves and Boosting Production

One undeniably valuable aspect of the recent energy revolution is the growth in proved[130] oil and natural gas reserves within the U.S. A decade ago, the U.S. proved oil and natural gas reserves had been steadily declining, giving rise to fossil fuel detractors' "peak oil" arguments.[131] Some went so far as to proclaim that "current estimates for the worldwide peak production, not only for oil, but also for natural gas, and less traditional hydrocarbon sources" would peak as early as 2010.[132] However, beginning in 2008, technological advances in hydraulic fracturing and horizontal drilling opened up many oil and natural gas reserves, previously inaccessible.[133]

The "peak-oil" theory had legs during the 1970s plunge in oil production, but industry innovation in energy exploration and production changed the story.

As explained in a September 2014 *Wall Street Journal* article, "Why Peak-Oil Predictions Haven't Come True," the "peak-oil" theory had legs during the 1970s plunge in oil production, but industry innovation in energy exploration and production changed the story.[134] According to EIA, as of 2012 the total proved U.S. oil reserves were 33.4 billion barrels—the highest level since 1976.[135] Such growth is primarily attributed to access to shale oil plays in the Eagle Ford in Southwest Texas and the Bakken Formation in North Dakota.[136] These staggering estimates have turned the "peak-oil" theory on its head.[137] Reserve estimates for natural gas are just as impressive. In 2012, U.S. proved natural gas reserves were 323 trillion cubic feet (Tcf), the second highest amount since 1977,[138] with the largest proved reserves in the Marcellus Shale plays in Pennsylvania and West Virginia.[139]

It is important to understand that proved reserves are only those that geological and engineering data support with a "reasonable certainty,"[140] so proved reserves may significantly underestimate the real potential for oil and natural gas reserves. In fact, EIA estimates of technically recoverable oil and natural gas resources from shale, which is the amount that could

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[130] U.S. ENERGY INFO. ADMIN., U.S. DEP'T OF ENERGY, U.S. CRUDE OIL AND NATURAL GAS PROVED RESERVES, 2012 6 (2014) ("Proved reserves are estimated volumes of hydrocarbon resources that analysis of geologic and engineering data demonstrates with reasonable certainty are recoverable under existing economic and operating conditions. Reasonable certainty assumes a probability of recovery of 90% or greater."), *available at* http://www.eia.gov/naturalgas/crudeoilreserves/pdf/uscrudeoil.pdf .

[131] *Peak Oil?*, CORNELL UNIV., http://www.geo.cornell.edu/eas/energy/the_challenges/peak_oil.html (last visited Oct. 20, 2014).

[132] *Id*.

[133] NAT'L CONF. OF STATE LEG., REGULATING HYDRAULIC FRACTURING: STATES TAKE ACTION 2 (2010), *available at* http://www.ncsl.org/documents/energy/frackingpub1210.pdf.

[134] Russell Gold, *Why Peak-Oil Predictions Haven't Come True*, WALL ST. J. (Sept. 29, 2014), http://online.wsj.com/articles/why-peak-oil-predictions-haven-t-come-true-1411937788.

[135] U.S. ENERGY INFO. ADMIN., U.S. DEP'T OF ENERGY, U.S. CRUDE OIL AND NATURAL GAS PROVED RESERVES, 2012 1 (2014), *available at* http://www.eia.gov/naturalgas/crudeoilreserves/pdf/uscrudeoil.pdf .

[136] *See Id*.

[137] George Monbiot, *We Were Wrong on Peak Oil. There's Enough to Fry Us All*, THE GUARDIAN (July 2, 2012), http://www.theguardian.com/commentisfree/2012/jul/02/peak-oil-we-we-wrong.

[138] U.S. ENERGY INFO. ADMIN., U.S. DEP'T OF ENERGY, U.S. CRUDE OIL AND NATURAL GAS PROVED RESERVES, 2012 1 (2014), *available at* http://www.eia.gov/naturalgas/crudeoilreserves/pdf/uscrudeoil.pdf .

[139] *Id*.

[140] *Id*. at 6.

be produced with current technology, are much higher than proved reserves: 58 billion barrels of oil and 665 Tcf of natural gas.[141]

According to a 2008 U.S. Minerals Management Service report, there were an estimated 11,000 to 34,000 Tcf of methane hydrate resources in the Gulf of Mexico alone.

What should be heartening for those who believe in American ingenuity is that the total U.S. oil and natural gas resource base is even higher than figures represented as proved or technically recoverable. The U.S. Department of Energy (DOE) has acknowledged that molecules of natural gas trapped in arctic and deep-water environments, known as methane hydrates, constitute a gigantic resource for both the U.S. and the world.[142] Global estimates for methane hydrates have ranged from 100,000 to more than 1,000,000 Tcf of natural gas.[143] According to a 2008 U.S. Minerals Management Service report, there were an estimated 11,000 to 34,000 Tcf of methane hydrate resources in the Gulf of Mexico alone.[144] In regard to oil resources, the DOE estimated that total U.S. oil shale resources may exceed six trillion barrels.[145] Specifically, Colorado, Utah, and Wyoming possess "the richest oil shale deposits in the entire World," also known as the Green River Formation.[146] According to October 2012 testimony to Congress, "Oil shale deposits in the Green River Formation are estimated to contain up to 3 trillion barrels of oil, half of which may be recoverable, which is about equal to the entire world's proven oil reserves."[147] Notably, 75% of the Green River Formation is under federally managed land.[148]

Colorado, Utah, and Wyoming possess "the richest oil shale deposits in the entire World," also known as the Green River Formation. According to October 2012 testimony to Congress, "Oil shale deposits in the Green River Formation are estimated to contain up to 3 trillion barrels of oil, half of which may be recoverable, which is about equal to the entire world's proven oil reserves."

Hydraulic fracturing and horizontal drilling technologies have not only skyrocketed estimates of future reserves, but also vastly increased domestic production of oil and natural gas. Since 2008, production of oil from tight oil and shale formations has increased tight oil production fourfold.[149] In 2008 the U.S. produced 5,000 barrels per day, which by 2013 rose to

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[141] *Shale Oil and Shale Gas Resources are Globally Abundant*, U.S. ENERGY INFO. ADMIN., U.S. DEP'T OF ENERGY, http://www.eia.gov/todayinenergy/detail.cfm?id=14431 (last visited Oct. 20, 2014).
[142] NAT'L ENERGY TECH. LAB., U.S. DEP'T. OF ENERGY, ENERGY RESOURCE POTENTIAL OF METHANE HYDRATE 5 (2011).
[143] *Id.*
[144] *Id.*
[145] U.S. OFFICE OF FOSSIL ENERGY, U.S. DEP'T OF ENERGY, FACT SHEET: U.S. OIL SHALE RESOURCES (2007), *available at* http://fossil.energy.gov/programs/reserves/npr/Oil_Shale_Resource_Fact_Sheet.pdf.
[146] *Oil Shale in Colorado, Utah and Wyoming*, ENVIRONMENTALLY CONSCIOUS CONSUMERS FOR OIL SHALE (ECCOS), http://www.eccos.us/oil-shale-in-co-ut-wy (last visited Oct. 20, 2014).
[147] *Unconventional Oil and Gas Production: Opportunities and Challenges of Oil Shale Development: Hearing Before the Subcomm. on Energy and Env't of the H. Comm. on Sci., Space, and Tech.*, 112th Cong. (2012) (statement of Anu K. Mittal, Dir., Natural Res. and Env't, Gov't Accountability Office), *available at* http://science.house.gov/sites/republicans.science.house.gov/files/documents/hearings/HHRG-112-%20SY20-WState-AMittal-20120510.pdf.
[148] *Id.* at 2.
[149] U.S. ENERGY INFO. ADMIN., U.S. DEP'T OF ENERGY, DOE/EIA-0383, ANNUAL ENERGY OUTLOOK 2014 U.S. WITH PROJECTIONS TO 2040 ES-2 (2014), *available at* http://www.eia.gov/forecasts/aeo/pdf/0383%282014%29.pdf.

over 7,000 barrels a day as a direct result of hydraulic fracturing and horizontal drilling advancements made in the mid-1990s.[150] A decade ago, only 2% of natural gas was produced from shale, today it is 37%.[151] Overall shale gas production has dramatically increased tenfold from 1.3 Tcf in 2007 to 10.4 Tcf in 2012.[152]

Continued access to U.S. oil and natural gas resources is critical to maintaining what little economic growth was experienced over the last several years and to moving the U.S. closer to complete energy independence. Unfortunately, due to federal government policies, particularly those of President Obama, 165.9 million acres of onshore federal lands[153] and 87% of U.S. offshore acreage[154] is inaccessible for oil and natural gas development.

Foregone government revenue receipts and economic benefits are estimated to be in the multi-billions.[155] For example, the Congressional Budget Office (CBO) estimated that opening up just the Alaskan Arctic National Wildlife Refuge would yield $5 billion in private lease payments in the first ten years and $25-50 billion in royalties between 2023 and 2035.[156] CBO also estimated oil and natural gas leasing in areas of the Atlantic and Pacific outer continental shelves and in the eastern Gulf of Mexico could garner nearly $2 billion in private lease payments to the federal government between 2013 and 2022.[157] Other reports have identified the potential for $51 billion in government revenue[158] along with the creation of 280,000 jobs by opening up the Atlantic Outer Continental Shelf to oil

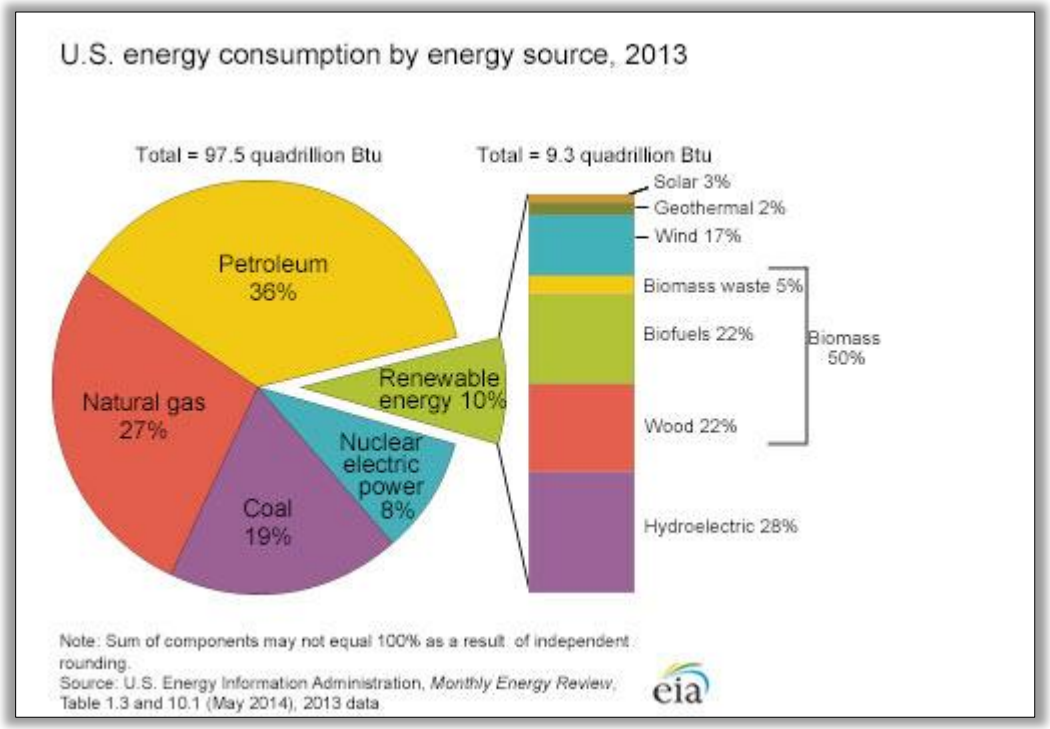
Development of offshore acreage could generate an additional four million barrels per day, add $149 billion to government revenues, and create 530,000 additional jobs by 2025.

[150] *Crude Oil Production*, U.S. ENERGY INFO. ADMIN., U.S. DEP'T OF ENERGY, http://www.eia.gov/dnav/pet/pet_crd_crpdn_adc_mbblpd_a.htm (last visited Oct. 20, 2014).
[151] Michael W. Chapman, *Saudi Billionaire Prince: Fracking Competitively Threatens 'Any Oil Producing Country in the World*,' CNSNEWS (Jan. 6, 2014), http://cnsnews.com/news/article/michael-w-chapman/saudi-billionaire-prince-fracking-competitively-threatens-any-oil.
[152] *Shale Gas Production*, U.S. ENERGY INFO. ADMIN., U.S. DEP'T OF ENERGY, http://www.eia.gov/dnav/ng/ng_prod_shalegas_s1_a.htm (last visited Oct. 20, 2014).
[153] U.S. DEP'T OF INTERIOR ET AL., BLM/WO/GI-03/002+3100/REV08, INVENTORY OF ONSHORE FEDERAL OIL AND NATURAL GAS RESOURCES AND RESTRICTIONS TO THEIR DEVELOPMENT: PHASE III INVENTORY—ONSHORE UNITED STATES xxviii-xxix (2008), *available at* http://www.blm.gov/pgdata/etc/medialib/blm/wo/MINERALS__REALTY__AND_RESOURCE_PROTECTION_/energy/0.Par.68195.File.dat/EPCA2008lo_1.pdf.
[154] AM. PETROLEUM INST., OFFSHORE ACCESS TO OIL AND NATURAL GAS RESOURCES 2 (2014), *available at* http://www.api.org/oil-and-natural-gas-overview/exploration-and-production/offshore/~/media/Files/Oil-and-Natural-Gas/Offshore/OffshoreAccess-primer-highres.pdf.
[155] *See* CONG. BUDGET OFFICE, POTENTIAL BUDGETARY EFFECTS OF IMMEDIATELY OPENING MOST FEDERAL LANDS TO OIL AND GAS LEASING (2012), *available at* http://www.cbo.gov/sites/default/files/08-09-12_Oil-and-Gas_Leasing.pdf.
[156] *Id.* at 1.
[157] *Id*. at 2.
[158] QUEST OFFSHORE, THE ECONOMIC BENEFITS OF INCREASING U.S. ACCESS TO OFFSHORE OIL AND NATURAL GAS RESOURCES IN THE ATLANTIC 9 (2013), *available at* http://questoffshore.com/wp-content/uploads/Economic-Benefits-Full-Dec.13.pdf.

and natural gas development.[159] Development of offshore acreage could generate an additional four million barrels per day,[160] add $149 billion to government revenues,[161] and create 530,000 additional jobs by 2025.[162]

c. Fulfilling U.S. Energy Consumption Needs

Importantly, the Department of Interior (DOI) has estimated that just one Tcf of natural gas can provide heat to 15 million homes or fuel 12 million vehicles running on natural gas for an entire year, or produce 100 billion kilowatt hours of electricity.[163] Thus, fulfilling U.S. energy consumption is one of the most critical benefits of the recent increase in oil and natural gas production. As depicted in the graph below, EIA revealed that the production of natural gas and petroleum accounted for more than half of U.S. energy consumption in 2013.[164]

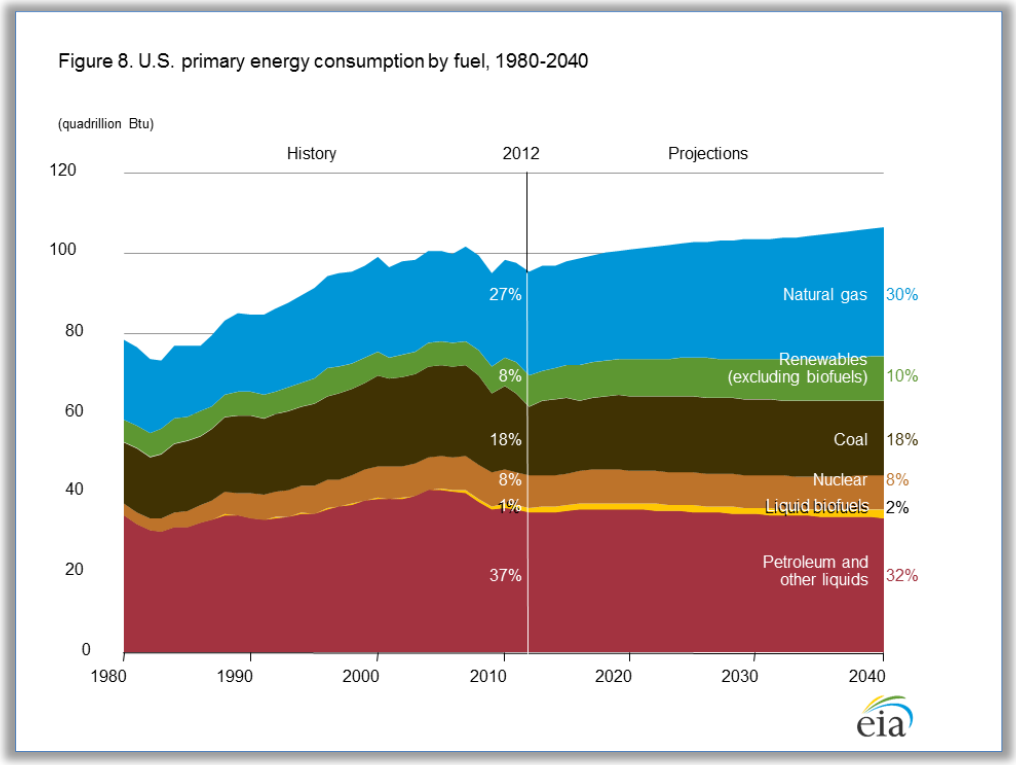


Source: U.S. Energy Information Administration[165]

EIA estimates that fossil fuels will continue to account for 80% of U.S. energy consumption in 2040.[166] Renewable energy, which currently enjoys the benefits of government

[159] *Id*. at 3.
[160] AM. PETROLEUM INST., THE STATE OF AMERICAN ENERGY 14 (2011), *available at* http://www.api.org/~/media/Files/News/2011/SOAE_Report.pdf.
[161] *Id*. at 9.
[162] *Id*. at 14.
[163] U.S. DEP'T OF ENERGY, PRODUCING NATURAL GAS FROM SHALE (2012), *available at* http://energy.gov/articles/producing-natural-gas-shale.
[164] *See* U.S. ENERGY INFO. ADMIN., U.S. DEP'T OF ENERGY, DOE/EIA-0035(2014/05), MAY 2014 MONTHLY ENERGY REVIEW (2014).
[165] *See Id.* at 7; *see also id*. at 137.

handouts and countless mandates, is still not expected to exceed 12% of the total energy consumption even 25 years from now, seeing a portfolio increase of only 3%.[167] In light of the economic devastation renewable mandates have had throughout the European Union, the serious flaws of such policies are becoming increasingly apparent.[168]



Source: U.S. Energy Information Administration[169]

d. Geopolitics and the Global Energy Market

The energy revolution has not only allowed the U.S. to reduce its dependence on foreign resources, but has also strengthened America's geopolitical influence in the world.[170] In 2013,

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[166] U.S. ENERGY INFO. ADMIN., U.S. DEP'T OF ENERGY, DOE/EIA-0383, ANNUAL ENERGY OUTLOOK 2014 U.S. WITH PROJECTIONS TO 2040 MT-6 (2014), *available at* http://www.eia.gov/forecasts/aeo/pdf/0383%282014%29.pdf.

[167] *Id.*

[168] *Europe Starts To Run, Not Walk, Away From Green Economics*, INVESTOR'S BUS. DAILY (Feb. 5, 2012), http://news.investors.com/ibd-editorials/020514-689033-europe-finds-anti-co2-policies-are-destroying-the-economy.htm; s*ee also* Michael Bastasch, *Europe's Green Energy Industry Faces Collapse As Subsidies Are Cut*, THE DAILY CALLER (Jun. 24, 2014), http://dailycaller.com/2014/06/24/europes-green-energy-industry-faces-collapse-as-subsidies-are-cut/.

[169] U.S. ENERGY INFO. ADMIN., U.S. DEP'T OF ENERGY, DOE/EIA-0383, ANNUAL ENERGY OUTLOOK 2014 U.S. WITH PROJECTIONS TO 2040 MT-6 (2014), *available at* http://www.eia.gov/forecasts/aeo/pdf/0383%282014%29.pdf.

[170] *U.S. Energy Abundance: Exports and the Changing Global Energy Landscape: Hearing Before the Subcomm. on Energy and Power of the H. Comm. on Energy and Commerce*, 113th Cong. (2013) (statement of Amy Myers Jaffe, Executive Director, Energy and Sustainability, Institute of Transportation Studies, Graduate School of Management,

the U.S. surpassed both Russia and Saudi Arabia in terms of combined oil and natural gas production.[171] Surprisingly, the same year the U.S. produced more oil than it imported for the first time since 1995.[172] In addition, the U.S. is estimated to displace Saudi Arabia as the world's largest producer of liquid petroleum before the close of 2014.[173] These significant increases in production and the accompanying economic benefits are largely responsible for buoying our otherwise limited economic recovery. As U.S. oil and natural gas production continues to increase, global prices have lowered and stabilized, further demonstrating the positive effects of the U.S. energy boom while diminishing the geopolitical leverage of less stable energy-producing countries lacking diversified economies, such as Russia and many in the Middle East.[174]

For far too long the world has been plagued by "[s]ignificant, prolonged oil supply disruptions…that have shaped energy markets over the past several years."[175] In late 2013 alone three million plus barrels of oil production capacity per day were taken off the market "as a result of conflict, political instability, production problems, and international sanctions."[176] Despite this global turmoil, prices have remained relatively stable.[177]

The U.S. is uniquely positioned to continue ramping up domestic production of its own resources, meeting our energy resource needs and those of our allies while continuing to expand our standing as an energy superpower.[178] Right now, China, India, Japan, and South Korea consume at least one-fourth of the world's liquid hydrocarbons.[179] This number is expected to

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University of California, Davis), *available at* http://gsm.ucdavis.edu/sites/main/files/file-attachments/househearingsjaffeusenergyexportsandforeignpolicyupdate.pdf.

[171] *See* Russell Gold & Daniel Gilbert, *U.S. Is Overtaking Russia as Largest Oil-and-Gas Producer*, WALL ST. J. (Oct. 2, 2013), http://online.wsj.com/news/articles/SB10001424052702303492504579111360245276476?cb=logged0.36967435159560125.

[172] Wendy Koch, *Big milestone: U.S. producing more oil than it imports*, USA TODAY (Nov. 13, 2013), http://www.usatoday.com/story/news/nation/2013/11/13/us-oil-production-exceeds-imports/3518245/.

[173] Elliot Hannon, *This Month the U.S. Could Pass Saudi Arabia as the World's Biggest Petroleum Producer*, SLATE (Sept. 29, 2014), http://www.slate.com/blogs/the_slatest/2014/09/29/u_s_set_to_pass_saudi_arabia_as_world_s_biggest_petroleum_producer.html.

[174] *See U.S. Energy Abundance: Exports and the Changing Global Energy Landscape: Hearing Before the Subcomm. on Energy and Power of the H. Comm. on Energy and Commerce,* 113th Cong. (2013) (statement of Amy Myers Jaffe, Executive Director, Energy and Sustainability, Institute of Transportation Studies, Graduate School of Management, University of California, Davis), *available at* http://gsm.ucdavis.edu/sites/main/files/file-attachments/househearingsjaffeusenergyexportsandforeignpolicyupdate.pdf.

[175] ELIZABETH ROSENBERG, CENTER FOR A NEW AMERICAN SECURITY, ENERGY RUSH: SHALE PRODUCTION AND U.S. NATIONAL SECURITY 15 (2014), *available at* http://www.cnas.org/sites/default/files/publications-pdf/CNAS_EnergyBoom_Rosenberg_0.pdf.

[176] *Id*.

[177] *Despite Turmoil, Price of Oil Remains Remarkably Stable*, REALCLEARENERGY (Aug. 24, 2014), http://www.realclearenergy.org/charticles/2014/08/24/despite_turmoil_price_of_oil_remains_remarkably_stable_107977.html.

[178] Robert D. Blackwill & Meghan L. O'Sullivan, *America's Energy Edge*, FOREIGN AFFAIRS, Mar./Apr. 2014, *available at* http://www.foreignaffairs.com/articles/140750/robert-d-blackwill-and-meghan-l-osullivan/americas-energy-edge.

[179] Robert D. Kaplan, *The Geopolitics Of Energy*, FORBES (Apr. 4, 2014), http://www.forbes.com/sites/stratfor/2014/04/04/the-geopolitics-of-energy/.

grow exponentially over the next 20 years.[180] Without greater resources being exported from stable countries like the U.S., these countries would be forced to become increasingly reliant on volatile regions like the Middle East for their energy needs.[181]

The recent energy boom in the U.S. has led to the reversal of the long decline in U.S. crude oil production, growing 50% between 2008 and 2013.[182] This is just the beginning as U.S. shale oil production is predicted to more than triple between 2010 and 2020.[183] Further, the importance of U.S. shale natural gas production is undeniable as the total increased from 2% to 37%.[184] Just recently, the U.S. surpassed Russia as the world's biggest natural gas producer.[185] Experts predict that global demand for natural gas will surpass both oil and coal combined, giving the U.S. a distinct geopolitical advantage as long as domestic policies remain favorable to hydraulic fracturing and associated technologies.[186] U.S. resources combined with increased production from Canada and Mexico will help bolster North American energy independence,[187] allowing the North American continent to potentially become the "new Middle East."[188]

i. Middle East

Since the early 1970s, the Organization of the Petroleum Exporting Countries (OPEC) has held outsized control over global oil production and pricing.[189] Comprised of twelve member countries, OPEC is run by the five Founder Members of the Organization: Islamic Republic of Iran, Iraq, Kuwait, Saudi Arabia, and Venezuela.[190] In 1973, during the Yom Kippur War, OPEC banned the sale of their oil to Israel's allies.[191] This embargo resulted in a transfer of wealth and power out of America and Europe to the Middle East, which completely politicized the global oil market.[192] For 40 years, the world had been forced to deal with unstable oil prices that resulted from the Middle East's severe domestic unrest[193] and coordinated

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[180] *Id.*
[181] *Id.*
[182] LYNN D. WESTFALL, U.S. ENERGY INFO. ADMIN., U.S. DEP'T OF ENERGY, 2014 EIA ENERGY CONFERENCE: U.S. CRUDE OIL EXPORTS 2 (2014), *available at* http://www.eia.gov/conference/2014/pdf/presentations/westfall.pdf.
[183] Robert D. Kaplan, *The Geopolitics Of Energy*, FORBES (Apr. 4, 2014), http://www.forbes.com/sites/stratfor/2014/04/04/the-geopolitics-of-energy/.
[184] *Id.*
[185] *Id.*
[186] *Id.*
[187] Asjylyn Loder, *Fracking Threatens OPEC as U.S. Output at 20-Year High*, BLOOMBERG (Feb. 13, 2013), http://www.bloomberg.com/news/2013-02-13/fracking-threatens-opec-as-u-s-output-at-20-year-high.html.
[188] Robert D. Kaplan, *The Geopolitics Of Energy*, FORBES (Apr. 4, 2014), http://www.forbes.com/sites/stratfor/2014/04/04/the-geopolitics-of-energy/.
[189] *See OPEC Share of World Crude Oil Reserves, 2013*, ORG. OF THE PETROLEUM EXPORTING COUNTRIES, http://www.opec.org/opec_web/en/data_graphs/330.htm (last visited Oct. 20, 2014).
[190] *Member Countries*, ORG. OF THE PETROLEUM EXPORTING COUNTRIES, http://www.opec.org/opec_web/en/about_us/25.htm (last visited Oct. 20, 2014).
[191] Amy Myers Jaffe & Ed Morse, *The End of OPEC*, FOREIGN POLICY (Oct. 16, 2013), http://www.foreignpolicy.com/articles/2013/10/16/the_end_of_opec_america_energy_oil.
[192] A.F. Alhajji, *The oil weapon: past, present, and future*, OIL & GAS JOURNAL (May 2, 2005), http://www.ogj.com/articles/print/volume-103/issue-17/general-interest/the-oil-weapon-past-present-and-future.html.
[193] Ken Blackwell, *Forty years of OPEC manipulation*, THE DAILY CALLER (Oct. 15, 2013), http://dailycaller.com/2013/10/15/forty-years-of-opec-manipulation/. *See also* Bill Greiner, *Instability In The*

supply manipulation that the U.S. previously could do nothing about. Finally this paradigm is being turned on its head as hydraulic fracturing slowly remakes the geopolitical landscape for fossil resources.[194]

The U.S. energy boom and increased production that continues to lead the U.S. towards energy independence has the additional benefit of lessening this country's reliance on energy supplies from OPEC member countries.[195] The Middle East's role as a major supplier of U.S. oil and natural gas has declined in recent years.[196] This decreased demand minimizes the impact of Middle Eastern disruptions on the global energy markets and stabilizes oil prices worldwide.[197] Even though the Middle East will still account for a significant amount of all global oil consumption,[198] "American unconventional oil and [natural] gas plays from Texas to Pennsylvania are also generating new surpluses of natural gas liquids, which are increasingly exported as transportation fuel or petrochemical feedstock to Europe, Asia, and elsewhere—reducing demand growth for oil from the Middle East."[199] Further, producers in the Middle East have not been able to sell crude oil to the U.S. at traditional prices because U.S. refiners can substitute domestic crude for that which they once imported since our supply has increased and prices have dropped.[200] Energy innovation and the U.S.'s ability to produce massive amounts of oil and natural gas displace OPEC's power and have a positive ripple effect in international energy markets.[201]

"American unconventional oil and [natural] gas plays from Texas to Pennsylvania are also generating new surpluses of natural gas liquids, which are increasingly exported as transportation fuel or petrochemical feedstock to Europe, Asia, and elsewhere—reducing demand growth for oil from the Middle East."

Middle East And Its Global Impact, FORBES (June 16, 2014), http://www.forbes.com/sites/billgreiner/2014/06/16/instability-in-the-middle-east-and-its-global-impact/.

[194] Ken Blackwell, *Forty years of OPEC manipulation*, THE DAILY CALLER (Oct. 15, 2013), http://dailycaller.com/2013/10/15/forty-years-of-opec-manipulation/.

[195] Asjylyn Loder, *Fracking Threatens OPEC as U.S. Output at 20-Year High*, BLOOMBERG (Feb. 13, 2013), http://www.bloomberg.com/news/2013-02-13/fracking-threatens-opec-as-u-s-output-at-20-year-high.html.

[196] INST. FOR ENERGY RESEARCH, 2012 ENERGY OUTLOOK: FOSSIL FUELS LEADING THE FUTURE (2012), *available at* http://instituteforenergyresearch.org/analysis/2012-energy-outlook-fossil-fuel-energy-leads-the-future/.

[197] Oh Sung-hwan, *Shale Gas Revolution and Desperate "Eastward" Energy Policy of Russia*, THE NAUTILUS INST. (Mar. 4, 2014), http://nautilus.org/uncategorized/shale-gas-revolution-and-desperate-eastward-energy-policy-of-russia/.

[198] Zhenbou Hou et al., *The development implications of the fracking revolution* 25 (Overseas Dev. Inst., Working Paper, 2014), *available at* http://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/8886.pdf.

[199] Amy Myers Jaffe & Ed Morse, *The End of OPEC*, FOREIGN POLICY (Oct. 16, 2013), http://www.foreignpolicy.com/articles/2013/10/16/the_end_of_opec_america_energy_oil.

[200] Russell Gold & Nicole Friedman, *U.S. Oil Prices Fall Sharply As Glut Forms On Gulf Coast*, WALL ST. J. (Dec. 6, 2013), http://online.wsj.com/news/articles/SB10001424052702303722104579239831640276094?cb=logged0.9600588375541721.

[201] Grant Smith, *OPEC Cuts Demand Outlook by Most in 3 Years on U.S. Shale*, BLOOMBERG (Sept. 10, 2014), http://www.bloomberg.com/news/2014-09-10/opec-cuts-demand-outlook-by-most-in-three-years-on-shale.html.

The U.S. energy boom will also have a significant impact in reducing the bargaining power of Iran.[202] Iran controls one of the most "strategic military choke points" in the world, the Strait of Hormuz.[203] Increasing U.S. oil and natural gas supply would mean that fewer exports move through the Strait of Hormuz, decreasing its strategic importance to the detriment of the often hostile Iranian regime.[204]

ii. Russia

Although the Middle East will experience some negative impacts from the continued growth of the U.S. energy boom, Russia will likely suffer the most since 40% of its fiscal revenue comes from oil and natural gas exports.[205] Russia is one of the world's top three producers of oil and natural gas.[206] It is also Europe's biggest supplier of oil, coal, and natural gas, fulfilling approximately one-third of European Union (EU) demand.[207] Russia has a disturbing history of using Europe's dependence on its resources and East-West pipelines through Ukraine as geopolitical leverage by routinely threatening to cut off energy supplies to U.S. allies in the region.[208] Russia followed through on this threat four times in the past decade—2006, 2008, 2009, and June 2014—playing politics with its resources.[209] Most of Southeast Europe's natural gas supply comes from a single Kremlin-controlled company,[210] and since large parts of Central and Eastern Europe rely on natural gas heating, Russia has significant leverage over the EU.[211] However, the U.S. can maneuver its recent surplus in oil and natural gas to weaken Russia's influence over Ukraine and parts of Europe, thus reducing Russia's ability to use an "energy weapon" to gain extra benefits from consuming countries.[212] This would strengthen our relationship with EU allies and help to create a more stable region in the process.

The U.S. can maneuver its recent surplus in oil and natural gas to weaken Russia's influence over Ukraine and parts of Europe, thus reducing Russia's ability to use an "energy weapon" to gain extra benefits from consuming countries.

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[202] Zhenbou Hou et al., *The development implications of the fracking revolution* 25 (Overseas Dev. Inst., Working Paper, 2014), *available at* http://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/8886.pdf.
[203] *Id.*
[204] *Id.*
[205] *Id.*
[206] *See Russia: Country Analysis Brief Overview* U.S. ENERGY INFO. ADMIN., U.S. DEP'T OF ENERGY, http://www.eia.gov/countries/country-data.cfm?fips=rs (last visited Oct. 21, 2014).
[207] *See Energy production and imports*, EUROSTAT, EUROPEAN UNION, http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Energy_production_and_imports, (Oct. 20, 2014).
[208] Coral Davenport & Steven Erlanger, *U.S. Hopes Boom in Natural Gas Can Curb Putin*, N.Y. TIMES (Mar. 5, 2014), http://www.nytimes.com/2014/03/06/world/europe/us-seeks-to-reduce-ukraines-reliance-on-russia-for-natural-gas.html?_r=1.
[209] *Id.*
[210] Henning Gloystein, *Europe Drafts Emergency Energy Plan with Eye on Russia Gas Shut-down*, THOMSON REUTERS (Sept. 1, 2014), http://uk.reuters.com/article/2014/09/01/uk-ukraine-crisis-russia-gas-idUKKBN0GW2DX20140901.
[211] *See Energy production and imports*, EUROSTAT, EUROPEAN UNION, http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Energy_production_and_imports, (Oct. 20, 2014).
[212] Amy Myers Jaffe & Ed Morse, *The End of OPEC*, FOREIGN POLICY (Oct. 16, 2013), http://www.foreignpolicy.com/articles/2013/10/16/the_end_of_opec_america_energy_oil.

Although the widespread export of U.S. liquefied natural gas (LNG)[213] supplies will take time to fully come online, Russia is already feeling the effect of the U.S. energy revolution and the push to export more U.S. resources.[214] According to *Foreign Policy* in 2013:

> Booming domestic natural gas supplies have already displaced and defanged Russia's and Iran's grip on natural gas buyers…breaking down fixed pricing from entrenched monopolies. But this is just the beginning: Over the coming decade, the [U.S.] looks likely to overtake Russia and rival Qatar as a leading supplier of natural gas to international markets.[215]

In recent years, U.S. natural gas imports from countries such as Qatar have significantly decreased, forcing those countries to refocus their exports on European markets.[216] Given that Russia is one of the top suppliers in Europe, this redirection of resources has decreased Russia's share of EU natural gas imports from almost 50% in 2000 to 25% in 2012.[217] Russia has already been forced to discount natural gas to some of its European customers due to increased competition from U.S. energy supplies.[218]

iii. Other Countries

After observing the tremendous benefits being realized in the U.S. as a result of hydraulic fracturing, other countries have begun embracing the technology, such as Poland[219] and Ukraine,[220] often with the staunch support of the U.S. government.[221] The United Kingdom has also made the decision to utilize hydraulic fracturing,[222] crediting the recent crisis in Ukraine as

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[213] *Glossary: Natural Gas*, U.S. ENERGY INFO. ADMIN., U.S. DEP'T OF ENERGY, http://www.eia.gov/tools/glossary/?id=natural%20gas, (last visited Oct. 20, 2014) ("Liquefied natural gas (LNG): Natural gas (primarily methane) that has been liquefied by reducing its temperature to -260 degrees Fahrenheit at atmospheric pressure.")

[214] Robert D. Blackwill & Meghan L. O'Sullivan, *America's Energy Edge*, FOREIGN AFFAIRS, Mar./Apr. 2014, *available at* http://www.foreignaffairs.com/articles/140750/robert-d-blackwill-and-meghan-l-osullivan/americas-energy-edge.

[215] Amy Myers Jaffe & Ed Morse, *The End of OPEC*, FOREIGN POLICY (Oct. 16, 2013), http://www.foreignpolicy.com/articles/2013/10/16/the_end_of_opec_america_energy_oil.

[216] Ed Crooks, *US shale gas exports to hit Gazprom revenue*, FIN. TIMES (Sept. 21, 2014), http://www.ft.com/intl/cms/s/0/34c90b6c-419f-11e4-b98f-00144feabdc0.html#axzz3GoFgcFSl.

[217] Dr. Frank Umback, *Russia's hold Europe's gas market is changing rapidly*, WORLD REV. (Sept. 10, 2013), http://www.worldreview.info/content/russias-hold-europes-gas-market-changing-rapidly ("The EU share of Russia's total gas sales revenue has dropped from 60 percent to 40 percent in the last decade to 2010.").

[218] Steven Mufson, *Shifting energy trends blunt Russia's natural-gas weapon*, THE WASH. POST (Mar. 1, 2014), http://www.washingtonpost.com/business/economy/shifting-energy-trends-blunt-russias-natural-gas-weapon/2014/02/28/7d090062-9ef7-11e3-a050-dc3322a94fa7_story.html.

[219] John Daly, *Poland Gives Green Light to Massive Fracking Efforts*, OilPrice.com (Jan. 26, 2012), http://oilprice.com/Energy/Natural-Gas/Poland-Gives-Green-Light-to-Massive-Fracking-Efforts.html.

[220] Stanley Reed & Andrew E. Kramer, *Chevron and Ukraine Set Shale Gas Deal*, N.Y. TIMES (Nov. 5, 2013), http://www.nytimes.com/2013/11/06/business/international/chevron-and-ukraine-sign-deal-on-shale-gas.html?_r=0.

[221] *See* Steve Horn, *Vice President Joe Biden Promotes U.S. as Fracking Missionary Force On Ukraine Trip*, HUFFINGTON POST (Apr. 23, 2014), http://www.huffingtonpost.com/steve-horn/vice-president-joe-biden_b_5201051.html.

