



UNEQUAL EXCHANGE

HOW TAXPAYERS SHOULDER THE BURDEN OF
FOSSIL FUEL DEVELOPMENT ON FEDERAL LANDS

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EXECUTIVE SUMMARY

Fossil fuel production on federal lands is a major contributor to greenhouse gas pollution, accounting for 28% of total U.S. energy-related emissions.¹ Yet there exists a wide range of subsidies and support mechanisms specifically aimed at promoting the production of fossil fuels on federal lands that continue to increase U.S. greenhouse gas emissions at the expense of American taxpayers, while undermining the competitiveness of clean energy alternatives and putting communities at risk.

The Trump Administration and 115th Congress have declared their intent to expand fossil fuel production on U.S. federal lands and oceans. That move already includes multiple executive orders, overturning regulation via the Congressional Review Act, rolling back Obama Administration-initiated regulatory reforms to modernize oil, gas, and coal production on federal lands and reduce climate impacts, and opening vast expanses of publicly-owned resources to mining and drilling, including currently protected areas.

Donald Trump claims that increased production of oil, gas, and coal – especially on federal lands – will benefit American taxpayers and our national economy.² **However, the substantial subsidies to fossil fuel production on federal lands are a boon for fossil fuel companies at the expense of the public interest and climate stability. As this report demonstrates, subsidies undermine the economic case for continued or expanded fossil fuel production.**

Proponents of new fossil fuel leases on federal lands who oppose climate action argue that the government would lose \$6 billion annually in royalty income by 2030 if no new fossil fuel leases were permitted from 2015.³ **Yet this report finds that U.S. subsidies to federal fossil fuel production alone total over \$7 billion per year – more than what industry proponents claim would be lost if no new fossil fuel leases were permitted on federal lands.**

The federal government provides subsidies for fossil fuel production on federal land through several different channels, including: low royalty rates and exemptions; low rental, minimum bid, and fee rates; limited liability for cleanup of regular mining operations and oil spills; publicly-funded infrastructure projects in direct support of fossil fuel development; and inadequate regulation to prevent wasteful flaring of federal natural gas resources. **Subsidies for fossil fuel production on federal lands promote fossil fuel development beyond levels possible under market conditions, resulting in increased greenhouse gas emissions from federal fossil fuel resources and degradation of lands and waters.**

If decision-makers were truly concerned about reducing government waste, they would work to end those fossil fuel subsidies and support mechanisms – not open more lands and oceans to fossil fuel production.

Key findings of this report include:

- Fossil fuel production on federal lands – onshore and offshore territories – was subsidized to the tune of at least **\$7 billion in 2014**. This number is likely a low estimate, as it does not account for the many subsidies that we identified, but did not include, for which reliable cost estimates were not available. It also does not include subsidies from the federal government and in the tax code not explicitly directed to fossil fuel production on federal lands.
- The ability of oil, gas, and coal producers to shift potential future liability onto taxpayers is also a major subsidy, but because it is difficult to calculate precisely, it is not included in the subsidy totals presented here. **U.S. taxpayers' contingent liability for decommissioning and cleanup of oil and gas projects in the Gulf of Mexico alone is estimated to be \$35.3 billion by the Bureau of Ocean Energy Management (BOEM).**
- Incorporating climate damage caused by fossil fuels produced on federal lands makes the economic argument for ending new leases on federal lands and waters even stronger. In the case of coal from the Powder River Basin, an area of active federal coal leases, every short ton of coal produced has a net cost to American taxpayers of \$49 dollars.⁴ That means that **Powder River Basin coal production alone – only a small sliver of fossil fuel production on federal lands nationwide – had a net cost to taxpayers of \$17.8 billion in 2015**, dwarfing the supposed economic benefits of allowing new fossil fuel leases on federal lands and waters.⁵
- **Removing these subsidies would save taxpayers money while also reducing greenhouse gas emissions from oil, gas, and coal production.** The \$7 billion in subsidies to fossil fuel companies could nearly double current support levels for mandatory computer science education programs for all public school students.⁶ It could pay for fixing the lead-contaminated water system in Flint, MI, and still cover the cost necessary for researchers to accelerate the development of new cancer detection and treatments – more than six times over.⁷

If the current Administration were serious about eliminating waste and properly stewarding our shared national energy resources it would undertake the following actions:

- Reduce the large, unfunded liabilities that currently sit on the shoulders of American taxpayers, including the \$35.3 billion of contingent liabilities in the Gulf of Mexico, and the untold billions in costs to clean up abandoned coal mine sites not covered by fees collected to date.
- Given the environmental, public health, and financial costs of continued fossil fuel production, new oil, gas, and coal leasing should be halted on federal lands and waters.
- If leasing does move forward, royalty rates should be modernized as they have been stagnant at 12.5% for onshore production since 1920, as should lease rates, which haven't changed – not even to account for inflation – since 1987, to better reflect the costs of fossil fuel extraction on federal lands.

The Uinta Mountains rise over the Basin. January 30, 2015.
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INTRODUCTION

Fossil fuel production on federal lands has long been a bad deal for the owners of the resource – the American people.⁸ Across the country, private companies producing oil, gas, and coal from public lands and waters are reaping the rewards of exploiting a taxpayer-owned resource while they socialize the risks that go along with standard operations. Then, when things go wrong, taxpayers and the government are left to pick up the tab. As a recent spate of coal company bankruptcies has shown, unless fossil fuel companies are required to hold adequate insurance and bonding, they often leave the taxpayer with some or all of the cleanup costs when they go bankrupt.