[222] Laura Smith-Spark & Jim Boulden, *UK lifts ban on fracking to exploit shale gas reserves*, CNN (May 3, 2013), http://edition.cnn.com/2012/12/13/business/uk-fracking/.

one of the primary reasons.[223] Prime Minister David Cameron referred to the conflict between Russia and Ukraine as a "wake-up call" and emphasized the need for Europe to become less dependent on Russia for its oil and natural gas supplies.[224] The crisis in Ukraine is a clear example of Russia's continued exploitation of the EU's dependence on its resources for political purposes. It has prompted some of our closest European allies to work at developing their own natural resources, insulating themselves from Russia's political influence.[225]

Many countries worldwide are impacted by the U.S. oil and natural gas boom. The International Energy Agency projects that global energy demand will increase by one-third between 2011 and 2035[226] and that China will consume almost 77% more energy than the U.S. in 2035[227] as its global demand rises from 22% to 27%.[228] China, in attempts to vary its coal-heavy energy mix, is predicted to significantly increase demand for imported natural gas and could look to the U.S. to fulfill this need.[229] Japan also needs foreign energy after the 2011 Fukushima disaster resulted in nuclear plants shutting down, creating a situation where demand for natural gas has risen 60% to 70%.[230] While countries like Japan have been extremely vulnerable to volatile and high energy prices, the U.S. unconventional oil and natural gas revolution has helped to substantially mitigate disruptions and price shock over the past few years.[231] Overall, "[t]he U.S. shale oil boom has had a marked effect on some traditional energy trade routes, particularly those linking Middle Eastern and African producers to North American and European consumers."[232]

The International Energy Agency projects that global energy demand will increase by one-third between 2011 and 2035 and that China will consume almost 77% more energy than the U.S. in 2035 as its global demand rises from 22% to 27%.

The continent of Africa has six countries who exported natural gas in 2010 and 15 countries who exported oil as the continent produced significantly more oil than it consumed.[233] With increasing U.S. production resulting in a downward trend in of U.S. imports, African crude oil has fewer markets,[234] and "exports to the U.S. from three of OPEC's African members,

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[223] Matt Clinch, *Queen outlines US-style fracking plans for UK*, CNBC (June 4, 2014), http://www.cnbc.com/id/101729375.
[224] William James, *UK's Cameron wants more fracking after Crimea 'wake-up call'*, THOMSON REUTERS (Mar. 25, 2014), http://www.reuters.com/article/2014/03/25/us-europe-energy-cameron-idUSBREA2O1Y820140325.
[225] *See Id.*
[226] INT'L ENERGY AGENCY, WORLD ENERGY OUTLOOK 2013 55 (2013).
[227] INT'L ENERGY AGENCY, WORLD ENERGY OUTLOOK 2012 54 (2012).
[228] *Country insights: China*, BP, http://www.bp.com/en/global/corporate/about-bp/energy-economics/energy-outlook/country-and-regional-insights/china-insights.html (last visited, Oct. 21, 2014).
[229] *U.S. gas boom to fracture Asia energy scene: study*, THE JAPAN TIMES (Nov. 8, 2013), http://www.japantimes.co.jp/news/2013/11/08/business/u-s-gas-boom-to-fracture-asia-energy-scene-study/.
[230] Hannah Northey, *Energy-hungry Japan waits as U.S. debates exports*, E&E GREENWIRE (Sept. 9, 2014), http://www.eenews.net/stories/1060005475.
[231] ELIZABETH ROSENBERG, CENTER FOR A NEW AMERICAN SECURITY, ENERGY RUSH: SHALE PRODUCTION AND U.S. NATIONAL SECURITY 20 (2014), *available at* http://www.cnas.org/sites/default/files/publications-pdf/CNAS_EnergyBoom_Rosenberg_0.pdf
[232] *Id. at 15.*
[233] KPMG, OIL AND GAS IN AFRICA: RESERVES, POTENTIAL AND PROSPECTS OF AFRICA 1 (2014), *available at* https://www.kpmg.com/Africa/en/IssuesAndInsights/Articles-Publications/General-Industries-Publications/Documents/Oil%20and%20Gas%20in%20Africa%202014.pdf.
[234] *Id*. at 12.

Nigeria, Algeria and Angola, have fallen to their lowest levels in decades…largely because of shale oil."[235] Producers in the Middle East have not been able to sell crude oil to the U.S. at traditional prices because U.S. refiners can substitute domestic crude for that which they once imported since our supply has increased and prices have dropped.[236]

[235] Benoît Faucon et al., *U.S. Oil Boom Divides OPEC*, WALL ST. J. (May 27, 2013), http://online.wsj.com/articles/SB10001424127887323855804578508871186460986.

[236] Russell Gold & Nicole Friedman, *U.S. Oil Prices Fall Sharply As Glut Forms On Gulf Coast*, WALL ST. J. (Dec. 6, 2013), http://online.wsj.com/news/articles/SB10001424052702303722104579239831640276094?cb=logged0.9600588375541721.

II. THE TRUTH ABOUT HYDRAULIC FRACTURING

Despite the extensive benefits derived from our ongoing American energy resurgence that is increasing domestic oil and natural gas production, hydraulic fracturing has unfortunately been demonized and is largely misunderstood. Far-left environmental groups have teamed up with President Obama's federal bureaucrats and the Hollywood elite in a coordinated effort to distort the truth and turn the tide of public opinion against an industry and technology that is incredibly vital to the U.S. economy. The fact is that hydraulic fracturing is absolutely necessary to the production of abundant American oil and natural gas resources.

Environmental activists insist that hydraulic fracturing itself has a devastating impact on the environment, but decades of studies and empirical evidence have discredited these claims and proven otherwise. The large prevalence of misinformation makes it very difficult for the public to distinguish fact from fiction and many extremists have attempted to use fabricated and vastly inflated risks to overshadow the incontrovertible benefits derived from hydraulic fracturing, a process that has repeatedly been proven safe for humans and the environment when conducted responsibly. While the Obama Administration's wealthy donors and the foundations financing far-left environmentalism manufacture nonexistent risks and attempt to blur the lines between what is and is not hydraulic fracturing, the few concerns that can sometimes exist typically pertain not to hydraulic fracturing itself but to related processes. These limited challenges are well-understood and manageable.[237] It is important to distinguish between the many activities that accompany oil and natural gas extraction of which the technique of hydraulic fracturing is only one small yet integral part.

a. Air Pollution Myths

In ramping up their attacks on the fossil energy industry, environmental activists have raised exaggerated concerns about air emissions of compounds, such as methane, from hydraulic fracturing. First, it is important to note that the process of hydraulic fracturing itself is not responsible for the release of any such emissions. These claims can stem from other production practices as well as long-distance pipes and distribution systems.

Environmental activists' most beloved, yet perhaps most discredited, source of propagating concerns linking methane emissions and hydraulic fracturing is a May 2011 study by three Cornell University professors entitled "Methane and Greenhouse-Gas Footprint of Natural Gas from Shale Formations."[238] The study, authored by professors Robert Howarth, Anthony Ingraffea, and Renee Santoro, falsely concluded that the life-cycle emissions from natural gas development emit more greenhouse gases than coal.[239] At the outset, it is critical to

[237] *See, Unconventional Resources Development–Managing the Risks,* EXXON MOBILE CORPORATION, Sept. 2014, *available at* http://cdn.exxonmobil.com/~/media/Files/Other/2014/Unconventional_Resources_Development_Risk_Management_Report.pdf.

[238] Robert W. Howarth, et al., *Methane and the greenhouse-gas footprint of natural gas from shale formations,* DEP'T OF INTERIOR, Mar. 13, 2011, *available at* http://www.eeb.cornell.edu/howarth/Howarth%20et%20al%20%202011.pdf.

[239] Steve Everley, *Update II: New Study Debunks Cornell GHG Paper. Again.,* ENERGY IN DEPTH BLOG (Sept. 17, 2012), http://energyindepth.org/national/new-study-debunks-cornell-ghg-paper-again.

At the outset, it is critical to note that the study was produced in exchange for a hefty grant from the anti-fracking, New York-based Park Foundation.

note that the study was produced in exchange for a hefty grant from the anti-fracking, New York-based Park Foundation. Specifically, Professor Howarth was approached by the Park Foundation in 2010 and asked to write "an academic article that would make a case that shale gas was a dangerous, polluting fuel."[240] That same year, Park Foundation gave Cornell University $135,000 for Howarth's study.[241] Accordingly, it is no surprise the study has been highly discredited by other universities, state regulators, and even environmental groups. It is also clear from the funding-source and faulty conclusions that the authors manipulated data to reach a predetermined conclusion.

A detailed review of Howarth's study revealed serious flaws including data manipulation and unsubstantiated assumptions. Most notably, Howarth's Cornell colleagues published a paper scolding the study, revealing that Howarth used Environmental Protection Agency (EPA) data from 2007, well before modern-day hydraulic fracturing and horizontal drilling technology was widespread.[242] By using old data, it is reported that Howarth's estimates were inflated by a factor of 10 to 20.[243] Overall the paper found Howarth's "analysis is seriously flawed."[244] Howarth's most unsubstantiated assumption was that methane is not captured or burnt off through flaring; rather, he assumed with no sources for support, that all methane was vented into the atmosphere.[245] According to John Hanger, former head of the Pennsylvania Department of Environmental Protection under Democrat Governor Ed Rendell, "Professor Howarth just adopted an extreme and false assumption of no flaring that conveniently moved the result of his life cycle analysis in the direction that he wanted."[246]

Howarth's most unsubstantiated assumption was that methane is not captured or burnt off through flaring; rather, he assumed with no sources for support, that all methane was vented into the atmosphere.

Howarth's work was so bad that even the Obama Administration refuted the study. The Department of Energy (DOE) National Energy Technology Laboratory reviewed the same data Howarth used and actually concluded that natural gas production, even from shale, results in far

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[240] Jon Entine, *Gas Heat*, Summer 2014, PHILANTHROPY 20, 26 (2014), *available at* http://www.philanthropyroundtable.org/topic/excellence_in_philanthropy/gas_heat.

[241] *The Chain of Environment Command: How a Club of Billionaires and their Foundations Control the Environmental Movement and Obama's EPA*, U.S. S. COMM. ON ENV'T & PUB. WORKS, Jul. 30, 2014, at 33-34, *available at* http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=8af3d005-1337-4bc3-bcd6-be947c523439 (hereinafter referred to as *Billionaire's Report*).

[242] Lawrence M. Cathles III, et al, Commentary, *A commentary on "The greenhouse-gas footprint of natural gas in shale formations" by R.W. Howarth, R. Santoro, and Anthony Ingraffea,* CLIMATE CHANGE, Jan. 3, 2012, *available at* http://link.springer.com/article/10.1007/s10584-011-0333-0/fulltext.html.

[243] *Id.*

[244] *Id.*

[245] *Id.*

[246] John Hanger, *Gas is Cleaner than Coal: What Cornell Prof gets Right and Wrong*, JOHN HANGER BLOG (Apr. 12, 2011, 6:46 PM), http://johnhanger.blogspot.com/2011/04/gas-was-and-is-cleaner-than-coal.html.

less emissions than the Howarth study reported.[247] Specifically, DOE said Howarth "assumed that all of that gas was vented as methane…though, 62 percent of that gas isn't lost at all—it's 'used to power equipment'."[248] When asked about the study, even Steven Chu, former DOE Secretary and Nobel Prize winning scientist, stated that he "didn't think it was credible."[249]

In addition, researchers at the Massachusetts Institute of Technology deemed assumptions upon which Howarth's report was based as "unreasonable."[250] The Council on Foreign Relations said Howarth's "analysis is based on extremely weak data, and also has a severe methodological flaw (plus some other questionable decisions), all of which means that his bottom line conclusions shouldn't carry weight."[251] The University of Maryland concluded that "arguments that shale gas is more polluting than coal are largely unjustified."[252] Researchers at Carnegie Mellon published a similar report, funded by the Sierra Club, with findings that also contradicted the Howarth study.[253] Lead researcher for the Carnegie Mellon study, Paulina Jaramillo, said "We don't think [Cornell] is using credible data and some of the assumptions they're making are biased. And the comparison they make at the end…is wrong."[254]

Despite these findings, environmental activists stood by the study and far-left media outlets have continued using it to spread propaganda.[255] Environmentalists, including Robert F. Kennedy, Jr.[256] and 350.org founder Bill McKibben,[257] embraced the study as proof that hydraulic fracturing significantly harms the earth. Even foreign governments have referenced the study to review the impacts from hydraulic fracturing. For example, the European Union (EU) report entitled "Climate Impact of Potential Shale Gas Production in the EU" cited the

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[247] Christopher Mims, *Maybe fracked natural gas isn't dirtier than coal, after all*, GRIST, May 23, 2011, http://grist.org/list/2011-05-23-maybe-fracked-natural-gas-isnt-dirtier-than-coal-after-all.

[248] Michael Levi, *Rebutting the Howarth Shale Gas Study*, COUNCIL ON FOREIGN RELATIONS: ENERGY, SECURITY, AND CLIMATE BLOG (May 20, 2011), http://blogs.cfr.org/levi/2011/05/20/rebutting-the-howarth-shale-gas-study.

[249] Shawn Bennett, *Former Obama Energy Secretary Touts Safe Shale Development*, ENERGY IN DEPTH BLOG (Sept. 18, 2013, 9:09 AM), http://energyindepth.org/ohio/former-obama-energy-secretary-touts-safe-shale-development.

[250] Francis O' Sullivan & Sergey Paltsev, *Shale gas production: potential versus actual greenhouse gas emissions*, 7 ENVTL. RESEARCH LETTERS (2012), at 4, *available at* http://iopscience.iop.org/1748-9326/7/4/044030/pdf/1748-9326_7_4_044030.pdf.

[251] Michael Levi, *Some Thoughts on the Howarth Shale Gas Paper*, COUNCIL ON FOREIGN RELATIONS: ENERGY, SECURITY, AND CLIMATE BLOG (Apr. 15, 2011), http://blogs.cfr.org/levi/2011/04/15/some-thoughts-on-the-howarth-shale-gas-paper.

[252] Nathan Hultman, et al., *The greenhouse impact of unconventional gas for electricity generation*, 6 ENVTL. RESEARCH LETTERS (2011), at 8, *available at* http://iopscience.iop.org/1748-9326/6/4/044008/pdf/1748-9326_6_4_044008.pdf.

[253] Mohan Jiang, et al., *Life cycle greenhouse gas emissions of Marcellus shale gas,* 6 ENVTL. RESEARCH LETTERS (2011), *available at* http://iopscience.iop.org/1748-9326/6/3/034014/fulltext.

[254] Steve Everley, *Lights Out: Sierra Club-Funded Study Finally Puts Discredited Cornell Paper to Bed*, ENERGY IN DEPTH BLOG (Aug. 25, 2011, 2:02 PM), http://energyindepth.org/national/lights-out-sierra-club-funded-study-finally-puts-discredited-cornell-paper-to-bed.

[255] *See, Billionaire's Report,* U.S. S. COMM. ON ENV'T & PUB. WORKS, Jul. 30, 2014, *available at* http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=8af3d005-1337-4bc3-bcd6-be947c523439.

[256] *RFK, Jr. Abandons Natural Gas Optimism Thanks to "Fracking Industry's War on The New York Times – And The Truth"*, CLIMATE PROGRESS (Oct. 22, 2011, 2:29 PM), http://thinkprogress.org/climate/2011/10/22/349767/rfk-robert-f-kennedy-jr-natural-gas-fracking.

[257] Bill McKibben, *Bad News for Obama: Fracking May Be Worse Than Burning Coal*, MOTHER JONES, Sept. 8, 2014, http://www.motherjones.com/environment/2014/09/methane-fracking-obama-climate-change-bill-mckibben.

Howarth study when analyzing the claim that life cycle greenhouse gas emissions from shale gas development may be higher than those from conventional natural gas, oil and coal.[258]

While Howarth concluded that up to 7.9% of natural gas developed from shale was emitted into the atmosphere,[259] EPA's 2011 greenhouse gas (GHG) inventory revealed a 1.3% rate of emissions from natural gas systems (i.e. emissions during production, processing, transport, storage, and distribution).[260] In fact, 2012 emissions from the cattle industry topped the natural gas sector.[261] For 2013, EPA's GHG inventory found that methane emissions from natural gas systems decreased 10.2% since 1990.[262]

In March 2013, researchers at the University of Texas at Austin (UT), in cooperation with the Environmental Defense Fund (EDF), published a study based on empirical data that concluded methane emissions from hydraulically fractured natural gas well completions were vastly lower than Howarth's claims.[263] The UT and EDF study conducted on-site reviews of 190 natural gas production sites throughout the U.S., including 489 hydraulically fractured wells.[264] The UT researchers also noted that "Howarth et al. assumed neither green completions nor flares were used to control emissions," which they found "isn't the case..."[265]

The UT study also "found that the total methane emissions from natural gas production, from all sources measured in the study, were comparable to the most recent [2013] EPA estimates."[266] However, specifically among hydraulically fractured well completions reviewed, UT researchers found that methane emission rates were 97% lower than EPA's at the time.[267]

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[258] *Climate impact of potential shale gas production in the EU*, AEA TECHNOLOGY, Jul. 30, 2012, at iii-iv, *available at* http://ec.europa.eu/clima/policies/eccp/docs/120815_final_report_en.pdf (Daniel Forster & Jonathan Perks eds. 2012).

[259] Robert W. Howarth, et al., *Methane and the greenhouse-gas footprint of natural gas from shale formations,* DEP'T OF INTERIOR, Mar. 13, 2011, at 1, *available at* http://www.eeb.cornell.edu/howarth/Howarth%20et%20al%20%202011.pdf.

[260] *Updating the Facts: Emissions from Natural Gas Systems*, AM. GAS ASS'N, Apr. 22, 2014, *available at* http://www.aga.org/Kc/analyses-and-statistics/studies/efficiency_and_environment/Pages/UpdatingtheFactsEmissionsfromNaturalGasSystems.aspx ("Methane emissions from the natural gas value chain, which includes field production, processing, transmissions and storage, and distribution, result in an effective 1.3 percent emissions rate of produced natural gas.").

[261] Gayathri Vaidyanathan, *Cows' methane emissions trump gas operations in latest EPA greenhouse gas inventory*, ENERGY WIRE, Feb. 25, 2014, http://www.eenews.net/stories/1059995037.

[262] *U.S. Greenhouse Gas Inventory Report Archive*, ENVTL. PROT. AGENCY, Apr. 12, 2013, at 13, *available at* http://www.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2013-Main-Text.pdf.

[263] David T. Allen, et al., *Measurements of methane emissions at natural gas production sites in the United States*, 110 PROCEEDINGS OF THE NAT'L ACAD. OF SCI., Oct. 29, 2013, *available at* http://www.pnas.org/content/110/44/17768.full.

[264] *Unprecedented Measurements Provide Better Understanding of Methane Emissions During Natural Gas Production,* UNIV. OF TEXAS, Sept. 16, 2013, http://www.utexas.edu/news/2013/09/16/understanding-methane-emissions.

[265] *FAQ About the University of Texas Methane Study*, ENVT'L DEFENSE FUND, http://www.edf.org/climate/methane-studies/UT-study-faq#6 (last visited Oct. 7, 2014).

[266] *Unprecedented Measurements Provide Better Understanding of Methane Emissions During Natural Gas Production,* UNIV. OF TEXAS, Sept. 16, 2013, http://www.utexas.edu/news/2013/09/16/understanding-methane-emissions.

[267] Jon Entine, *University of Texas-Environmental Defense Fund Shale Gas Study Unmasks Politics of Anti-Fracking Activist Cornell Scientists*, FORBES, Sept. 18, 2013,

Importantly, EPA's 2014 GHG inventory demonstrated methane emissions fell 16.9% since 1990.[268] EPA's recently released data from its GHG Reporting Program revealed a 73% reduction in methane emissions since 2011 from hydraulically fractured natural gas wells.[269]

Despite documented, significant reductions in methane emissions as reported by EPA's 2014 GHG inventory, the Center for American Progress (CAP) astonishingly reported that methane emissions on federal lands increased over the last five years.[270] These findings directly conflict with the fact that development on federal lands has decreased over that period of time. Even more astounding, the report relied on discredited data from the Howarth study. In fact, CAP limited its analysis to Department of Interior's (DOI) reporting on royalties to make assumptions on volume and activity levels.[271] CAP then applied a combination of methane emission estimates from EPA's GHG Inventory, EPA's Natural Gas STAR Program, and a handful of other sources to cherry-pick the emission estimates it wanted.[272] Also, CAP's assumptions were applied to all fossil fuel leases on federal lands, while most of the data sets apply only to emissions from natural gas systems. Perhaps a more important factor that is embarrassing for far-left organizations such as CAP to admit is that climate models have repeatedly overestimated the increase in methane in the atmosphere.[273]

Despite documented, significant reductions in methane emissions as reported by EPA's 2014 GHG inventory, the Center for American Progress (CAP) astonishingly reported that methane emissions on federal lands increased over the last five years.

In yet another faulty study often cited by anti-fracking activists, the Colorado School of Public Health in 2012 claimed that residents close to hydraulically fractured wells are at a higher risk of health problems.[274] According to the study, this is because wells emit potentially toxic petroleum hydrocarbons into the air. However, the findings of this study have been highly criticized by the academic community and local officials.[275] For starters the study overestimates emissions, assessing that they are "10 times higher than real-world conditions," and does not

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http://www.forbes.com/sites/jonentine/2013/09/18/university-of-texas-environmental-defense-fund-shale-gas-study-unmasks-politics-of-anti-fracking-activist-cornell-scientists.

[268] Nick Snow, *Groups ask Obama to impose methane emissions limits,* OIL & GAS JOURNAL (Sept. 22, 2014), http://www.ogj.com/articles/2014/09/groups-ask-obama-to-impose-methane-emissions-limits.html.

[269] *EPA Releases Greenhouse Gas Emissions Data from Large Facilities*, ENVT'L PROT. AGENCY (Sept. 30, 2014), http://yosemite.epa.gov/opa/admpress.nsf/0/58d0225b6c4023ea85257d63005ca960?OpenDocument.

[270] Katie Brown, *Four Facts to Know about CAP's Flawed Methane Report*, ENERGY IN DEPTH BLOG (Oct. 7, 2014, 4:04 PM), http://energyindepth.org/national/four-facts-to-know-about-caps-flawed-methane-report.

[271] *Id.*

[272] *Id.*

[273] *Farming, Fishing, Forestry, and Hunting in an Era of Changing Climate: Hearing Before the Subcomm. on Green Jobs and the New Economy of the S. Comm. on Env't and Pub. Works,* 113th Cong. 6 (2014) (responses to questions for the record of Dr. David South).

[274] Lisa M. McKenzie, et. al., *Human Health Risk Assessment of Air Emissions from Development of Unconventional Natural Gas Resources,* UNIV. OF COLO. SCHOOL OF PUB. HEALTH, Mar. 22, 2012, at 2, *available at* http://www.acfan.org/wp-content/uploads/2011/12/colorado.pdf.

[275] Steve Everley**,** *UPDATE IV: Eight Worst Inputs Used in Colorado Health Study,* ENERGY IN DEPTH BLOG (May 16, 2012, 9:09 AM), http://energyindepth.org/mtn-states/non-elite-eight-worst-inputs-used-in-new-colorado-health-study-2.

differentiate between those from a nearby highway and those from natural gas wells.[276] The study also used out-of-date emissions data, used significantly inflated estimates regarding the amount of time it takes to drill and complete a well, and made flawed calculations about the length and extent of exposure by assuming that residents remained stagnant for most of their lives.[277] After reviewing the study, the Colorado Oil & Gas Association (COGA) stated that it "appreciates the work being done by Colorado's institutions of higher education and relies on them for unbiased, non-politicized data and information. Unfortunately, the latest study by the Colorado School of Public Health (CSPH)…does not reach that standard."[278]

Another issue related to methane and air emissions is flaring, which is the controlled burning of natural gas, the extent of which has been greatly exaggerated by Howarth and others. Ohio regulators outlined several reasons flaring can be "necessary," including for safety and emergency reasons, and made clear that "natural gas is valuable, companies would rather capture rather than flare it."[279] President Obama, in his fact sheet titled, "Administration Commitment to American Made Energy," stated that his Administration must make "broader efforts to improve the performance of Federal permitting and review processes [and] it is critical that we make pipeline infrastructure a top priority."[280] Yet the reason for much of the flaring is clear, it is because of delays in infrastructure permitting that would allow capture and transport of the natural gas, which industry in many occasions is forced to burn.[281] Lynn Helms, head oil and natural gas regulator in North Dakota has called the federal delays in permitting "a major disappointment."[282] Unfortunately this does not stop the same far-left activists both inside and out of the Administration from fighting both the infrastructure development as well as the flaring caused as a result of these delays.

Yet the reason for much of the flaring is clear, it is because of delays in infrastructure permitting that would allow capture and transport of the natural gas, which industry in many occasions is forced to burn. Lynn Helms, head oil and natural gas regulator in North Dakota has called the federal delays in permitting "a major disappointment." Unfortunately this does not stop the same far-left activists both inside and out of the Administration from fighting both the infrastructure development as well as the flaring caused as a result of these delays.

[276] *Id.*
[277] *Id.*
[278] Press Release, *Colorado Oil & Gas Association statement regarding Colorado School of Public Health Report*, COLO. OIL & GAS ASSOC., Mar. 21, 2012, *available at* http://newsroom.coga.org/pr/coga/document/Statement_by_COGA_regarding_CSPH_study.pdf.
[279] *Understanding the Basics of Gas Flaring*, OHIO ENVT'L PROT. AGENCY, May 2012, at 1, http://epa.ohio.gov/portals/0/General%20pdfs/gas%20flaring.pdf.
[280] *Fact Sheet: Obama Administration Commitment to American Made Energy*, THE WHITE HOUSE (Mar. 21, 2012), http://www.whitehouse.gov/the-press-office/2012/03/21/fact-sheet-obama-administration-commitment-american-made-energy.
[281] *N.D. officials say pipeline delays are a problem in limiting flaring*, ALASKA NATURAL GAS TRANSPORTATION PROJECTS (Oct. 6, 2014), http://www.arcticgas.gov/2014/nd-officials-say-pipeline-delays-are-problem-limiting-flaring.
[282] *Id.*

b. Water Contamination Myths

Much of the controversy surrounding hydraulic fracturing has centered on the perceived threat of water contamination, either by methane migration or through the injection of fracturing fluids. Extreme environmental groups continue to make unsubstantiated claims such as "[m]ethane concentrations are 17x higher in drinking-water wells near fracturing sites than in normal wells,"[283] and "hydraulic fracturing fluids contain toxic chemicals and are being injected into and near drinking water supplies."[284] However, when pressed these groups are continuously unable to prove their claims because such claims are untrue.[285]

i. Methane

Activists have attempted to concern the public with the claim that potential migration of methane into drinking water sources is a result of the hydraulic fracturing process. This unsubstantiated claim was first widely promulgated by the famous flaming faucets from Weld County, Colorado in the now highly discredited 2010 documentary *Gasland*. The anti-fracking and anti-science film blamed hydraulic fracturing for the methane gas that supposedly contaminated local drinking water sources. This claim turned out to be false. In fact, Colorado regulators had actually investigated these exact claims two years prior to the release of *Gasland* and determined that hydraulic fracturing was not the cause of the contamination.[286] According to the Colorado Oil and Gas Conservation Commission reports, the wells actually contained naturally occurring "biogenic" methane.[287] Interestingly, Weld County has the most oil and natural gas production in the state "with 15,000 wells producing more than 10 million barrels of oil annually."[288] It is no surprise that anti-fossil fuel groups targeted this area. If their efforts are successful, a major source of domestic energy, revenue, and jobs will disappear.

Carrying on with tradition, *Gasland II* released in 2013 also attempted to blame hydraulic fracturing for the methane gas found in local drinking water sources in Parker County, Texas. Rather than flaming faucets, this time a landowner was shown lighting the end of a garden hose on fire, which was said to be attached to a water line. This turned out to be no more than a coordinated stunt. In 2012, the Texas District Court found that the landowner had teamed up

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[283] *See, What goes in and out of hydraulic fracturing,* DANGERS OF FRACKING, http://www.dangersoffracking.com (last visited Oct. 14, 2014).
[284] *See, Hydraulic Fracturing Myths and Facts,* EARTH WORKS (Apr. 23, 2009), http://www.earthworksaction.org/library/detail/hydraulic_fracturing_myths_and_facts (last visited Oct. 14, 2014).
[285] Press Release, *EPA Jackson 'Not Aware of Any Proven Case Where the Fracking Process Itself Has Affected Water',* U.S. S. COMM. ON ENV'T & PUB. WORKS, May 24, 2011, http://www.epw.senate.gov/public/index.cfm?FuseAction=Minority.PressReleases&ContentRecord_id=23eb85dd-802a-23ad-43f9-da281b2cd287.
[286] *COGIS-Complaint Reports No. 200190138*, COLORADO OIL AND GAS CONSERVATION COMM'N. (May 23, 2008), http://cogcc.state.co.us/cogis/ComplaintReport.asp?doc_num=200190138. *See also 'Gasland' letter*, COLO. OIL AND GAS CONSERVATION COMM'N., *available at* http://cogcc.state.co.us/library/GASLAND%20DOC.pdf (last visited Oct. 21, 2014).
[287] *Id.* (Note: This is a naturally occurring gas that's dissolved in water and bubbles out when water is pumped to the surface.)
[288] Barry Poulson, *Weld County, Colorado: Ground Zero in the Anti-Fracking Battle*, FORBES, Dec. 4, 2013, http://www.forbes.com/sites/realspin/2013/12/04/weld-county-colorado-ground-zero-in-the-anti-fracking-battle.

with environmental activists to deceive the public.[289] According to the court, the garden hose was attached to a gas vent rather than to a water line. The court pointed out that, "[t]he demonstration was not done for scientific study but to provide local and national news media a deceptive video, calculated to alarm the public into believing the water was burning…[and] alarm the EPA."[290]

In 2012, the Texas District Court found that the landowner had teamed up with environmental activists to deceive the public. According to the court, the garden hose was attached to a gas vent rather than to a water line.

As was the case in Colorado and Texas, the presence of methane in drinking water sources surrounding a well site does not constitute evidence of contamination caused as a result of hydraulic fracturing or oil and natural gas development. Methane, not surprisingly, is frequently present in water surrounding shallow methane deposits and has long been found naturally occurring in groundwater supplies.[291] In fact, a 2011 Pennsylvania State University study compared "pre-drilling and post-drilling" water quality in the Marcellus Shale and concluded, "when comparing dissolved methane concentrations in the 48 water wells that were sampled both before and after drilling (from Phase 1), the research found no statistically significant increases in methane levels after drilling and no significant correlation to distance from drilling."[292]

This conclusion is further supported by a 2014 study by the DOE where researchers monitored the hydraulic fracturing activities of six natural gas wells in the Marcellus Shale.[293] One of the goals was to determine whether "natural gas or fluids from the hydraulically fractured Marcellus Shale had migrated 3,800 ft. upward to an overlying…gas field during or after hydraulic fracturing."[294] The study found "no evidence of gas migration."[295]

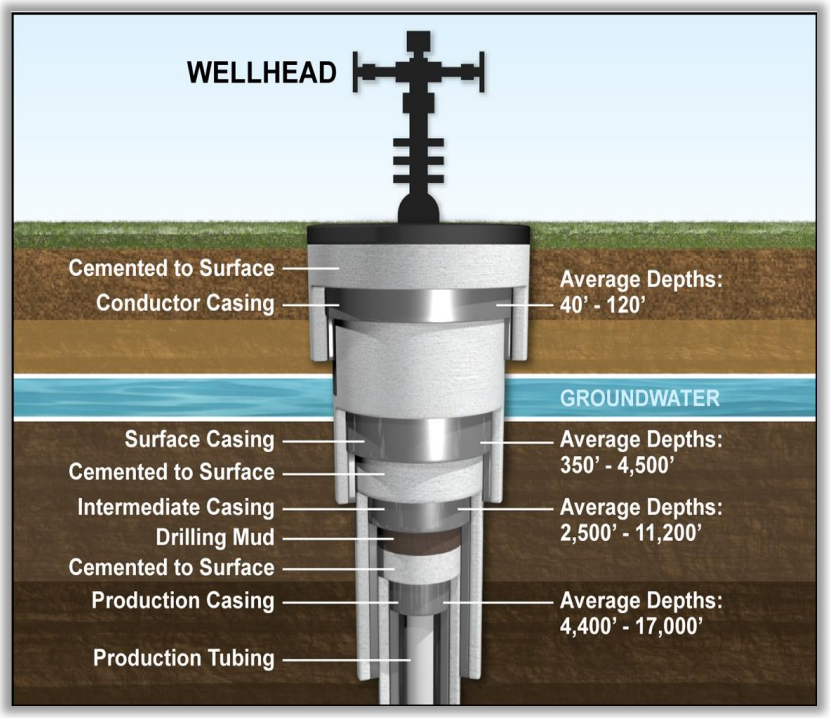
Another recent study analyzed 133 water wells in both Pennsylvania and Texas and concluded that hydraulic fracturing does not cause methane contamination of drinking water sources.

Another recent study analyzed 133 water wells in both Pennsylvania and Texas and concluded that hydraulic fracturing does not cause methane

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[289] Katie Brown, *Rachel Maddow Resurrects the Flaming Hose and the Deception of Gasland,* ENERGY IN DEPTH BLOG (June 2, 2014, 5:05 PM), http://energyindepth.org/national/rachel-maddow-flaming-hose-deception-gasland.
[290] Letter from Dist. Judge Trey E. Loftin to Allen M. Stewart, et. al. (Feb. 16, 2012), *available at* http://www.barnettshalenews.com/documents/2012/legal/Court%20Order%20Denial%20of%20Lipsky%20Motion%20to%20Dismiss%20Range%20Counterclaim%202-16-2012.pdf.
[291] *COGCC Fact Sheet-Methane in Colorado Groundwater,* COLO. OIL AND GAS CONSERVATION COMM'N, http://cogcc.state.co.us/Library/WaterInfo/Methane_in_Colorado_Groundwater.pdf (last visited Oct. 21, 2014).
[292] *Error Notice,* CTR. FOR RURAL PA., Nov. 22, 2011, at 4, *available at* http://www.rural.palegislature.us/documents/reports/Marcellus_and_drinking_water_2011_rev.pdf.
[293] *An Evaluation of Fracture Growth and Gas/Fluid Migration as Horizontal Marcellus Shale Gas Wells are Hydraulically Fractured in Greene County, Pennsylvania,* U.S. DEP'T OF ENERGY OFFICE OF FOSSIL ENERGY, Sept. 15, 2014, at 1, *available at* http://www.netl.doe.gov/File%20Library/Research/onsite%20research/publications/NETL-TRS-3-2014_Greene-County-Site_20140915_1_1.pdf.
[294] *Id.*
[295] *Id.*

contamination of drinking water sources.[296] Rather, the study found that improper cementing or casing can lead to some methane contamination. However, both elements are already regulated by most states. This issue is well known by the oil and gas industry and is not unique to hydraulically fractured wells. As the graphic below illustrates, when done properly, cementing and casing provides protection against groundwater contamination.



Anti-drilling activists frequently argue that the oil and gas industry is plagued by high well failure rates, but this is simply untrue as indicated by a 2011 study by the Groundwater Protection Council (GWPC). The GWPC is a national association of state agencies that focuses on protecting groundwater resources.[297] Although environmental activists frequently employ ever-evolving and wholly fabricated statistics, ranging from an alleged well failure rate of 5%[298] all the way up to completely unfounded 40[299] and 50% rates, the GWPC study found success rates of 99.97% in Ohio and 99.99% in Texas.[300]

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[296] Thomas H. Darrah, et al., *Noble gases identify the mechanisms of fugitive gas contamination in drinking-water wells overlying the Marcellus and Barnett Shale*, 111 PROCEEDINGS OF THE NAT'L ACAD. OF SCIENCES, Aug. 12, 2014, *available at* http://www.pnas.org/content/111/39/14076.full.

[297] *See, State Oil and Gas Agency Groundwater Investigations and their Role in Advancing Regulatory Reforms*, GROUND WATER PROT. COUNCIL, Aug. 2011, *available at* http://fracfocus.org/sites/default/files/publications/state_oil__gas_agency_groundwater_investigations_optimized.pdf.

[298] *Hydraulic Fracturing FAQs*, GASLAND, http://one.gaslandthemovie.com/whats-fracking (last visited Oct. 21, 2014).

[299] Chris Tucker, *For Josh Fox, the Sun Also Rises*, ENERGY IN DEPTH BLOG (June 22, 2012, 9:09 PM), http://energyindepth.org/national/for-josh-fox-sun-also-rises.

[300] Katie Brown, *ReFINE Report Relies on Old, Previously Debunked Data*, ENERGY IN DEPTH BLOG (Mar. 26, 2014), http://energyindepth.org/national/refine-report-relies-on-old-previously-debunked-data.

These low failure rates are evidence of the effective regulatory schemes implemented by the states, which for decades have successfully executed the responsibility of ensuring that oil and natural gas development within their borders is done safely and in a manner that protects local citizens and the natural resources each state uniquely values. Since the major uptick of hydraulic fracturing and horizontal drilling began, states have continued to strengthen their regulations to ensure the protection of citizens and the environment.[301]

ii. Fracturing Fluids

Environmental activists have also raised concerns with what they claim to be the potential for injected fracturing fluids to contaminate local water sources. However, studies show that properly injected fracturing fluid does not pose a high risk of contamination. This is especially true where there is a large separation in depth between the drinking water source and the production zone,[302] which is almost always the case. In addition, there have been no documented cases of such migration, which EPA and other government officials have consistently acknowledged.[303]

Hydraulic fracturing has been extensively studied, and there is no conclusive evidence connecting the hydraulic fracturing process to groundwater contamination. Most experts agree that threats to groundwater supplies are much more likely to result from surface spills and casing failures, neither of which are specific to nor part of the hydraulic fracturing process. It is widely accepted that surface spills in any setting can be a potential threat to shallow drinking water formations. This is true regardless of whether those chemicals originated from oil and natural gas activities, the manufacture of solar panels or wind turbines, or some other type of industrial activity.[304]

Environmentalists have also taken aim at the composition of fracking fluids despite the absence of any record of serious risk of exposure. Although companies are not required to disclose the compositions under federal law,[305] the industry proactively responded to concerns by teaming with state-based regulators and creating a public disclosure system called FracFocus. In an effort to enhance transparency, a growing number of companies have adopted internal policies to publically disclose complete listings of all chemicals used in their hydraulic fracturing fluid products.[306]

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[301] Jacquelyn Pless, *Fracking Update: What States are Doing to Ensure Safe Natural Gas Extraction,* NAT'L CONFERENCE OF STATE LEGISLATURE (updated July 2011), http://www.ncsl.org/research/energy/fracking-update-what-states-are-doing.aspx.

[302] *Shale Gas Production Subcommittee 90-Day Report*, U.S. DEP'T OF ENERGY: SECRETARY OF ENERGY ADVISORY BOARD, Aug. 18, 2011, at 19, *available at* http://www.shalegas.energy.gov/resources/081811_90_day_report_final.pdf.

[303] *See, Video Recording of U.S. S. Comm. on Env't & Pub. Works Hearing on the Nomination of Ken Kapocis for Assistant Adm'r of the EPA's Office of Water, available at* http://www.youtube.com/watch?v=VIsQ-q4IhIc.

[304] *Solyndra Not Dealing With Toxic Waste At Milpitas Facility*, CBS SAN FRANCISCO BAY AREA, Apr. 28, 2012, http://sanfrancisco.cbslocal.com/2012/04/28/solyndra-not-dealing-with-toxic-waste-at-milpitas-facility.

[305] Alicia Mundy, *EPA Weighs Demanding Disclosure of Fracking Chemicals*, CAPITAL JOURNAL, May 9, 2014, http://online.wsj.com/articles/SB10001424052702304655304579551691342716528.

[306] *Hydraulic Fracturing Chemical Disclosure Policy*, BAKER HUGHES, http://public.bakerhughes.com/shalegas/disclosure.html (last visited October 7, 2014).