Fossil fuel production on federal lands is also a major contributor to U.S. greenhouse gas emissions.⁹ The best available science indicates that, globally, we cannot expand fossil fuel development if we want to avoid the worst impacts of climate change.¹⁰ Even current federal fossil fuel leases risk locking the United States into blowing past the climate targets agreed at the 2015 UN climate summit in Paris.¹¹ Allowing new leases would make the problem even worse. Recent research has shown that restricting fossil fuel production on U.S. federal lands, and phasing out fossil fuel leases, could significantly contribute to the United States meeting international climate goals.¹²

Subsidies for fossil fuel production on federal lands – for example, low royalty rates and publicly-funded infrastructure projects in direct support of fossil fuel development – promote fossil fuel development beyond levels possible under market conditions, consequently leading to higher emissions from federal fossil fuel resources.¹³

While this analysis focuses on subsidies to fossil fuels production on federal lands and waters, it does not comprehensively assess issues with leasing and royalty collection on Native lands, which has a federal component due to involvement by the Department of the Interior’s Bureau of Indian Affairs. There have been significant problems with federal mismanagement of mineral resources on Native lands, including alleged cover-up of government negotiations with fossil fuel companies that shortchanged Native landowners relative to private landowners.¹⁴

Beyond the monetary costs and value of fossil fuel production on federal lands, the federal government has the responsibility to help protect important lands that would be degraded by oil, gas, and coal production. Fossil fuel production on or impacting Native lands, occurring without the free, prior and informed consent of Indigenous peoples, is a recognized human rights issue, which the federal government

can begin to address by adopting the United Nations Declaration on the Rights of Indigenous Peoples.¹⁵ Crucially, this extends to working with Indigenous nations to ensure that sacred and traditional lands are protected from fossil fuel production. For example, in November 2016, the Obama Administration canceled oil and gas leases on lands considered sacred by the Blackfeet Tribe.¹⁶

Ultimately, the massive subsidies that benefit fossil fuel production on federal lands, and the outsize risks transferred by producers to taxpayers, underscore that the largely illusory economic benefits of federal fossil fuel production are outweighed by the significant economic and environmental costs. **As this report demonstrates, the substantial subsidies to fossil fuel production on federal lands undermine the economic case for continued or expanded production.**

FOSSIL FUEL PRODUCTION ON FEDERAL LANDS

Federal leasing for fossil fuels happens both onshore and offshore. The Bureau of Land Management (BLM) leases 700 million acres for development of federal sub-surface minerals, mainly fossil fuels.¹⁷ The Bureau of Offshore Energy Management (BOEM) has jurisdiction over approximately 1.7 billion acres in the Outer Continental Shelf (OCS), on which it currently manages active oil and gas leases on about 44 million acres.¹⁸ The 2017 to 2022 five-year federal offshore oil and gas plan, approved under the Obama administration, opened 97 million acres to leasing.¹⁹ More acreage may be added to this total under the Trump administration. Citing a new policy to “encourage energy exploration and production, including on the outer continental shelf,” the incoming administration has ordered a review of areas left closed to oil and gas production in the current plan.²⁰

Through the Department of Interior (DOI), the federal government thus manages nearly 850 million acres of land and offshore waters available for drilling and mining. For perspective, the total landmass of the U.S. is only 2.3 billion acres.²¹ Fossil fuel production has wide-ranging ecological consequences, including climate impacts, air and water pollution, and wildlife habitat loss, and lasting damage to communities, livelihoods, and national treasures - such as parks and sanctuaries - from oil spills and chronic leaks.²²



Federally controlled resources make up a significant share of U.S. fossil fuel production. Onshore and offshore federal lands accounted for 21% of oil production and 16% of natural gas production in the United States in 2015, a fact that underscores their importance when considering the climate impacts of fossil fuel production in the context

of national goals to reduce emissions.²³ Coal production is most reliant on federal resources, with federal lands accounting for 41% of total U.S. production - a slight increase in share over the past decade, in contrast to oil and gas.

GREENHOUSE GAS EMISSIONS IMPACT OF FOSSIL FUEL PRODUCTION AND SUBSIDIES ON FEDERAL LANDS

At the 2015 UN climate summit in Paris, 195 nations – including the United States – committed to climate targets that would limit global warming to well below 2 degrees Celsius, and agreed to strive for even more ambitious limits. As President Obama acknowledged, meeting these goals will mean “leaving some fossil fuels in the ground.” To that end, the previous administration halted coal leasing on federal lands, reversed a plan to open the Eastern Gulf of Mexico to oil and gas extraction, and permanently protected over 98 percent of the U.S. Arctic and 31 biologically rich sea canyons in the Atlantic from offshore drilling.²⁴

The Trump Administration and 115th Congress have begun their attack on these actions, with the explicit intent of expanding fossil fuel production on federal lands.²⁵ Within its first 100 days, the new administration released executive orders to review and suspend all regulations and agency actions that constrain oil, gas, and coal development; lift the federal coal leasing moratorium; declare it “the policy of the United States to encourage energy exploration and production, including on the outer continental shelf;” rewrite the existing 2017 to 2022 five-year offshore drilling plan to open more federal waters to oil production; remove marine sanctuaries’ protected status; and scrap the ban on Arctic and Atlantic offshore drilling.²⁶

Meanwhile, members of Congress have invoked the Congressional Review Act (CRA) to push legislation rescinding a number of Obama-era regulations on oil, gas, and coal production, including Arctic Ocean drilling safeguards, closing loopholes that reduce payments from

coal companies for extraction on public lands, and preventing waste from methane flaring, venting and leaks at oil and gas operations on public lands.²⁷ If these moves are successful, greenhouse gas emissions from fossil fuel production on public lands will increase significantly.

Fossil fuel production on federal lands is a major contributor to greenhouse gas pollution, accounting for 28% of total U.S. energy-related emissions.²⁸ Yet there exists a wide range of subsidies specifically aimed at promoting production of fossil fuels on federal lands that continue to boost U.S. greenhouse gas emissions at the expense of American taxpayers, while undermining the competitiveness of clean energy alternatives, and putting communities at risk.

Despite the slow decline in overall production from federal lands,²⁹ putting a stop to further development is necessary to prevent the extraction of vast amounts of additional, unburnable resources. A recent analysis by Oil Change International found that even the carbon emissions from extracting and combusting the oil, gas, and coal in the world’s already-operating fields and mines would close the door on a reasonable chance to limit global temperature rise to below 2 degrees Celsius.³⁰ In other words, we cannot expand fossil fuel extraction and infrastructure if we hope to avoid the worst impacts of climate change.

In the case of fossil fuels on federal lands, recent research has indicated that even current federal fossil fuel leases would lock the United States into exceeding the climate targets agreed in Paris.³¹ Allowing

new leases would make the problem even worse. Restricting fossil fuel production on U.S. federal lands, and phasing out fossil fuel leases, could be one of the most significant ways that the United States helps meet international climate goals.³²

Subsidies for fossil fuel production on federal lands promote fossil fuel development beyond levels possible under market conditions, consequently leading to higher emissions from federal fossil fuel resources. To date, the literature on the total effect of subsidies is incomplete, but one study on coal production from the Powder River Basin (a coal-producing region that is almost entirely federally owned) provides insight into the scale from just one subset of federal fossil fuel resources. Removing subsidies would reduce demand for Powder River Basin coal by up to 29%, resulting in carbon emission reductions of up to 2.5 GtCO₂ over 20 years to 2035, the equivalent of 32 coal power plants.³³

More recent research has found that no new leases in the Powder River Basin are needed to meet coal demand in a U.S. energy scenario that is consistent with limiting global warming to levels well below 2 degrees Celsius.³⁴ Another study found that the simple step of ceasing to issue new federal leases for fossil fuel extraction could reduce global CO₂ emissions by 100 million metric tons per year by 2030, and even more thereafter.³⁵ Yet, today, subsidies to fossil fuels produced on public lands and waters continue to incentivize damaging emissions.



SUBSIDIES FOR FOSSIL FUEL DEVELOPMENT ON FEDERAL LAND

Annually, U.S. federal and state governments give away \$20.5 billion in subsidies for oil, gas, and coal production.³⁶ The federal government provides a portion of these subsidies and other support to fossil fuel production specifically on federal lands through several different channels, including: low royalty rates and exemptions; low rental, minimum bid, and fee rates; limited liability for cleanup of regular mining operations and oil spills; publicly-funded infrastructure projects in direct support of fossil fuel development; and inadequate regulation to prevent wasteful flaring of federal natural gas resources. Broadly speaking, these subsidies and supports fit under four categories:

- ▶ **Direct subsidies that support fossil fuel production on federal lands** (e.g., royalty exemptions for flared gas, and direct expenditures on infrastructure linking federal fossil fuel production to markets). In this analysis, these figures are mostly presented as annualized values and **are** part of the total figure of \$7 billion per year in subsidies to fossil fuel production on federal lands.
- ▶ **Policies that allow producers of fossil fuel on federal lands to escape liability and cleanup obligations.** Government continues to struggle to ensure that private firms clean up their messes after they've extracted minerals at a profit. This is a long-standing problem, and large cleanup liabilities have grown over time, which taxpayers may ultimately have to pay for if polluters are not forced to pay up-front. These support mechanisms that transfer risk and cleanup cost from companies to taxpayers include provisions such as artificially-low liability coverage requirements, and lax requirements on how companies provide security to ensure they meet their eventual cleanup obligations (including in case of



January 29, 2015. ©WildEarth Guardians

bankruptcy). These are often calculated as lump sum estimates of liability accrued over multiple years, and are thus described in this report but **are not** generally included in the figure of \$7 billion per year in subsidies to fossil fuel production on federal lands.

- ▶ **Loopholes in legislation and enforcement that allow public assets to be sold in un-competitive auctions,** resulting in windfall subsidies to bidders. These are generally presented as lump sum estimates. Due to the inability to accurately assess these losses, they **are not** included in the figure of \$7 billion per year in subsidies to fossil fuel production on federal lands.
- ▶ **Externalities result from fossil fuel production on federal lands – particularly environmental problems, such as climate change.** A number of assessments have shown that if companies had to pay the true costs of

climate pollution and air pollution, far less fossil fuel would be extracted from public lands. But the values are sensitive to different valuation methodologies, and though the level of implicit subsidy can be very high, these figures **are not** included in the figure of \$7 billion per year in subsidies to fossil fuel production on federal lands.

Each of these categories of subsidy and support undermines our ability to tackle climate change and encourage artificially high levels of fossil fuel production. Former President Obama acknowledged that when it came to energy resources, “[r]ather than subsidize the past, we should invest in the future.”³⁷ The Trump Administration is taking a different tack, and has made raising revenues from fossil fuel production on federal lands – particularly oil and gas – a pillar of its (albeit still vague) energy policy.³⁸

The administration has the authority to set virtually all terms of oil, gas, and coal leases on federal lands, including royalty rates, minimum bonus bids, oil valuation, and rent payments. The previous administration had initiated some reforms including, in January 2016, a halt and comprehensive review of the federal coal leasing program, in part to close loopholes undervaluing the hundreds of millions of tons of publicly-owned coal mined and sold by private companies each year.³⁹ The BLM rule on “Waste Prevention, Production Subject to Royalties, and Resource Conservation” to reduce gas arising and venting on public lands in November 2016, which for now has fended off attack in Congress, could potentially stop companies from releasing hundreds of millions of dollars-worth of gas into the atmosphere each year.⁴⁰ In addition, the Obama Administration proposed reducing some of the largest fossil fuel subsidies through tax changes in annual budget requests, which, unfortunately, Congress failed to act on year after year.