FracFocus is managed by the GWPC and Interstate Oil and Gas Compact Commission (IOGCC), two state based organizations, which provide the public with information on conservation and environmental protection. Twelve state regulatory agencies currently require companies to disclose their fracturing fluid formulas on FracFocus,[307] and there are currently "427 participating companies reporting chemical data for nearly 43,000 wells across the country."[308] In addition, 16 states either require or allow companies to disclose the chemicals they use throughout the hydraulic fracturing process on FracFocus and 10 additional states are considering it.[309] Despite the success of both voluntary and state-based programs, environmental activists continue to lobby for a more heavy-handed, top-down Washington-based program. To date, these efforts have been unsuccessful and failed to generate any significant support in Congress.[310]

Despite the success of both voluntary and state-based programs, environmental activists continue to lobby for a more heavy-handed, top-down Washington-based program.

Similar to many industrial processes or uses of chemicals economy-wide, companies using chemicals in the hydraulic fracturing process are sometimes allowed to protect their proprietary information to ensure that U.S. businesses do not lose their competitive advantage. Despite these legitimate business interests as well as state based regulatory oversight, environmental activists have used the lack of federal mandates to target the oil and gas industry in particular. They use scare tactics such as referring to the fracturing fluid formulas as "toxic cocktails" or "toxic soup."[311] Contrary to these claims, the average formulas comprise of approximately 90% water, 9.5% sand, and 0.5% chemical additives, some of which are sourced from the food industry.[312] The trace amounts of chemical additives used are there to reduce friction and prevent corrosion.[313] In addition, they are typically injected into the ground at least a mile below any freshwater source, meaning there are virtually no risks associated with using these chemicals during the hydraulic fracturing process.

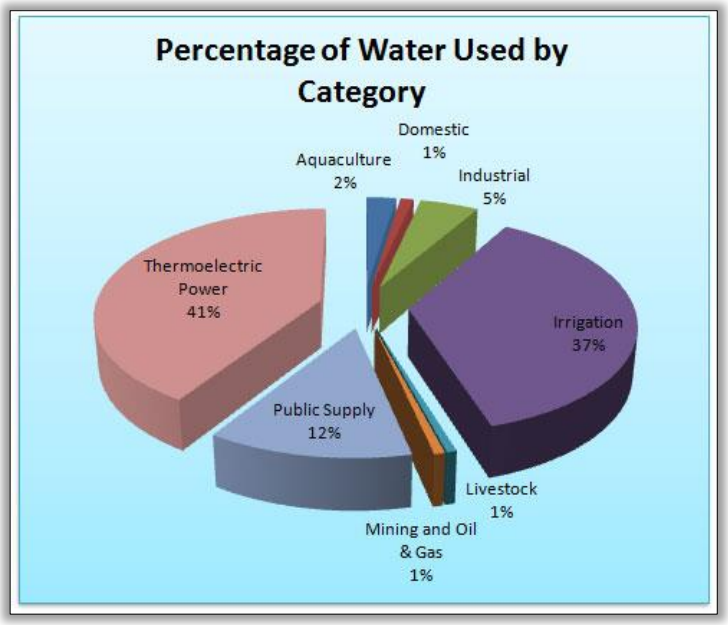
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[307] *FracFocus 2.0 to revolutionize hydraulic fracturing chemical reporting nationwide*, FRACFOCUS (May 29, 2013), http://fracfocus.org/node/347.
[308] *Id.*
[309] *State Oil & Gas regulations designed to protect water resources*, GROUND WATER PROT. COUNCIL, 2014, at 28, *available at* http://www.gwpc.org/sites/default/files/files/Oil%20and%20Gas%20Regulation%20Report%20Hyperlinked%20Version%20Final-rfs.pdf.
[310] Julia Bell, *Subtraction Through Additiona via the FRAC Act,* ENERGY IN DEPTH BLOG (Feb. 18, 2013, 11:11 PM), http://energyindepth.org/national/subtraction-through-addition-via-the-frac-act. (Note: The proposed Responsibility and Awareness of Chemicals Act (FRAC) has been introduced in three successive congressional sessions (2009, 2011, and 2013), and each time the bill was buried in committee.)
[311] *See, Sustainable Living & Sustainable Lifestyle*, ISUSTAINABLE EARTH, http://www.isustainableearth.com/sustainable-living/one-small-victory-against-the-toxic-practice-of-fracking (last visited October 7, 2014).
[312] *CleanStim® Hydraulic Fracturing Fluid System*, HALLIBURTON, http://www.halliburton.com/en-US/ps/stimulation/fracturing/cleanstim-hydraulic-fracturing-fluid-system.page (last visited October 7, 2014).
[313] *Hydraulic Fracturing Fluids-Composition and Additives*, GEOLOGY.COM, http://geology.com/energy/hydraulic-fracturing-fluids (last visited Oct. 21, 2014).

Industry as a whole has gone the extra mile to adjust the composition of additives in their fracturing fluids, removing trace amounts of chemicals which have been flagged for concern, despite the lack of evidence that these fluids are migrating from the original injection site or posing a risk to groundwater supplies. One company has instituted the EnviroFrac program, which has successfully led to the elimination of 25% of the additives used in their fracturing fluids.[314] Many others have has also worked to develop "greener" fracturing fluids. One such company even produced a food-grade fracturing fluid[315] that their executives drank in front of a conference audience.[316]

iii. Water Scarcity

Another issue frequently raised in the attack on hydraulic fracturing centers around the technology's use of fresh water. Hydraulic fracturing activities can require volumes of water that would seem significant, averaging from one to five million gallons per job, but "in most regions water used in hydraulic fracturing represents a very small fraction of total water consumption."[317] In fact, water consumption by "all mining activities," including hydraulic fracturing and other oil and natural gas production techniques, is about 1% of the billions of gallons consumed in the U.S. daily, as the chart to the right demonstrates.[318]



Anti-fracking advocates have specifically cited water scarcity as a concern in areas stricken by drought. However, across the country oil and gas companies are increasingly recycling wastewater from previous hydraulic fracturing jobs to reduce the amount of freshwater they use. Recycling the water can be expensive as the process typically involves first treating the water using a water treatment technology and then reusing it

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[314] Chris Faulkner, *In The Public Eye*, ENERGY GLOBAL, Mar. 20, 2014, http://www.energyglobal.com/news/exploration/articles/In_the_public_eye.aspx (adapted by David Bizley).
[315] *CleanStim® Hydraulic Fracturing Fluid System*, HALLIBURTON, http://www.halliburton.com/en-US/ps/stimulation/fracturing/cleanstim-hydraulic-fracturing-fluid-system.page (last visited October 7, 2014).
[316] Catherine Tsai, *Halliburton Executive Drinks Fracking Fluid At Conference*, HUFFINGTON POST, Aug. 22, 2011, http://www.huffingtonpost.com/2011/08/22/halliburton-executive-drinks-fracking-fluid_n_933621.html.
[317] *Shale Gas Production Subcommittee 90-Day Report*, U.S. DEP'T OF ENERGY: SECRETARY OF ENERGY ADVISORY BOARD, Aug. 18, 2011, at 19, *available at* http://www.shalegas.energy.gov/resources/081811_90_day_report_final.pdf.
[318] Joan F. Kenny, et. al., *Estimated Use of Water in the United States in 2005*, U.S. DEP'T OF INTERIOR: U.S. GEOLOGICAL SURVEY, 2009, *available at* http://www.fracfocus.org/sites/default/files/publications/estimated_use_of_water_in_the_united_states_in_2005.pdf.

in future drilling operations. Despite the costs, some companies strive for 100% reuse or recycling of wastewater while others search for alternative water sources such as water from old mining operations.[319] Others in the industry have worked to develop a "waterless fracturing technology" that uses liquid carbon dioxide (CO_2) rather than water in the hydraulic fracturing process.[320]

c. Earthquake Myths

A recent myth exaggerated in order to damage the public perception of hydraulic fracturing is the idea that the technique is responsible for causing earthquakes or "induced seismic events."[321] Despite these claims, a 2012 study by the National Research Council (NRC) found that "the process of hydraulic fracturing a well as presently implemented for shale gas recovery *does not* pose a high risk for inducing felt seismic events."[322] Instead, the study linked the limited occurrence of induced seismic events to wastewater injection wells but noted that the risk from those too is very low.[323] The study found that while injection of wastewater from a multitude of sources can pose some risk of induced seismicity, "the number of felt induced seismic events relative to the tens of thousands of produced water injection wells is small."[324] Another 2014 study on induced seismic events supported these findings and concluded specifically that recent reports of seismic events in central Oklahoma are not attributable to the process of hydraulic fracturing itself.[325]

Contrary to the numerous anti-fossil fuel campaigns, many more studies confirm these findings. For example, a 2012 hydraulic fracturing study in the PXP Inglewood, California Oil Field found that "high-volume hydraulic fracturing…had no detectable effects on vibration, and did not induce seismicity (earthquakes)."[326] In 2012, David Hayes, former DOI Deputy Secretary under President Obama, confirmed that there is no evidence to suggest that hydraulic fracturing itself is the cause of the increased rate of earthquakes."[327] Further, the U.S. Geological Survey (USGS) has found that "[a]lthough the disposal process has the potential to

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[319] James Conca, *Fracking with Bad Water,* FORBES, Apr. 2, 2013, http://www.forbes.com/sites/jamesconca/2013/02/04/fracking-with-bad-water.

[320] *Praxair Launches DryFrac™ Waterless Fracturing Technology for Oil and Gas Producers,* PRAXAIR (Sept. 18, 2014), http://www.praxair.com/news/2014/praxair-launches-dryfrac-waterless-fracturing-technology.

[321] Chip Northrup, *Fracking Induced Seismic Events: Ohio Frackquakes,* NO FRACKING WAY (Mar. 12, 2014), http://www.nofrackingway.us/2014/03/12/fracking-induced-seismic-events-frackquakes.

[322] *Induced Seismicity Potential in Energy Technologies,* U.S. NAT'L ACAD. NAT'L RESEARCH COUNCIL (June 2012), at 21, http://www.netl.doe.gov/File%20Library/Events/2012/Carbon%20Storage%20RD%20Project%20Review%20Meeting/Hitzman-Ind-Seis-briefing-June-2012-final.pdf (emphasis added).

[323] *Id.* at 22.

[324] U.S. NAT'L ACAD. NAT'L RESEARCH COUNCIL, INDUCED SEISMICITY POTENTIAL IN ENERGY TECHNOLOGIES 79 (2012).

[325] K.M. Keranen, et al., *Sharp increase in central Oklahoma seismicity since 2008 induced by massive wastewater injection,* 345 SCIENCE 6195, Jul. 25, 2014, *available at* http://www.sciencemag.org/content/345/6195/448.abstract.

[326] *Hydraulic Fracturing Study: PXP Inglewood Oil Field Study*, CARDNO ENTRIX, Oct. 10, 2012, at 3, *available at* http://www.inglewoodoilfield.com/res/docs/102012study/Hydraulic%20Fracturing%20Study%20Inglewood%20Field10102012.pdf.

[327] David J. Hayes, *Is the Recent Increase in Felt Earthquakes in the Central US Natural or Manmade?,* U.S. DEP'T OF INTERIOR, Apr. 11, 2012, http://www.doi.gov/news/doinews/Is-the-Recent-Increase-in-Felt-Earthquakes-in-the-Central-US-Natural-or-Manmade.cfm.

trigger earthquakes, very few of the more than 30,000 wells designed for this purpose appear to cause earthquakes."[328]

The discussion surrounding seismic events and energy development is yet another area where environmental activists intentionally blur the lines between what is and is not hydraulic fracturing. The process of wastewater injection is a wholly separate process from hydraulic fracturing and even oil and natural gas development. Attempts by environmentalists to interchange and confuse the two are fraudulent at best. It should be noted that underground wastewater injection activities are not specific to oil and natural gas production and would exist with or without hydraulic fracturing. In addition, it is also important to understand that although some far-left environmentalists would like the public to believe that wastewater injection is unregulated and unsafe, it is actually a federally regulated activity overseen by EPA under the Safe Drinking Water Act (SDWA) Underground Injection Control (UIC) program.[329]

These federal regulations do not just oversee wastewater from hydraulic fracturing or even the oil and gas industry as a whole. They regulate the injection of waste from many other activities such as food production, municipal wastewater treatment, and even carbon capture and sequestration.[330] According to a recent nonpartisan Government Accountability Office report, these injection wells have been regulated safely for more than 30 years.[331] The report highlighted more significant concerns related to seismicity with the capture and storage of CO_2, a technology environmentalists ironically support, than it did for areas related to oil and natural gas development.

[328] William Ellsworth, et. al., *Man-Made Earthquakes Update*, U.S. DEP'T OF INTERIOR U.S. GEOLOGICAL SURVEY (Jan. 17, 2014), http://www.usgs.gov/blogs/features/usgs_top_story/man-made-earthquakes.
[329] *See* 42 U.S.C. § 300f (1996).
[330] *Safe Drinking Water Act Underground Injection Control (UIC) Program*, ENVT'L PROT. AGENCY, http://www.epa.gov/safewater/uic/pdfs/uicposter_eng.pdf (last visited Oct. 21, 2014).
[331] GOV'T ACCOUNTABILITY OFFICE, DRINKING WATER: CHARACTERIZATION OF INJECTED FLUIDS ASSOCIATED WITH OIL AND GAS PRODUCTION, GAO-14-857R (Sept. 23, 2014), *available at* http://www.gao.gov/products/GAO-14-857R?utm_source=&utm_medium=email&utm_campaign=10301.

III. STATES AS EFFECTIVE REGULATORS OF HYDRAULIC FRACTURING

A major misconception intentionally perpetuated by anti-fossil fuel activists is that hydraulic fracturing is unregulated. This could not be further from the truth. The process is extensively regulated by states and has been for over 60 years.[332] It should also be noted that there are no credible voices in industry or elsewhere arguing for zero regulation of hydraulic fracturing or the oil and gas industry. Any honest debate centers on whether the federal government or the states are best equipped to be the industry's primary regulator.

At the outset, it is important to understand that many aspects of oil and natural gas development are already subject to federal control. These include emissions under the Clean Air Act,[333] surface water discharge under the Clean Water Act (CWA),[334] wastewater management under the Safe Drinking Water Act (SDWA),[335] and chemical disclosure for emergency responders under the Emergency Planning and Community Right-to-Know Act (EPCRA), among others.[336] However, as previously stated, the states have been the industry's primary regulators.[337] In fact, federal agencies such as the Environmental Protection Agency (EPA) under the Clinton Administration led by Carol Browner, now affiliated with the far-left Center for American Progress (CAP), opted not to pursue broader federal regulation of hydraulic fracturing. [338] In addition, Congress affirmatively limited the EPA's authority to regulate the industry with the passage of the Energy Policy Act of 2005, acknowledging that such regulation is best left to the states.[339]

In recent years fabricated environmental concerns have ignited a push among activist groups, aided by Hollywood and the mainstream media, for more federal regulatory control. This is the case despite the existing robust system of regulations currently in place and the fact that no systematic failures in state regulatory schemes have been identified. States have a multitude of regulations in place to ensure the safe extraction of oil and natural gas.[340] Even former Obama EPA Administrator Lisa Jackson admitted, "there is no EPA setup that allows us to oversee each and every well that's drilled... We're a large agency, but we're not nearly large enough to be on the ground the same way" as states.[341] Notably, state regulatory schemes

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[332] Matt Willie, *Hydraulic Fracturing and "Spotty" Regulation: Why the Federal Government Should Let States Control Unconventional Onshore Drilling*, BYU L. REV. 1743,1746 (2011), http://www.law2.byu.edu/lawreview/articles/1346430940_09.willie.fin.pdf.
[333] 42 U.S.C. § 7401 (2010).
[334] 33 U.S.C. § 1251 (2006).
[335] 42 U.S.C. § 300f (1996).
[336] 42 U.S.C. § 11004 (2006).
[337] Matt Willie, *Hydraulic Fracturing and "Spotty" Regulation: Why the Federal Government Should Let States Control Unconventional Onshore Drilling*, BYU L. REV. 1743,1746 (2011), http://www.law2.byu.edu/lawreview/articles/1346430940_09.willie.fin.pdf.
[338] Legal Envtl. Assistance Found. v. EPA, 118 F.3d 1467, 1471 (11th Cir. 1997).
[339] 42 U.S.C. § 15801 (2005).
[340] Nathan Richardson, et al., *The State of State Shale Gas Regulation*, CTR. ENERGY ECON. POLICY (June 2013) at 52-53, http://www.rff.org/rff/documents/RFF-Rpt-StateofStateRegs_Report.pdf.
[341] Bridget DiCosmo, *Jackson downplays concerns over broad EPA fracking well oversight*, INSIDE EPA (Feb. 10, 2012), http://www.fossil.energy.gov/programs/gasregulation/authorizations/2011_applications/exhibits_11-128-LNG/18._Inside_EPA_Jackson.pdf.

encompass all stages of development, including the process of hydraulic fracturing, and are constantly evolving as technologies change and potential new challenges arise.[342]

a. Current State Regulations

Since the technology was first developed, states have effectively regulated the use of hydraulic fracturing. As former EPA Administrator Lisa Jackson acknowledged in 2011, "States are stepping up and doing a good job."[343] States have demonstrated a willingness to adjust and add to their existing regulations as new challenges arise.[344] For example, Texas recently adopted additional hydraulic fracturing regulations despite the fact that its general oil and natural gas regulations already applied to many aspects of the process.[345] The state enacted legislation, H.B. 3328, which requires the public disclosure of chemicals used during the process.[346] Several other states continue to update existing rules or promulgate new ones,[347] and are doing so with greater speed, agility, and with more meaningful public participation than the federal government could ever achieve.[348]

While there are necessary variations in individual state hydraulic fracturing regulations, there are certain aspects that almost all states regulate. These include water withdrawals; the location and spacing of well sites; the methods of drilling, casing, hydraulic fracturing, and plugging wells; waste storage and disposal; and site restoration.[349] Notably, all of the top ten states[350] with the highest number of producing natural gas wells, and therefore a significant amount of hydraulic fracturing activity, have numerous important regulatory requirements in

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[342] Bridget DiCosmo, *Jackson downplays concerns over broad EPA fracking well oversight*, INSIDE EPA (Feb. 10, 2012), http://www.fossil.energy.gov/programs/gasregulation/authorizations/2011_applications/exhibits_11-128-LNG/18._Inside_EPA_Jackson.pdf.

[343] *The Rachel Maddow Show, EPA chief: Environment should be above partisanship*, NBC News, (Nov. 21, 2011) http://www.nbcnews.com/video/rachel-maddow/45395747#45395747.

[344] Jacquelyn Pless, *States Take the Lead on Regulating Hydraulic Fracturing Overview of 2012 State Legislation*, NAT'L CONFERENCE STATE LEG. (Mar. 2013), http://www.ncsl.org/documents/energy/NaturalGasDevLeg313.pdf.

[345] *See* Tex. Admin. Code §16,et.seq. (2014) http://www.rrc.state.tx.us/legal/rules/current-rules/; *State Review of Oil and Natural Gas Environmental Regulations, Inc.*, TEX. ST. REV. (August 2003), http://www.strongerinc.org/sites/all/themes/stronger02/downloads/Texas%20Follow-up%20Review%208-2003.pdf.

[346] Conf. Comm. Rep't, State of Tex., H.B. No. 3328 (May 28, 2011), http://www.lrl.state.tx.us/scanned/82ccrs/hb3328.pdf#navpanes=0.

[347] David Hackett, et al., *EPA hydraulic fracturing study may be prelude to new federal rules*, USOGJ (Aug. 13, 2014), http://www.ogj.com/articles/uogr/print/volume-2/issue-4/epa-hydraulic-fracturing-study-may-be-prelude-to-new-federal-rules.html

[348] *Bringing Real Information on Energy Forward: Environmental and Regulatory Considerations Associated with the American Oil and Natural Gas Industry*, ADVANCED RES. INT'L. (Apr. 29, 2009), http://energyindepth.org/docs/pdf/Brief/BRIEF-State_Fed-Partnership.pdf ("This report provides the American public with information on how American oil and natural gas producers and state regulatory agencies effectively and safely manage environmental and safety risks related to development and production activities")

[349] Nathan Richardson, et al., *The State of State Shale Gas Regulation*, CTR. ENERGY ECON. POLICY (June 2013) at 5, http://www.rff.org/rff/documents/RFF-Rpt-StateofStateRegs_Report.pdf.

[350] *Natural Gas: Number of Producing Gas Wells*, U.S. ENERGY INFO. ADMIN., http://www.eia.gov/dnav/ng/ng_prod_wells_s1_a.htm (last visited Oct. 21, 2014).

place.[351] The chart below illustrates these regulatory requirements and also provides an example of the comprehensiveness of state regulatory schemes.[352]

Regulatory Requirements of the Top 10 States with Highest Number of Producing Gas Wells										
	TX	**PA**	**WV**	**OK**	**OH**	**CO**	**NM**	**KS**	**WY**	**LA**
Water Withdrawal Restrictions	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Setback Restrictions from Buildings	✓	✓	✓		✓	✓	✓	✓	✓	✓
Setback Restrictions from Water Sources		✓	✓		✓	✓	✓	✓	✓	✓
Cement Type Regulations	✓	✓	✓		✓	✓		✓	✓	✓
Casing and Cementing Depth Requirements	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Surface Casing Cement Circulation Regulations	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Intermediate Casing Cement Circulation Regulations	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Production Casing Cement Circulation Regulations	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Venting Regulations	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Flaring Regulations	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fracking Fluid Disclosure Regulations	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fluid Storage Options	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Freeboard Requirements		✓	✓	✓		✓	✓	✓		✓
Pit Liner Requirements	✓	✓	✓	✓		✓	✓	✓	✓	✓
Flowback/Wastewater Transportation Tracking	✓	✓	✓	✓	✓	✓	✓	✓		✓
Underground Fluid Injection	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Well Idle Time	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Temporary Abandonment	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Accident Reporting Requirements	✓	✓	✓	✓		✓	✓	✓	✓	✓

Source: Resources for the Future, The State of State Shale Gas Regulation: State-by-State Tables[353]

Some environmental activists argue that these state regulatory schemes are an inconsistent patchwork of ineffective rules.[354] Facts do not support their claims. The variations

[351] Nathan Richardson, et al., *The State of State Shale Gas Regulation*, CTR. ENERGY ECON. POLICY (June 2013) at 52-53, http://www.rff.org/rff/documents/RFF-Rpt-StateofStateRegs_Report.pdf.
[352] Nathan Richardson, et al., *The State of State Shale Gas Regulation*, CTR. ENERGY ECON. POLICY (June 2013) http://www.rff.org/rff/documents/RFF-Rpt-StateofStateRegs_Report.pdf.
[353] *Id.*

are part of what makes them so effective.[355] They account for the real-world differences and other considerations unique to each state.[356] Allowing states to predominately regulate hydraulic fracturing and the related activities within their borders gives them the opportunity to advance state interests and better protect their citizens and natural resources.[357] State regulatory schemes also encourage economic growth, having paved the way for the current energy revolution.[358]

b. Case for Continued State Primacy

When it comes to regulating hydraulic fracturing and the oil and gas industry as a whole, states, not the federal government, are in the best position to create effective policies that address their own distinct regulatory needs. For starters, states have a better and more cooperative relationship with the regulated community. Many federal agencies, such as EPA and the Department of Interior (DOI), have strained and less effective relationships with those they regulate.[359] It helps that state officials are more politically accountable to the citizens of their states than unelected federal bureaucrats[360] who enjoy almost zero political accountability, despite the immense power often afforded to them.[361] Federal bureaucrats tend to be less receptive and understanding of local concerns, much slower than their state counterparts at addressing these concerns, and operate with a broader Washington-centric political agenda in

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[354] Jody Freeman, *Should the Federal Government Regulate Fracking?*, WALL ST. J., (Apr. 14, 2013), http://online.wsj.com/news/articles/SB10001424127887323495104578314302738867078#printMode.

[355] *See* Regulatory Statements from state regulators, INTERSTATE OIL AND GAS COMPACT COMM. (June 2009), *available at* http://iogcc.ok.gov/Websites/iogcc/Images/2009StateRegulatoryStatementsonHydraulic%20Fracturing.pdf (last visited Oct. 21, 2014).

[356] Jacquelyn Pless, *Natural Gas Development and Hydraulic Fracturing: A Policymaker's Guide*, NAT. CON. STATE LEGIS., (June 2012), http://www.ncsl.org/documents/energy/frackingguide_060512.pdf.

[357] Jody Freeman, *Should the Federal Government Regulate Fracking?*, WALL ST. J., (Apr. 14, 2013), http://online.wsj.com/news/articles/SB10001424127887323495104578314302738867078#printMode.

[358] For overview of state regulations regarding chemical disclosure, groundwater protection, and wastewater management, and links to each state's statutes and regulations that pertain to oil and gas operations, *see* Nicholas Loris, *Hydraulic Fracturing: Critical for Energy Production, Jobs, and Economic Growth*, HERITAGE FOUND. (Aug. 2012), http://www.heritage.org/research/reports/2012/08/hydraulic-fracturing-critical-for-energy-production-jobs-and-economic-growth#_ftnref24.

[359] Jacqui Fatka, *Can EPA 'Bridges' Fix Strained Ag Relationship*, FARM FUTURES, (Apr. 12, 2013), http://farmfutures.com/blogs-epa-bridges-fix-strained-ag-relationship-7003.

[360] Robert L. Glicksman & Richard E. Levy, A Collective Action Perspective on Ceiling Preemption by Federal Environmental Regulation, 102 NW U. L. REV. 579, 592 (2008), http://www.law.northwestern.edu/depts/legalpub/lawreview/v102/n2/579/LR102n2Glicksman&Levy.pdf.

[361] Elizabeth Jenkins, *Lack of Transparency at EPA*, MORNING CONSULT, (Sept. 2, 2014), http://themorningconsult.com/2014/09/columns-lack-of-transparency-at-epa/. ("One reporter wrote about how the agency held a background briefing call with reporters on the proposal of their new climate rule, but then wouldn't answer any questions on the record. This behavior isn't anything we haven't seen before, as these briefing calls have been held to this secretive standard since the days of former Administrator Lisa Jackson. Another reporter recalled a three-month back-and-forth on a completely different subject with agency employees about getting an interview with Janet McCabe, only to find out that email responses from the media relations office would have to suffice."); *see* also Sofie Miller, *EPA's Unmeasurable Rule: Inadequate Analysis Obstructs Public Accountability*, REGULATORY STUDIES CTR, (May 12, 2014), https://regulatorystudies.columbian.gwu.edu/epa%E2%80%99s-unmeasurable-rule-inadequate-analysis-obstructs-public-accountability

mind.[362] Thus, state officials are much more likely than federal officials to perform their duties in a responsible manner and in the best interest of the state and its citizens.[363]

Practically speaking, states better understand their particular geological characteristics.[364] Hydraulic fracturing techniques are geologic—and region—specific. The depth, accessibility, and characteristics of oil and natural gas reserves differ greatly among the states.[365] Thus, the techniques employed by industry in one basin may vary substantially from those employed in another.[366] The chart below illustrates some of these differences that have to be taken into account when promulgating hydraulic fracturing regulations.

	Bakken	Barnett	Eagle Ford	Fayetteville	Haynesville	Marcellus
Size	6,522 sq. mi.	6,458 square miles	3,000 square miles	9,000 sq. mi.	9,000 square miles	95,000 square miles
Primary Location	Montana and North Dakota	Texas	Texas	Arkansas	Arkansas, Louisiana, and Texas	New York, Pennsylvania, West Virginia, Ohio, and Maryland
Amount and Type of Resource (estimated)	4.3 billion barrels of oil	43.4 trillion cubic feet of natural gas	20.81 trillion cubic feet of natural gas and 3.351 billion barrels of oil	31.96 trillion cubic feet of natural gas	251 trillion cubic feet of natural gas	410 trillion cubic feet of natural gas
Depth (average)	4,500 to 7,500 feet	7,500 feet	5,700 to 10,200 feet	1,000 to 7,000 feet	10,500 to 13,500 feet	4,000 to 8,000 feet
Thickness (average)	22 feet	300 feet	200 feet	110 feet	250 feet	100 to 500 feet

Source: Energy Information Administration[367]

[362] Matt Willie, *Hydraulic Fracturing and "Spotty" Regulation: Why the Federal Government Should Let States Control Unconventional Onshore Drilling*, BYU L. REV. 1743,1773 (2011), http://www.law2.byu.edu/lawreview/articles/1346430940_09.willie.fin.pdf

[363] Robert L. Glicksman & Richard E. Levy, *A Collective Action Perspective on Ceiling Preemption by Federal Environmental Regulation*, 102 NW U. L. REV. 579, 592 (2008), http://www.law.northwestern.edu/depts/legalpub/lawreview/v102/n2/579/LR102n2Glicksman&Levy.pdf.

[364] Christopher S. Kulander, *Shale Oil and Gas: State Regulatory Issues and Trends*, 63 CASE W. RES. L. REV. 1101, 1140 (2013). http://law.case.edu/journals/LawReview/Documents/63CaseWResLRev4.5.Article.Kulander.pdf. ("State primacy for regulation on hydraulic fracturing has been disparaged as being "uneven" and a "patchwork." This author submits that what is being derided as a weakness is actually a strength: each state can rapidly respond to its unique blend of economic, political, hydrological, and geological realities to achieve realistic and functional regulatory oversight.").

[365] See States First in Energy Leadership, "About", http://www.statesfirstinitiative.org/#!about/cipy (last visited Oct. 21, 2014). ("State regulatory programs have been at the forefront of oil and gas exploration since the 1930s. These programs, which are as varied as the geography, climate, geology and social fabric of our states, are designed to be flexible, yet effective, in providing the world's best environmental protection and regulation.").

[366] For example, frack fluids vary based on formation characteristics. Where an area is primarily rural in nature, land use decisions are simpler and there are less property related disputes. The process of extracting oil and gas in a densely-populated state can be remarkably different than doing so in a sparsely-populated area.

[367] *Review of Emerging Resources: US Shale Gas and Shale Oil Plays*, U.S. ENERGY INFO. ADMIN. (July 2011), http://www.eia.gov/analysis/studies/usshalegas/pdf/usshaleplays.pdf.

States also know how to better utilize their resources and possess the necessary expertise.[368] Each producing state has a governing body that oversees oil and natural gas regulations.[369] Unlike the federal agencies, these governing bodies are able to spend all of their time and resources on local production issues and regulations.[370] As a result, the officials of these governing bodies generally possess substantially more knowledge about local extraction techniques, and they are better equipped to regulate the state's resources than federal bureaucrats.[371] Michael Krancer, former Secretary of the Pennsylvania Department of Environmental Protection, captured the issue perfectly regarding the debacle in Dimock, Pennsylvania when he stated, "…EPA's understanding of the technical facts and DEP's enforcement history with respect to Dimock is rudimentary."[372]

A one-size-fits-all federal regulatory scheme comes with both a staggering amount of red tape that will only slow development[373] and a steep price tag.[374] With almost 4.5 million employees,[375] the federal government is one of the largest and most complex entities on the planet.[376] After many years of exorbitant growth, the federal government has become a patchwork of overlapping agencies and sub-agencies, the overall number of which is

[368] *Modern Shale Gas: A Primer*, U.S. DEPT. ENERGY (Apr. 2009) at 25, http://energy.gov/sites/prod/files/2013/03/f0/ShaleGasPrimer_Online_4-2009.pdf
[369] *Id.* at 25-26, 28.
[370] *See* Letter from Phil Bryant, Miss. Gov., et.al. to "American Energy Policy Leaders" (Dec. 11, 2013), http://media.wix.com/ugd/d3e01e_c3e77a0481834744b5bc97c1b03ca4ad.pdf ("[States] are the incubators of regulatory innovation. State officials are uniquely qualified at understanding oilfield operations and emerging technologies because they live and work in the field…[o]ur people are on the ground, have decades of experience, and we are following a path of continuous improvement.").
[371] Robert L. Glicksman & Richard E. Levy, *A Collective Action Perspective on Ceiling Preemption by Federal Environmental Regulation*, 102 NW U. L. REV. 579, 592 (2008), http://www.law.northwestern.edu/depts/legalpub/lawreview/v102/n2/579/LR102n2Glicksman&Levy.pdf.
[372] Letter from Michael Krancer, Sec'y. Pa. Dept. EPA, to Shawn M. Garvin, Reg. Admin. EPA, (Jan. 5, 2012), *available at* https://dl.dropboxusercontent.com/u/48182083/krancerletterjan2011.pdf.
[373] Christopher S. Kulander, *Shale Oil and Gas: State Regulatory Issues and Trends*, 63 CASE W. RES. L. REV. 1101, 1140 (2013). http://law.case.edu/journals/LawReview/Documents/63CaseWResLRev4.5.Article.Kulander.pdf. ("State primacy for regulation on hydraulic fracturing has been disparaged as being "uneven" and a "patchwork." This author submits that what is being derided as a weakness is actually a strength: each state can rapidly respond to its unique blend of economic, political, hydrological, and geological realities to achieve realistic and functional regulatory oversight.")
[374] Michael Krancer, *Back Off: 12 Energy State Governors Tell Feds On Hydraulic Fracturing Regs*, FORBES (Dec. 20, 2013), http://www.forbes.com/sites/michaelkrancer/2013/12/20/back-off-12-energy-state-governors-tell-feds-on-hydraulic-fracturing-regs/ ("For example, in 2012, Pennsylvania launched its comprehensive Permit Decision Guarantee Process, which has increased efficiencies by anywhere from 9 percent to 37 percent, depending on the program, and by 13 percent for the oil and gas program. On the federal side, the average time to process an application for a permit to drill on federal land increased 41 percent from 2006 to 2011—from 218 days in 2006 to 307 in 2011.")
[375] *Data, Analysis & Documentation: Total Government Employment since 1962,* U.S. OPM, http://www.opm.gov/policy-data-oversight/data-analysis-documentation/federal-employment-reports/historical-tables/total-government-employment-since-1962/ (last accessed Oct. 21, 2014).
[376] Nancy Madsen, *Warner says US government is "largest enterprise in the world",* POLITIFACT, (Jan. 24, 2014), http://www.politifact.com/virginia/statements/2014/jan/24/mark-warner/warner-says-us-government-largest-entity-world/

Today, the current total cost of federal regulation is estimated to be approximately $2 trillion per year, greater than the GDP of more than 180 countries including India, Canada, and Mexico.

unknown.[377] In 2013 alone, federal agencies promulgated over 2,000 new regulations, 77 of which were estimated to have associated costs of $100 million or more.[378] Today, the current total cost of federal regulation is estimated to be approximately $2 trillion per year, greater than the gross domestic product (GDP) of more than 180 countries including India, Canada, and Mexico.[379] In real world terms, all of this red tape and added costs would mean fewer resources being developed,[380] resulting in higher energy prices for businesses and consumers, less capital investment, fewer jobs, and less disposable income. Given these likely consequences, additional federal regulation is simply unjustifiable, especially in light of the success of the current state regulatory regimes over the last 60 years.[381]

[377] Josh Peterson, *The government has no idea how many agencies it has*, DAILY CALLER., (May 3, 2013), http://dailycaller.com/2013/05/03/the-government-has-no-idea-how-many-agencies-it-has/

[378] Jamie Hennigan, *Pay Up: Federal Regulations Cost U.S. Economy More Than $2 Trillion Annually*, (Sept. 10, 2014), http://www.nam.org/Communications/Articles/2014/09/Pay-Up-Federal-Regulations-Cost-US-Economy-More-Than-2-Trillion-Annually.aspx

[379] *Id.*

[380] Additional red tape would "raise the economic threshold…at which a play can be developed," thereby decreasing the total number of wells deemed economical to drill. As a result, fewer wells would be drilled, lowering the amount of available resources in the U.S., shifting our needs from domestically produced energy to foreign.

[381] David Blackmon, *Oil & Gas Boom 2014: Happy 65th, Hydraulic Fracturing*, FORBES, (Mar. 18, 2004), http://www.forbes.com/sites/davidblackmon/2014/03/18/oil-gas-boom-2014-happy-65th-hydraulic-fracturing/

IV. THE OBAMA ADMINISTRATION'S WAR ON HYDRAULIC FRACTURING

Despite the extensive benefits derived from increased oil and natural gas production as a result of hydraulic fracturing, and the successful regulatory role of the states in managing the process, the Obama Administration has embarked on an all-hands-on-deck strategy to attack, discredit, and ultimately regulate hydraulic fracturing out of existence. Such an approach is consistent with the goals of their far-left environmental activist base that has made such outlandish claims as: "We need a dramatic shift off carbon-based fuel: coal, oil and also [natural] gas...Natural gas provides at best a kind of fad diet, where a dangerously overweight patient loses a few pounds and then their weight stabilizes; instead, we need at this point a crash diet."[382] This anti-hydraulic fracturing strategy is the linchpin to achieving the Administration's overarching goal of phasing out fossil fuel energy and rewarding wealthy liberal investors.

While recent regulatory efforts have focused on coal-fired energy production, it is evident that the President and his allies view natural gas as a temporary "bridge fuel"[383] and have targeted it as their next regulatory victim. In the words of Secretary of Energy Ernst Moniz, "Eventually, if we're going to get really low carbon emissions, natural gas, just like coal, would need to have carbon capture to be part of that… In the meantime, natural gas will be part of the solution."[384] Unfortunately, carbon capture is intended to make fossil energy cost-prohibitive and there is little evidence of economic feasibility in the near future.

Given the dramatic boost oil and natural gas development has given the U.S., it is no surprise that President Obama publicly touts support for expanded shale development through technologies such as hydraulic fracturing. Unfortunately, the actions of those within his vast federal bureaucracies show a clear intent and long-term strategy to undermine fossil resource extraction. Countless government agencies throughout all facets of this Administration—from the White House to the Department of Interior (DOI) to the Department of Defense (DOD) and Securities and Exchange Commission (SEC)—are engaging in attempts to justify federal regulatory overreach of the domestic oil and gas industry, with a particular focus on hydraulic fracturing. The Environmental Protection Agency (EPA) is by far the most aggressive foot soldier in this federal regulatory onslaught. Through skewed science,[385] exaggerated media campaigns,[386] regal executive orders,[387] hollow guidance,[388] burdensome rules,[389] and specious

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[382] Kevin Begos, *EPA methane report could reshape fracking debate*, THE BOSTON GLOBE, Apr. 29, 2013, http://www.bostonglobe.com/business/2013/04/28/epa-methane-report-further-divides-fracking-camps/Ft7DVUvAHE6zctsgbcGuZN/story.html.

[383] President Barack Obama, State of the Union Address (Jan. 28, 2014), http://www.whitehouse.gov/the-press-office/2014/01/28/president-barack-obamas-state-union-address.

[384] Amy Harder, *Moniz: Natural Gas Will Need Carbon-Capture 'Eventually'*, NAT'L JOURNAL, Aug. 2, 2013, http://www.nationaljournal.com/energy/moniz-natural-gas-will-need-carbon-capture-eventually-20130801.

[385] *See* Press Release, *Vitter, Inhofe Call EPA's Report on Hydraulic Fracturing in Wyoming a Failure—Suggest EPA's third delay of this report is signal the process, science were flawed*, U.S. S. Comm. on Env't & Pub. Works, Jan. 17, 2013, http://www.epw.senate.gov/public/index.cfm?FuseAction=Minority.PressReleases&ContentRecord_id=4964ef96-c550-a429-40bc-488bc859d41a&Region_id=&Issue_id=.

[386] *See* Paul Conner, *EPA using 'press release science' to justify regulations, congressmen say*, THE DAILY CALLER, Nov. 16, 2011, http://dailycaller.com/2011/11/16/epa-using-press-release-science-to-justify-regulations-congressmen-say/.

enforcement actions,[390] EPA and this Administration are utilizing every avenue conceivable to vilify and slow oil and natural gas development.

a. Administration-wide Efforts to Expand Federal Authority and Attack Oil and Natural Gas Development

President Obama has attempted to take credit for the benefits of increased domestic oil and natural gas production through technological advancements, particularly hydraulic fracturing and horizontal drilling, by publicly acknowledging the "terrific natural gas resources in this country,"[391] and even promising that his Administration would "take every possible action to safely develop this energy."[392] His words stand in sharp contrast to his actions and those by his Administration that seek to phase out fossil fuel development through biased public assertions and insupportable studies, as well as onerous unjustified federal regulations. One former EPA official characterized this dichotomy as the Administration "trying to make it more difficult for the industry to survive while the [P]resident is standing in front of the country saying we're going to create jobs through hydraulic fracturing."[393]

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[387] *See* Exec. Ord. No. 13605, 77 Fed. Reg. 23107, Apr. 17, 2012, http://www.gpo.gov/fdsys/pkg/FR-2012-04-17/pdf/2012-9473.pdf.

[388] *See* Michael Bastasch, *EPA looks to regulate 'potential' water threats from fracking*, THE DAILY CALLER, Feb. 12, 2014, http://dailycaller.com/2014/02/12/epa-looks-to-regulate-potential-water-threats-from-fracking/.

[389] *See* James L. Gattuso & Diane Katz, *Red Tape Rising: Regulation in Obama's First Term,* THE HERITAGE FOUNDATION, May 1, 2013, http://www.heritage.org/research/reports/2013/05/red-tape-rising-regulation-in-obamas-first-term.

[390] *See* Press Release, *Vitter and Inhofe: EPA Hydraulic Fracturing Investigations 0 for 3—EPA forced to abandon Hydraulic Fracturing investigation near Pavillion, Wyo. Failure to justify previous public claims continues pattern of erroneous investigations in Dimock, Pa. and Parker County, Texas*., U.S. S. Comm. on Env't & Pub. Works, June 20, 2013, http://www.epw.senate.gov/public/index.cfm?FuseAction=Minority.PressReleases&ContentRecord_id=63930f8d-c433-66de-9979-58c728d6295a&Region_id=&Issue_id=.

[391] Mike Soraghan, *Obama's Enthusiasm for Gas Drilling Raises Eyebrows*, N.Y. TIMES, Nov. 4, 2010, http://www.nytimes.com/gwire/2010/11/04/04greenwire-obamas-enthusiasm-for-gas-drilling-raises-eyeb-33483.html.

[392] President Barack Obama, State of the Union Address (Jan. 28, 2014), http://www.whitehouse.gov/the-press-office/2012/01/24/remarks-president-state-union-address.

[393] Ben Wolfgang, *Natural gas sector set up by Obama to be sabotaged?*, THE WASH. TIMES, Jan. 29, 2012, http://www.washingtontimes.com/news/2012/jan/29/natural-gas-sector-set-up-by-obama-to-be-sabotaged/#! (quoting Ken von Schaumburg, former Dep. Counsel, U.S. Envtl. Prot. Agency).

One of the Administration's most telling actions is the creation of unnecessary, overlapping bureaucratic teams wasting excessive taxpayer dollars to review and attack hydraulic fracturing. This includes the National Ocean Council, a 54-member team led by the White House Council on Environmental Quality (CEQ) and Office of Science and Technology Policy (OSTP) that was created by the President's July 2010 executive order.[394] The purpose of the Council is to implement coastal and marine spatial planning, which has been criticized as an effort to impose zoning for oceans and coastal areas[395] that can be used to further curb oil and natural gas development and access to significant offshore resources. In 2011, the President issued his "Blueprint for a Secure Energy Future,"[396] which directed former Department of Energy (DOE) Secretary Steven Chu to create a subcommittee on natural gas to identify immediate steps to improve hydraulic fracturing and make recommendations.[397] Separately, in April 2012, President Obama issued an executive order establishing an interagency working group consisting of representatives from 13 federal agencies and offices that would review unconventional domestic natural gas development.[398] Since its formation, the status of the group's meetings and actions, or even the specific members, is not readily known.

Since its formation, the status of the group's meetings and actions, or even the specific members, is not readily known.

Also in April 2012, EPA, DOE, and the U.S. Geological Survey (USGS) within DOI announced a partnership to coordinate their efforts relating to the development of domestic oil and natural gas resources.[399] The partnership received $28.6 million in fiscal year (FY) 2014 appropriations and requested an additional $47.79 million for FY2015.[400] Despite the massive amounts of taxpayer dollars that have been directed towards the partnership, its long-awaited research strategy consisted of water and human health impacts of increased domestic production—areas already being studied by federal agencies—and failed to include a review of economic, geopolitical, or energy security benefits.[401]

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[394] Exec. Ord. No. 13547, 75 Fed. Reg. 43023, July 22, 2010, http://www.gpo.gov/fdsys/pkg/FR-2010-07-22/pdf/2010-18169.pdf.

[395] *The President's New National Ocean Policy – A Plan for Further Restrictions on Ocean, Coastal and Inland Activities: Hearing Before the H. Comm. on Natural Res.,* 112th Cong. (Oct. 4, 2011) http://naturalresources.house.gov/uploadedfiles/hastingsopeningstatement10.04.11.pdf (statement of the Hon. Doc Hastings, Chairman, H. Comm. on Natural Res.).

[396] The White House, *Blueprint for a Secure Energy Future*, Mar. 30, 2011, http://www.whitehouse.gov/sites/default/files/blueprint_secure_energy_future.pdf.

[397] *Id*.

[398] *See* Exec. Ord. No. 13605, 77 Fed. Reg. 23107, Apr. 17, 2012, http://www.gpo.gov/fdsys/pkg/FR-2012-04-17/pdf/2012-9473.pdf. Membership includes: DOD, DOI, DOA, DOC, HHS, DOT, DOE, DHS, EPA, CEQ, OSTP, OMB, NEC, "and such other agencies or office as the Chair may invite to participate."

[399] Memorandum of Agreement, Multi-Agency Collaboration on Unconventional Oil and Gas Research, Apr. 13, 2012, http://unconventional.energy.gov/pdf/oil_and_gas_research_mou.pdf.

[400] Briefing Document, U.S. Dep't of Energy, U.S. Dep't of Interior & U.S. Envtl. Prot. Agency, Fed. Multiagency Collaboration on Unconventional Oil & Gas (UOG), A Strategy for Research and Development, Sept. 2014, *available at* http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=5fbefbf5-af68-422c-98fd-32372ca05617.

[401] FEDERAL MULTIAGENCY COLLABORATION ON UNCONVENTIONAL OIL AND GAS RESEARCH—A STRATEGY FOR RESEARCH AND DEVELOPMENT, U.S. DEP'T OF ENERGY, U.S. DEP'T OF INTERIOR & U.S. ENVTL. PROT. AGENCY, July 18, 2014, http://unconventional.energy.gov/pdf/Multiagency_UOG_Research_Strateg.pdf.

In the President's 2013 Climate Action Plan, he directed several federal agencies—including the EPA, DOE, the U.S. Department of Agriculture (USDA), and the Bureau of Land Management (BLM) within DOI—to create an interagency strategy to reduce methane emissions.[402] It is important to note that BLM does not have the jurisdiction to regulate air emissions. The Obama Administration also has additional agencies not directed by the Climate Action Plan duplicating these efforts. For example, the National Oceanic and Atmospheric Administration (NOAA) within the Department of Commerce (DOC) examined methane concentrations near hydraulically fractured well sites[403] and continues to monitor air quality during oil and natural gas exploration.

Further, federal agencies with an unfamiliar role in oil and natural gas development are also playing a part in the Obama Administration's efforts to curb domestic oil and natural gas production by commandeering greater federal authority over hydraulic fracturing. The Delaware River Basin Commission, for example, which is federally represented by the DOD's U.S. Army Corps of Engineers, proposed arduous regulations for natural gas development that lead to a de facto moratorium on developing the Basin.[404] Even the SEC requested that publicly-traded natural gas companies disclose information on additives used in hydraulic fracturing and may go a step further requiring disclosure of hydraulic fracturing-related business information unrelated to financial filings.[405]

The U.S. Coast Guard (USCG) and Federal Emergency Management Administration (FEMA) within the Department of Homeland Security (DHS) have also pushed initiatives affecting hydraulic fracturing. In 2013, the USCG issued a draft policy letter that set conditions for bulk shipment of hydraulically fractured wastewater by barge.[406] In May 2014, FEMA finalized a policy that prohibits hydraulic fracturing on lands acquired through its Hazard Mitigation Assistance projects.[407] Critically, FEMA's policy has come under Congressional scrutiny for disproportionately harming landowners in areas where flood damage is common, whereby landowners are forced to relinquish their private property rights because of the Agency's restrictions on hydraulic fracturing.[408]

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[402] CLIMATE ACTION PLAN: STRATEGY TO REDUCE METHANE EMISSIONS, THE WHITE HOUSE, Mar. 2014, http://www.whitehouse.gov/sites/default/files/strategy_to_reduce_methane_emissions_2014-03-28_final.pdf.
[403] *ARL/Cooperative Institute Employee to Investigate Methane Emissions from Fracking*, NAT'L OCEANIC & ATMOSPHERIC ADMIN., Sept. 2014, http://www.arl.noaa.gov/Methane_aircraft.php.
[404] Susan Phillips, *Frustrated Landowners Threaten to Sue DRBC Over Inaction on Gas Drilling*, July 10, 2013, STATEIMPACT: PENNSYLVANIA, http://stateimpact.npr.org/pennsylvania/2013/07/10/frustrated-landowners-threaten-to-sue-drbc-over-inaction-on-gas-drilling/.
[405] Deborah Solomon, *SEC Bears Down on Fracking*, THE WALL ST. J., Aug. 25, 2011, http://online.wsj.com/news/articles/SB10001424053111904009304576528484179638702.
[406] CAPT. COMDT. J.W. MAUDER, PROPOSED POLICY LETTER: CARRIAGE OF CONDITIONALLY PERMITTED SHALE GAS EXTRACTION WASTE WATER IN BULK, U.S. COAST GUARD, U.S. DEP'T OF HOMELAND SECURITY, http://www.uscg.mil/hq/cg5/cg521/docs/CG-ENG.ProposedPolicy.ShaleGasWasteWater.pdf (last visited Oct. 19, 2014).
[407] LIMITS ON SUBSURFACE USES OF HAZARD MITIGATION ASSISTANCE ACQUIRED LANDS, FED. EMERGENCY MGMT. AGENCY, U.S. DEP'T OF HOMELAND SECURITY, FP 302-405-405-146-1, May 5, 2014, http://www.fema.gov/media-library/assets/documents/94026.
[408] Ellen M. Gilmer, *HYDRAULIC FRACTURING: FEMA to address concerns over no-fracking policy for flood grant lands*, ENERGYWIRE, Aug. 20, 2014, http://www.eenews.net/energywire/2014/08/20/stories/1060004696. (quoting Rep. Lou Barletta (R-Pa) "These homeowners live in an area that severely floods regularly and qualify for

The Centers for Disease Control and Prevention (CDC) within the Department of Health and Human Services (HHS) was asked to join EPA, DOE and USGS's partnership and has been "providing research and technical assistance on environmental and occupational safety and health risks" related to hydraulic fracturing.[409] Moreover, the CDC's National Institute for Occupational Safety and Health is examining worker safety hazards during oil and natural gas extraction.[410] The Occupational Safety and Health Administration (OSHA) within the Department of Labor (DOL) is not only issuing updated rules to further regulate the oil and gas industry,[411] but has also proposed a rule addressing silica used during hydraulic fracturing operations.[412] While silica is a mineral found throughout nature in sand, stone, and rock, this rule will carry significant compliance costs—an estimated $29 million—for oil and natural gas operators using hydraulic fracturing technology.[413]

In addition, DOE created the Secretary of Energy Advisory Board Task Force on FracFocus 2.0 in November 2013 and issued a final report in March 2014, recommending "full disclosure of all known constituents added to fracturing fluid."[414] Such recommendations ignore the fact that all chemical class and functions are disclosed and while those protected as trade secrets may not be publicly available through FracFocus, constituents and information are still reported to workers, emergency responders and the states.[415]

There is no evidence that the Administration is in any way mitigating these duplicative efforts. Rather, it appears to be a pretext for each agency and group to dissect every aspect of oil and natural gas operations in search of a justification to regulate and undermine hydraulic fracturing as part of the Administration's efforts to restrict domestic oil and natural gas development.

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buyouts under FEMA's mitigation program…However, FEMA said they have to also relinquish their subsurface property rights, and that no fracking will ever happen on the land again.").

[409] *A Review of Federal Hydraulic Fracturing Research Activities: Hearing Before the Subcomm. on Energy & Subcomm. on Env't, H. Comm. on Science, Space & Tech.,* 113th Cong. (Apr. 26, 2013) http://science.house.gov/sites/republicans.science.house.gov/files/documents/HHRG-113-SY20-WState-RIkeda-20130526.pdf (Statement of Dr. Robin Ikeda, Acting Dir., Agency for Toxic Substances & Disease Registry, Dep't of Health & Human Services).

[410] *Id*.

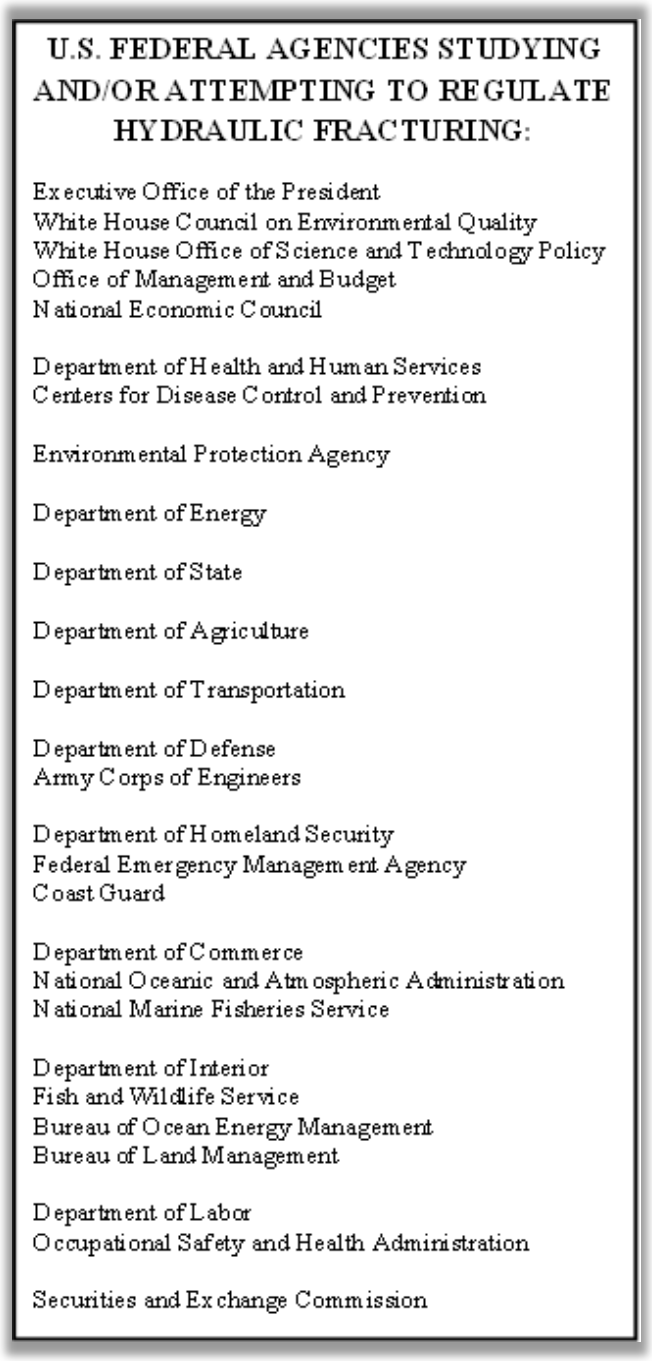
[411] Memorandum, Enforcement Policy for Flame-Resistant Clothing in Oil and Gas Drilling, Well Servicing, and Production-Related Operations, Occupational Safety & Health Admin., U.S. Dep't of Labor, Mar. 19, 2010, https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=27296.

[412] Occupational Safety & Health Admin., Dep't of Labor, Occupational Exposure to Respirable Crystalline Silica, Proposed Rule, 78 Fed. Reg. 56274 (Sept. 12, 2013), http://www.gpo.gov/fdsys/pkg/FR-2013-09-12/pdf/2013-20997.pdf.

[413] Robert Iafolla, *Fracking Industry Could Bear Heavy Economic Burden Under Silica Rule*, BLOOMBERG BNA, Oct. 31, 2013, http://www.bna.com/fracking-industry-bear-n17179879730/.

[414] Sec'y of Energy Advisory Board Task Force Report on FracFocus 2.0, U.S. Dep't of Energy, Mar. 28, 2014, http://energy.gov/sites/prod/files/2014/04/f14/20140328_SEAB_TF_FracFocus2_Report_Final.pdf.

[415] Letter from Am. Pet. Inst., Am. Natural Gas Alliance, Independent Pet. Assoc. of Am., Am. Exploration & Production Council, to Dr. John Deutch, Chair, Sec'y of Energy Advisory Bd., Mar, 25, 2014, *available at* http://www.axpc.us/download/issues_and_info/natural%20gas/nat_gas_25mar2014.pdf.



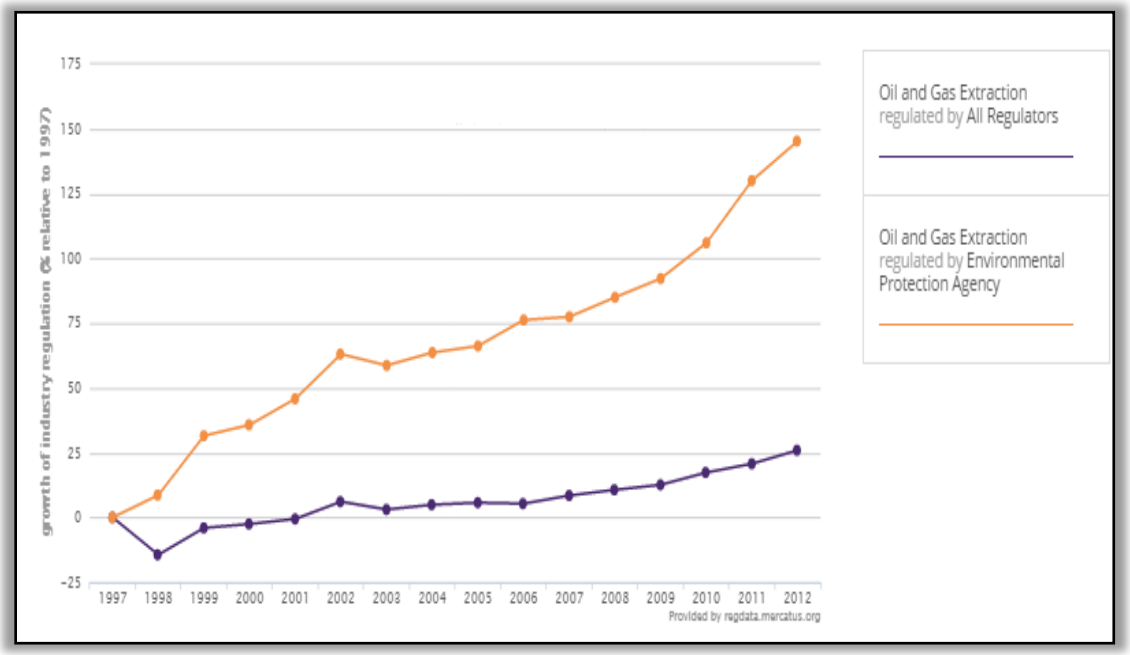
As demonstrated in the graphic to the left, there are some agencies that stand out among the usual commandants attacking the oil and gas industry; however, a large portion of the agencies involved are less obvious perpetrators. All told, there are over one dozen agencies attempting to justify the federal usurpation of states' rights to regulate hydraulic fracturing.

Ultimately, the attack on hydraulic fracturing, and by extension the oil and gas industry, is compounded by excessive federal rulemaking efforts. As depicted in the graph below, EPA regulation of oil and natural gas extraction grew 145.29% between 1997 and 2012, while federal government regulation grew 25.93%.[416] That is, EPA outpaced federal government regulation as a whole 5:1. This regulatory onslaught has significantly intensified under the Obama Administration as EPA regulation over oil and natural gas development grew 32.62% during his first term.[417]

EPA regulation of oil and natural gas extraction grew 145.29% between 1997 and 2012.

[416] Historical Regulation Data for Oil and Gas Extraction regulated by EPA and All Regulators, Mercatus Center, George Mason University, *available at* http://regdata.org/?type=regulation_index&industry[]=211&regulator[]=0&regulator[]=111 (last visited Oct. 19, 2014).
[417] *Id*.

REGULATION ON OIL AND NATURAL GAS EXTRACTION BY THE EPA AND ALL FEDERAL AGENCIES FROM 1997 TO 2012



Source: RegData, The Mercatus Center[418]

These efforts punitively impose vast costs on oil and natural gas production. Given the numerous duplicative and overly burdensome regulatory efforts, it is difficult to quantify the extensive costs they will impose on the oil and gas industry at the various stages of development. Indeed, this Administration-wide effort, spearheaded by EPA, to overregulate hydraulic fracturing is consistent with both their rhetoric that fossil fuels must be eliminated no matter the cost or detriment to society and their view that natural gas is merely temporary. Thus, with many agency actions running contrary to the President's commitment, his promise to expand natural gas development was clearly empty.

i. Impeding Vital Resource Development on Federal Lands

Among all these regulatory initiatives, the Obama Administration has been most aggressive in their attempts to impede vital resource development on federal lands. Obama's BLM, which oversees leasing and production on federal and Indian lands, has a pending rule that would impose heavy and duplicative requirements for oil and natural gas development on BLM-administered lands.[419] Specifically, the rule focuses its requirements on disclosure of fracking fluids, wellbore integrity and disposal of flowback water—three distinct components of developing a well.[420] Not only is the rule duplicative of state and existing federal requirements, BLM deceptively frames the rule as specific to hydraulic fracturing, although the proposed

[418] *Id.*
[419] Bureau of Land Mgmt., Dep't of Interior, Oil and Gas; Hydraulic Fracturing on Federal and Indian Lands, Supp. Notice of Proposed Rulemaking and Request for Comment, 78 Fed. Reg. 31636, http://www.gpo.gov/fdsys/pkg/FR-2013-05-24/pdf/2013-12154.pdf.
[420] *Id.*

requirements extend far beyond the fracturing process. Further, BLM falsely suggested the rule would cost $166 million over 10 years, including $5,110 per well, along with 32,904 work hours dedicated to paperwork alone.[421] However, an independent analysis by an economic consulting firm estimates the total cost to be $346 million annually with compliance costs estimates closer to $100,000 per well.[422] This is nearly 20 times more than what the federal government claims. A separate study by the Oklahoma City University's Economic Research and Policy Institute estimates total average costs ranging even higher from $129,194 to $175,654 per well.[423] These costs will ultimately result in decreased production and loss of investment, and at the end of the day American consumers lose out.

An independent analysis by an economic consulting firm estimates the total cost to be $346 million annually with compliance costs estimates closer to $100,000 per well. This is nearly 20 times more than what the federal government claims.

BLM has used other regulatory mechanisms to attack oil and natural gas development on federal lands. In 2013, BLM initiated modifications to several onshore orders that will negatively affect security and measurement on oil and natural gas production sites.[424] These modifications also require electronic flow meters that are expected to cost thousands of dollars per well and require costly solar panels and batteries to function.[425] Notably, industry has expressed concerns over BLM's proposed revisions to the onshore orders, as some changes could undermine or contradict existing state requirements[426] and would be premature considering such restrictions could shut-in wells until new infrastructure is installed, further diminishing production on federal lands already unduly delayed by the federal government.

The Administration is also obstructing oil and natural gas development on offshore and federal lands by denying permits and lease sales. As the following graphic illustrates, most recent BLM estimates show 90% of natural gas and 92% of oil on federal lands are either inaccessible or restricted due to government policies that limit access.[427]

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[421] *Id*. at 31666.

[422] Memorandum from John Dunham, Managing Partner, John Dunham & Associates, to Kathleen Sgamma, Vice President of Gov't & Public Affairs, Western Energy Alliance, July 22, 2013, *available at* http://www.westernenergyalliance.org/wp-content/uploads/2013/07/Final-Economic-Analysis-of-the-BLM-Fracing-Rule-Revision.pdf.

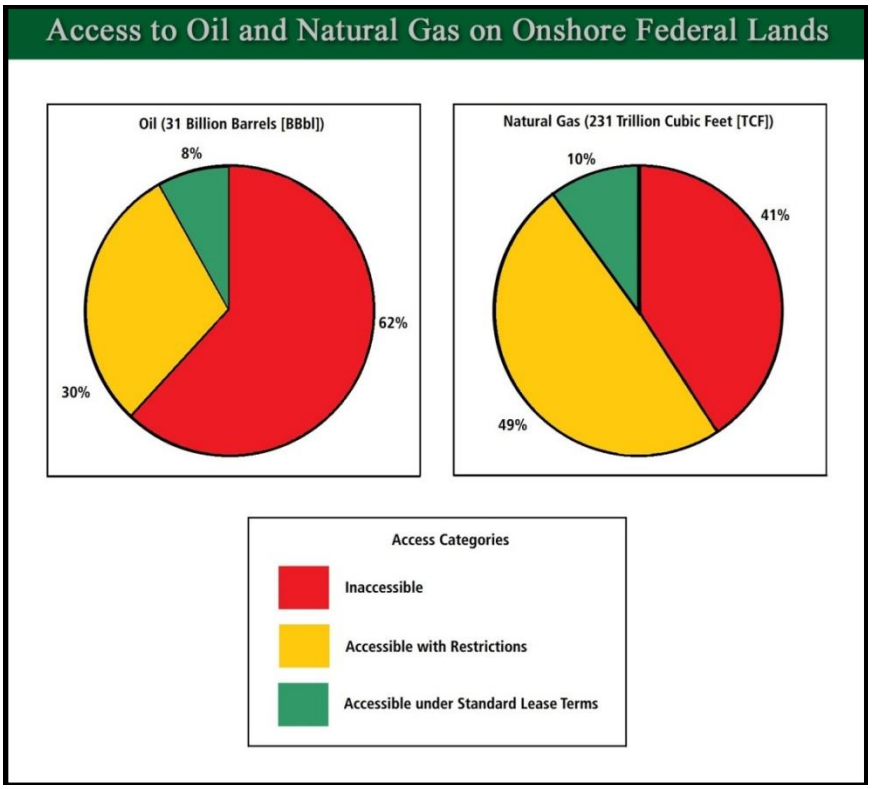
[423] Individual Well Costs from Proposed Rule Changes to Oil and Natural Gas Operations on BLM Lands: Comments and a Monte Carlo Specification, Steven C. Agree Economic Research & Policy Institute, Oklahoma City University, http://www.velaw.com/uploadedfiles/vesite/resources/blm_study.pdf (last visited Oct. 19, 2014).

[424] News Release, *BLM Holds Public Forums to Kick Off Updates to Onshore Oil and Gas Orders*, Bureau of Land Mgmt, U.S. Dep't of Interior, Apr. 30, 2013, http://www.blm.gov/wo/st/en/info/newsroom/2013/april/nr_04_30_2013.html.

[425] Letter from Am. Natural Gas Alliance, Am. Exploration & Production Council, Independent Pet. Assoc. of Am., to Tommy Beaudreau, Acting Asst. Sec'y of Land & Minerals Management, U.S. Dep't of Interior, May 31, 2013, *available at* http://www.axpc.us/download/issues_and_info/natural%20gas/nat_gas_31may2013.pdf.

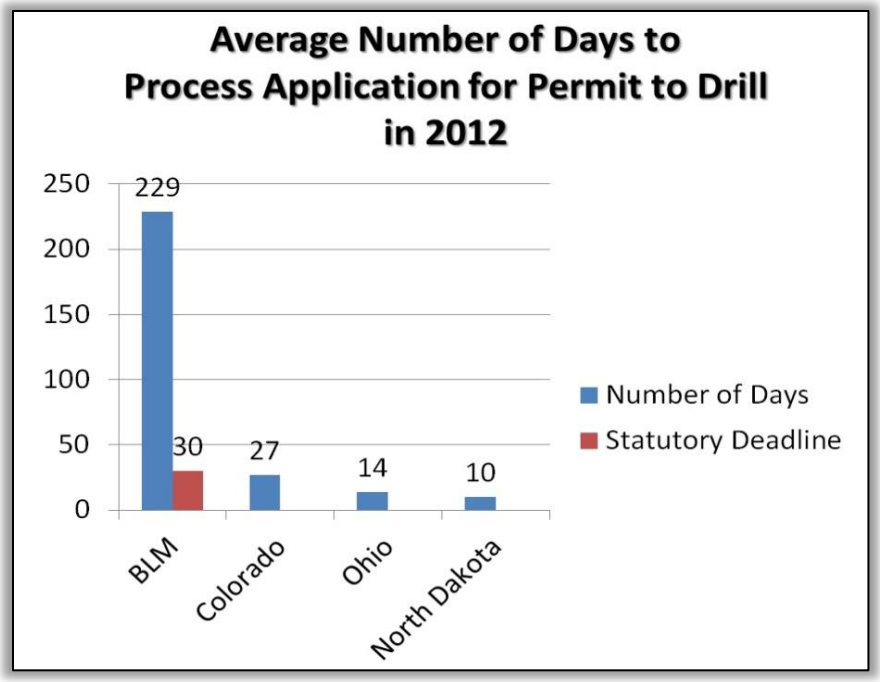
[426] *Id*.

[427] INVENTORY OF ONSHORE FEDERAL OIL AND NATURAL GAS RESOURCES AND RESTRICTIONS TO THEIR DEVELOPMENT, PHASE III-ONSHORE UNITED STATES, U.S. DEP'T OF INTERIOR, U.S. DEP'T OF AGRICULTURE, U.S. DEP'T OF ENERGY (2008) at xxxi, http://www.blm.gov/pgdata/etc/medialib/blm/wo/MINERALS__REALTY__AND_RESOURCE_PROTECTION_/energy/00.Par.29354.File.dat/EPCA2008HIfront.pdf.



Within BLM's process for reviewing applications, both the DOI's Office of Inspector General (OIG) and the non-partisan Government Accountability Office (GAO) found major violations that demonstrate how BLM is impeding oil and natural gas development on federal lands. In June 2014, the DOI OIG reported that only 6% of oil and natural gas permit applications are completed within the legally required 30 day period.[428] According to the OIG report, "neither BLM nor the operator can predict when the permit will be approved. Target dates for completion of individual [applications for permit to drill] are rarely set and enforced, and consequently, the review may continue indefinitely."[429] In August 2013, the GAO identified similar findings that BLM was responsible for significant delays in approving permits, taking an average of 229 days to approve an application.[430] The significance of BLM's delays in the permitting process is amplified when compared to state and private lands. As depicted in the chart below, it takes an average 10 days in North Dakota, 14 days in Ohio, and 27 days in Colorado to process an application for a permit to drill.[431]

[428] OFFICE OF INSPECTOR GEN., U.S. DEP'T OF THE INTERIOR, REP. NO. CR-EV-MOA-0003-2013, ONSHORE OIL AND GAS PERMITTING U.S. DEPARTMENT OF THE INTERIOR 4 (June 2014), http://www.doi.gov/oig/reports/upload/CR-EV-MOA-0003-2013Public.pdf.
[429] *Id*. at 1.
[430] U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-13-572, OIL AND GAS DEVELOPMENT: BLM NEEDS BETTER DATA TO TRACK PERMIT PROCESSING TIMES AND PRIORITIZE INSPECTIONS (Aug. 2013), http://www.gao.gov/assets/660/657176.pdf.
[431] *U.S. Oil Production Up, But On Whose Lands?*, INST. FOR ENERGY RESEARCH, Sept. 24, 2012, http://instituteforenergyresearch.org/analysis/u-s-oil-production-up-but-on-whose-lands-2/.

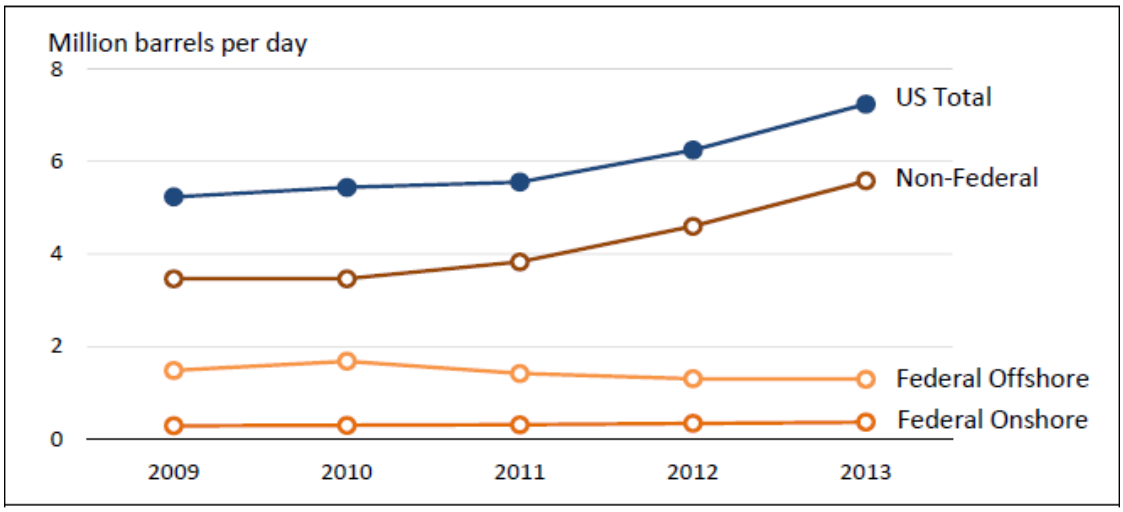


To further slow production of federal resources, the Obama Administration has granted only half the amount of leases compared to those granted under the Clinton Administration and a third less than those granted under the Bush Administration.[432] From FY2009 to FY2013, there was a 6% fall in oil production and a 28% fall in natural gas production on federal lands.[433] Concurrently, production on state and private lands increased drastically.[434] The following Congressional Research Service (CRS) graphs illustrate the dramatic differences between production on federal and non-federal lands during the Obama Administration.[435]

[432] *GAO Misses the Elephant in the Room on Interior's Oil & Gas Fiscal System*, INSTITUTE FOR ENERGY RESEARCH, Jan. 13, 2014, http://instituteforenergyresearch.org/analysis/gao-study-on-interiors-oil-gas-fiscal-system-misses-the-elephant-in-the-room/.
[433] MARC HUMPHRIES, CONG. RESEARCH SERV., R42432, U.S. CRUDE OIL AND NATURAL GAS PRODUCTION IN FEDERAL AND NON-FEDERAL AREAS (Apr. 10, 2014), http://www.crs.gov/pdfloader/R42432.
[434] *Id*.
[435] *Id*. at 3-4.

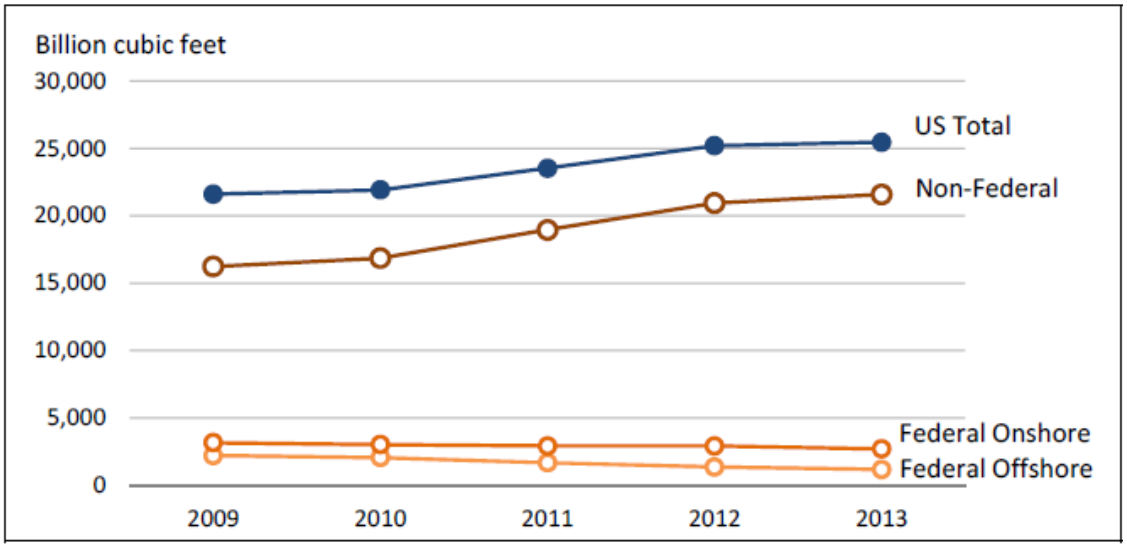
Figure 1. U.S. Crude Oil Production: Federal and Non-Federal Areas, FY2009-2013

Million barrels per day (Mb/d)



Source: Federal data obtained from ONRR Statistics, http://www.onrr.gov (using sales year data). Figure created by CRS.

Figure 2. U.S. Natural Gas Production: Federal and Non-Federal Areas FY2009-FY2013



Source: Federal data obtained from ONRR Statistics, http://www.onrr.gov (using sales year data). Figure created by CRS.

Presently, the Obama Administration has granted the smallest amount of offshore leases in recent history.[436] The Administration's Progress Report for the 2012 to 2017 Outer Continental Shelf (OCS) Oil and Gas Leasing Program designates over 85% of the OCS as off-limits to oil and natural gas development.[437] Even more troubling, the Administration may not include the Atlantic OCS in its 2017 to 2022 plan due to the DOI's Bureau of Ocean Energy Management (BOEM), which is responsible for managing development of U.S. offshore resources, who delayed issuing a decision on seismic surveys in the Atlantic OCS.[438] This delay could result in additional requirements for OCS development. Despite strong bipartisan support,[439] the President's exclusion of offshore lease sales off the coast of Virginia alone are expected to cost the government $19.5 billion in lost revenues[440] and 15,000 potential jobs.[441]

The President's exclusion of offshore lease sales off the coast of Virginia alone are expected to cost the government $19.5 billion in lost revenues and 15,000 potential jobs.

Additionally, the U.S. Forest Service (USFS) within the USDA has used its jurisdiction over national forests and grasslands to attack oil and natural gas development. In 2011, USFS proposed a ban on horizontal drilling in the George Washington National Forest.[442] USFS also cancelled an oil and natural gas lease for the Wayne National Forest. [443]

ii. Picking Winners and Losers

The Obama Administration and their anti-fossil fuel allies both in and outside of Congress routinely try to use every avenue from existing laws to the tax code and other fees to stage attacks against the oil and gas industry. Oil and gas companies pay bonus bids, royalties,

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[436] Memorandum by Curry Hagerty, CONG. RESEARCH SERVICE, List of Submissions to Congress Under Section 18 of the Outer Continental Shelf Lands Act, July 16, 2012, *available at* http://repbillcassidy.files.wordpress.com/2014/04/ocsla.pdf. The Administration announced a lease sale on October 16, 2014, but the outcome of this announcement remains to be seen. *See BOEM Proposes 40-Million-Acre Gulf of Mexico Oil and Gas Lease Sale*, U.S. BUREAU OF OCEAN ENERGY MGMT., Oct. 16, 2014, http://www.boem.gov/press10162014/.