If Trump was serious about managing the nation’s energy resources for the benefit of American families and taxpayers – instead of the oil, gas, and coal industry – he would use his authority to remove subsidies for fossil fuels production on federal lands, which in 2014 totaled at least \$7 billion, though the actual number is likely much higher. These subsidies are described below, and summarized in Table 2.

ROYALTY, RENTAL, BID, AND FEE RATES

The federal government’s own Government Accountability Office (GAO) found that the U.S. has “one of the lowest percentages in government revenue from public oil and gas resource development in the world,” and that current regulations on federal lease terms

result in significant foregone revenue.⁴¹ Sometimes, governments will assess low royalty rates and taxes on fossil fuel production to compensate for high levels of risk resulting from an unstable political or financial climate. The United States has neither, which makes the low percentage of government revenue from public oil and gas development relative to other countries even more concerning. For example, the BLM set rates for ‘renting’ federal lands for oil and gas leases in 1987 to \$1.50 per acre, or a fraction thereof, for the first 5 years of the lease term and \$2 per acre, or fraction thereof, for any subsequent year.⁴² This rate has not been raised in 30 years – not even to reflect inflation.

GAO also found that the “complex valuation regulations [used by DOI for oil and gas royalty collection] can result in inaccurate royalty payments made by industry, and this could increase ONRR’s [Office of Natural Resource Revenue] costs to ensure accurate royalty payments because of the need for potentially detailed and time-consuming audits of records.”⁴³ This results in a lack of accountability for the fossil fuel industry in royalty reporting and payments and creates an opportunity for underpayment and noncompliance.

Offshore Oil and Gas

One of the most explicit subsidies in the federal leasing process is the exemption from royalty payments (‘royalty relief’). Most existing leases with royalty relief were issued from 1996 through 2000, based on provisions in the 1995 Deep Water Royalty Relief Act (DWRRA).⁴⁴ The Energy Policy Act of 2005 also included royalty relief provisions for leases issued from 2005 to 2010.⁴⁵ As of 2011 about 20% of oil and gas production in the OCS was exempt from royalties.⁴⁶

Companies also benefit from per acre rental rates for offshore areas being set artificially low and low levels of competition in the bidding process. BOEM claims that it only accepts high bids for productive tracts that meet or exceed fair market value, and that it has been meeting its target ratio of 1.8 to 1 for accepted high bids for offshore tracts to the government’s estimated value of those tracts.⁴⁷ However, lack of documented procedures within DOI to regularly evaluate the federal oil and gas fiscal system calls BOEM’s fair market valuation methods into question. GAO found that “the analyses the department conducted to support proposed changes to offshore lease terms were inconsistent in the array of conditions and factors the department considered, and the level of analysis conducted in support of decisions to change lease terms varied and was not consistently or clearly documented.”⁴⁸ GAO found that these inconsistencies could affect DOI’s ability to achieve a fair return.

Each lease sale also offers an excess of tracts for bidding, resulting in only limited competition in the process. In 2011, the former Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE) found that offering fewer tracts could greatly increase bids for individual tracts and, if properly implemented, could better reflect the true costs of production.⁴⁹

Offering huge swaths of OCS tracts in a single lease sale also facilitates corruption in the bidding process. On March 1, 2016, Aubrey McClendon, the former CEO of Chesapeake Energy, was charged with conspiracy for colluding with another company from December 2007 to March 2012 to predetermine which company would win leases, eliminating competition and lowering high bids.⁵⁰ The McClendon

Table 1. Standard Royalty Rates for Oil and Gas Production on State and Private Lands

Jurisdiction	Royalty Rate
California	≥16.67%
Colorado	16.67%
Montana	16.67%
New Mexico	16.67% for discovery leases, 18.75% for development leases
North Dakota	16.67% or 18.75% (varies by county)
Texas	20-25%
Utah	16.67%
Wyoming	16.67%
Private Lands	12.25-25% (varies by contract)

case related to onshore lease sales, but the same principle applies to offshore leasing processes: reform is necessary to ensure adequate pricing resulting from competition and effective oversight in the bidding process.

Finally, because rental payments and other administrative fees are insufficient to cover the costs of BOEM's fossil fuel operations, the federal government provides direct appropriations to allow continued management of offshore oil and gas resources.⁵¹

Onshore Resources

Under the previous administration, DOI was considering reforms that included raising the royalty rate for onshore oil, gas, and coal resources, which has been flat at 12.5% for decades. By comparison, Texas – one of the most fossil fuel-beholden states in the country – charges at its lower end a 20% royalty rate for oil and gas production on state lands. Holding the federal royalty rate at 12.5%, instead of at least reflecting the Texas standard 20%, constituted a \$3.2 billion handout to fossil fuel companies 2014.⁵² This number does not include the social costs of carbon – the public health, air quality, and climate impacts – of burning fossil fuels produced on federal lands.

In addition, fee collections are inadequate to cover resource management, permitting, and inspection operations.

In 2014, the DOI budget included \$90.5 million of federal funds for these activities on top of revenue from fee collection.⁵³

Onshore Oil and Gas Royalties

In contrast to some progress on reform of offshore royalty rates, the onshore oil and gas royalty rate has not increased from the 12.5% level since it was first set in 1920.⁵⁴ This is lower than the royalty rate charged by nearly all states as well as the average rate set in contracts for production on private land (Table 1).⁵⁵

The federal government also loses royalty revenue when oil and gas companies trespass and drill for federal resources without approval, violations that have been made easier and more frequent with the rise of horizontal drilling. The DOI's Office of the Inspector General estimates that in fiscal year 2014, unpaid royalties from unlawful drilling totaled \$530,000 in North Dakota alone.⁵⁶ The BLM has acknowledged that current penalties for trespass by companies are insufficient to deter the practice.⁵⁷

Efforts to reform onshore royalty rates and grant the Secretary of Interior discretion to modify onshore lease terms in a similar manner to its authority over the offshore system (eliminating the need for a complete rulemaking process each time) were being considered as early as 2009.⁵⁸ Some later reform efforts were also intended to increase penalties for

unlawful drilling.⁵⁹ The impact of a new administration on this reform process has yet to be seen.