[437] Press Release, *Senators Push Administration for Expanded Offshore Drilling in Next 5-Year OCS Leasing Plan*, U.S. Sen. David Vitter, June 25, 2014, http://www.vitter.senate.gov/newsroom/press/senators-push-administration-for-expanded-offshore-drilling-in-next-5-year-ocs-leasing-plan.

[438] ATLANTIC GEOLOGICAL AND GEOPHYSICAL (G&G) ACTIVITIES PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT (PEIS), BUREAU OF OCEAN ENERGY MGMT, http://www.boem.gov/Atlantic-G-G-PEIS/ (last visited Oct. 19, 2014).

[439] Press Release, *Senators Introduce Bipartisan Legislation Expanding Offshore Leasing*, U.S. S. Comm. on Energy & Natural Res., July, 25, 2012, http://www.energy.senate.gov/public/index.cfm/2012/7/senators-introduce-bipartisan-legislation-expanding-offshore-leasing.

[440] Potential Job Creation, Economic Benefits and Revenue Sharing from Oil and Natural Gas Production and Exploration in Virginia, SOUTHEAST ENERGY ALLIANCE, Oct. 14, 2010, http://naturalresources.house.gov/uploadedfiles/seaocsreportoct2010.pdf.

[441] Josh Brown, *Big risk, big boon: Offshore drilling could create 15,000 jobs*, PILOTONLINE.COM, May 24, 2010, http://hamptonroads.com/2010/05/big-risk-big-boon-offshore-drilling-could-create-15000-jobs.

[442] SUMMARY FOR THE DRAFT ENVIRONMENTAL IMPACT STATEMENT AND DRAFT REVISED LAND AND RESOURCE MGMT PLAN GEO. WASH. NAT. FOREST, U.S. DEP'T OF AGRICULTURE (Apr. 2011), http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5297828.pdf.

[443] Letter from Charles L. Myers, Regional Forester, U.S. Forest Service, to John Lyon, Eastern States Dir., Bureau of Lang Mgmt., Nov. 14, 2011, *available at* http://www.blm.gov/pgdata/etc/medialib/blm/es/minerals.Par.34354.File.dat/FS_correspondence.pdf.

rents, and other payments for federal onshore leases, in addition to taxes on sale profits from the oil and natural gas produced. In the context of offshore energy, wind leases net the government only $1 to $2 per acre compared to the $100 per acre from oil and natural gas development.[444] Additionally, oil and natural gas extraction on federal lands pay royalties ranging from 12.5 to 18.75%,[445] while wind energy royalties are even less than the tax credit the wind companies receive—resulting in a net loss on wind energy for the federal government.[446]

Much like the Internal Revenue Service (IRS) scandal,[447] bureaucrats in this Administration routinely apply laws differently, often giving a pass to their allies while vigorously prosecuting businesses and individuals who do not share their far-left political ideals. A prime example of this can be found in the clearly differential treatment from Obama's Department of Justice (DOJ) towards the protection of animals. According to estimates by the American Bird Conservancy, each year the wind industry is responsible for killing some 440,000 birds, including golden and bald eagles.[448] Even though many of these birds are protected by laws such as the 1918 Migratory Bird Treaty Act, their deaths have resulted in the prosecution of only one of President Obama's friends in the wind industry.[449] This single prosecution came only after Congress exposed the differential treatment between wind energy producers and those of the oil and gas industry.[450] In 2011, seven oil and natural gas developers were charged in federal court for killing a total of 28 birds in what one local commentator said was "the most absurd legal action taken by the government in the history of North Dakota."[451] In addition to the federal prosecution, these companies also faced fines for each dead bird of up to $15,000 and the possibility of prison time.[452]

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[444] Press Release, *Senators Push Administration for Expanded Offshore Drilling in Next 5-Year OCS Leasing Plan*, U.S. Sen. David Vitter, June 25, 2014, http://www.vitter.senate.gov/newsroom/press/senators-push-administration-for-expanded-offshore-drilling-in-next-5-year-ocs-leasing-plan.

[445] PROPOSED FINAL OUTER CONTINENTAL SHELF OIL & GAS LEADING PROGRAM: 2012-2017, BUREAU OF OCEAN ENERGY MGMT., U.S. DEP'T OF THE INTERIOR (June 2012) at 96, pt. III, http://www.boem.gov/uploadedFiles/BOEM/Oil_and_Gas_Energy_Program/Leasing/Five_Year_Program/2012-2017_Five_Year_Program/PFP%2012-17.pdf. BLM has also indicated it wants to increase royalties on onshore federal lands from the current 12.5% rate. *See* BUDGET JUSTIFICATIONS AND PERFORMANCE INFORMATION: FISCAL YEAR 2015, BUREAU OF LAND MGMT., U.S. DEP'T OF THE INTERIOR, at 10-11, Ch. I, http://www.blm.gov/pgdata/etc/medialib/blm/wo/Communications_Directorate/public_affairs/news_release_attachments.Par.60974.File.dat/FY2015_BLM_Greenbook.pdf.

[446] Press Release, *Senators Push Administration for Expanded Offshore Drilling in Next 5-Year OCS Leasing Plan*, U.S. Sen. David Vitter, June 25, 2014, http://www.vitter.senate.gov/newsroom/press/senators-push-administration-for-expanded-offshore-drilling-in-next-5-year-ocs-leasing-plan.

[447] Dan Keating & Darla Cameron, *IRS targets conservative groups*, WASH. POST, May 15, 2013, http://www.washingtonpost.com/wp-srv/special/politics/irs-targets-conservative-groups/.

[448] *A Bird-Brained Prosecution: Indicting oil and gas companies but giving wind turbines a pass*, THE WALL ST. J., Sept. 29, 2011, http://online.wsj.com/news/articles/SB10001424053111903791504576588642920063046.

[449] Media Release, *First Prosecution of Wind Company for Killing Birds*, Am. Bird Conservancy, Nov. 22, 2013, http://www.abcbirds.org/newsandreports/releases/131122.html.

[450] Press Release, *Vitter, Alexander Demand a Clear Migratory Bird Policy from Justice Department*, U.S. S. Comm. on Env't & Pub. Works, Jan. 30, 2013, http://www.epw.senate.gov/public/index.cfm?FuseAction=Minority.PressReleases&ContentRecord_id=8c84134d-a36c-2155-a554-dc81eaded88a.

[451] *A Bird-Brained Prosecution: Indicting oil and gas companies but giving wind turbines a pass*, THE WALL ST. J., Sept. 29, 2011, http://online.wsj.com/news/articles/SB10001424053111903791504576588642920063046.

[452] *Id.*

In recent years renewable energy companies have enjoyed preferential treatment, including the ability to avoid compliance with laws as well as generous tax breaks, government loans, and subsidies unavailable to oil and gas companies, despite the inherent risk and financial loss repeatedly presented.[453] In September 2014, while the DOI was actively blocking oil and natural gas development claiming to be protecting endangered species, it developed a plan intended to "create a framework to streamline renewable energy permitting…on more than 22 million acres" of public and private land in the California desert full of endangered animals.[454] The 8,000 page plan, which encompasses nearly one-quarter of the state, has been in the works for five years under President Obama to avoid "typically long, complicated environmental reviews,"[455] which are in place because of these environmentalists themselves.

The loan was approved by DOE while an Obama fundraiser and Vantage Point principal was serving as a "renewable energy grants adviser" in the department. The cronyism does not stop there as John Bryson, former Chairman of BrightSource Energy, was appointed in May 2011 to be President Obama's Secretary of Commerce. Bryson was also not only "CEO of Edison International, which obtained exclusive power purchase agreements for four other solar projects that received [DOE loans]," but also a co-founder of the NRDC.

There serves perhaps no greater example of preferential treatment than BrightSource Energy Inc. and its Ivanpah Solar Electric Generating System project near the California and Nevada border. On April 11, 2011, Obama's DOE finalized a $1.6 billion loan using Recovery Act funds to BrightSource Energy, whose major stakeholder was Vantage Point Capital Partners, for their facility located on federally-owned land.[456] The loan was approved by DOE while an Obama fundraiser and Vantage Point principal was serving as a "renewable energy grants adviser" in the department.[457] The cronyism does not stop there as John Bryson, former Chairman of BrightSource Energy, was appointed in May 2011 to be President Obama's Secretary of Commerce.[458] Bryson was also not only "CEO of Edison International, which obtained exclusive power purchase agreements for four other solar projects that received [DOE loans],"[459] but also a co-founder of the Natural Resources Defense Council (NRDC).[460]

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[453] *Id*.
[454] DRAFT DESERT RENEWABLE ENERGY CONSERVATION PLAN: EXECUTIVE SUMMARY, DESERT RENEWABLE ENERGY CONSERVATION PLAN (DRECP), 6, Sept. 2014, http://drecp.org/draftdrecp/files/a_Front_Matter_and_Executive_Summary/Draft_DRECP_Executive_Summary.pdf.
[455] Julie Cart, *Desert plan seeks to balance environment, renewable energy*, L.A. TIMES (Sept. 23, 2014), http://www.latimes.com/science/la-me-desert-plan-20140924-story.html.
[456] *DOE Finalizes $1.6 Billion Loan Guarantee for BrightSource Energy Inc*., U.S. DEP'T OF ENERGY, Apr. 11, 2011, http://energy.gov/articles/doe-finalizes-16-billion-loan-guarantee-brightsource-energy-inc.
[457] Peter Schweizer, *How Obama's Alternative-Energy Programs Became Green Graft*, NEWSWEEK, Nov. 12, 2011, http://www.newsweek.com/how-obamas-alternative-energy-programs-became-green-graft-66373.
[458] *President Obama Nominates John Bryson to be Our Nation's Next Commerce Secretary*, THE WHITE HOUSE BLOG, May 31, 2011, http://www.whitehouse.gov/blog/2011/05/31/president-obama-nominates-john-bryson-us-department-commerce-secretary.
[459] CJ Ciaramella, *Power Politics: Emails show direct link between White House and energy loans, GOP says*, THE FREE BEACON (May 16, 2012), http://freebeacon.com/national-security/power-politics/.
[460] *President Obama Nominates John Bryson to be Our Nation's Next Commerce Secretary*, THE WHITE HOUSE BLOG, May 31, 2011, http://www.whitehouse.gov/blog/2011/05/31/president-obama-nominates-john-bryson-us-department-commerce-secretary.

In addition to the clear cronyism displayed on this project, the Ivanpah Solar Electric Generating System project serves as a textbook example of how far this Administration is willing to bend over backwards for its friends at the expense of others. BrightSource, who is "notorious for its troubling impacts on wildlife," was granted federal money to build the Ivanpah project in an area that "served as prime desert tortoise habitat," which resulted in tortoise casualties.[461] The tortoises, which are federally listed as threatened, are not the only casualties of Ivanpah as project biologists reported the killing of 76 birds in the final three months of last year alone.[462] In addition, the Ivanpah project has been labeled a risk to air safety due to an unsafe glare coming from the thousands of billboard-sized mirrors "nearly blinding" pilots.[463] As if killing animals, endangering the lives of aircraft passengers, and perpetuating the revolving door of cronyism with this project was not enough, Ivanpah owners successfully got the DOE to delay the repayment of hundreds of millions of dollars in federal loans only to astonishingly apply for a $539 million grant from the U.S. Department of Treasury to pay off their debt to DOE.[464]

As if killing animals, endangering the lives of aircraft passengers, and perpetuating the revolving door of cronyism with this project was not enough, Ivanpah owners successfully got the DOE to delay the repayment of hundreds of millions of dollars in federal loans only to astonishingly apply for a $539 million grant from the U.S. Treasury Department to pay off their debt to DOE.

Unfortunately, these are just a fraction of the efforts by this Administration to play favorites, picking their far-left environmentalist friends as winners while attacking hydraulic fracturing and subsequently the oil and gas industries all at the expense of the American people.

iii. Using Sue-and-Settle to Exclude the Public and States in Development Rules

Many of the Administration's policies affecting oil and natural gas production are in response to sue-and-settle arrangements with environmental allies. Sue-and-settle is a tactic the Administration and far-left environmental activists use to place more regulatory requirements on the oil and gas industry while circumventing key stakeholders. The process begins when an environmental group that is friendly with the Administration sues a federal agency, typically the EPA or the DOI's Fish and Wildlife Service (FWS), under an often arcane specified duty. Instead of challenging the suit in court, the federal agency negotiates a settlement with its allies on a timeline or regulatory framework that appeases the suing party, while excluding other interested parties and the public. Thereafter, the parties specially select a court, namely the District of Columbia District Court and the Northern California District Court, to rubber-stamp

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[461] Shaun G., *BrightSource Energy Design Too Risky for Wildlife,* MOJAVE DESERT BLOG (Dec. 15, 2013), http://www.mojavedesertblog.com/2013/12/brightsource-energy-design-too-risky.html.
[462] Chris Clarke, *Bird Deaths Continue at Ivanpah Solar as Tortoises Go Missing*, KCET (Jan. 21, 2014), http://www.kcet.org/news/rewire/solar/concentrating-solar/bird-deaths-continue-at-ivanpah-solar-as-tortoises-go-missing.html.
[463] Chris Clarke, *Desert Solar Power Plant a Risk to Air Safety, Say Pilots*, KCET (Mar. 12, 2014), http://www.kcet.org/news/rewire/solar/concentrating-solar/desert-solar-power-plant-a-risk-to-air-safety-say-pilots.html.
[464] Yuliya Chernova, *Ivanpah Solar Project Owners Delay Repaying Loans, Documents Say*, THE WALL ST. J. (Sept. 23, 2014), http://online.wsj.com/articles/ivanpah-solar-project-owners-delay-repaying-loans-documents-say-1411488730.

The parties specially select a court, namely the District of Columbia District Court and the Northern California District Court, to rubber-stamp the agreement.

the agreement.[465] While it has become a common refrain that the agency must take hasty regulatory action pursuant to a court-ordered settlement agreement, in reality "the court is only accepting the parties' agreement to settle, not adjudicating" the validity of the agency or environmental group's legal argument.[466]

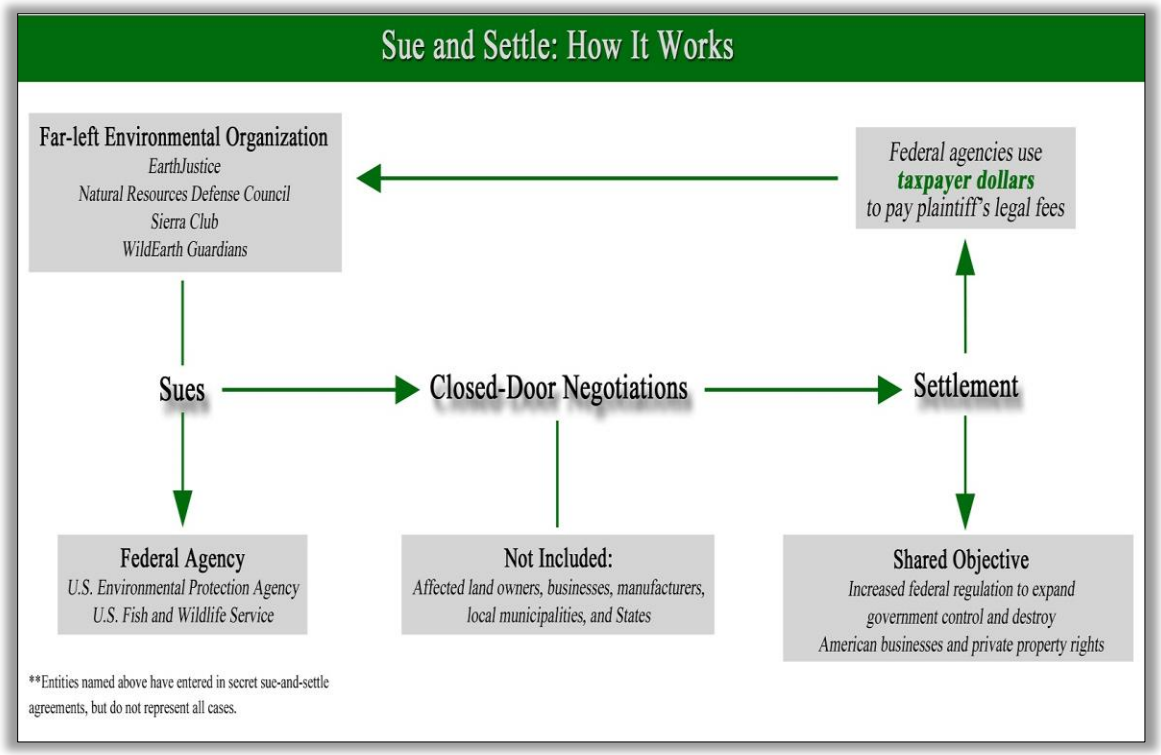
Alarmingly, these arrangements take place in closed-door negotiations, while intentionally preventing the states, localities, and stakeholders from participating. This practice directly contradicts President Obama's own directive that his "[e]xecutive departments and agencies should offer Americans increased opportunities to participate in policymaking and to provide their Government with the benefits of their collective expertise and information."[467] More importantly, sue-and-settle directly ignores the Administrative Procedures Act (APA), which requires "public participation in the rulemaking process."[468]

Between 2000 and 2009, the Sierra Club was a party to 194 lawsuits against the federal government and received more than $19 million in legal fees. According to DOJ documents obtained by the House of Representatives Committee on Natural Resources, between 2009 and 2012 the Center for Biological Diversity received more than $2.1 million in taxpayer dollars for these anti-development lawsuits.

Furthermore, often times the environmental plaintiff's legal fees are reimbursed and subsidized by the American people. For example, between 1995 and 2010 Earthjustice received $4.7 million and NRDC received $252,004 for initiating these "friendly lawsuits."[469] Between 2000 and 2009, the Sierra Club was a party to 194 lawsuits against the federal government and received more than $19 million in legal fees.[470] According to DOJ documents obtained by the House of Representatives Committee on Natural Resources, between 2009 and 2012 the Center for Biological Diversity (CBD) received more than $2.1 million in taxpayer dollars for these anti-development lawsuits.[471] This all boils down to the disturbing fact that organizations are actually getting paid by taxpayers to sue the government. The graphic below demonstrates how the tactic works in practice:

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[465] SUE AND SETTLE: REGULATING BEHIND CLOSED DOORS, U.S. CHAMBER OF COMMERCE (2013) at 7, https://www.uschamber.com/sites/default/files/documents/files/SUEANDSETTLEREPORT-Final.pdf.
[466] *See American Nurses Association v. Jackson*, Civil Action No. 08-2198 (D. D.C. Apr. 15, 2010).
[467] Memorandum from President Barack Obama, *Transparency and Open Government*, Jan. 21, 2009, *available at* http://www.whitehouse.gov/the_press_office/TransparencyandOpenGovernment.
[468] Tom C. Clark, *Attorney General's Manual on the Administrative Procedure Act,* U.S. DEP'T OF JUSTICE, 9 (1947), http://law.fsu.edu/library/admin/attorneygeneralsmanual.pdf.
[469] Larry Bell, *EPA's Secret and Costly 'Sue and Settle' Collusion with Environmental Organizations*, FORBES, Feb. 17, 2013, http://www.forbes.com/sites/larrybell/2013/02/17/epas-secret-and-costly-sue-and-settle-collusion-with-environmental-organizations/.
[470] Randy T. Simmons, *Big Green groups have self-serving bargain with government*, THE HILL, Oct. 16, 2014, http://thehill.com/blogs/pundits-blog/energy-environment/220894-big-green-groups-have-self-serving-bargain-with.
[471] Press Release, *DOJ Documents Confirm Center for Biological Diversity Received Millions in Taxpayer Funds from ESA-Related Lawsuits*, U.S. H. Comm. on Natural Res., June 27, 2012, http://naturalresources.house.gov/news/documentsingle.aspx?DocumentID=301242&utm_content=buffer93f99&utm_medium=social&utm_source=facebook.com&utm_campaign=buffer.



In 2011, FWS entered into a sue-and-settle arrangement with CBD and WildEarth Guardians (WEG) over Endangered Species Act (ESA) listings in what has been referred to as one of the "largest federal land grabs in modern times."[472] The arrangement could result in the listing of more than 250 species as threatened or endangered under the ESA, including species such as the American burying beetle[473] and the Northern long-eared bat.[474] Additional analysis by the Western Energy Alliance shows that settlements with these groups include a combined 1,008 species.[475] More recently, CBD and WEG, along with other environmental activist organizations, have pressed FWS and the National Marine Fisheries Service (NMFS) to consider additional species listings that could limit access to offshore resources.[476] Notably, incoming President of the NRDC, Rhea Suh, was a key Obama Administration official in the DOI at the time these settlement agreements were reached.[477]

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[472] *Sage Grouse Rebellion: Will Obama use two small birds to limit oil drilling in the West?,* THE WALL ST. J., Mar. 11, 2014, http://online.wsj.com/news/articles/SB10001424052702304858104579262383209254934.
[473] *American Burying Beetle*, U.S. FISH & WILDLIFE SERVICE, *available at* http://www.fws.gov/midwest/endangered/insects/ambb/ (last visited Oct. 19, 2014).
[474] *Northern Long-Eared Bat*, U.S. FISH & WILDLIFE SERVICE, *available at* http://www.fws.gov/midwest/endangered/mammals/nlba/ (last visited Oct. 19, 2014).
[475] *Sue-and-Settle: Environmental Groups Keep Suing Despite Vast EPA Settlement Agreements*, WESTERN ENERGY ALLIANCE, Sept. 29, 2014, http://www.westernenergyalliance.org/press-room/sue-and-settle-environmental-groups-keep-suing-despite-vast-esa-settlement-agreements.
[476] Press Release, *Senators Request Withdrawal of Proposed ESA Critical Habitat Rules*, U.S. S. Comm. on Env't & Pub. Works, Oct. 8, 2014, http://www.epw.senate.gov/public/index.cfm?FuseAction=PressRoom.PressReleases&ContentRecord_id=697b92df-d5e3-6874-8ca8-50d4ce8bb804&CFID=108993197&CFTOKEN=36067607.
[477] Blogs, *Collusion & Coordination to Shut Down the Oil & Gas Industry*, U.S. S. Comm. on Env't & Pub. Works, Sept. 23, 2014,

Despite the fact that the settlement lists species that may inhabit all 50 states, the decision to enter into such expansive agreements was made without the consultation of any state or local governments, or private property owners who will be directly impacted by a species listing on their land.

These agreements have the potential to negatively impact energy development because moving forward with oil and natural gas activity is extremely difficult on lands inhabited by a listed species. Despite the fact that the settlement lists species that may inhabit all 50 states, the decision to enter into such expansive agreements was made without the consultation of any state or local governments, or private property owners who will be directly impacted by a species listing on their land.[478] For example, the ESA determination for the sage grouse has the potential to cripple oil and natural gas development over 186 million acres across 11 western states,[479] and the determination for the lesser prairie chicken may prevent development on 40 million acres in five states.[480]

b. EPA at the Forefront of Attack on Affordable Energy

Obama's EPA is the most active agency attempting to block the use of hydraulic fracturing. While in many cases it does not have direct authority to regulate the process, EPA uses incomplete and overly broad studies and baseless investigations to justify additional restrictions on the oil and gas industry. EPA even lists oil and natural gas extraction as one of the Agency's enforcement priorities.[481] Overall, these targeted efforts are intended to make development of oil and natural gas no longer viable so the Administration's favored energy alternatives may be competitive.

i. EPA Working with Outside Groups to Attack Hydraulic Fracturing

Using tactics like sue-and-settle, the Agency has also been working with anti-fossil fuel organizations, including NRDC, Earthjustice, Environmental Integrity Project, Sierra Club, and WEG, in order to increase the cost and regulatory burden associated with hydraulic fracturing. Interestingly, many of these organizations are the previous employers for a number of Obama-appointed officials,[482] regularly receive federal grants from this Administration,[483] and receive

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http://www.epw.senate.gov/public/index.cfm?FuseAction=Minority.Blogs&ContentRecord_id=5ebc9a4a-cfc2-b001-990c-f30973c7b2e4&Issue_id.

[478] *See* Sen. David Vitter, *VITTER: Endangered Species Act's Hidden Costs*, THE WASH. TIMES, Feb. 8, 2013, http://www.washingtontimes.com/news/2013/feb/8/endangered-species-acts-hidden-costs/#.

[479] *Protecting Sage Grouse While Growing Western Economies*, WESTERN ENERGY ALLIANCE, *available at* http://www.westernenergyalliance.org/knowledge-center/wildlife/greater-sage-grouse (last visited Oct. 20, 2014).

[480] Brian Seasholes, *Mapping the Endangered Species Act "Tidal Wave,"* REASON FOUNDATION, Oct. 6, 2014, http://reason.org/blog/show/mapping-the-coming-endangered-speci.

[481] *National Enforcement Initiative: Ensuring Energy Extraction Activities Comply with Environmental Laws*, U.S. ENVTL. PROT. AGENCY, http://www2.epa.gov/enforcement/national-enforcement-initiative-ensuring-energy-extraction-activities-comply (last visited Oct. 20, 2014).

[482] *See The Chain of Environment Command: How a Club of Billionaires and their Foundations Control the Environmental Movement and Obama's EPA*, U.S. S. Comm. on Env't & Pub. Works, Jul. 30, 2014, http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=8af3d005-1337-4bc3-bcd6-be947c523439.

[483] *Id*. at 29-31.

grants from the same handful of elite donors and foundations based in New York, California, and Washington, D.C.[484]

In October 2007 on the heels of the U.S. shale oil and natural gas boom, NRDC issued its Drilling Down report outlining a regulatory agenda that would attack domestic oil and natural gas development.

In addition to sue-and-settle tactics, far-left environmental groups often use the petition process to work hand-in-hand with EPA to undertake new regulatory action against the oil and gas industry. Namely, in October 2007 on the heels of the U.S. shale oil and natural gas boom, NRDC issued its *Drilling Down* report outlining a regulatory agenda that would attack domestic oil and natural gas development.[485] Almost every recommendation in the report is an action pushed by environmentalists, many through the petition process, and a majority are now under consideration by the EPA.[486] NRDC's report has served as somewhat of a blueprint outlining the current cooperative efforts between the Administration and its far-left allies, this comes as little surprise in light of the recent revelations that the NRDC drafted the existing source performance standards for coal-fired power plants alongside high level EPA officials.[487]

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EPA is currently considering a petition from the NRDC to review its 1988 Regulatory Determination for exploration and production wastes for upstream oil and natural gas production under the Resource Conservation and Recovery Act (RCRA).[488] In a previous determination, EPA explained that oil and natural gas fluids and produced water were adequately regulated through existing state and federal programs.[489] The NRDC petition has the potential to reverse this

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[484] *Id*. at 18-22.

[485] AMY MALL, DRILLING DOWN: PROTECTING WESTERN COMMUNITIES FROM THE HEALTH AND ENVIRONMENTAL EFFECTS OF OIL AND GAS PRODUCTION, NATURAL RES. DEFENSE COUNCIL, Oct. 2007, http://www.nrdc.org/land/use/down/down.pdf.

[486] *Id*.

[487] Coral Davenport, *Taking Oil Industry Cue, Environmentalists Drew Emissions Blueprint*, N.Y. TIMES, July 6, 2014, http://www.nytimes.com/2014/07/07/us/how-environmentalists-drew-blueprint-for-obama-emissions-rule.html?_r=1; *see also* Press Release, *Senate EPW, House Oversight Launch Investigation into Improper NRDC Influence Over EPA*, U.S. S. Comm. on Env't & Pub. Works, Sept. 2, 2014, http://www.epw.senate.gov/public/index.cfm?FuseAction=Minority.PressReleases&ContentRecord_id=2e012ad9-0ca5-4c1b-63f4-f3a65efefee0&Region_id=&Issue_id=.

[488] Natural Res. Defense Council, Petition for Rulemaking Pursuant to Section 6974(a) of the Resource Conservation and Recovery Act Concerning the Regulation of Wastes Associated with the Exploration, Development, or Production of Crude Oil or Natural Gas or Geothermal Energy, to Hon. Lisa Jackson, Adm'r, U.S. Envtl. Prot. AGency (Sept. 8, 2010), *available at* http://docs.nrdc.org/energy/files/ene_10091301a.pdf.

[489] U.S. Envtl. Prot. Agency, Regulatory Determination for Oil and Gas and Geothermal Exploration, Development and Production Wastes, 53 Fed. Reg. 25447 (July 6, 1988), http://www.epa.gov/wastes/nonhaz/industrial/special/oil/og88wp.pdf.

established precedent and open up the oil and gas industry to an additional and unnecessary section of RCRA regulation.[490]

Additionally, in 2011 Earthjustice led a group of environmental organizations demanding EPA to regulate hydraulic fracturing chemicals under the Toxic Substances Control Act (TSCA).[491] Even though TSCA clearly states that EPA "shall not require…any reporting which is unnecessary or duplicative,"[492] EPA granted a portion of the petition by initiating efforts to develop the design and scope of federal reporting requirements.[493] This was done despite existing state efforts, such as FracFocus, that already encompass comprehensive reporting requirements and the reality that many of the chemicals used in hydraulic fracturing are benign and already undergo TSCA testing and reporting at the manufacturing level.[494]

In October 2012, the Environmental Integrity Project petitioned EPA to add upstream oil and natural gas operations to the Toxic Release Inventory (TRI) under the Emergency Planning and Community Right to Know Act (EPCRA).[495] EPCRA requires owners or operators of certain industrial facilities to report on releases of toxic substances to the state and EPA, as well as reporting of the location and quantities of chemicals stored on-site to states and local governments.[496] While EPA has not formally subjected oil and natural gas operators to TRI, the Agency acknowledged it is still reviewing the petition.[497] However, EPCRA applies only to sectors that meet certain exceedances, and questions remain over how individual wells should count towards the statutory threshold.[498] EPA previously "opted not to include oil and [natural] gas because drilling wells did not meet the 10,000 pound threshold for subjecting the facility/units/activity to TRI reporting."[499] Even so, environmentalists have advocated for and

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[490] Letter from the Independent Pet. Assoc. of Am., to Hon. Fred Upton, Chairman, U.S. H. Comm. on Energy & Commerce (July 31, 2013), *available at* http://energyindepth.org/wp-content/uploads/2013/08/Letter-to-House-Committee-on-Energy-and-Commerce-July-31-20131.pdf.

[491] Earthjustice, Citizen Petition under Toxic Substances Control Act Regarding the Chemical Substances and Mixtures Used in Oil and Gas Exploration or Production, to Hon. Lisa Jackson, Adm'r, U.S. Envtl. Prot. Agency (Aug. 4, 2011), *available at* http://www.epa.gov/oppt/chemtest/pubs/Section_21_Petition_on_Oil_Gas_Drilling_and_Fracking_Chemicals8.4.2011.pdf.

[492] 15 U.S.C. §2607(a)(2).

[493] U.S. Envtl. Prot. Agency, Hydraulic Fracturing Chemicals and Mixtures, Advanced notice of proposed rulemaking, 79 Fed. Reg. 28664 (May 19, 2014), http://www.gpo.gov/fdsys/pkg/FR-2014-05-19/pdf/2014-11501.pdf.

[494] Comments by Am. Exploration & Production Council & Independent Pet. Assoc. of Am., to Mark Seltzer, Office of Pollution Prevention & Toxics, U.S. Envtl. Prot. Agency, Sept. 18, 2014, *available at* http://www.axpc.us/download/issues_and_info/natural%20gas/nat_gas_18sep2014.pdf.

[495] Envtl. Integrity Project, Petition to Add the Oil and Gas Extraction Industry, Standard Industrial Classification Code 13, to the List of Facilities Required to Report under the Toxics Release Inventory, to Hon. Lisa Jackson, Adm'r, U.S. Envtl. Prot. Agency, Oct. 24, 2012, *available at* http://www.environmentalintegrity.org/news_reports/documents/2012_10_24TRIPetitionFINALSIGNED.pdf.

[496] *Superfund: Reportable Quantities*, U.S. ENVTL. PROT. AGENCY, http://www.epa.gov/superfund/policy/release/rq/ (last visited Oct. 20, 2014).

[497] U.S. Envtl. Prot. Agency, Petition to Add the Oil and Gas Extraction Industry, Standard Industrial Classification Code 13, to the List of Facilities Required to Report under the Toxics Release Inventory; Notice of Receipt of Petition, 79 Fed. Reg. 393 (Jan. 3, 2014), http://www.gpo.gov/fdsys/pkg/FR-2014-01-03/pdf/2013-31484.pdf.

[498] *Facing EPA Doubts on 'Wells,' Groups Renew Push for TRI Rule for Drillers*, RISK POLICY REPORT, Feb. 14, 2014, http://insideepa.com/risk-policy-report/facing-epa-doubts-wells-groups-renew-push-tri-rule-drillers.

[499] *Id.*

EPA has considered aggregating oil and natural gas wells to meet the threshold requirement.[500] Accordingly, the oil and natural gas industry faces considerable uncertainty over whether or not it will be subject to the TRI.

In 2009, WEG and the San Juan Citizens Alliance filed a petition for EPA to review and revise its New Source Performance Standards (NSPS) for oil and natural gas operations.[501] Not surprisingly, EPA settled the case and subsequently issued unprecedented NSPS and National Emission Standards for Hazardous Air Pollutants (NESHAPS) for the oil and natural gas sector in April 2012.[502] Following several legal challenges, EPA proposed new standards requiring reductions in emissions of volatile organic compounds (VOCs) from storage tanks at the well site and during well completion through "green completions," a process whereby excess natural gas is captured.[503] However, many operators were already voluntarily using green completions and reselling the methane.[504] For example, Devon Energy Corp. has been using green completions since 2004.[505] Despite these voluntary efforts, EPA set a short compliance date for operators to obtain limited and costly equipment needed to carry out green completions and required operators to make captured natural gas available for sale by January 2015.[506] According to an Advanced Resources International, Inc. analysis on the rule, given the scarce availability of such equipment, the standards may lead to "a significant slowdown in unconventional resource development…resulting in less reserve additions, less production, lower royalties to the Federal government and private landowners."[507] Indeed, the standards came at a hefty cost that EPA tried to downplay. While EPA estimated its proposed new source performance standards for the oil and natural gas sector would cost producers

While EPA estimated its proposed new source performance standards for the oil and natural gas sector would cost producers approximately $170 million annually in 2015, stakeholders projected costs to be between $450 million and over $2.8 billion.

[500] *Id*.
[501] *WildEarth Guardians, et al. v. Jackson*, No. 1:09-CV-00089_CKK (D. D.C. filed Jan. 14, 2009).
[502] U.S. Envtl. Prot. Agency, Proposed Consent Decree, Clean Air Act Citizen Suit; Notice of proposed consent decree; request for public comment, 74 Fed. Reg. 66966 (Dec. 17, 2009), http://www.gpo.gov/fdsys/pkg/FR-2009-12-17/pdf/E9-30044.pdf. *See also* U.S. Envtl. Prot. Agency, Oil and Natural Gas Sector: New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews, Final rule, 77 Fed. Reg. 49490 (Aug. 16, 2012), http://www.gpo.gov/fdsys/pkg/FR-2012-08-16/pdf/2012-16806.pdf.
[503] U.S. Envtl. Prot. Agency, Oil and Natural Gas Sector: Reconsideration of Certain Provisions of New Source Performance Standards; Final Amendments, 78 Fed. Reg. 58416 (Sept. 23, 2013), http://www.gpo.gov/fdsys/pkg/FR-2013-09-23/pdf/2013-22010.pdf.
[504] U.S. ENVTL. PROT. AGENCY, PROPOSED AMENDMENTS TO AIR REGULATIONS FOR THE OIL AND NATURAL GAS INDUSTRY: FACT SHEET 3, http://www.epa.gov/airquality/oilandgas/pdfs/20110728factsheet.pdf.
[505] *Green in the Barnett Shale*, DEVON ENERGY CORP., *available at* http://www.devonenergy.com/featured-stories/green-completions-the-standard-in-barnett-shale (last visited Oct. 20, 2014).
[506] U.S. Envtl. Prot. Agency, Oil and Natural Gas Sector: New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews, Final rule, 77 Fed. Reg. 49490 (Aug. 16, 2012), http://www.gpo.gov/fdsys/pkg/FR-2012-08-16/pdf/2012-16806.pdf.
[507] ADVANCED RES. INT'L, INC., ESTIMATE OF IMPACTS OF EPA PROPOSALS TO REDUCE AIR EMISSIONS FROM HYDRAULIC FRACTURING OPERATIONS, FINAL REPORT FOR THE AM. PET. INST. 2 (Feb. 2012), http://www.api.org/~/media/files/policy/hydraulic_fracturing/nsps-og-ari-impacts-of-epa-air-rules-final-report.ashx.

approximately $170 million annually in 2015,[508] stakeholders projected costs to be between $450 million and over $2.8 billion.[509]

NRDC and the Sierra Club have also petitioned EPA to issue an additional methane-specific NSPS for the oil and natural gas sector.[510] This standard would be wholly duplicative since existing NSPS rules require green completions to capture methane and calculate methane reductions as their largest benefit.[511] Notwithstanding these concerns, EPA is considering potential methane standards for oil and natural gas operators.[512]

Sierra Club also petitioned EPA to update its National Ambient Air Quality Standards (NAAQS) for ozone, to be proposed by December 2014.[513] These standards affect oil and natural gas development, because emissions from production operations can be a precursor to ozone. Areas not meeting the standards are considered to be in nonattainment. In August 2014 EPA staff recommended to lower the standard from 75 to 60 parts per billion (ppb),[514] which would result in an estimated 94% the U.S. to be in nonattainment,[515] including areas that have not been developed like the Grand Canyon and Yellowstone National Park.[516] These nonattainment areas will be subject to EPA-approved plans to reduce emissions likely to target energy production sites, making it difficult for oil and

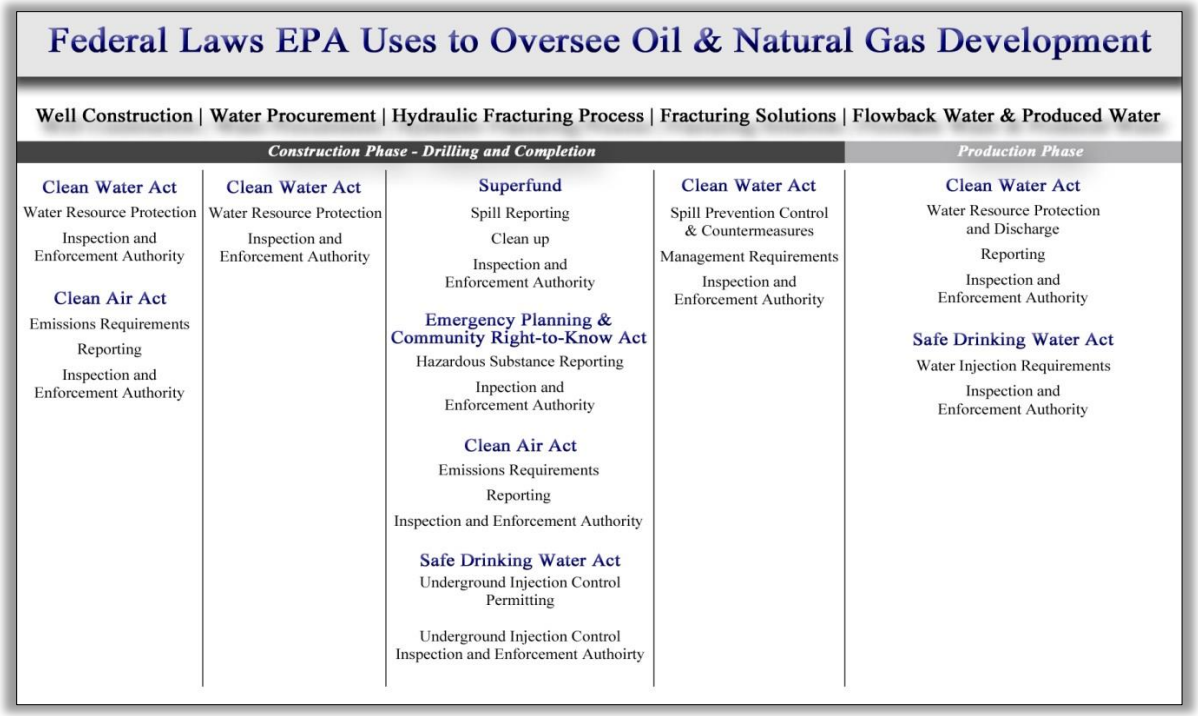
Constraints on new natural gas production in nonattainment areas have the potential to cost Americans on average $360 billion in reduced GDP with an annual loss of 4.3 million jobs.