Coal Royalties

The Powder River Basin (PRB), a mostly federally owned coal-producing region in Wyoming and Montana, accounts for 40% of U.S. coal production and benefits from significant leniency in lease and royalty rates. Despite its central role in the U.S. coal industry, the PRB had its official status as a 'Coal Production Region' annulled in 1990, greatly loosening the regulatory framework for coal leasing.⁶⁰ One result of the loosening of the framework is a lack of fully competitive bidding, which has perhaps had an even greater effect on PRB coal than on oil and gas. Of the 107 tracts leased since 1990, 96 had only one bidder, 10 had only two bidders, and only one had three bidders.⁶¹ For federal coal in particular, the Lease By Application process involves bids initiated by existing leaseholders on adjacent lands, allowing those leaseholders to initiate bidding processes that favor them and minimize competition.⁶² BLM has a record of accepting bids below fair market value without providing any rationale and failing to follow guidance for review of appraisal reports to determine the value of coal tracts. BLM has also failed to follow its own recommendation to provide public versions of these appraisal documents.⁶³

Royalty rates for federal coal leases are generally even lower than for oil and gas leases, at 12.5% for surface mines and 8% for underground mines.⁶⁴ By providing coal companies with cheap access to federal land and resources in the PRB, enabled by these highly favorable and opaque leasing processes, the federal government has lost almost \$30 billion in revenue over the past 30 years.⁶⁵ In addition to constituting a massive subsidy to coal producers, below-market costs have also resulted in undervalued coal coming out of the region, driving up coal demand in the United States and encouraging coal exports as the domestic market declines.⁶⁶

Importantly, work to assess the costs and benefits of Powder River Basin coal production has found that each short ton of coal produced results in a net cost to taxpayers of \$49 as a result of the social cost of carbon associated with the coal.⁶⁷ Multiplied by 363.3 million tons of coal produced in the Powder River Basin in 2015,⁶⁸ the social loss comes to a staggering \$17.8 billion, more than double

the federal royalties collected from all fossil fuels produced on federal lands and waters that same year.⁶⁹

Recently, the U.S. Department of the Interior released a final rule updating regulations on royalties for oil, gas, and coal produced on public lands. The final rule on Consolidated Federal Oil & Gas and Federal & Indian Coal Valuation Reform⁷⁰ closes certain loopholes that allowed for some of the worst abuses of the federal coal leasing program, demonstrating some progress. As of publication, the rule has survived attack by Congress, but Interior Secretary Ryan Zinke has frozen implementation.⁷¹

LIMITED LIABILITY FOR POLLUTION

The federal government further subsidizes offshore oil and gas production by limiting company liability for oil spill damages and well reclamation costs. Under the Oil Pollution Act of 1990, oil companies are responsible for all oil removal costs in the event of a spill, but there is a cap on their liability for actual damages.⁷² Following the

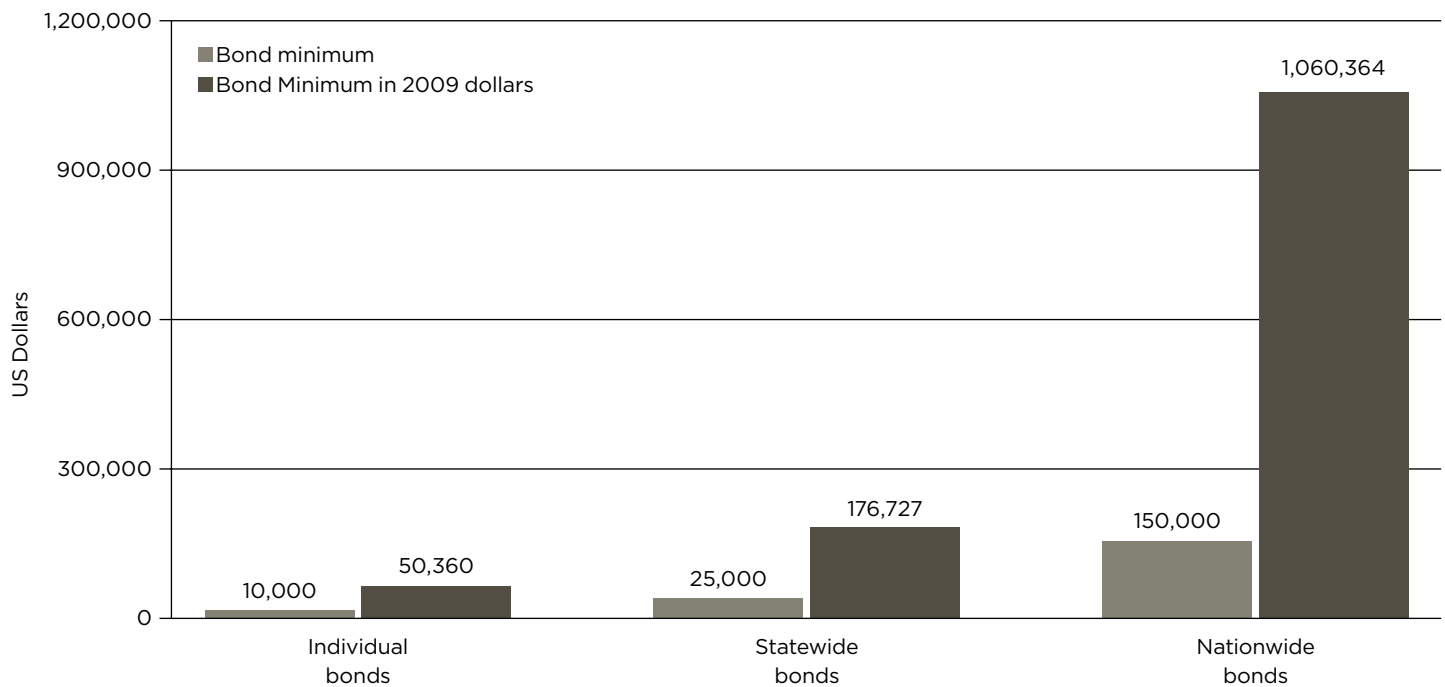
2010 BP Deepwater Horizon oil spill in the Gulf of Mexico, President Obama raised the liability limit for damages from \$75 million to \$134 million. Further increases beyond inflation adjustments will require Congressional action.⁷³

Currently, companies are only required to demonstrate that they can assume a maximum of \$150 million in cleanup costs, the financial responsibility required for cleanup of oil spills of over 105,000 barrels.⁷⁴ To put this in perspective, the 2010 Deepwater Horizon Oil Spill released nearly 5 million barrels of oil into the Gulf of Mexico, and BP has stated that its total costs for cleanup and damages from the spill totaled \$54.6 billion.⁷⁵ CEO Bob Dudley called the fallout from the spill a “near death experience” for BP, suggesting that the company nearly went bankrupt in the aftermath.⁷⁶ A smaller company facing a similar spill would likely go bankrupt, leaving taxpayers with an enormous cleanup bill. A Deloitte study recently found that 35% of oil and gas exploration and production companies are already at risk of bankruptcy, and reported that

The oil and gas development in this region is not discrete. Here, flaring at a well site near the Ouray National Wildlife Refuge, a chunk of federal land managed by the U.S. Fish and Wildlife Service for the protection of fish and wildlife. January 30, 2015. © WildEarth Guardians



Figure 1. Minimum Bond Rates Adjusted to 2009 Dollars



35 E&P companies in the U.S., with a total debt of \$18 billion, filed for bankruptcy in the 18 months from July 2014 to December 2015.⁷⁷

With shallow water oil and gas production on the decline, companies are drilling more complex wells in increasingly deep waters, similar to the conditions involved in the BP well blowout, leading experts to warn that disastrous spills could become more likely in the future despite some new regulations.⁷⁸ In July 2013, an accident very similar to the BP explosion occurred on a Walter Oil and Gas rig operated by Hercules Offshore – both crew error and emergency equipment failure led to a well blowout. The director of the Bureau of Safety and Environmental Enforcement (BSEE) for BOEM cautioned that, “this incident could easily have resulted in a more tragic outcome.”⁷⁹ Hercules Offshore has since filed for bankruptcy.⁸⁰ This incident is not the only close call. In 2014, BSEE reported 7 instances of loss of well control, 121 fires and explosions, and 26 gas release incidents in the OCS.⁸¹

COSTS FOR WELL AND MINE RECLAMATION

Fossil fuel companies are required to pay bonds that are intended to cover reclamation costs when oil and gas wells and coal mines are shut down. Companies can either pay a bond for a specific lease

or an area-wide bond for all leases held by the company in a specific area.⁸² One of the major financial risks that the federal government assumes is contingent liability for decommissioning costs in the event that leaseholders declare bankruptcy and reclamation costs exceed bond funds.

Taxpayers’ **contingent liability in the Gulf of Mexico alone is estimated to be as much as \$35.3 billion**, according to the US Department of the Interior.⁸³ BOEM acknowledges the risk problem, stating that “[s]ince the current bonding requirements were set nearly a quarter of a century ago, offshore operations have changed significantly, such as increased advancements in the scale and complexity of deepwater and subsea operations, and the costs of decommissioning have dramatically increased.”⁸⁴ In FY 2017, BOEM sought a \$4.1 million budget increase over the previous year, in part to fund a risk management program to address the federal government’s liability for offshore oil and gas operations.⁸⁵

The federal government is also faced with cleanup management for onshore oil and gas wells and coal mines, and additional funds far beyond bond resources have been necessary to meet costs. Onshore oil and gas operators can choose between minimum bond amounts of \$10,000

per well, \$25,000 for all leases in a single state, or \$150,000 for all leases within the U.S. These bond payments are often insufficient to cover the full cost of reclamation that the government bears when companies fail to fulfill well reclamation requirements. In fact, the minimum bond levels were last updated in 1960 and have not even been adjusted to reflect inflation. If bond levels had been tied to inflation, the minimum rates would be six to seven times greater than they are today (Figure 1).⁸⁶

Because companies are allowed to supply bonds for state or nationwide operations, the average bond coverage per well is actually much lower than the \$10,000 minimum for an individual well. As of December 2008, bonds covering 88,357 oil and gas wells on BLM-managed lands totaled \$162 million – an average of just over \$1,800 per well – well below the average well reclamation cost of \$12,788.⁸⁷

The federal government assumes even greater risk by allowing the practice of self-bonding, by which companies are able to issue a guarantee that they will satisfy reclamation requirements, even in cases of bankruptcy, without providing insurance or collateral to back up their claims. Self-bonding constitutes a subsidy because companies do not have to pay market rates to insure cleanup costs,⁸⁸ because

self-bonding is typically a book value, while the alternative would be to require companies to hold adequate resources in trust to cover at least a portion of reclamation liabilities.