[508] U.S. Envtl. Prot. Agency, Regulatory Impact Analysis, Final New Source Performance Standards and Amendments to the National Emissions Standards for Hazardous Air Pollutants for the Oil and Natural Gas Industry 3-19 (Apr. 2012), http://www.epa.gov/ttn/ecas/regdata/RIAs/oil_natural_gas_final_neshap_nsps_ria.pdf.
[509] Richard K. Lattanzio, CONG. RESEARCH SERV., R42833, AIR QUALITY ISSUES IN NATURAL GAS SYSTEMS 20 (Apr. 16, 2013), http://www.crs.gov/pages/Reports.aspx?PRODCODE=R42833&Source=search#ifn50.
[510] Natural Resources Defense Council et al., Clean Air Act Notice of Intent to Sue for Failure to Determine Whether Standards of Performance are Appropriate for Methane Emissions from Oil and Gas Operations and, if so, to Issue Methane Standards and Emissions Guidelines, to Hon. Lisa P. Jackson, Adm'r, U.S. Envtl. Prot. Agency (Aug. 29, 2012), *available at* http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=3b6c990c-7f4c-41a5-94d9-fd3f0760ed11.
[511] *See* U.S. Envtl. Prot. Agency, Regulatory Impact Analysis, Final New Source Performance Standards and Amendments to the National Emissions Standards for Hazardous Air Pollutants for the Oil and Natural Gas Industry (Apr. 2012), http://www.epa.gov/ttn/ecas/regdata/RIAs/oil_natural_gas_final_neshap_nsps_ria.pdf.
[512] *See* CLIMATE ACTION PLAN: STRATEGY TO REDUCE METHANE EMISSIONS, THE WHITE HOUSE, 2-3, Mar. 2014, http://www.whitehouse.gov/sites/default/files/strategy_to_reduce_methane_emissions_2014-03-28_final.pdf ("[I]n the fall of 2014, EPA will determine how best to pursue further methane reductions from [oil and gas sector]").
[513] *Sierra Club et al. v. U.S. Envtl. Prot. Agency et al.*, No. 13-cv-02809-YGR (N.D. Cal. June 19, 2013), *available at* http://www.edf.org/sites/default/files/42-notice-of-motion-and-motion-for-summary-judgment.pdf.
[514] POLICY ASSESSMENT FOR THE REVIEW OF THE OZONE NATIONAL AMBIENT AIR QUALITY STANDARDS, U.S. ENVTL. PROT. AGENCY, EPA-452/R-14-006 (Aug. 2014), http://www.epa.gov/ttn/naaqs/standards/ozone/data/20140829pa.pdf.
[515] Press Release, *API: 94 percent of U.S. closed for business under new ozone standards,* Am. Pet. Inst., May 27, 2014, http://www.api.org/news-and-media/news/newsitems/2014/may-2014/api-94-percent-of-us-closed-for-business-under-new-ozone-standards.
[516] *See* Press Release, *Vitter: New Study Shows Lowering Ozone Standard Would Devastate U.S. Economy*, U.S. S. Comm. on Env't & Pub. Works, July 31, 2014,

natural gas developers to obtain permitting offsets, dramatically increasing the cost of production or even shutting down production all together. Constraints on new natural gas production in nonattainment areas have the potential to cost Americans on average $360 billion in reduced gross domestic product (GDP) with an annual loss of 4.3 million jobs.[517] A recent study by the National Association of Manufacturers (NAM) examined the potential impact of new oil and natural gas production being significantly restricted in areas of the country designated nonattainment, potentially driving up energy costs for families and manufacturers by 15 and 23%, respectively.[518]

ii. EPA Using Nearly Every Regulatory Tool

Aside from its cooperative efforts with environmental activists, EPA is unilaterally taking action to rein in the oil and gas industry. The graphic below demonstrates how EPA has used nearly every statute within its jurisdiction to engage in some sort of rulemaking that will affect hydraulic fracturing.



Most of these actions are designed not only to undermine the states' authority and rules that have safely regulated oil and natural gas development for decades, but also create

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http://www.epw.senate.gov/public/index.cfm?FuseAction=PressRoom.PressReleases&ContentRecord_id=8937b2ae-cf1f-7403-e36b-4d4ce16bd083.

[517] ASSESSING ECONOMIC IMPACTS OF A STRICTER NATIONAL AMBIENT AIR QUALITY STANDARD FOR OZONE, NERA ECONOMIC CONSULTING S-1 (July 2014), http://www.nam.org/Issues/Energy-and-Environment/Ozone-Regulations/NERA-NAM-Ozone-Full-Report-20140726/.

[518] POTENTIAL ECONOMIC IMPACTS OF A STRICTER OZONE STANDARD, NAT'L ASSOC. OF MANUFACTURERS 10 (July 2014), http://www.nam.org/Issues/Environment/Ozone-Regulations/Ozone-Report-Executive-Summary-20140730.pdf.

unnecessary and duplicative restrictions on domestic energy production. For example, in March 2014, EPA issued final guidance under the Safe Drinking Water Act (SDWA) for operators to use in writing permits for hydraulic fracturing operations using diesel fuels.[519] This guidance is both unnecessary as industry has essentially phased out diesel in hydraulic fracturing operations and inappropriate because it federalizes an area traditionally regulated by the states.[520] Further, the guidance makes substantive changes to the Underground Injection Control (UIC) program without a formal rulemaking process.

Additionally, EPA's UIC National Technical Workgroup is working toward induced seismicity guidance for state and EPA UIC programs,[521] even though some states already have a regulatory initiative in place that mitigates the risk of seismicity.[522] EPA already requires two types of UIC disposal sites to evaluate seismicity,[523] and the SDWA grants discretion to the other four types of sites where such evaluations have not been deemed necessary.[524]

Under the Clean Water Act (CWA), EPA is considering proposing new revised chloride water quality criteria, which states use to develop discharge permits.[525] The proposal could affect discharges of produced water from oil and natural gas wells, requiring more costly and delayed permits. EPA is also expected to propose pretreatment guidelines for municipal plants accepting produced water in October 2014,[526] which is unnecessary in most regions of the country because produced water is already disposed pursuant to the SDWA UIC program.[527] Even as the proposal is imminent, EPA announced in September 2014 that it is examining whether to issue similar guidelines for centralized waste treatment facilities accepting produced water.[528]

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[519] OFFICE OF WATER, U.S. ENVTL. PROT. AGENCY, PERMITTING GUIDANCE FOR OIL AND GAS HYDRAULIC FRACTURING ACTIVITIES USING DIESEL FUELS: UNDERGROUND INJECTION CONTROL PROGRAM GUIDANCE #84, EPA 816-R-14-001 (Feb. 2014), http://water.epa.gov/type/groundwater/uic/class2/hydraulicfracturing/upload/epa816r14001.pdf.

[520] Alan Kovski, *EPA Issues Final Guidance on Fracking When Injected Fluid Includes Diesel Fuels,* BLOOMBERG BNA (Feb. 14, 2014), http://www.bna.com/epa-issues-final-n17179882105/.

[521] UNDERGROUND INJECTION CONTROL NAT'L TECHNICAL WORKGROUP, U.S. ENVTL. PROT. AGENCY, DRAFT MINIMIZING AND MANAGING POTENTIAL IMPACTS OF INDUCED-SEISMICITY FROM CLASS II DISPOSAL WELLS: PRACTICAL APPROACHES (Dec. 24, 2013), http://www.eenews.net/assets/2014/06/23/document_ew_03.pdf.

[522] Jim Efstathiou Jr., *Fracking-Linked Earthquakes Spurring State Regulations*, BLOOMBERG (Apr. 20, 2012), http://www.bloomberg.com/news/2012-04-20/fracking-linked-earthquakes-spurring-state-regulations.html.

[523] 40 CFR §146.62 (Class I); 40 CFR §§146.82, 146.90, 146.95 (Class VI)

[524] 40 CFR §144.52(a)(9).

[525] Natural Gas Extraction—Hydraulic Fracturing, U.S. Envtl. Prot. Agency, http://www2.epa.gov/hydraulicfracturing (last visited Oct. 20, 2014) ("EPA is also updating chloride water quality criteria for the protection of acquatic life under CWA section 304(a)(1)…A draft criteria document is expected late 2014.").

[526] U.S. Envtl. Prot. Agency, Effluent Guidelines and Standards for Unconventional Oil and Gas Extraction Including Coalbed Methane and Shale Gas Extraction, RIN: 2040-AF35, Spring 2014 Unified Agenda, http://www.reginfo.gov/public/do/eAgendaViewRule?pubId=201404&RIN=2040-AF35.

[527] Safe Drinking Water Act Part C, §§1421-1426 (42 U.S.C. §§300h-5). Disposal of produced water and other oil and gas field wastewaters by underground injection are regulated by the Safe Drinking Water Act and related Underground Injection Control regulations.

[528] *EPA to Study CWTs Accepting Wastewater from Oil and Gas Extraction*, Water Policy Report, INSIDEEPA (Sept. 20, 2014), http://insideepa.com/water-policy-report/epa-study-cwts-accepting-wastewater-oil-and-gas-extraction.

In one of the most notorious Obama EPA regulatory efforts under the CWA, the Agency and the U.S. Army Corps of Engineers proposed a rule that would expand the federal government's jurisdiction over regulated waters, frequently referred to as the waters of the U.S. rule or WOTUS.[529] Indeed, EPA's revision to the definition of "navigable waters" runs counter to Congress' intent with the CWA.[530] This far-reaching proposal will affect permitting and compliance activities of the oil and gas industry. Although EPA has attempted to downplay the impacts of this expansive proposal, the Small Business Administration recently determined that WOTUS would result in "a direct and potentially costly impact on small businesses."[531] While WOTUS could expose well operators to costly citizen suit litigation from far-left environmental organizations, this rule and many others under review were part of NRDC's recommendations in its *Drilling Down* report.[532]

Although EPA has attempted to downplay the impacts of this expansive proposal, the Small Business Administration recently determined that the WOTUS rule would result in "a direct and potentially costly impact on small businesses.

EPA has even attempted to influence the Federal Energy Regulatory Commission (FERC) process to target hydraulic fracturing in its review of liquefied natural gas (LNG) export facilities. Specifically, EPA Regions III,[533] VI[534] and X[535] have submitted comments to FERC on the proposed LNG export facilities urging the Commission to conduct a full environmental impact statement of the facility, including upstream impacts associated with hydraulic fracturing. All comments provided were specifically intended to slow LNG export projects.

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[529] U.S. Envtl. Prot. Agency & Dep't of the Army, Corps of Enginners, Definition of "Waters of the United States" Under the Clean Water Act, Proposed Rule, 79 Fed. Reg. 22188, http://www.gpo.gov/fdsys/pkg/FR-2014-04-21/pdf/2014-07142.pdf.

[530] *See* Solid Waste Agency of No. Cook County v. USACE, 531 U.S. 159, 172 (2001) ("The term 'navigable' has at least the import of showing us what Congress had in mind as its authority for enacting the CWA: its traditional jurisdiction over waters that were or had been made navigable in fact or which could reasonably be so made.") (citation omitted).

[531] Letter from the U.S. Small Business Admin., to Hon. Gina McCarthy, Adm'r, U.S. Envtl. Prot. Agency (Oct. 1, 2014), *available at* http://www.sba.gov/advocacy/1012014-definition-waters-united-states-under-clean-water-act.

[532] AMY MALL, DRILLING DOWN: PROTECTING WESTERN COMMUNITIES FROM THE HEALTH AND ENVIRONMENTAL EFFECTS OF OIL AND GAS PRODUCTION, NATURAL RES. DEFENSE COUNCIL, Oct. 2007, http://www.nrdc.org/land/use/down/down.pdf.

[533] Letter from Jeffrey D. Lapp, Associate Dir., Office of Envtl. Programs, Reg. III, U.S. Envtl. Prot. Agency, to Kimberly D. Bose, Sec'y, Fed. Energy Regulatory Commission (Nov. 15, 2012), *available at* http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=722412ca-19f1-4165-bf19-f2d8fa6ca8a3.

[534] Letter from Thomas Patrick Ryan, Field Manager, Malheur Res. Area, Reg. VI, U.S. Envtl. Prot. Agency, to Kimberly D. Bose, Sec'y, Fed. Energy Regulatory Commission (Apr. 4, 2013), *available at* http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=761da6df-b45a-4dbe-a73c-0f769ea19e91. *See also* Letter from Debra A. Griffin, Associate Dir., Compliance Assurance & Enforcement Div., Reg. VI, U.S. Envtl. Prot. Agency, to Kimberly D. Bose, Sec'y, Fed. Energy Regulatory Commission (Apr. 19, 2013), http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=17e94a3b-7bb5-4170-af07-f533c166beb5.

[535] Letter from Christine B. Reichgott, Manager, Envtl. Review & Sediment Mgmt. Unit, Region X, U.S. Envtl. Prot. Agency, to Kimberly D. Bose, Sec'y, Fed. Energy Regulatory Commission (Oct. 29, 2012), http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=10e50f4e-dedb-43f6-b517-836f2d6a0e86.

iii. Improper Scientific Approach to Reach Preconceived Conclusions

While EPA aggressively moves forward with its attack on the oil and gas industry, it routinely lacks the necessary scientific foundation to justify its actions. Even former EPA Senior Policy Counsel, Bob Sussman, acknowledged EPA uses questionable science to regulate hydraulic fracturing. Sussman's statements were characterized in a report as admitting that although EPA will continue looking for justifications to regulate the process, "limited scientific conclusions exist to support stricter regulations."[536] Unfortunately it appears that nearly every inquiry into hydraulic fracturing by EPA has been skewed to make data and facts conform to the Agency's preconceived conclusions.[537] These actions run counter to the principles of scientific integrity and transparency that they tout while deliberately ignoring.

The most recent example of faulty science involves EPA's work pursuant to the White House's Climate Action Plan—Strategy to Cut Methane.[538] As part of the strategy, EPA was called to "assess several potentially significant sources of methane and other emissions"[539] and issue white papers addressing five specific areas with respect to oil and natural gas exploration and production: leaks, pneumatics, compressors, liquids unloading, and hydraulically fractured oil wells.[540] In April 2014, EPA released its five white papers, which the Agency may use as the basis for future regulations.[541] However, a multitude of serious concerns have been raised over "inaccurate and outdated data estimates of industry-wide emissions."[542] For instance, the papers disregard the rate of voluntary methane emissions reductions, which have been successfully achieved without any federal involvement.[543]

In another instance related to methane reductions from oil and natural gas operations, EPA misused data submitted by companies—voluntarily—through the Natural Gas STAR Program.[544] EPA reportedly used estimates of methane gas captured as a calculation for methane gas that would otherwise be emitted.[545] A manipulation so ridiculous that it defies logic even for this Administration's EPA, and is either evidence of a willful attempt to fraudulently manipulate data or an impressive lack of understanding of the industry and its practices that EPA so

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[536] *Daily News: Jackson Downplays Concerns Over Broad EPA Oversight of Fracking Wells*, INSIDEEPA (Feb. 2, 2012), http://insideepa.com/daily-news/jackson-downplays-concerns-over-broad-epa-oversight-fracking-wells.
[537] Sen. James Inhofe S. Floor Speech, *President Obama's War on Domestic Energy Production: "Crucify Them"* (Apr. 25, 2012), http://www.epw.senate.gov/public/index.cfm?FuseAction=Minority.Speeches&ContentRecord_id=ea800426-802a-23ad-4e25-9051360ff8fc.
[538] CLIMATE ACTION PLAN: STRATEGY TO REDUCE METHANE EMISSIONS, THE WHITE HOUSE, Mar. 2014, http://www.whitehouse.gov/sites/default/files/strategy_to_reduce_methane_emissions_2014-03-28_final.pdf.
[539] Dan Utech, *A Strategy to Cut Methane Emissions*, THE WHITE HOUSE BLOG, Mar. 28, 2014, http://www.whitehouse.gov/blog/2014/03/28/strategy-cut-methane-emissions.
[540] *Id*.
[541] Oil and Natural Gas Air Pollution Standards: White Papers on Methane and VOC Emissions, U.S. Envtl. Prot. Agency, *available at* http://www.epa.gov/airquality/oilandgas/whitepapers.html (last visited Oct. 20, 2014).
[542] Press Release, U.S. Sen. James Inhofe, *Inhofe Outlines Serious Concerns for EPA's Methane Strategy White Papers*, Sept. 3, 2014, http://www.inhofe.senate.gov/newsroom/press-releases/inhofe-outlines-serious-concerns-for-epas-methane-strategy-white-papers.
[543] *Id*.
[544] Jeannie Kever, *Devon blasts EPA as it leaves emissions program*, FUELFIX (March 12, 2013), http://fuelfix.com/blog/2013/03/12/devon-blasts-epa-as-it-leaves-star-program/.
[545] *Id*.

A manipulation so ridiculous that it defies logic even for this Administration's EPA, and is either evidence of a willful attempt to fraudulently manipulate data or an impressive lack of understanding of the industry and its practices that EPA so desperately wants to regulate.

desperately wants to regulate. Specifically, in the 2012 NSPS regulatory impact analysis for the oil and gas industry, EPA used emissions data that were presented at several Natural Gas STAR Program workshops between 2004 and 2007 to estimate emissions during hydraulically fractured well completions, recompletions, and workovers.[546] EPA also used the Natural Gas STAR Program data to calculate its annual Inventory of Greenhouse Gas (GHG) Emissions and Sinks for hydraulically fractured natural gas well completions starting in the 2009 reporting year.[547] This data, which was submitted and presented voluntarily, was inappropriately used and taken out of context by the Agency to show much higher emissions than were actually occurring.

iv. The Water Study Designed to Fail

Above all of the Administration-wide scientific inquires, the ongoing EPA national water study is perhaps the most egregious example of pushing the limits in an effort to needlessly overregulate oil and natural gas development. In 2009, Congress urged EPA to conduct a national study on the relationship between hydraulic fracturing and drinking water.[548] The legislative text was prescriptive: EPA was to study whether or not a relationship exists between the specific act of hydraulic fracturing and drinking water.[549] However, as should have been expected, the Agency's approach to the study extended far beyond Congressional intent and will likely be used to advance its own agenda.

From the time EPA's Office of Research and Development and Office of Water jointly launched the effort, it was clear the Agency intended to use the study as a tool to create a need for increasing federal regulation of hydraulic fracturing regardless of any scientific facts or study outcomes. Initially, environmentalists believed the study would provide justification for repealing a provision in the Energy Policy Act of 2005,[550] which appropriately leaves the regulation of hydraulic fracturing under the purview of states and out of the Agency's one-size-fits-all bureaucratic reach. Former EPA Administrator Lisa Jackson echoed the environmentalists' belief explaining "there may be some changes to EPA authority and there may be some law that grows out of" the study.[551]

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[546] *See* RICHARD K. LATTANZIO, CONG. RESEARCH SERV., AIR QUALITY ISSUES IN NATURAL GAS SYSTEMS, R42833 at 31 note 83 (Apr. 16, 2013), http://www.crs.gov/pages/Reports.aspx?PRODCODE=R42833#fn83.
[547] U.S. ENVTL. PROT. AGENCY, INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS AND SINKS: 1990-2009, EPA 430-R-11-005, 3-46 (Apr. 15, 2011), http://www.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2011-Complete_Report.pdf.
[548] The Dep't of Interior, Env't, and Related Agencies Appropriations Act, 2010 (P.L. 111-88, H.Rept. 111-316).
[549] *Id.* ("Hydraulic Fracturing Study.—The conferees urge the Agency to carry out a study on the relationship between hydraulic fracturing and drinking water.")
[550] *See Daily News: Jackson Downplays Concerns Over Broad EPA Oversight of Fracking Wells*, INSIDEEPA (Feb. 2, 2012), http://insideepa.com/daily-news/jackson-downplays-concerns-over-broad-epa-oversight-fracking-wells.
[551] *Id*.

Despite clear Congressional language, EPA tried to alter the mandated scope of its inquiry to seize any potential opportunity to justify a federal regulatory power grab. Emails obtained by the Committee provide evidence of EPA scheming to push the limits of the study's parameters. In one instance, an email from an EPA official and member of the hydraulic fracturing study steering committee reveals that as of March 11, 2010:

> [The official] was successful (at least for now) in getting the most expansive scope definition. Still limited to drinking water, but would include the drawdowns of fresh water (surface, ground or utility supplied) used to make-up the frac fluids (2 to 7 million gallons a frac event), the fracturing process itself, and waste management issues like produced water handling, spills, waste pits that might impact surface or ground water sources.[552] (emphasis added).

After unilaterally expanding the study,[553] EPA ignored warnings by the Science Advisory Board (SAB) that its scope was too broad, inconsistent, and included aspects not directly related to the hydraulic fracturing process.[554] EPA then failed to follow its own quality management plan, which was found to lack detail and guidance for integral elements of the Agency's quality system.[555] Next, EPA released its study plan and hand-picked five sites where there had been previous accusations of groundwater contamination to conduct retrospective case studies.[556] Rather than focus on prospective sites, EPA moved forward with the study plan by collecting data on retrospective sites. Notably, the retrospective sites EPA selected were developed before the study launched in 2010,[557] so the Agency reviewed sites that had been operating with currently outdated technology. The final report is expected to be released in 2016,[558] but almost none of EPA's findings from the retrospective reviews will apply to the majority of currently producing wells or be relevant to current industry practices.

Importantly, the Agency failed to initiate prospective case studies, which would have allowed the Agency to review current practices by testing groundwater before development and

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[552] Email from Rob Lawrence, U.S. Envtl. Prot. Agency, to Carl Edlund & Al Armendariz, U.S. Envtl. Prot Agency (Mar. 11, 2010, 7:26 AM) (On file with Committee).

[553] *See* Letter from Lee Fuller, Independent Pet. Assoc. of Am., to Edward Hanlon, Designated Fed. Officer, U.S. Envtl. Prot. Agency Science Advisory Bd. (Mar. 28, 2010), *available at* http://www.landownerassociation.ca/rsrcs/Oral+Statement+by+Lee+Fuller+for+IPAA+and+EID+3-28-10+and+4-12-10+for+Apr+7-8+2010+EEC+Mtg.pdf.

[554] BATTELLE MEMORIAL INST., REVIEW OF EPA HYDRAULIC FRACTURING STUDY PLAN EPA/600/R11/122 NOVEMBER 2011, A-2 (June 2012), http://anga.us/media/press/CA5CEA92-0C88-CC29-EAADA8AD4F447B5E/files/final_epa_study_plan_review_061112.pdf.

[555] *Id*. at 7-9.

[556] OFFICE OF RESEARCH DEVELOPMENT, U.S. ENVTL. PROT. AGENCY, PLAN TO STUDY THE POTENTIAL IMPACTS OF HYDRAULIC FRACTURING ON DRINKING WATER SOURCES, EPA/600/R-11/122 (Nov. 2011), http://water.epa.gov/type/groundwater/uic/class2/hydraulicfracturing/upload/hf_study_plan_110211_final_508.pdf.

[557] BATTELLE MEMORIAL INST., REVIEW OF EPA HYDRAULIC FRACTURING STUDY PLAN EPA/600/R11/122 NOVEMBER 2011, iii (June 2012), http://anga.us/media/press/CA5CEA92-0C88-CC29-EAADA8AD4F447B5E/files/final_epa_study_plan_review_061112.pdf ("[t]he site data collected from the companies are from 2006-2010…The changes occurring at these sites in the intervening years will likely render the data obsolete for purposes of the study.").

[558] MICHAEL RATNER & MARY TIEMANN, CONG. RESEARCH SERV., AN OVERVIEW OF UNCONVENTIONAL OIL AND NATURAL GAS: RESOURCES AND FEDERAL ACTIONS, R43148, 16 (Jan. 23, 2014), *available at* http://fas.org/sgp/crs/misc/R43148.pdf.

monitor it during and after development. As such, the Agency lacks a baseline of information on the groundwater to compare before and after development,[559] a vital component to a complete scientific review. The narrowed analysis makes it extremely difficult to rule out countless other possible sources of contamination, such as naturally occurring substances or other industrial wastes.

Further, the study's sample size that EPA selected is extremely small and "possibly statistically biased."[560] Among all the oil and natural gas producers, EPA asked only nine to volunteer their participation, omitting a number of the top producing energy exploration and production companies in the U.S.[561] EPA also selected only 350 wells to review out of more than one million active oil and natural gas wells in the U.S.[562]

In addition to concerns over EPA's scope, significant gaps exist in EPA's data, and there is no quality assurance in EPA's potential conclusions. Similar to its draft report, EPA is expected to make conclusions over potential impacts, but it has no plans to assess risk or attempt to quantify them. For example, the draft report concluded there were potential hazards associated with the chemicals used in fracturing fluid, but EPA affirmed "the agency is not conducting a full risk assessment as part of this study," which would appropriately clarify the level or likelihood of harm and provide a more honest assessment to the public.[563]

Aside from EPA's manipulated approach to the water study, the Agency's final study plan inappropriately expanded the scope of the study likely wasting taxpayer dollars. They expanded the scope to include research projects on the life cycle of water in hydraulic fracturing and environmental justice impacts, which was not part of the purpose of the study. In fact, the House of Representatives Committee on Appropriations had to intervene and direct the Agency to narrow the scope of the study, stating "No funds have been provided in the bill to research environmental justice impacts related to hydraulic fracturing, and EPA shall discontinue the use of any resources that may have been diverted to this subactivity."[564]

Most recently, EPA released academic papers detailing new testing methods for contamination but did not indicate how the Agency would use the methods in the study.[565] EPA

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[559] BATTELLE MEMORIAL INST., REVIEW OF EPA HYDRAULIC FRACTURING STUDY PLAN EPA/600/R11/122 NOVEMBER 2011, iii (June 2012), http://anga.us/media/press/CA5CEA92-0C88-CC29-EAADA8AD4F447B5E/files/final_epa_study_plan_review_061112.pdf.

[560] *Id*. at iii.

[561] *Id*. at 1.

[562] *Id*. at B-3.

[563] *Nomination of Gina McCarthy to be Administrator of the U.S. Environmental Protection Agency: Hearing Before the S. Comm. on Env't & Pub. Works,* 113th Cong. (Apr. 11, 2013) (Response to Questions for the Record from Gina McCarthy, Nominee for Adm'r, U.S. Envtl. Prot. Agency at 128) (On file with Committee).

[564] H. Comm. on Appropriations report for the Dep't of the Interior, Environment, and Related Agencies Appropriation Bill, 2013 (H.Rept. 112-589), *available at* https://www.congress.gov/congressional-report/112th-congress/house-report/589/1.

[565] Brian A. Schumacher & Lawrence Zintek, *The Verification of a Method for Detecting and Quantifying Diethylene Glycol, Triethylene Glycol, 2 Butoxyethanol and 2 Methoxyethanol in Ground and Surface Waters*, U.S. Envtl. Prot. Agency (July 2014), http://www2.epa.gov/hfstudy/verification-method-detecting-and-quantifying-diethylene-glycol-triethylene-glycol; Brian A. Schumacher et al., *Development of Rapid Radiochemical Method for Gross Alpha and Gross Beta Activity Concentration in Flowback and Produced Waters from Hydraulic Fracturing*

also announced the final report will not include findings from prospective case studies.[566] As of September 30, 2014, EPA admitted it has not even selected a single prospective case site.[567] Submitting this portion of the study separately raises concerns that it may not receive the same peer-review and transparency treatment as the final study, which has been designated as a highly influential scientific assessment (HISA).[568]

It is unclear if anyone participating in EPA's efforts has substantive knowledge of the very industry they are studying.

As a HISA, the EPA SAB has already formed an ad hoc panel of experts to advise them on the study and provide peer review of the final results.[569] Unfortunately, the integrity and balance of the panel was plagued with concerns about its composition, and in particular by the far-left, which refused to support panelists with an industry background or actual experience fracturing a well.[570] Similar concerns have been raised over the lack of experience the EPA staff actually conducting the study has with oil and natural gas operations. It is unclear if anyone participating in EPA's efforts has substantive knowledge of the very industry they are studying.

For those portions of the study receiving SAB review, it appears the EPA has not engaged with the panel much. For instance, Thomas Burke, who President Obama nominated to lead EPA's Office of Research and Development, which leads the water study, was on the SAB panel in 2011, yet he could not answer any questions on "EPA's sampling work, the availability of baseline information, or how the agency will use this information to draw conclusions about

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Operations, U.S. Envtl. Prot. Agency (July 2014), http://www2.epa.gov/hfstudy/development-rapid-radiochemical-method-gross-alpha-and-gross-beta-activity-concentration; *see also EPA Unveils Test Methods for Fracking Study, Raising New Policy Doubts*, INSIDEEPA (Aug. 22, 2014), http://insideepa.com/water-policy-report/epa-unveils-test-methods-fracking-study-raising-new-policy-doubts.

[566] *EPA Chief Highlights 'Challenge' in Fracking Studies, Regulatory Authority*, INSIDEEPA (Dec. 13, 2013), http://insideepa.com/water-policy-report/epa-chief-highlights-challenge-fracking-studies-regulatory-authority.

[567] *Oversight Hearing on the Environmental Protection Agency's Fiscal Year 2015 Budget: Hearing Before the S. Comm. on Env't & Pub. Works,* 113th Cong. (Mar. 26, 2014) (Response to Questions for the Record from Gina McCarthy, Adm'r, U.S. Envtl. Prot. Agency at 37) ("We have worked closely with industry partners to try to identify suitable locations for prospective case studies…Unfortunately, so far, we have not identified a suitable location.") (On file with Committee).

[568] *See* EPA's Study of Hydraulic Fracturing and Its Potential Impact on Drinking Water Resources: Peer Review, U.S. Envtl. Prot. Agency, http://www2.epa.gov/hfstudy/peer-review (last visited Oct. 21, 2014).

[569] *See* Members of the Hydraulic Fracturing Research Advisory Panel, U.S. Envtl. Prot. Agency, http://yosemite.epa.gov/sab/sabpeople.nsf/WebExternalSubCommitteeRosters?OpenView&committee=BOARD&subcommittee=Hydraulic%20Fracturing%20Research%20Advisory%20Panel (last visited Oct. 21, 2014).

[570] *SAB Sidesteps Controversial Nominees in Choosing 'Fracking' Panel*, INSIDEEPA (Mar. 3, 2011), http://insideepa.com/daily-news/sab-sidesteps-controversial-nominees-choosing-fracking-panel.

potential sources of contamination."[571] In August 2014, a member of the SAB panel said the Agency has been quiet and has not provided a formal update since November 20, 2013.[572]

As for the amount of resources expended on the water study, from FY2010 to FY2014, $24.5 million was enacted for the drinking water study.[573] For FY2015, the President's budget requested $6.1 million for the study.[574] Despite the request for dramatic increases in funding for the study, it is expected that the final report will reflect much of same findings as the draft report. EPA will likely conclude "potential impacts" rather than identify actual risks or quantify impacts. By failing to precisely identify and quantify the Agency can provide whatever broad language it needs to facilitate its desire to regulate.

v. Quintessential Cases of Bureaucratic Abuse

Over the last four years, EPA has repeatedly abused its power in premeditated and concerted attacks on hydraulic fracturing as highlighted in three specific cases: Dimock, Pennsylvania, Pavillion, Wyoming, and Parker County, Texas. While there are no confirmed cases of groundwater contamination resulting from hydraulic fracturing throughout over one million fractured wells, EPA used these three instances to attempt to publicly besmirch the practice and to appease far-left environmentalists while swaying public opinion towards baseless and overzealous claims. In each case EPA circumvented the states, made unfounded claims directly attempting to implicate hydraulic fracturing, and then backpedaled and withdrew from the investigations. Although EPA eventually abandoned all three cases, they proved to be an effective tool for the Agency to shift public perception of hydraulic fracturing and set the stage for future opportunities to attack the process.

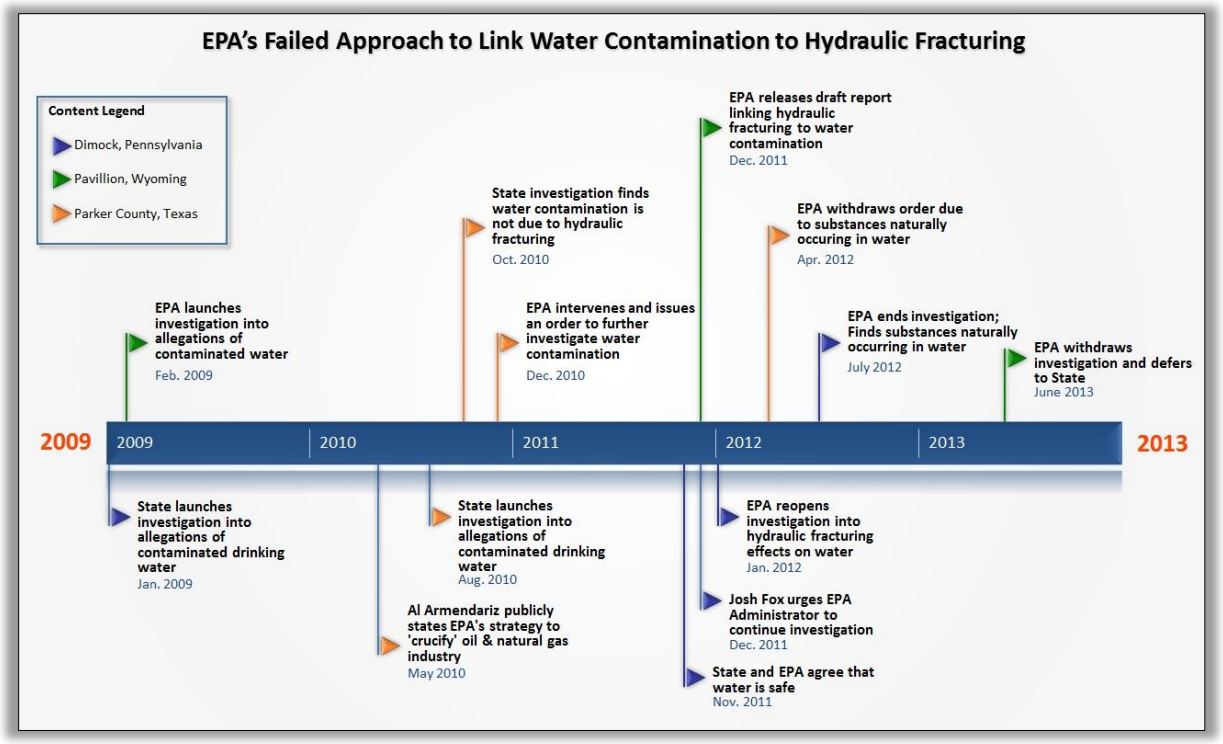
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[571] *Nominations of Rhea Sun Suh to be Assistant Secretary for Fish and Wildlife and Parks of the U.S. Department of the Interior, Victoria Baecher Wassmer to be Chief Financial Officer of the U.S. Environmental Protection Agency (EPA), Roy K.J. Williams to be Assistant Secretary of Commerce for Economic Development of the U.S. Department of Commerce, and Thomas A. Burke to be Assistant Administrator for Research and Development of the EPA: Hearing Before the S. Comm. on Env't & Pub. Works,* 113th Cong. (Dec. 17, 2013) (Response to Questions for the Record from Thomas Burke, Nominee for Assistant Adm'r for Research & Development, U.S. Envtl. Prot. Agency at 17) (On file with Committee).

[572] *EPA Unveils Test Methods for Fracking Study, Raising New Policy Doubts*, INSIDEEPA (Aug. 22, 2014), http://insideepa.com/water-policy-report/epa-unveils-test-methods-fracking-study-raising-new-policy-doubts.

[573] *Oversight Hearing on the Environmental Protection Agency's Fiscal Year 2015 Budget: Hearing Before the S. Comm. on Env't & Pub. Works,* 113th Cong. (Mar. 26, 2014) (Response to Questions for the Record from Gina McCarthy, Adm'r, U.S. Envtl. Prot. Agency at 37) (On file with Committee).

[574] *Id.*



1. Dimock, Pennsylvania

The first case EPA recanted took place in Dimock, Pennsylvania where environmental activists first made accusations about potential groundwater contamination in December 2011. Despite ongoing state actions, and EPA's agreement with Pennsylvania Department of Environmental Protection that the water in Dimock was safe to drink, EPA soon moved forward under its Superfund authority and sampled 60 private wells in the area.[575] These additional samplings prompted the media to assume there was still a major threat to drinking water from hydraulic fracturing, even though authorities had already deemed it safe. Unfortunately for the Agency and its political agenda, the facts held true and led EPA to both declare the water was safe to drink and confirm state officials' findings that there were no health concerns.[576] Yet, far-left anti-fracking activist Josh Fox and his activist co-conspirators prodded the Agency to investigate even further.[577] Although the Agency had already released three rounds of testing that found no contamination and explained the substances found were naturally occurring and

[575] *See* U.S. H. Comm. on Science, Space & Tech., *Lessons Learned: EPA's Investigations of Hydraulic Fracturing,* Hearing Charter, 5 (July 24, 2013), http://science.house.gov/sites/republicans.science.house.gov/files/documents/HHRG-113-SY18-20130724-SD001%20.pdf.

[576] Sen. James Inhofe S. Floor Speech, *President Obama's War on Domestic Energy Production: "Crucify Them"* (Apr. 25, 2012), http://www.epw.senate.gov/public/index.cfm?FuseAction=Minority.Speeches&ContentRecord_id=ea800426-802a-23ad-4e25-9051360ff8fc.

[577] Josh Fox, *An Open Letter to EPA Administrator Lisa Jackson, Please Intervene in Dimock!,* SAVETHEDELAWARE (Dec. 6, 2011), *available at* http://savethedelaware.wordpress.com/2011/12/06/an-open-letter-to-lisa-jackson-from-josh-fox-please-intervene-in-dimock/.

common to the area, the Agency still reopened its investigation.[578] During the course of EPA's testing, Fox and actor Mark Ruffalo's New York-based group, Water Defense, went to Dimock to collect their own samples and incite national public attention to pressure EPA into more testing.[579] After the Agency's fourth round of testing found no contamination, EPA ceased its fifth inquiry in July 2012.[580]

2. Pavillion, Wyoming

EPA Region 8's investigation of possible drinking water contamination in Pavillion, Wyoming took almost three times as long as the Dimock investigation and still resulted in the same outcome. In Pavillion, the Agency went a step further to publicly link hydraulic fracturing to water contamination by publicizing the release of its non-peer reviewed draft findings.[581] Initially, EPA Region 8 staff stated that the scope of the investigation would not center on hydraulic fracturing.[582] Yet, in December 2011, EPA's draft report concluded fracking fluid was in the groundwater, which was the first time a federal agency has suggested hydraulic fracturing was the likely cause of groundwater contamination.[583] However, these findings were inaccurate and not the result of properly conducted hydraulic fracturing.