In order to meet coal mine reclamation costs beyond those covered by bonds, the DOI's Office of Surface Mining Reclamation and Enforcement (OSMRE) has collected \$10.5 billion in mining fees and distributed over \$8 billion in grants through its Abandoned Mine Land Reclamation Program since 1977. Although the program has collected more in fees than it has distributed to date, OSMRE has identified more than \$4 billion in costs for remaining "high priority" abandoned coal sites, suggesting a shortfall of \$1.5 billion in current funds to address even the most urgent cleanup projects.⁸⁹

The administrative cost of the Abandoned Mine Reclamation Fund – effectively a subsidy because these costs are covered by federal coffers, not industry fees – totaled \$27.4 million in 2014. In addition, the 2014 OSMRE budget includes transfers from the U.S. Treasury to states and mineworker pensions to cover shortfalls in interest borne by the Abandoned Mine Reclamation funds, totaling \$131.9 million and \$112.9 million respectively,⁹⁰ for a combined total of \$272.2 million across the three subsidies.

The coal industry's recent decline creates a major risk that the federal government will have to assume mine reclamation costs beyond levels assured by bonds, and that companies will not be able to back up the value of their own self bonds. The U.S. coal industry currently holds almost \$100 billion in debt and liabilities, and market analysts assert that companies will not be able to service the majority of this debt.⁹¹ In just eight months between August 2015 and April 2016, three of the top four U.S. coal producers – Peabody Energy, Arch Coal, and Alpha Natural Resources – declared bankruptcy.⁹²

In July 2015, OSMRE opened an investigation into whether Peabody still met the criteria for self-bonding given its debt and losses.⁹³ Peabody declared bankruptcy before the self-bonds could be repealed, and struck a deal with five state regulators to create a \$200

million pool for cleanup claims – less than a fifth of its \$1 billion in self-bonding obligations – in the event Peabody does not emerge from bankruptcy.⁹⁴ The State of Indiana opposed the terms of the bankruptcy court's approval of Peabody's reorganization, along with several environmental groups, on the grounds that the deal failed to adequately address whether the company will be able to cover \$1 billion in future potential mine cleanup costs with third-party bonds.⁹⁵ Peabody eventually reached an agreement to arrange for \$1.26 billion in third-party bonds and \$14.5 million in a state bond pool in Indiana.⁹⁶

OSMRE initiated a rulemaking process to address some of these issues in 2016, intended to "strengthen regulations on self-bonding to help ensure that companies are financially able to restore lands disturbed by coal mining when extraction operations are completed."⁹⁷ One way for the Trump Administration to demonstrate a commitment to protecting the interests of American taxpayers would be to move this reform forward. OSMRE has also released a first-ever policy advisory, guiding state agencies and regulators to reassess and scrutinize self-bonding for coal mine reclamation.⁹⁸

INFRASTRUCTURE PROJECTS

Additional government support to oil, gas, and coal production comes in the form of taxpayer-funded infrastructure projects. For example, the federal government spends nearly \$600 million each year maintaining the nation's harbors and waterways to facilitate the transport of commodity freight. Petroleum and coal products (albeit from federal and private lands) make up nearly 60% of the freight traffic on these inland waterways, but companies do not pay adequate fees to cover the costs of using them.⁹⁹ In another example, substantial Coast Guard resources, including a vessel used to prevent cocaine smuggling and helicopters used in recreational search and rescue, had to be diverted to monitor Shell's drilling activities for environmental and safety breaches during its exploration for oil in Arctic waters.¹⁰⁰ Note that these subsidies are not quantified in this study, but they are important and manifest in many different – often hidden – forms.

GAS VENTING AND FLARING

Natural gas venting and flaring by operators on federal onshore and offshore land results in wasted federal gas resources and revenue, in addition to contributing direct greenhouse gas emissions. The EPA estimates that the amount of onshore vented and flared gas is 4.2% of total gas production from onshore federal leases, or about 149 billion cubic feet (bcf) in 2014.¹⁰¹ In November 2016, the Department of Interior finalized a Methane and Waste Prevention Rule to curb methane flaring, venting and leaks from onshore gas and oil production on public lands, including updating existing royalty provisions to more clearly define when a loss of gas is considered "unavoidable" and royalty-free, and when it should be considered "avoidable" and subject to royalties.¹⁰² However, the cases in which industry is allowed to release or flare gas for free include well drilling, completions, and tests; normal operations of pneumatic devices and storage vessels; liquids unloading; leaks; and equipment or pipeline maintenance requiring depressurization. More can be done to reduce methane emissions and collect royalties on wasted gas.

Gas venting and flaring in federal offshore Gulf of Mexico waters in the same year totaled over 16 billion cubic feet of gas.¹⁰³ Using an estimated natural gas price of \$5.21 per thousand cubic feet, this venting and flaring resulted in a loss of \$86.4 million worth of onshore and offshore federal gas resources,¹⁰⁴ which translates into a \$10.8 million government giveaway to oil and gas companies because no royalties were collected on this wasted gas.

SUMMARY OF SUBSIDIES FOR FOSSIL FUEL PRODUCTION ON FEDERAL LANDS

Table 2 provides a summary and valuation of the above-detailed subsidies, looking at annual subsidies for 2014 (most all of the subsidies listed are recurring, though their values may fluctuate year to year).