In the draft report, EPA ignored the scientific process and manipulated its findings, failing to consult with the USGS or even the state before releasing the report. EPA ignored data that documented naturally occurring substances in groundwater, used incomplete data sets, and disregarded USGS sampling recommendations.[584] In fact, EPA breached its internal policy for drilling groundwater monitoring wells.[585] Accordingly, the draft report received numerous criticisms by the state, Congress, and other federal agencies.[586] Even BLM criticized EPA's

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[578] *Dimock and the EPA: The Facts*, ENERGYINDEPTH, http://energyindepth.org/wp-content/uploads/2014/05/dimock-fracking-fact-sheet.pdf.
[579] Christine Shearer, *About That Dimock Fracking Study: Result Summaries Show Methane and Hazardous Chemicals* (March 21, 2012), http://truth-out.org/news/item/8021-about-that-dimock-fracking-study-results-did-show-methane-and-hazardous-chemicals.
[580] New Release, *EPA Completes Drinking Water Sampling in Dimock, Pa*., U.S. Envtl. Prot. Agency (July 25, 2012), http://yosemite.epa.gov/opa/admpress.nsf/0/1A6E49D193E1007585257A46005B61AD.
[581] Sen. James Inhofe S. Floor Speech, *President Obama's War on Domestic Energy Production: "Crucify Them"* (Apr. 25, 2012), http://www.epw.senate.gov/public/index.cfm?FuseAction=Minority.Speeches&ContentRecord_id=ea800426-802a-23ad-4e25-9051360ff8fc.
[582] Letter from Hon. James Inhofe, U.S. S., to Hon. Lisa P. Jackson, Adm'r, U.S. Envtl. Prot. Agency (Sept. 2, 2010), *available at* http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=77a800b6-eef7-4ea2-9a0a-fbd5a7bad430.
[583] OFFICE OF RESEARCH AND DEVELOPMENT, U.S. ENVTL. PROT. AGENCY, DRAFT REPORT: INVESTIGATION OF GROUND WATER CONTAMINATION NEAR PAVILLION, WYOMING, EPA 600/R-00/000 (Dec. 2011), http://www2.epa.gov/sites/production/files/documents/EPA_ReportOnPavillion_Dec-8-2011.pdf.
[584] Press Release, U.S. Sen. David Vitter, *Vitter, Inhofe Call EPA's Report on Hydraulic Fracturing in Wyoming a Failure* (Jan. 17, 2013), http://www.vitter.senate.gov/newsroom/press/vitter-inhofe-call-epas-report-on-hydraulic-fracturing-in-wyoming-a-failure.
[585] AM. PET. INST., REPORT: AMERICAN PETROLEUM INSTITUTE'S REVIEW OF EPA'S PAVILLION DECEMBER 8, 2011 DRAFT REPORT WITH FOCUS ON MONITORING WELL DRILLING, COMPLETION, DEVELOPMENT, AND SAMPLING ACTIVITIES RELATED TO DEEP MONITORING WELLS MW-01 AND MW-02, 37 (June 25, 2013), http://www.api.org/~/media/Files/Policy/Hydraulic_Fracturing/Pavillion-reviews/API-Report-on-Pavillion-WY.pdf.
[586] *See* Ayesha Rascoe, *EPA ends probe of Wyoming water pollution linked to fracking*, REUTERS (June 20, 2013), http://www.reuters.com/article/2013/06/20/us-usa-epa-fracking-idUSBRE95J1AN20130620; *see also* Press Release,

draft report, writing that the "[d]ata presented thus far seems to be at a scale and resolution insufficient to answer the questions this investigation raises," and that "bias in the samples obtained from these wells may exist."[587]

Looking back, it is clear that from the beginning of the investigation, the Obama Administration did not bother to get the science or facts right, nor did they come into Pavillion to make a constructive impact on the long history of drinking water issues for the people. They simply wanted to use the case as an opportunity to publicly "finger-point"[588] and link hydraulic fracturing to water contamination, regardless of the facts. After extending the comment period on the draft report three times, the Agency eventually abandoned its investigation in June 2013 and turned it over to the state.[589] EPA explained that it does not plan to rely on the conclusions of the draft report; however, the Agency "stands behind its work and data"[590] and in standard form still has the faulty, non-peer reviewed draft report on its website.[591] While Wyoming is expected to release a final and scientific report in fall 2014, it appears EPA has tacitly relented on its findings yet still has not withdrawn its discredited anti-fracking report on Pavillion.

Despite its major failings and EPA's own admission it will not be relying on it, the draft report has since been unfairly used by anti-fossil fuel advocates to demonize hydraulic fracturing. For instance, the NRDC subsequently said "the EPA's conclusion is sound"[592] and "cited the report to support the claim that many factors are at play in hydraulic fracturing, any

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U.S. Sen. David Vitter, *Vitter, Inhofe Call EPA's Report on Hydraulic Fracturing in Wyoming a Failure* (Jan. 17, 2013), http://www.vitter.senate.gov/newsroom/press/vitter-inhofe-call-epas-report-on-hydraulic-fracturing-in-wyoming-a-failure.

[587] Letter from Donald A. Simpson, State Dir., U.S. Dep't Interior, to James B. Martin, Reg. 8 Adm'r, U.S. Envtl. Prot. Agency (Mar. 1, 2012), *available at* http://energyindepth.org/wp-content/uploads/2012/10/BLM-Pavillion-comments.pdf.

[588] Press Release, *Inhofe Demands Transparency from EPA Region 8 on Pavillion, Wyo. Inquiry*, U.S. S. Comm. on Env't & Pub. Works (Sept. 2, 2010), http://www.epw.senate.gov/public/index.cfm?FuseAction=Minority.PressReleases&ContentRecord_id=d46c8594-802a-23ad-4fb5-d907537487af&Region_id=&Issue_id=87c0f70e-7e9c-9af9-742c-e26bf9b76447 ("Nathan Wiser, an EPA scientist, has publicly stated that, 'It starts to finger-point stronger and stronger to the source being somehow related to the gas development, including, but not necessarily conclusively, hydraulic fracturing itself.'").

[589] *See* Press Release, *Vitter and Inhofe: EPA Hydraulic Fracturing Investigations 0 for 3—EPA forced to abandon Hydraulic Fracturing investigation near Pavillion, Wyo. Failure to justify previous public claims continues pattern of erroneous investigations in Dimock, Pa. and Parker County, Texas*., U.S. S. Comm. on Env't & Pub. Works (June 20, 2013), http://www.epw.senate.gov/public/index.cfm?FuseAction=Minority.PressReleases&ContentRecord_id=63930f8d-c433-66de-9979-58c728d6295a&Region_id=&Issue_id=.

[590] *See* Region 8: Pavillion, U.S. Envtl. Prot. Agency, http://www2.epa.gov/region8/pavillion (last visited Oct. 21, 2014) ("While EPA stands behind its work and data, the agency recognizes the State of Wyoming's commitment to further investigation and efforts to provide clean water and does not plan to finalize or seek peer review of its draft Pavillion groundwater report released in December 2011.").

[591] *See* Region 8: Pavillion, U.S. Envtl. Prot. Agency, http://www2.epa.gov/region8/pavillion (last visited Oct. 21, 2014); *see also* Letter from Hon. Gina McCarthy, Adm'r, U.S. Envtl. Prot. Agency, to Frances G. Beinecke, President, Natural Res. Defense Council (Jan. 10, 2014), *available at* https://www.scribd.com/doc/204996112/Letter-from-EPA-to-Natural-Resources-Defense-Council.

[592] Technical Memorandum by Tom Myers, Hydrologic Consultant, *Review of DRAFT: Investigation of Ground Water Contamination near Pavillion Wyoming* (Apr. 30, 2012), *available at* http://docs.nrdc.org/energy/files/ene_12050101a.pdf.

one of which 'can go wrong'."[593] The Environmental Defense Fund (EDF) said EPA's "draft report is Exhibit A on why stronger regulation and enforcement is necessary."[594] Even the Governor of Delaware cited the draft report as support for his vote against natural gas development in the Delaware River Basin.[595]

3. Parker County, Texas

In perhaps the most egregious example of bureaucratic abuse, EPA usurped an ongoing state inquiry in Parker County, Texas regarding potential contamination claims of two residential water wells. EPA used the SDWA to halt oil and natural gas development, while also threatening to fine an American-owned company tens of thousands of dollars a day. On December 7, 2010, EPA issued an Emergency Administrative Order (EAO) against Range Resources Corporation, claiming the Agency had "determined" Range's natural gas development "caused or contributed to the contamination of at least two residential drinking water wells," and "houses could explode."[596] However, the EAO was based on flawed science and assumptions, and later withdrawn with a state court concluding one of the well owners EPA was investigating had falsified evidence.[597]

Armendariz cited multiple times a "danger of fire or explosion"—despite having evidence to the contrary—in order to incite fear and sway public opinion against hydraulic fracturing throughout EPA's investigation into the company. Armendariz soon resigned from the EPA after the Agency withdrew its investigation, but not before he skipped a Congressional hearing to interview for his current job with the Sierra Club.

Leading EPA's efforts in the Parker County case was long-term far-left environmental activist and then-Region 6 Administrator Dr. Al Armendariz who was hand-picked by President Obama to oversee the region of the country producing the most oil and natural gas. Armendariz cited multiple times a "danger of fire or explosion"—despite having evidence to the contrary—in order to incite fear and sway public opinion against hydraulic fracturing throughout EPA's investigation into the company.[598] Armendariz soon resigned from the EPA after the Agency withdrew its investigation, but not before he skipped a Congressional hearing to interview

[593] Amy Mall's Blog, *New EPA Report Ties Hydraulic Fracturing to Groundwater Contamination, Natural Res. Defense Council* (Dec. 8, 2011), http://switchboard.nrdc.org/blogs/amall/new_epa_report_ties_hydraulic.html.
[594] Energy Exchange Blog, Mark Brownstein, *EPA's Pavillion, WY Contamination Study A Wake Up Call*, Envtl. Defense Fund (Dec. 8, 2011), http://blogs.edf.org/energyexchange/2011/12/08/epas-pavillion-wy-groundwater-contamination-study-a-wake-up-call/.
[595] Jackie Moreau, House Investigates EPA's Pavillion Study, GobalWarming.org, Feb. 2, 2012, http://www.globalwarming.org/2012/02/02/house-investigates-epas-pavillion-study/.
[596] Letter from Hon. James Inhofe, Hon. David Vitter, Hon. Tom Coburn, Hon. John Cornyn, Hon. John Boozman & Hon. Kay Bailey Hutchison, U.S. S., to Hon. Arthur Elkins, Inspector Gen., U.S. Envtl. Prot. Agency (June 19, 2012), *available at* http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=9da17054-e920-4505-97d0-8417c2db32c3.
[597] *Id*.
[598] Letter from Hon. James Inhofe, Hon. David Vitter, Hon. Tom Coburn, Hon. John Cornyn, Hon. John Boozman & Hon. Kay Bailey Hutchison, U.S. S., to Hon. Arthur Elkins, Inspector Gen., U.S. Envtl. Prot. Agency (June 19, 2012), *available at* http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=9da17054-e920-4505-97d0-8417c2db32c3.

for his current job with the Sierra Club.[599] Ultimately, he is known for acknowledging that EPA's enforcement philosophy was to "crucify" the oil and gas industry. Specifically, Armendariz said:

> Oil and [natural] gas is an enforcement priority… like how the Romans used to conquer little villages in the Mediterranean. They'd go into a little Turkish town somewhere, they'd find the first five guys they saw and they would crucify them. And then you know that town was really easy to manage for the next few years. And so you make examples out of people who are in this case not compliant with the law…you hit them as hard as you can and you makes examples out of them, and there is a deterrent effect there.[600]

Given Armendariz's political motives, it is clear the investigation was used to test the limits of the Agency's enforcement authority over the oil and gas industry and was an attempt to defame hydraulic fracturing. Consequently, EPA received significant scrutiny from the state, Congress, numerous stakeholders, and even EPA's own scientists over the justification for the EAO against Range Resources.[601] Specifically Dr. Douglas Beak, an EPA environmental chemist, sent an email to other EPA staff shortly before the EAO was issued saying "this is not conclusive evidence because of the limited data set…the only way now to compare the data would be to make assumptions to fill in data gaps and I don't believe we have enough experience at this site or data to do this at this time."[602] Additionally, John Blevins, EPA's "designated representative" in a legal deposition, stated that the EPA had not determined Range Resources caused or contributed to natural gas in the water, that the EPA had knowledge of naturally occurring methane gas in the local water, and that EPA did "no geologic investigation" to substantiate their claims.[603] Similar to EPA's backtrack in the Pavillion investigation, the Agency stands by its initial determination, yet withdrew the EAO April 2012.[604]

Internal communications obtained by the Committee reveal how EPA set aside facts to play politics in this case. On December 2, 2010, EPA was supposed to meet with the Texas

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[599] Amy Harder, *EPA Official Felled by 'Crucify' Comment Skips House Hearing, Visits Sierra Club*, NAT'L JOURN. (June 7, 2012), http://www.nationaljournal.com/energy/epa-official-felled-by-crucify-comment-skips-house-hearing-visits-sierra-club-20120607.

[600] Christopher Helman, *EPA Official Not Only Touted 'Crucifying' Oil Companies, He Tried It*, FORBES (Apr. 26, 2012), http://www.forbes.com/sites/christopherhelman/2012/04/26/epa-official-not-only-touted-crucifying-oil-companies-he-tried-it/.

[601] Letter from Hon. James Inhofe, Hon. David Vitter, Hon. Tom Coburn, Hon. John Cornyn, Hon. John Boozman & Hon. Kay Bailey Hutchison, U.S. S., to Hon. Arthur Elkins, Inspector Gen., U.S. Envtl. Prot. Agency (June 19, 2012), *available at* http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=9da17054-e920-4505-97d0-8417c2db32c3.

[602] U.S. Envtl. Prot. Agency vs. Range Res. Corp., et al., Docket No. SDWA-06-2011-1208, Administrative Record No. 41.

[603] Range Res. Corp. et al., v. U.S. Envtl. Prot. Agency, Case No. A-11-CA-011_LY (W.D. Tex. 2011) (Blevins Dep.).

[604] Letter from Hon. James Inhofe, Hon. David Vitter, Hon. Tom Coburn, Hon. John Cornyn, Hon. John Boozman & Hon. Kay Bailey Hutchison, U.S. S., to Hon. Arthur Elkins, Inspector Gen., U.S. Envtl. Prot. Agency (June 19, 2012), *available at* http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=9da17054-e920-4505-97d0-8417c2db32c3.

Railroad Commission (TRCC) regarding the status of its inquiry,[605] yet had already prepared the draft press release on the EAO.[606] On the same day, EPA headquarters advised the region to mention hydraulic fracturing in the press statement,[607] even though a regional official had cautioned them saying, "I included your HF statements although I don't know if we should highlight them. They really aren't part of the order or action."[608] When the press statement was released, it included a reference to hydraulic fracturing.[609] In fact, between Armendariz's statements and the press release, EPA mentioned hydraulic fracturing more than four times without providing context or related science.[610] The day before the EAO was issued, which hinged on the claim there was an "imminent risk," EPA officials were parsing words trying to reconcile the fact there existed no risk.[611]

Even after the EAO was issued, EPA officials were determined to maintain their position and shut out the state. In a January 8, 2011 response to Armendariz's suggestion that EPA seek federal ownership of the case to prevent state interference, an EPA official suggested to "enjoin the TRRC from acting...Whatever happens that gives us the stronger footing."[612] Another EPA official advocated to include data from the Parker County site to the Agency's troubled water study because EPA had "a willing, cooperative and intelligent landowner who has spent significant amounts of his own money to obtain data on indoor air and water samples,"[613] albeit a landowner that a Texas district court judge deemed a fraud and whose attorney the judge concluded had misrepresented herself to the court.[614]

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[605] *Examining the Science of EPA Overreach: A Case Study in Texas: Hearing Before the H. Comm. on Science, Space & Tech*., 113th Cong. (Feb. 5, 2014) (statement of the Hon. David Porter, Comm'r, R.R. Comm'n of Tex.) ("EPA staff…invited Commission staff to participate in a meeting between the EPA and Range Resources scheduled…on December 2, 2010.").

[606] Email from David Gray, Dir. External & Gov't Affairs, Region 6, U.S. Envtl. Prot. Agency, to David Bloomgren, Communications Dir., Office of Enforcement & Compliance Assurance, U.S. Envtl. Prot. Agency & Betsaida Alcantara, U.S. Envtl. Prot. Agency (Dec. 2, 2010, 09:11 AM) (On file with Committee).

[607] Email from David Bloomgren, Communications Dir., Office of Enforcement & Compliance Assurance, U.S. Envtl. Prot. Agency, to David Gray, Dir., External & Gov't Affairs, Region 6, U.S. Envtl. Prot. Agency (Dec. 2, 2010, 09:21 AM) (On file with Committee).

[608] *Id*.

[609] News Releases—Compliance and Enforcement, *EPA Issues an Imminent and Substantial Endangerment Order to Protect Drinking Water in Southern Parker County*, U.S. Envtl. Prot. Agency (Dec. 7, 2010), http://yosemite.epa.gov/opa/admpress.nsf/ab2d81eb088f4a7e85257359003f5339/713f73b4bdceb126852577f3002cb6fb!OpenDocument.

[610] Sen. James Inhofe S. Floor Speech, *President Obama's War on Domestic Energy Production: "Crucify Them"* (Apr. 25, 2012), http://www.epw.senate.gov/public/index.cfm?FuseAction=Minority.Speeches&ContentRecord_id=ea800426-802a-23ad-4e25-9051360ff8fc.

[611] Email from David Bloomgren, Communications Dir., Office of Enforcement & Compliance Assurance, U.S. Envtl. Prot. Agency, to David Gray, Dir. External & Gov't Affairs, Region 6, U.S. Envtl. Prot. Agency, et al. (Dec. 6, 2010, 4:48PM) (On file with Committee).

[612] Email from Suzanne Murray, Region 6 Counsel, U.S. Envtl. Prot. Agency, to Al Armendariz, Region 6 Adm'r, U.S. Envtl. Prot. Agency (Jan. 8, 2011, 2:56 PM) (On file with Committee). "We discussed asking the District Court to enjoin the TRCC from acting based on the fact we acted first…We are now focused on filing the complaint to enforce our order. Whatever happens that gives us the stronger footing." (emphasis added).

[613] Email from Michael Overbay, Region 6, U.S. Envtl. Prot. Agency, to Al Armendariz, Region 6 Adm'r, U.S. Envtl. Prot. Agency (Jan. 12, 2011, 10:37AM) (On file with Committee).

[614] Letter from Hon. David Vitter, Hon. James Inhofe, Hon. John Cornyn, Hon. John Boozman, Hon. Tom Coburn & Hon. Ted Cruz, U.S. S., to Hon. Arthur Elkins, Inspector Gen., U.S. Envtl. Prot. Agency (Feb. 26, 2014), *available*

Each of the three investigations reveals how the EPA ignored facts and science, circumvented the states, and issued alarmist headlines, which later were proved wholly inaccurate. Despite EPA's shoddy scientific basis and muddled facts, the Agency has recently found a new ally in attempting to reign in hydraulic fracturing: EPA's Office of Inspector General (OIG).

vi. Inspector General Rubber Stamping EPA's Attack

In June 2012, six U.S. Senators from Region 6 states requested an EPA OIG investigation into whether or not EPA followed proper procedures in issuing and revoking the Range Resources EAO.[615] The request included 24 charge questions that were crafted in negotiation with the OIG.[616] Eighteen months later—days before the winter holidays—the OIG released a final report[617] that ignored key indisputable facts and questions Senators had asked in the initial request, overlooking scientific and factual flaws in EPA's justification for issuing the EAO. Most telling of the OIG's initiatives to aid EPA's broader efforts to attack hydraulic fracturing, the OIG report claimed EPA had limitless authority to issue such an order, stating: "For the EPA to take and enforce a Section 1431 emergency order, it needs neither proof that contamination has already occurred nor proof that the recipient of the order is responsible for the contamination."[618]

Most telling of the OIG's initiatives to aid EPA's broader efforts to attack hydraulic fracturing, the OIG report claimed EPA had limitless authority to issue such an order, stating: "For the EPA to take and enforce a Section 1431 emergency order, it needs neither proof that contamination has already occurred nor proof that the recipient of the order is responsible for the contamination."

As a practical matter, the report set a dangerous precedent for EPA enforcement actions, establishing that the Agency can now halt any actions—by private citizens, businesses, and industries like oil and natural gas operations—based solely on their own contrived assumptions. On February 26, 2014, U.S. Senators Vitter, Boozman, Coburn, Cornyn, Cruz, and Inhofe sent a letter expressing concerns with the report and asking 21 follow-up questions.[619] On May 13, 2014, the OIG offered a severely deficient response ignoring the crux of many of the

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at http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=011cefb5-ef73-4ec3-845d-5e8757307b26.

[615] Letter from Hon. James Inhofe, Hon. David Vitter, Hon. Tom Coburn, Hon. John Cornyn, Hon. John Boozman & Hon. Kay Bailey Hutchison, U.S. S., to Hon. Arthur Elkins, Inspector Gen., U.S. Envtl. Prot. Agency (June 19, 2012), *available at* http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=9da17054-e920-4505-97d0-8417c2db32c3.

[616] *Id*.

[617] OFFICE OF INSPECTOR GEN., ENVTL. PROT. AGENCY, RESPONSE TO CONGRESSIONAL INQUIRY REGARDING THE EPA'S EMERGENCY ORDER TO THE RANGE RESOURCES GAS DRILLING COMPANY, REPORT NO. 14-P-0044 (Dec. 20, 2013), http://www.epa.gov/oig/reports/2014/20131220-14-P-0044.pdf.

[618] *Id.* at 1.

[619] Letter from Hon. David Vitter, Hon. James Inhofe, Hon. John Cornyn, Hon. John Boozman, Hon. Tom Coburn & Hon. Ted Cruz, U.S. S., to Hon. Arthur Elkins, Inspector Gen., U.S. Envtl. Prot. Agency (Feb. 26, 2014), *available at* http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=011cefb5-ef73-4ec3-845d-5e8757307b26.

specific inquiries and choosing not to answer 10 of the questions.[620] The OIG failed to hold EPA accountable for its actions in issuing the EAO and ignored EPA's manipulation of the facts and science to justify the EAO in the first place. The OIG's incomplete report and response to Congress serves as a means for EPA to avert scrutiny of the EAO withdrawal and validates EPA's use of the same faulty process to issue future EAOs on the oil and gas industry.[621]

Even after concerns were raised over the OIG's work related to the Parker County EAO, the office announced plans that appear to further parrot EPA's failed efforts to justify greater federal control over hydraulic fracturing. In February 2014, the OIG released a memorandum explaining its plans to evaluate EPA and states' ability to manage potential threats to water resources from hydraulic fracturing.[622] Despite concerns over a lack of staff[623] with any technical expertise to evaluate or understand the hydraulic fracturing process and concerns over the topic being well outside the OIG's mission to "prevent and detect fraud, waste, and abuse…of the programs and operations of the [EPA],"[624] the OIG decided to move forward with the investigation. This sentiment is seemingly shared by the Inspector General himself while communicating with a U.S. Senate Committee on Environment and Public Works Republican Senator.[625]

Congress relayed these concerns to the OIG,[626] but its response only aggravated the circumstances, creating a redundancy in EPA efforts already underway. As of September 30, 2014, the OIG had already spent approximately $262,508 on this project.[627] Moreover, the OIG on the one hand only reached out to three states and three oil and natural gas trade groups, while on the other hand met with four environmental activist groups— including NRDC— to

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[620] Letter from Hon. Arthur Elkins, Inspector Gen., U.S. Envtl. Prot. Agency, to Hon. David Vitter, U.S. S., et al. (May 13, 2014), *available at* http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=eba0c007-c472-4a40-b3e2-7c36ee435944.

[621] *See* Mike Soraghan, *EPA: Feds followed procedures in Range case, though questions remain - -IG*, GREENWIRE (Dec. 24, 2013), http://www.eenews.net/greenwire/stories/1059992296; *see also IG Backs EPA Scrapping SDWA Fracking Order But Queries Contamination*, INSIDEEPA (Jan. 10, 2014), http://insideepa.com/water-policy-report/ig-backs-epa-scrapping-sdwa-fracking-order-queries-contamination.

[622] Memorandum from Dan Engelberg, Dir. Water Issues, Office of Program Evaluation, Office of Inspector Gen., U.S. Envtl. Prot. Agency, to Nancy Stoner, Acting Assistant Adm'r, Office of Water, U.S. Envtl. Prot. Agency (Feb. 5, 2014), *available at* http://www.epa.gov/oig/reports/notificationMemos/newStarts_02-05-14_HyraulicFracturing.pdf.

[623] *EPA IG Touts Independence But Warns Tight Budget May Limit Investigations*, INSIDEEPA (Mar. 21, 2014), http://insideepa.com/water-policy-report/epa-ig-touts-independence-warns-tight-budget-may-limit-investigations.

[624] *About OIG*, Office of Inspector Gen. U.S. Envtl. Prot. Agency, http://www.epa.gov/oig/about.html#Who_What_Why (last visited Oct. 21, 2014).

[625] *See* Letter from Hon. David Vitter, U.S. S., to Hon. Arthur Elkins, Inspector Gen., U.S. Envtl. Prot. Agency (May 16, 2014), *available at* http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=a834c8d3-6592-4511-8957-6af58d7a553d.

[626] Letter from Hon. David Vitter, Hon. James Inhofe, Hon. Tom Coburn, Hon. John Cornyn, & Hon. Ted Cruz, U.S. S., to Hon. Arthur Elkins, Inspector Gen., U.S. Envtl. Prot. Agency (May 8, 2014), *available at* http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=c2e9ad41-7727-4a34-9170-380ccb52f7a9.

[627] E-mail from Jeffrey Lagda, Cong. & Media Liaison, Office of Inspector Gen., Envtl. Prot. Agency, to Rep. Staff, S. Comm. on Env't & Public Works (Sept. 30, 2014 2:43PM).

Moreover, the OIG on the one hand only reached out to three states and three oil and natural gas trade groups, while on the other hand met with four environmental activist groups— including NRDC— to "determine what their views are of the impacts of hydraulic fracturing and the management of the impacts."

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The OIG interestingly chose to reach out to environmental groups, some of which are responsible for the baseless and debunked claims throughout this report, rather than gathering more input from a broad spectrum of states that have been successfully regulating hydraulic fracturing for years. In fact, the OIG could have reached out to nine states without submitting an information collection request to the Office of Management and Budget,[629] but the OIG only reached out to Pennsylvania, Colorado, and Arkansas.[630] Despite numerous requests to withdraw the evaluation, the OIG has confirmed it will produce a final report expected in late 2014.[631]

With each investigation, study, and regulation, the states have been shut out, and more taxpayer dollars have been expended by unelected federal bureaucrats. Ultimately, these efforts overlap to mount the Administration-wide assault against hydraulic fracturing. While the true science, facts, and economics behind the domestic oil and gas industry and their use of hydraulic fracturing stand in sharp contrast to the Administration's efforts, the anti-fracking movement has gained traction through an unyielding sect of far-left environmental activists championing each Administration action in the media.

[628] Letter from Hon. Arthur Elkins, Inspector Gen., U.S. Envtl. Prot. Agency, to Hon. David Vitter, U.S. Sen., et al. (July 18, 2014), *available at* http://www.epa.gov/oig/reports/2014/IG_response_letter_7-18-14.pdf.
[629] Paperwork Reduction Act (44 U.S.C. §§3501-3250).
[630] Letter from Hon. Arthur Elkins, Inspector Gen., U.S. Envtl. Prot. Agency, to Hon. David Vitter, U.S. Sen., et al. (July 18, 2014), *available at* http://www.epa.gov/oig/reports/2014/IG_response_letter_7-18-14.pdf.
[631] E-mail from Jeffrey Lagda, Cong. & Media Liaison, Office of Inspector Gen., Envtl. Prot. Agency, to Rep. Staff, S. Comm. on Env't & Public Works (Sept. 30, 2014 2:43PM).

V. DOUBLE STANDARDS FOR DUBIOUS ANTI-FRACKING ACTIVISTS

Outside of the federal government, the Obama Administration has a relentless lineup of anti-fracking activist allies conspiring to achieve their joint anti-fossil energy goals. This group consists of multiple tiers, each playing a part in supporting the Administration's efforts and advancing a larger anti-fossil fuels agenda. Deep pocket donors are among the most prominent activists with ties to the Administration's efforts to phase out hydraulic fracturing. Major environmental organizations, such as the Sierra Club and Natural Resources Defense Council (NRDC), are at the forefront of coordination with the Environmental Protection Agency (EPA), initiating legal challenges to prompt federal action and blurring scientific literature with spurious studies. Smaller and lesser well-known activist groups push for local hydraulic fracturing bans and incite public protest through fear mongering. Concurrently, Hollywood stars glorify the movement, only to further distance the anti-fracking agenda from the facts, science, and economic reality of our domestic energy supply. While these efforts have been generally successful under the Obama Administration, nearly every action is engrossed in distortion and hypocrisy.

a. Hydraulic Fracturing a Target for Far-Left Activists' Anti-fossil Fuel Agenda

Environmental activists are poised to spend more on candidates opposed to fossil fuel energy during the 2014 midterm election cycle than ever.[632] Among the most visible far-left activists carrying out the anti-fossil fuel agenda is billionaire Tom Steyer who has planned to give far-left candidates $100 million in the 2014 election alone.[633] While Steyer's activism has cultivated considerable publicity, he is far removed from economic reality. Rather, Steyer's anti-fossil fuel efforts are not based on principle, pitting him against mainstream America and in line with the Obama Administration. For example, as a majority of Americans support approval of the Keystone XL pipeline,[634] Steyer's has staunchly opposed the project even though he made his fortune based on investments in fossil fuel energy production.[635] In a hypocritical revelation where Steyer refused to completely divest from fossil fuel investments almost two years after becoming a vocal opponent of the critical resources that made his fortune possible,[636] Steyer also

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[632] Juliet Eilperin, *Environmentalists' campaign spending on midterms to see huge jump this year*, WASH. POST, (Sept. 5, 2014), http://www.washingtonpost.com/politics/environmentalists-campaign-spending-on-midterms-to-see-huge-jump-this-year/2014/09/05/f579b39c-346c-11e4-8f02-03c644b2d7d0_story.html.

[633] Aaron Blake, *Billionaire plans $100 million campaign for Democrats*, WASH. POST, (Feb. 18, 2014), http://www.washingtonpost.com/blogs/post-politics/wp/2014/02/18/billionaire-plans-100-million-campaign-for-democrats/.

[634] *New High: 61% favor building the Keystone XL Pipeline*, RASMUSSEN REPORTS, (Apr. 23, 2014), http://www.rasmussenreports.com/public_content/politics/general_politics/april_2014/new_high_61_favor_building_the_keystone_xl_pipeline.

[635] Matt Schlapp, *Billionaire turned Democratic donor Tom Stever tries his hand at politics*, FOXNEWS, (Aug. 25, 2014), http://www.foxnews.com/opinion/2014/08/25/like-bad-reality-tv-billionaire-turned-democratic-donor-tom-steyer-tries-his/.

[636] Carol D. Leonning et al., *Tom Steyer's slow, and ongoing, conversion from fossil-fuels investor to climate activist*, WASH. POST, (Jun. 9, 2014) http://www.washingtonpost.com/politics/tom-steyers-slow-and-ongoing-conversion-from-fossil-fuels-investor-to-climate-activist/2014/06/08/6478da2e-ea68-11e3-b98c-72cef4a00499_story.html.

contributed millions of dollars to Democratic candidates opposed to hydraulic fracturing.[637] Most recently, Steyer has come out in support of Democratic Governors in Washington and Oregon who are advancing efforts to raise gas prices.[638]

Despite Steyer's controversial time as an anti-fossil fuel activist, he has garnered enough publicity and support among Democrats to have been included on President Obama's shortlist for the Secretary of Energy.[639] One of Steyer's most prominent supporters is President Obama's close confidante and White House climate and energy counselor, John Podesta,[640] who went so far as to state Steyer has "got the right skill set, the understanding and attitude to lead an energy transformation in this country…he would be a fabulous choice for energy secretary…and I've let my friends in the administration know that."[641]

In addition to being an influential member of the Obama Administration, Podesta's far-left credentials and close ties to powerful Democrats go back to the 1990s. Before becoming a prominent Washington, D.C. lobbyist, he served as Chief of Staff to President Bill Clinton.[642] He remains very close to the Clintons and has been mentioned as a candidate to chair Hillary Clinton's potential 2016 Presidential campaign.[643] Podesta and Herbert Sandler are co-founders of the far-left group Center for American Progress (CAP) and have long been at the forefront of the war on fossil fuels.[644] Ironically, Sandler recently contributed $1 million to Steyer's NextGen Climate Action Committee.[645] Both organizations also belong to Democracy Alliance, the non-transparent progressive network that funnels millions of dollars into anti-fossil fuel efforts across the country.[646]

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[637] *Meet Tom Steyer, Mr. Gas Tax*, SECURE OUR FUELS (Oct. 6, 2014), http://www.secureourfuels.org/2014/10/06/meet-tom-steyer-mr-gas-tax/.
[638] *Id.*
[639] Al Kamen, *Is Obama's secretary of energy list shortening*?, WASH. POST (Dec. 17, 2012), http://www.washingtonpost.com/blogs/in-the-loop/post/is-obamas-secretary-of-energy-list-shortening/2012/12/17/15f2e5d6-449f-11e2-8061-253bccfc7532_blog.html.
[640] Matthew Continetti, *Podesta will peddle green agenda*, NAT'L REV. (Dec. 14, 2013), http://www.nationalreview.com/article/366305/podesta-will-peddle-green-agenda-matthew-continetti.
[641] Juliet Eilperin, *Billionaire has unique role in official Washington: Climate change radical*, WASH. POST (Feb. 17, 2013), http://www.washingtonpost.com/national/health-science/billionaire-has-unique-role-in-official-washington-climate-change-radical/2013/02/17/23cdcf4c-6b26-11e2-95b3-272d604a10a3_story.html.
[642] Matthew Continetti, *Podesta will peddle green agenda*, NAT'L REV. (Dec. 14, 2013), http://www.nationalreview.com/article/366305/podesta-will-peddle-green-agenda-matthew-continetti.
[643] Maggie Haberman, *John Podesta eyed for Hillary Clinton campaign*, POLITICO (Sept. 4, 2012), http://www.politico.com/story/2014/09/john-podesta-hillary-clinton-campaign-chair-110616.html.
[644] *Who killed the vote on fracking? – Glossary*, BOULDER WEEKLY. (Oct. 2, 2014), http://www.boulderweekly.com/article-13442-who-killed-the-vote-on-frackingmdashglossary.html.
[645] Greg Giroux, *Steyer Cuts $2 Million for Climate, Mercer Aids Tea Party*, BLOOMBERG (July 21, 2014), http://www.bloomberg.com/news/2014-07-21/steyer-cuts-2-million-for-climate-mercer-aids-tea-party.html.
[646] *Who killed the vote on fracking? – Glossary*, BOULDER WEEKLY. (Oct. 2, 2014), http://www.boulderweekly.com/article-13442-who-killed-the-vote-on-frackingmdashglossary.html.

b. Big Groups Backtrack and Restructure Stance on Hydraulic Fracturing

Major environmental groups have embarked on an aggressive strategy to eliminate hydraulic fracturing immediately, entirely, and without any compromise. From federal to state to local levels, these activists have developed a national movement to oppose hydraulic fracturing. Along the way, they have taken hypocritical positions, maneuvered around key facts and data, and distorted a practice that will inevitably hurt their fellow Americans. These major environmental groups are responsible for initiating many of the unnecessary and duplicative federal actions related to unconventional oil and natural gas development.[647] However, many of their efforts remain in the proposed stage or face legal challenges, leading major environmental activists to expand their efforts to the states.

On the state level, major activist organizations have proved to be dishonest negotiators and quickly flipped their positions on hydraulic fracturing. For example, California-based Earthjustice supported hydraulic fracturing disclosure regulations in Colorado, but opposed identical regulations in California a year later. In Colorado, Earthjustice participated in negotiations with state officials and industry stakeholders resulting in proposed hydraulic fracturing disclosure regulations in December 2011.[648] The regulations required full disclosure of fluids used in hydraulic fracturing, while only regulators and health professionals would have access to fluids categorized as trade secrets.[649] Upon release of the Colorado regulations, Earthjustice issued a press release stating "The rule is one of the strongest in the country and Earthjustice's Denver office was actively involved in shaping the decision… In the negotiations, Earthjustice represented the Colorado Environmental Coalition, Earthworks Oil and Gas Accountability, National Wildlife Federation, San Juan Citizens Alliance and High Country Citizens Alliance."[650] Earthworks also called the Colorado rule a "victory."[651]

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Despite environmentalists' praise for Colorado's efforts, when California proposed the same requirements in December 2012, Earthjustice and other activist groups rejected the

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[647] *See* Blogs, *Collusion & Coordination to Shut Down the Oil & Gas Industry*, U.S. SEN. COMM. ENV'T PUB. WORKS, (Sept. 23, 2014), http://www.epw.senate.gov/public/index.cfm?FuseAction=Minority.Blogs&ContentRecord_id=5ebc9a4a-cfc2-b001-990c-f30973c7b2e4&Issue_id.

[648] Dave Quest, *From environmental groups, a double standard on disclosure*, ENERGYINDEPTH (Jan. 7, 2013), http://energyindepth.org/california/from-environmental-groups-a-double-standard-on-disclosure-2/.

[649] Peter Marcus, *New 'fracking' rule lauded by oil and gas interests, enviros* , CO. STATES. (Dec. 16, 2011), http://www.coloradostatesman.com/content/993199-new-fracking-rule-lauded-oil-and-gas-interests-enviros.

[650] Press Release, *Colorado Adopts New Fracking Disclosure Rule—Victory: Earthjustice instrumental in positive outcome*, EARTHJUSTICE (Dec. 14, 2011), http://earthjustice.org/news/press/2011/colorado-adopts-new-fracking-disclosure-rule.

[651] Dave Quast, *Fracking rule proposal in California is like Colorado's*, MERC. NEWS (Jan., 14, 2013), http://www.mercurynews.com/ci_22371105/dave-quast-fracking-rule-proposal-california-is-like.

proposal. In response to the rule's release, Earthworks said, "It's hard to find much to praise."[652] However, with regard to the same provision in the Colorado regulations, "Mike Freeman, an attorney with Earthjustice who represented environmental interests during the many weeks of rulemaking negotiations, said environmentalists backed off their concerns over trade secrets because energy companies will be required to justify their trade secret claims."[653] Most of the exaggerated statements regarding the California rule came from Food & Water Watch, which stated: "The astonishingly weak fracking regulations proposed by our state government would do far more to protect oil company secrets than California's environment."[654] They further claimed: "The evidence is in, and it is clear and overwhelming. Fracking is inherently unsafe, cannot be regulated and should be banned."[655] These statements are false and were merely used by Food & Water Watch as an opportunity to persecute the oil and gas industry and promote more costly and less reliable renewable energy projects.

In 2012, the Sierra Club initiated its "Beyond Natural Gas" campaign to phase out natural gas by 2050. At the time, the Club's executive director, Michael Brune, said, "The natural gas industry is dirty, dangerous and running amok." Yet, a couple years prior, the Sierra Club enjoyed millions of dollars of funding from the natural gas industry and touted natural gas as a "bridge fuel."

The Sierra Club has made similar calls in opposition to hydraulic fracturing and support of renewables. In 2012, the Sierra Club initiated its "Beyond Natural Gas" campaign to phase out natural gas by 2050.[656] At the time, the Club's executive director, Michael Brune, said, "The natural gas industry is dirty, dangerous and running amok."[657] Yet, a couple years prior, the Sierra Club enjoyed millions of dollars of funding from the natural gas industry and touted natural gas as a "bridge fuel."[658] From 2007 to 2010, the Sierra Club accepted $26 million from a prominent natural gas producer[659] as the Club focused on its "Beyond Coal" campaign.[660] A March 2012 opinion piece in the *Wall Street Journal* provided one potential explanation for Sierra Club's flip on natural gas, stating:

> So why is the Sierra Club suddenly portraying natural gas as a villain? The answer surely is the industry's drilling success. The greens were happy to support

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[652] *Id*.
[653] Peter Marcus, *New 'fracking' rule lauded by oil and gas interests, enviros*, CO. STATES. (Dec. 16, 2011), http://www.coloradostatesman.com/content/993199-new-fracking-rule-lauded-oil-and-gas-interests-enviros.
[654] *Letters: Fracking in California*, L.A. TIMES (Dec. 23, 2012), http://articles.latimes.com/2012/dec/23/opinion/la-le-1223-sunday-shale-fracking-20121223.
[655] *The Urgent Case for a Ban on Fracking*, FOOD & WATER WATCH, (Sept. 16, 2014), http://documents.foodandwaterwatch.org/doc/urgent_case_for_ban_on_fracking.pdf#_ga=1.263975311.2013091119.1410877150.
[656] *See* Sierra Club website, *Dirty, Dangerous, and Run Amok*, http://content.sierraclub.org/naturalgas/ (last visited Oct., 16, 2014).
[657] *Sierra Club's Natural Gas*, WALL ST. J. (May 31, 2012), http://online.wsj.com/news/articles/SB10001424052702304363104577390432521371296.
[658] Dan Berman, *Sierra Club took $26M from natural gas*, POLITICO (Feb. 2, 2012), http://www.politico.com/news/stories/0212/72400.html.
[659] Bryan Walsh, *How the Sierra Club took millions from the natural gas industry – and why they stopped*, TIME (Feb. 2, 2012), http://science.time.com/2012/02/02/exclusive-how-the-sierra-club-took-millions-from-the-natural-gas-industry-and-why-they-stopped/.
[660] *Id*.

> natural gas as a "bridge fuel to the 21st century" when it cost $8 or more per million BTUs and seemed to be in limited domestic supply.
>
> But now that the hydraulic fracturing and shale revolution has sent gas prices down to $2.50, the lobby fears natural gas will come to dominate U.S. energy production. At that price, the Sierra Club's Valhalla of wind, solar and biofuel power may never be competitive. So the green left has decided it must do everything it can to reduce the supply of gas and keep its price as high as possible.[661]

Another explanation suggests that Sierra Club found another funding source by aggressively promoting renewables. On May 24, 2011, the Sierra Club and solar company Sungevity entered into a partnership where Sierra Club received a generous donation for every Sungevity, Inc. solar panel purchased.[662] According to Sungevity's announcement:

> Sierra Club will be reaching out to its supporters in Northern and Central California and asking them to sign up for easy and affordable solar leasing through Sungevity. For each supporter who signs up, Sierra Club will receive $1,000 from Sungevity for its campaign to end reliance on fossil fuels and transition to a clean energy economy.[663]

This partnership continues to this day. In fact, Sierra Club announced on August 20, 2014: "When you go solar with the Sierra Club and Sungevity, not only could you be saving and moving beyond dirty energy, you'll receive a $750 credit toward your system right away, and Sungevity will send $750 to your local Sierra Club chapter… Offer only available to new Sungevity customers who reside in AZ, CA, CO, CT, DC, MA, MD, NJ, NM, NY, VT."[664] Notably, Sungevity has received millions in subsidies from the U.S. Department of Treasury under the American Recovery and Reinvestment Act of 2009.[665] From 2012 to 2013, Sungevity received 14 payments totaling $12,414,319[666] in taxpayer dollars that were seemingly funneled to the Sierra Club.

Notably, Sungevity has received millions in subsidies from the U.S. Treasury Department under the American Recovery and Reinvestment Act of 2009. From 2012 to 2013, Sungevity received 14 payments totaling $12,414,319 in taxpayer dollars that were seemingly funneled to the Sierra Club.

Troublingly, solar panels pose major risks to firefighters who are struggling to finds ways to safely put out blazes caused by the alternative energy source. For example, in 2013 it took

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[661] *Sierra Club's Natural Gas*, WALL ST. J. (May 31, 2012), http://online.wsj.com/news/articles/SB10001424052702304363104577390432521371296.
[662] *Sungevity and Sierra Club announce partnership from roof of Oakland home*, SUNGEVITYBLOG (May 24, 2011), http://blog.sungevity.com/2011/05/24/sungevity-and-sierra-club-announce-partnership-from-roof-of-oakland-home/.
[663] *Id*.
[664] *See* Sierra Club Supporter Letter from Executive Director, Michael Brune, http://action.sierraclub.org/site/MessageViewer?dlv_id=339945&em_id=372376.0 (last visited Oct. 21, 2014).
[665] *Recovery Act – 1603 Program: Payments for Specified Energy Property in Lieu of Tax Credits*, U.S. DEPT. TREAS., http://www.treasury.gov/initiatives/recovery/Pages/1603.aspx (last visited Oct. 20, 2014).
[666] *Id*.

more than 300 firefighters over 72 hours to put out an 11-alarm fire at a massive distribution center in South New Jersey, which ultimately destroyed the entire building.[667] The roof of the almost 300,000 square foot facility was lined with more than 7,000 solar panels.[668] One of the major concerns for firefighters is the risk of electrocution from solar panels because most cannot be turned off, leaving the wiring hot and dangerous.[669] These dangers have forced firefighters to extinguish fires from a distance[670] and focus merely on containing solar panel fires rather than trying to save the actual building.[671]

Of note, solar panels and wind turbines cannot be made without fossil fuels.[672] A wind turbine is comprised of primarily steel (89.1%) and fiberglass (5.8%).[673] Steel is made from iron ore through a process using coal or natural gas, and fiberglass is made from petroleum-based chemicals.[674] In fact, the U.S. Geological Survey (USGS) listed as a disadvantage of wind power, "The consumption of fossil fuels and water during construction and decommissioning can be significant."[675] Solar panels rely on photovoltaic cells to capture sunlight that are composed of rare metals.[676] These metals are acquired through mining, and at least one of the primary metals is made "from ash derived from burning coal for the production of energy."[677]

Since these hypocritical major anti-fracking environmental groups have struggled to attain their desired regulatory takeover of hydraulic fracturing, they have shifted to calls for outright bans, especially on the state level. Food & Water Watch recently called for a federal ban on hydraulic fracturing in its paper, "The Urgent Case for a Ban on Fracking."[678] In states like Vermont where many of the state's citizens struggle to pay their heating bills in the winter,[679] bans have already passed.[680] However, in states where the opportunity for economic

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[667] David Levinsky & Peg Quann, *Firefighters end battle at Dietz & Watson fire in Delanco* (Sept. 11, 2013), http://www.phillyburbs.com/00redesign/news/local/firefighters-end-battle-at-dietz-watson-fire-in-delanco/article_27567d90-0021-58cb-9c25-af89b29c9a61.html?mode=jqm.
[668] Vince Lattanzio, *Solar Panels Growing Hazard for Firefighters*, NBC10 (Sept. 3, 2013), http://www.nbcphiladelphia.com/news/local/Solar-Panels-Growing-Hazard-for-Firefighters-222085811.html.
[669] Daniel Kelley, *Rooftop solar panels become new enemy of U.S. firefighters*, REUTERS (Sept. 5, 2013), http://www.reuters.com/article/2013/09/05/usa-solar-fire-idUSL2N0H114420130905.
[670] Vince Lattanzio, *Solar Panels Growing Hazard for Firefighters*, NBC10 (Sept. 3, 2013), http://www.nbcphiladelphia.com/news/local/Solar-Panels-Growing-Hazard-for-Firefighters-222085811.html.
[671] Daniel Kelley, *Rooftop solar panels become new enemy of U.S. firefighters*, REUTERS (Sept. 5, 2013), http://www.reuters.com/article/2013/09/05/usa-solar-fire-idUSL2N0H114420130905.
[672] Robert Wilson, *Can you make a wind turbine without fossil fuels*, ENERGY COLLECTIVE (Feb. 25, 2014), http://theenergycollective.com/robertwilson190/344771/can-you-make-wind-turbine-without-fossil-fuels.
[673] U.S. GEOLOGICAL SURVEY, U.S. DEP'T OF THE INTERIOR, SCIENTIFIC INVESTIGATIONS REP. 2011–5036, WIND ENERGY IN THE UNITED STATES AND MATERIALS REQUIRED FOR THE LAND-BASED WIND TURBINE INDUSTRY FROM 2010 THROUGH 2030 7 (2011*), available at* http://pubs.usgs.gov/sir/2011/5036/sir2011-5036.pdf.
[674] *Id*. at 8.
[675] *Id*. at 6.
[676] U.S. GEOLOGICAL SURVEY, U.S. DEP'T OF THE INTERIOR, CIRCULAR 1365, BYPRODUCT MINERAL COMMODITIES USED FOR THE PRODUCTION OF PHOTOVOLTAIC CELLS 8 (2010), *available at* http://pubs.usgs.gov/circ/1365/Circ1365.pdf.
[677] *Id*. at 8.
[678] *The Urgent Case for a Ban on Fracking*, FOOD & WATER WATCH, (Sept. 16, 2014), http://documents.foodandwaterwatch.org/doc/urgent_case_for_ban_on_fracking.pdf#_ga=1.263975311.2013091119.1410877150.
[679] *Costly heating bills for Vt. Homeowners*, WCAX, (Mar. 21, 2014), http://www.wcax.com/story/25020841/costly-vt-fuel-bills.

growth and energy security is high due to available natural gas reserves, the groups have not been as successful. On two occasions, the Sierra Club, NRDC, Food & Water Watch, and Earthworks were among the groups advocating for a ban in California—interestingly receiving funds from the same select group of far-left foundations.[681]

While these far-left groups tout unsubstantiated claims on the dangers of hydraulic fracturing, California Department of Conservation Director Mark Nechodom affirmed that "[i]n California [hydraulic fracturing] has been used for 60 years…[and] there has been not one record of reported damage directly to the use of hydraulic fracturing."

While these far-left groups tout unsubstantiated claims on the dangers of hydraulic fracturing, California Department of Conservation Director Mark Nechodom affirmed that "[i]n California [hydraulic fracturing] has been used for 60 years…[and] there has been not one record of reported damage directly to the use of hydraulic fracturing."[682] The state rejected the ban in both instances. Despite opposition in California, these major groups have not abandoned their efforts to ban hydraulic fracturing. Instead, they concocted an expansive strategy to establish local bans through "grassroots" organizations they use to elevate the anti-fossil fuel movement at the state level.

c. "Local" Lineup Pushing the Limits of Environmental Activism

Major anti-fracking activist organizations rely on "local" organizations to pursue a faux "grassroots" effort to push local hydraulic fracturing bans. However, the groups pursuing these bans are often not local at all, and the movement is far from grassroots. Rather, they do the bidding of national activist organizations, have leadership from outside the area, and receive funding from wealthy foundations located in New York, California, and Washington, D.C.

The so-called grassroots movement attempts to distort the truth about hydraulic fracturing online through shameless propaganda and marketing. Far-left activist organizations are using search engine optimization and marketing since, for example, "a Google search for the term fracking generates nearly seven million hits, and more than half of the results on the first page link to websites or organizations that oppose oil and natural gas development."[683] In one of the more egregious examples, Democracy Resources, an Oregon-based group, recently posted an online ad to garner support for anti-fracking ballot measures in Colorado that used a photo of a young girl suffering from cystic fibrosis with drilling rigs in the background.[684]

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[680] *Vermont Bans Fracking*, STOP THE FRACKED GAS PIPELINE, (May 4, 2012), http://www.vpirg.org/news/2471/.

[681] *See The Chain of Environment Command: How a Club of Billionaires and their Foundations Control the Environmental Movement and Obama's EPA*, U.S. SEN COMM. ENV'T PUB. WORKS. (Jul. 30, 2014), http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=8af3d005-1337-4bc3-bcd6-be947c523439.

[682] *Hydraulic Fracturing: Unlocking America's Natural Gas Resources*, AMER. PETROL. INST., (July 2014) at 5, www.api.org/policy-and-issues/policy-items/hf/~/media/Files/Oil-and-Natural-Gas/Hydraulic-Fracturing-primer/Hydraulic-Fracturing-Primer-2014-highres.pdf.

[683] *Drilling for a social media strategy*, FTI CONSULT., http://www.fticonsulting.com/global2/critical-thinking/fti-journal/drilling-for-a-social-media-strategy.aspx (last visited Oct. 16, 2014).

[684] Lachlan Markay, *Polis-Backing group draws fire for fracking lies*, WASH. BEACON, (Sept. 5, 2014), http://freebeacon.com/issues/polis-backed-group-draws-fire-for-fracking-lies/

Regarding national groups posing as grassroots, one group in particular has been used to push local hydraulic fracturing bans: Community Environmental Legal Defense Fund (CELDF).

Regarding national groups posing as grassroots, one group in particular has been used to push local hydraulic fracturing bans: Community Environmental Legal Defense Fund (CELDF).[685] The group, which was established in Pennsylvania, traversed across the country creating associated groups and introducing local bans through "community bill of rights" in Ohio, New Hampshire, Maine, New Mexico, Washington, Illinois, Colorado, and California.[686] In the beginning, CELDF was successful in areas where drilling was cost-prohibitive because of the number of leases required, such as the city of Pittsburgh, Pennsylvania. They also found success in areas with little to no potential for oil and natural gas development, like Bowling Green, Ohio. CELDF was unsuccessful in passing local hydraulic fracturing bans in Youngstown, Ohio as voters opposed the measure three times in one year.[687] In Johnson County, Illinois, CELDF established the group Southern Illinoisans Against Fracturing our Environment in coordination with Food & Water Watch to push a ballot measure voters opposed by 58%.[688] Illinois State Representative Brandon Phelps (D-Harrisburg) recognized how the efforts were not local, saying, "There is an outside group coming into our state and trying to sell this community bill of rights."[689]

Illinois State Representative Brandon Phelps (D-Harrisburg) recognized how the efforts were not local, saying, "There is an outside group coming into our state and trying to sell this community bill of rights."

In Colorado, far-left environmentalists were successful in banning hydraulic fracturing in five local communities: Longmont, Lafayette, Fort Collins, Boulder, and Broomfield. Not surprisingly, these initiatives and the groups advocating for the bans have ties to major environmental organizations and received funding from the same elite group of foundations.[690] By July 2014, the Longmont, Lafayette, and Fort Collins' bans were struck down in court,[691] so activists shifted their efforts to advance two ballot measures to restrict hydraulic fracturing. However, in August 2014, Governor John Hickenlooper announced a plan to abandon the ballot measures in favor of

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[685] Jennifer Yachnin, *Advocacy: Behind multiple local campaigns to ban fracking, one Pa. legal clinic*, GREENWIRE, (Mar. 31, 2014), http://www.eenews.net/greenwire/stories/1059997030.
[686] *Id.*
[687] Brandon Baker, *Ohio town votes against fracking ban for third time in a year*, ECOWATCH, (May 7, 2014), http://ecowatch.com/2014/05/07/ohio-against-fracking-ban-third-time/.
[688] Kyna Legner, *Southern Illinois County Rejects Fracking Ban: 3 Key Takeaways*, ENERGYINDEPTH, (Mar. 19, 2014), http://energyindepth.org/illinois/southern-illinois-county-rejects-fracking-ban-3-key-takeaways/.
[689] Nick Mariano, *Not everyone wants fracking vote*, THE SOUTHERN ILLINOISAN, (Feb. 19, 2014), http://thesouthern.com/news/local/not-everyone-wants-fracking-vote/article_cd655293-46fc-5136-a770-4a24193e48b4.html.
[690] *See The Chain of Environment Command: How a Club of Billionaires and their Foundations Control the Environmental Movement and Obama's EPA*, U.S. SEN COMM. ENV'T PUB. WORKS. (Jul. 30, 2014), http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=8af3d005-1337-4bc3-bcd6-be947c523439.
[691] (Boulder passed a 5- year moratorium and was not included in Colorado Oil and Gas Association lawsuit.) http://ballotpedia.org/Broomfield_Five_Year_Fracking_Suspension,_Question_300_%28November_2013%29; *See also, Boulder county judge overturns Longmont fracking ban; Polis continues signature push*, KDVR, (Jul. 24, 2014), http://kdvr.com/2014/07/24/boulder-county-judge-overturns-longmont-fracking-ban/ (Broomfield 5-year moratorium barely passed in November 2013).

a legislative solution after the November 2014 midterm election in order to protect Colorado Democrats from taking a tough position beforehand.[692]

d. Hollywood Lionizing the Anti-Fracking Movement

Alongside far-left environmental organizations, Hollywood is mirroring their strategy in in that Hollywood activists trumpet a message full of hyperbole and misinformation with little to no technical knowledge or expertise. As a matter of true hypocrisy, Hollywood activists generate documentaries and use other media outlets to propagate their anti-fracking claims, all of which would not be possible without fossil fuels. Movie and camera film, cameras, tape recorders, video cassettes, compact discs, and much more are composed of petroleum.[693] In other words, the entire movie industry is made possible because of fossil resources.

One of the most recent illustrations of Hollywood anti-fracking activists' hypocritical nature involved two film producers eager to accept Middle Eastern oil money to create an American anti-fracking film.

One of the most recent illustrations of Hollywood anti-fracking activists' hypocritical nature involved two film producers eager to accept Middle Eastern oil money to create an American anti-fracking film. In May 2014, a video was released demonstrating an undercover investigator portraying himself as a wealthy Middle Eastern investor and makes clear he wants to ban hydraulic fracturing in American because it hurts the Middle Eastern oil industry.[694] The Hollywood producers not only agree to make the movie, but they also express no qualms with hiding his financial support behind a wall of far-left environmental activists and other non-profit organizations.[695] One producer explained it is necessary to hide his investment so that the film will have greater credibility and political impact, and further explained:

> [T]he anti-fracking community just like the heads of the NRDC, Moveon.org, Environment California it's a small community… I was on a call with Stan Jacobsen, runs Environment California, when we did the Prop 87 initiative, and I was one of ten people on that call… So you know we're just, we're hyper aware and hyper sensitive that the coalitions are tight knit, they are cellular in that they can work independently, but around this issue specifically around fracking everyone, everyone is like on the same level. So the communication is pretty clear between those organizations.[696]

While targeted director and anti-fracking activist Josh Fox did not engage with the fake Middle Eastern investor, Fox's work similarly epitomizes the most blatant examples of

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[692] Philip Wegmann, *Democratic Governor Brokers Deal to End Anti-Fracking Ballot Initiatives,* DAILY SIGNAL, (Aug. 9, 2014), http://dailysignal.com/2014/08/09/democratic-governor-strikes-deal-end-anti-fracking-ballot-initiatives/.
[693] *See* PBS LIST: *Things made from oil that we use daily (partial list),* http://www-tc.pbs.org/independentlens/classroom/wwo/petroleum.pdf (last visited Oct. 17, 2014).
[694] Jim Holt, *US Senate Committee Releases Statement on James O'Keefe's Latest Hollywood Hit*, PROGRESS TODAY, (May 23, 2014), http://www.progressivestoday.com/breaking%E2%9E%99-us-senate-committee-releases-statement-on-james-okeefes-latest-video-on-hollywood-anti-fracking-leftists/
[695] *Id*.
[696] *Id*.

Hollywood propaganda in the anti-fracking movement. Fox, known for his documentaries *Gasland* and *Gasland II*, has a shoddy record on hydraulic fracturing facts;[697] yet he continues to receive support from the far-left. The most egregious misrepresentation in Fox's documentaries includes a scene in which well water ignites in an effort to blame the oil and gas industry for water contamination.

Gasland depicted a kitchen faucet lighting fire in a Colorado home without acknowledging that the man drilled his water well through four layers of coal that was rich with flammable methane.[698] Subsequently, the Colorado Oil and Gas Conservation Commission confirmed that "[t]here are no indications of oil and natural gas related impacts to [the man's] water well."[699] *Gasland II* showed Steve Lipsky, one of the Texas residents involved in EPA's EAO against Range Resources Corporation, lighting his garden hose on fire at his home, withholding the fact the hose was connected to a gas line, not a water line.[700] In fact, in February 2012—a year before Fox released *Gasland II*—a Texas district court judge deemed the homeowner's video was intentionally "deceptive" and "calculated to alarm the public into believing the water was burning."[701] Moreover, the homeowner created the video while working with anti-natural gas activist, Alisa Rich, who advised Lipsky "[i]t is worth every penny if we can get jurisdiction to EPA,"[702] and who the court later concluded "misrepresented her academic record and has misrepresented her qualifications."[703]

Fortunately, people also recognize the misinformation in Fox's films. According to a report of one survey, "the controversial film 'Gasland' ranked dead last in terms of trustworthiness and as a source of information on shale gas extraction in the Marcellus."[704] While "Fox publicly admitted knowledge of these findings and chose to leave them out because he considered them 'not relevant',"[705] funding for Fox's documentaries may explain his baseless anti-fracking illustrations. The New York-based and member of the Billionaire's Club Park

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[697] Michael Bastasch, *Gasland Part II director uses hoax as evidence against fracking*, DAILY CALLER, (Aug. 7, 2013), http://dailycaller.com/2013/07/08/gasland-part-ii-director-uses-hoax-as-evidence-against-fracking/.
[698] Michael Economides, *Don't be swayed by faucets on fire and other anti-fracking propaganda*, FORBES, (Mar. 7, 2011), http://www.forbes.com/sites/greatspeculations/2011/03/07/dont-be-swayed-by-faucets-on-fire-and-other-anti-fracking-propaganda/.
[699] Steve Everly, *From flaming faucet to flaming hose: the continuing fraud of Gasland*, ENERGYINDEPTH, (Jul. 7, 2013), http://energyindepth.org/national/the-continuing-fraud-of-gasland/.
[700] Michael Bastasch, *Gasland Part II director uses hoax as evidence against fracking*, DAILY CALLER, (Aug. 7, 2013), http://dailycaller.com/2013/07/08/gasland-part-ii-director-uses-hoax-as-evidence-against-fracking/.
[701] *Id*.
[702] E-mail from Alisa Rich to Steve Lipsky (Aug. 12, 2010, 03:24 PM CDT), *available at* http://www.eenews.net/assets/2011/02/11/document_gw_04.pdf. (Stating, "I can then contact the EPA and discuss the fact that we have a multi-issue environmental concern, including potential for explosion AND impact to human health (especially children) they will be very receptive. It is worth every penny if we can get jurisdiction to EPA who oversees TCEQ.")
[703] Letter from David Vitter, U.S. Sen., et al., to Hon. Arthur Elkins, Inspector Gen., Insp. Gen., (Feb. 26, 2014), http://www.epw.senate.gov/public/index.cfm?FuseAction=Minority.PressReleases&ContentRecord_id=576e4f2a-d8bd-ff20-49c6-634f724f4ac8&Region_id=&Issue_id.
[704] Nathanial Gronewold, *Industry isn't a good source of fracking info, but neither is 'Gasland' –survey*, E&E NEWS, (Jun. 26, 2014), http://www.eenews.net/energywire/2014/06/16/stories/1060001297.
[705] Jon Sanders, *Facts on Fracking*, JOHN LOCKE FOUND., (Aug. 2014) at 5, http://www.johnlocke.org/acrobat/policyReports/Fracking.pdf.

The New York-based and member of the Billionaire's Club Park Foundation is listed as the only "Key Funder" for Gasland and Gasland II. Gasland II showcases Cornell University professor Anthony Ingraffea who, along with Robert Howarth, co-authored the previously discussed and highly discredited study.

Foundation is listed as the only "Key Funder" for *Gasland* and *Gasland II*.[706] *Gasland II* showcases Cornell University professor Anthony Ingraffea[707] who, along with Robert Howarth, co-authored the previously discussed and highly discredited study, "Methane and Greenhouse-Gas Footprint of Natural Gas from Shale Formations."[708] Notably, the Park Foundation funded the study, and both Howarth and Ingraffea continue to receive hundreds of thousands of dollars in funding from the Park Foundation.[709]

Fox's activism extends beyond documentaries. During a February 1, 2012, U.S. House of Representatives Committee on Science, Space and Technology hearing on EPA's investigation of groundwater in Pavillion, Wyoming, Fox attempted to record the hearing without the required media credentials.[710] Fox refused to stop filming in an apparent effort to incite public attention, leading Capitol police to arrest him.[711] In another instance, Fox sent New York Governor Andrew Cuomo a letter falsely claiming that breast cancer rates have increased as a result of hydraulic fracturing in the Barnett Shale,[712] a claim he echoes in a recent short film saying, "In Texas, as throughout the [U.S.], cancer rates fell—except in one place—in the Barnett Shale."[713] Texas experts confirmed no such evidence exists, and when asked for evidence, Fox referenced a press release and news story that did not support his claims.[714] Fox

[706] *See The Chain of Environment Command: How a Club of Billionaires and their Foundations Control the Environmental Movement and Obama's EPA*, U.S. SEN. COMM. ENV'T PUB. WORKS. (Jul. 30, 2014), http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=8af3d005-1337-4bc3-bcd6-be947c523439. (Internal Revenue Service Form-990s show that Fox received $175,000 for *Gasland and Gasland II* from the Park Foundation, $100,000 "for a media campaign and tour surrounding the release of Gasland 2, to help build a more powerful opposition to extreme fossil energy extraction" from the California-based Global Wallace Fund, and $50,000 "to support the distribution of the film *Gasland*" from the California-based Schmidt Foundation.)

[707] *See The Chain of Environment Command: How a Club of Billionaires and their Foundations Control the Environmental Movement and Obama's EPA*, U.S. SEN. COMM. ENV'T PUB. WORKS. (Jul. 30, 2014), http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=8af3d005-1337-4bc3-bcd6-be947c523439.

[708] Robert Howarth et al., *Methane and the greenhouse-gas footprint of natural gas from shale formations*, CLIMATE CHANGE, (Nov. 12, 2010), http://link.springer.com/article/10.1007%2Fs10584-011-0061-5#page-1.

[709] *See The Chain of Environment Command: How a Club of Billionaires and their Foundations Control the Environmental Movement and Obama's EPA*, U.S. SEN COMM. ENV'T PUB. WORKS. (Jul. 30, 2014), http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=8af3d005-1337-4bc3-bcd6-be947c523439. (Since 2010 Howarth received $193,229 from Park and Ingraffea's Physicians, Scientists, Engineers group received a minimum $40,000 from Park Foundation.)

[710] Talia Buford, *Josh Fox arrested at hearing*, POLITICO, (Feb. 1, 2012), http://www.politico.com/news/stories/0212/72298.html.

[711] *Id*.

[712] Kevin Begos, *Experts: Some fracking critics use bad science*, BIG STORY, (Jul. 22, 2013), http://bigstory.ap.org/article/experts-some-fracking-critics-use-bad-science.

[713] Michael Bastasch, *Gasland director made false breast cancer claims*, DAILY CALLER, (July 22, 2013), http://dailycaller.com/2013/07/22/report-gasland-director-made-false-breast-cancer-claims/#ixzz2ZrPBz6pV.

[714] *Id*.

explained that the activists' "part in all of this is about getting people to switch to renewable energy."[715]

Despite these findings, the Obama Administration welcomes Fox and his work. Former EPA Region 6 Administrator Al Armendariz occasionally worked with Fox and referenced his work on *Gasland*.[716] In late 2011, Fox's letter to former EPA Administrator Lisa Jackson calling for EPA action in Dimock, Pennsylvania seemingly prompted the Agency's investigation.[717] On February 9, 2012, the U.S. Department of State listed *Gasland* as one of 29 films "selected for the American Film Showcase, an international cultural diplomacy initiative that brings people together worldwide through film."[718]

Aside from Fox's efforts, mainstream Hollywood is playing an increasingly visible role in the anti-fracking movement. For example, Fox was joined by actor Mark Ruffalo in an overly broad and extreme call for "an immediate moratorium on drilling, permitting and fracking."[719] When asked about the start of his anti-fracking activism, Ruffalo said, "I realized if I didn't do something, it would destroy the place I live. I'd rather be doing other things with my free time, but when I learned about what is going on with fracking, it really challenged me—like, am I a phony or not?"[720] Ruffalo went on to found the New York group, Water Defense, and partnered with Washington, D.C.-based Food & Water Watch to create the Colorado group, Frack Free Colorado.[721] In addition, Ruffalo "raised money for elected officials opposed to fracking, led Occupy Wall Street troops to public hearings in New York City and lobbied legislators in Albany and Washington for support."[722] Ruffalo also serves on the advisory board of the New York-based Artists Against Fracking, another group who touts Fox's *Gasland*.[723] Despite their scientifically flawed and extreme position, the group's 130 artist membership has been effective in elevating the anti-fracking movement in New York.

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[715] Stephanie Spear, *Josh Fox: It's easy to switch to renewable energy*, ECOWATCH, (Sept. 17, 2014), http://ecowatch.com/2014/09/17/josh-fox-switch-to-renewable-energy/.
[716] *For EPA, a Troubling (Email) Chain of Events*, ENERGYINDEPTH, (Mar. 7, 2013), http://energyindepth.org/national/for-epa-a-troubling-email-chain-of-events/.
[717] John Krohn, *EPA's Dimock distraction: Ignoring pollution while chasing "tips,"* ENERGYINDEPTH, (Oct. 11, 2012), http://energyindepth.org/marcellus/epa-dimock-distraction-ignoring-pollution-while-chasing-tips/.
[718] *U.S. Department of State and the USC School of Cinematic Arts Announce Films for 2012 American Film Showcase*, U.S. DEPT. STATE, (Feb. 9, 2012), http://www.state.gov/r/pa/prs/ps/2012/02/183627.htm.
[719] Simon Lomax, *Millionaire Congressman has some fracking explaining to do*, ENERGYINDEPTH, (Aug. 1, 2014), http://energyindepth.org/mtn-states/millionaire-congressman-has-some-fracking-explaining-to-do/.
[720] Jeff Goodell, *Mark Ruffalo on the Fracking Fight*, ROLLING STONE, (May 16, 2012), http://www.rollingstone.com/politics/news/mark-ruffalo-on-the-fracking-fight-20120516.
[721] Simon Lomax, *Millionaire Congressman has some fracking explaining to do*, ENERGYINDEPTH, (Aug. 1, 2014), http://energyindepth.org/mtn-states/millionaire-congressman-has-some-fracking-explaining-to-do/.
[722] Mireya Navarro, *Ruffalo embraces a role closer to home,* N.Y. TIMES, (Dec. 2, 2011), http://www.nytimes.com/2011/12/04/fashion/mark-ruffalo-actor-embraces-anti-fracking-role.html?pagewanted=all&_r=0.
[723] Simon Lomax, *Millionaire Congressman has some fracking explaining to do*, ENERGYINDEPTH, (Aug. 1, 2014), http://energyindepth.org/mtn-states/millionaire-congressman-has-some-fracking-explaining-to-do/.

While Hollywood actors-turned-activists enjoy success in New York, these individuals are far removed from the everyday economic and energy needs of the American people. For instance, actor Leonardo DiCaprio who has a net worth of $220 million[724] is another member of Artists Against Fracking.[725] Most recently, DiCaprio released a video called *Carbon*, which advocates for a carbon tax and claims, "We no longer need the dead economy of the fossil fuel industry."[726] Notwithstanding DiCaprio's latest environmental acclaim, some of his actions run counter to the anti-fossil fuel agenda he advocates. For example, DiCaprio used the yacht of deputy prime minister of the United Arab Emirates (UAE)—a country that makes billions each year due to the export of fossil fuels[727]—during the 2014 World Cup and previously hosted a party on the yacht with other Hollywood stars.[728] Experts estimate the yacht emits more than 2,700 tons of carbon dioxide per tank[729] with an estimated fuel economy of one mile per gallon.[730]

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Matt Damon is another example of Hollywood anti-fracking hypocrisy. Damon, with a net worth of $75 million,[731] is a fellow member of Artists Against Fracking and wrote and directed the anti-fracking film *Promised Land*, which was financed by the UAE.[732] UAE stands to lose billions in lost oil revenues as the U.S. oil and natural gas boom continues. Three months after *Promise Land's* release,[733] Damon started filming his next film,[734] which was written and

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[724] *See Leonardo DiCaprio Net Worth*, CELEBRITY NET WORTH, http://www.celebritynetworth.com/richest-celebrities/actors/leonardo-dicaprio-net-worth/ (last visited October 16, 2014).
[725] *Yoko Ono and Sean Lennon Launch "Artists Against Fracking" on The Late Night with Jimmy Fallon Show*, NEW YORKERS AGAINST FRACKING, http://nyagainstfracking.org/yoko-ono-and-sean-lennon-launch-artists-against-fracking-on-the-late-night-with-jimmy-fallon-show/ (last visited Oct. 16, 2014).
[726] *Leonardo DiCaprio climate change video declares carbon dioxide to be 'poison'*, CLIM. DEPOT, (Aug. 21, 2014), http://www.climatedepot.com/2014/08/21/leonardo-dicaprio-cimate-change-video-declares-carbon-dioxide-to-be-poissen/.
[727] *See* United Arab Emirates Overview, ENERGY INFO. ADMIN., http://www.eia.gov/countries/cab.cfm?fips=tc (last visited Oct. 16, 2014).
[728] Salma Awwad, *Leonardo DiCaprio rents Abu Dhabi sheikh's yacht for Brazil World Cup*, ARAB. BUS., (Jun. 17, 2014), http://www.arabianbusiness.com/leonardo-dicaprio-rents-abu-dhabi-sheikh-s-yacht-for-brazil-world-cup-554181.html#.VAdS9fkRBKI.
[729] *DiCaprio wants to save our ocean – so how about that yacht*, CO2 BLUE (Jun. 18, 2014), http://www.co2blue.com/leonardo-dicaprio-wants-to-save-our-ocean-so-how-about-that-yacht/.
[730] *Russia sponsors Leonardo DiCaprio anti-American energy propaganda video*, BIG GREEN RADICALS, (Sept. 2, 2014), http://www.biggreenradicals.com/russia-sponsors-leonardo-dicaprio-anti-american-energy-propaganda-video/.
[731] *See Matt Damon Net Worth*, CELEBRITY NET WORTH, http://www.celebritynetworth.com/richest-celebrities/actors/matt-damon-net-worth/ (last visited Oct. 16, 2014).
[732] Steve Hargreaves, *Matt Damon fracking film backed by big OPEC member*, CNN (Oct. 1, 2012), http://economy.money.cnn.com/2012/10/01/matt-damon-fracking/.
[733] *See* 'Promised Land' profile, IMDB, http://www.imdb.com/title/tt2091473/ (last visited Oct. 16, 2014).
[734] Press Release, *The Monument's Men directed by and starring George Clooney*, SONY PICTURES ENT., (Mar. 5, 2013), http://www.sonypictures.com/corp/press_releases/2013/03_13/030513_men.html.

directed by Robert M. Edsel,[735] whose company, Gemini Exploration, "pioneered the use of horizontal drilling technology throughout the early 1990s."[736]

One should ponder how Hollywood would make money if it was not for film equipment, televisions, DVD's and DVD players made of fossil fuels, if people could not drive to a movie theater in an automobile that is made from and runs on fossil fuels, and if actors and crew could not fly to filming locations all around the world in planes and helicopters that are made from and run on fossil fuels. Anti-fracking activists may have social media, fame, and wealth on their side, but they do not have the facts. While activists' motives for promoting such misinformation into the public sphere are hypocritical, it is critical for the public to understand that the vast majority of assertions are easily and extensively refuted.

[735] *See Robert M. Edsel*, IMDb, http://www.imdb.com/name/nm2603459/?ref_=fn_al_nm_1 (last visited Oct. 16, 2014).
[736] *See Board of Trustees*, Monuments Men Foundation, http://www.monumentsmenfoundation.org/about-the-foundation/directors-page (last visited Oct. 21, 2014).

CONCLUSION

Due to hydraulic fracturing, the oil and natural gas revolution has been responsible for the undeniable benefits that continue to reverberate across the U.S. The facts cannot be refuted despite efforts by far-left activists who are more concerned about fundraising and propagating public fear campaigns than the legitimate well-being of the American public, equality in standard of living, and the economy. Too often, President Obama and his hand-picked bureaucrats have been on the wrong side of this issue from "crucifying"[737] U.S. businesses to doctoring reports and manipulating evidence to intentionally deceive the public. The Obama Administration and its far-left partners have availed their blinding bias against fossil fuels at the peril of the American consumer and family.

Given that the Obama Energy Information Administration (EIA) has admitted that the world will be heavily reliant on fossil fuels for the foreseeable future,[738] the question then becomes, "Where do we want these energy resources to come from?" Shockingly, it was not long ago that the Obama Administration and its allies had focused their efforts on persuading countries in the Middle East to ramp up their energy production[739] rather than promoting U.S. energy independence. This is the same White House that deceitfully told the American public that more oil production would not lower gas prices[740] and then turned around to ask Saudi Arabia to drill more oil to lower gas prices.[741]

It is hard to believe that the average American would rather give billions of their hard-earned dollars to unstable and often unfriendly places like the Middle East, Venezuela, and Russia in order to power their cars, homes, schools, and hospitals, rather than create good-paying jobs for their hardworking neighbors producing domestic resources. Hydraulic fracturing combined with horizontal drilling has not only changed the domestic oil and natural gas landscapes, they have had a wealth of positive impacts throughout the world.[742] If President Obama would turn his pro-production rhetoric into a government-wide reality, the benefits for the U.S. as a whole and every single family would be enormous.

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[737] Christopher Helman, *EPA Official Not Only Touted 'Crucifying' Oil Companies, He Tried It*, FORBES, Apr. 26, 2012, http://www.forbes.com/sites/christopherhelman/2012/04/26/epa-official-not-only-touted-crucifying-oil-companies-he-tried-it/.

[738] Scott Bittle & Jean Johnson, *25 Years From Now and Still Relying on Fossil Fuels?*, NAT'L GEOGRAPHIC, July 29, 2013, http://energyblog.nationalgeographic.com/2013/07/29/25-years-from-now-and-still-relying-on-fossil-fuels/.

[739] Andrew Restuccia, *Schumer: Saudi Arabia's plan to increase oil supply will lower gas prices*, THE HILL, Mar. 14, 2012, http://thehill.com/policy/energy-environment/216057-schumer-saudi-arabis-plan-to-increae-oil-output-will-lower-gas-prices.

[740] Megan Slack, *More Drilling Won't Solve High Gas Prices*, THE WHITE HOUSE, Mar. 15, 2012, http://www.whitehouse.gov/blog/2012/03/15/more-drilling-wont-solve-high-gas-prices.

[741] *UPDATE 2-U.S. asks Saudis to lift oil output from July*, REUTERS, Mar. 13, 2012, http://www.reuters.com/article/2012/03/13/saudi-oil-idUSL5E8ED9YM20120313.

[742] Denver Nicks, *How the U.S. Energy Boom is Changing America's Place in the World*, TIME, Feb. 7, 2014, http://time.com/5922/fracking-energy-boom-natural-gas-geopolitics-iran/#5922/fracking-energy-boom-natural-gas-geopolitics-iran/.