Table 2. Subsidies for Fossil Fuel Production on Federal Lands

Subsidy	Fossil Fuel	2014 Estimate (million USD)	Source
Royalty, Rental, Bid, and Fee Rates			
Offshore oil and gas			
Lost Royalties on Offshore Drilling (Outer Continental Shelf Deep Water Royalty Relief Act)*	Oil & Gas	2,120	Government Accountability Office
Onshore resources			
Below-Market Royalty Rates (onshore)*	Oil, Gas & Coal	3,192	Department of Interior
Unpaid royalties / Foregone Royalties from Unpermitted Drilling (BLM considering creating a bond to cover costs)	Oil, Gas & Coal	0.5	Bureau of Land Management, Department of Interior
Inadequate Permitting Fees		90.5	Department of Interior
Below-Market Lease Rental Rates (onshore rates have not increased since 1987)	Oil, Gas & Coal	N/Q	Bureau of Land Management
Coal royalties			
Powder River Basin Coal Lease Subsidy*	Coal	1,383	Institute for Energy Economics and Financial Analysis (Tom Sanzillo)
Costs for well and mine reclamation			
Self-Bonding and Inadequate Bonding - rates have not increased since 1960, do not reflect inflation	Oil, Gas & Coal	N/Q	Office of Surface Mining Reclamation and Enforcement
Administration of Abandoned Mine Land Grant Funds and U.S. Treasury contribution to cover shortfalls	Coal	272.2	Office of Surface Mining Reclamation and Enforcement
Contingent liabilities for remediation and reclamation in Gulf of Mexico		N/Q	Government Accountability Office
Tax Expenditure			
Indian Coal Credit	Coal	20	Joint Committee on Taxation
Lost royalties from exemptions for flaring (Gulf of Mexico only)*	Oil & Gas	\$10.8	Energy Information Administration
Infrastructure			
Publicly Funded Fossil Fuel Infrastructure on Public Lands	Oil, Gas & Coal	N/Q	
TOTAL		\$7089	

* The methodology for estimating items marked with an asterisk is explained in Appendix I

OPPORTUNITIES FOR SUBSIDY ELIMINATION

Today the U.S. government financially incentivizes the expansion of fossil fuels on federal lands and waters by handing over at least \$7 billion in subsidies to the oil, gas, and coal industry every year. This is on top of what probably amounts to tens of billions of dollars that taxpayers are already on the hook for in cleanup costs and other liabilities from fossil fuel production. The idea that opening up more public lands and waters for fossil fuel production will result in a financial windfall for government is wrong. The only windfall from federal fossil fuel production is enjoyed by oil, gas, and coal executives.

Before leaving office, the Obama Administration initiated several policy reforms at the agency level to reduce the burden of the oil, gas, and coal industry on taxpayers and curb the development of fossil fuel projects only viable because of government giveaways.

If the current administration were serious about eliminating waste and properly stewarding our shared national energy resources it would undertake the following actions:

- ▶ Reduce the large, unfunded liabilities that currently sit on the shoulders of American taxpayers, including the \$35.3 billion of contingent liabilities in the Gulf of Mexico, and the untold billions in costs to clean up abandoned coal mine sites not covered by fees collected to date.
- ▶ Given the environmental, public health, and financial costs of continued fossil fuel production, new oil, gas, and coal leasing should be halted on federal lands and waters.
- ▶ If leasing does move forward, royalty rates should be modernized as they have been stagnant at 12.5% for onshore production since 1920, as should lease rates, which haven't changed – not even to account for inflation – since 1987, to better reflect the costs of fossil fuel extraction on federal lands.

An administration that valued climate stability, public health, and resource protection could make progress in the following specific ways:

- ▶ Rulemaking regarding self-bonding for coal mine reclamation, being undertaken by the Office of Surface Mining Reclamation and Enforcement, and described earlier in this analysis, could minimize the burden of fossil fuel subsidies on the public.
- ▶ Reviving the BLM's Oil and Gas Leasing; Royalty on Production, Rental Payments, Minimum Acceptable Bids, Bonding Requirements, and Civil Penalty Assessments rule to update regulations for onshore oil and gas production on federal lands could help curb massive giveaways to the fossil fuel industry. For example, lease rates haven't changed – not even to account for inflation – since 1987.¹⁰⁵ As with the coal leasing program, the ultimate goal of any review of oil and gas leasing should be moving towards ending new oil and gas leasing, in line with keeping the vast majority of fossil fuels in the ground in order to achieve our climate objectives. Should the program continue, BLM should be urged to set significantly higher royalty rates, restrict leasing areas, ensure reasonable valuation for acceptable bonus bids, and set a timeline for transitioning to a ban on federal oil and gas development.
- ▶ Maintaining BLM's "Waste Prevention, Production Subject to Royalties, and Resource Conservation" rule to reduce gas flaring and venting on public lands.¹⁰⁶ Implementation of the rule was expected to reduce flaring by up to 49% and internalize some the cost of oil and gas production by assessing royalties on gas captured.¹⁰⁷
- ▶ Implementing BOEM's financial assurance program to reform bonding rules to reduce taxpayer risk for offshore oil and gas decommissioning costs would eliminate the waiver for supplemental bonds, reduce the maximum level of self-insurance from 50% to 10%, and ensure that lessees

can meet 100% of decommissioning liabilities.¹⁰⁸ Reforming bonding rules could help ensure that companies will cover their liabilities, including not only decommissioning costs but also any issues with nonpayment of rents and royalties and regulatory noncompliance, even in the case of bankruptcy.

- ▶ Instructing BOEM to implement a reform process, including a halt to issuing royalty relief provisions in new leases. Royalty relief is explicitly aimed at encouraging highly risky and even uneconomic exploration and development. Given the financial and climate risks, the federal government should no longer subsidize such investments. In the past, BOEM has also considered increasing royalty rates to as high as 35%.
- ▶ Establishing a permanent ban on coal leasing on federal lands given that a large portion of this leasing has been shown to have net-negative economic value. A permanent moratorium would also help combat climate change.
- ▶ Including a review of rental rates, fees, and the bidding system in a single reform package. Bidding reform should include not only minimum bid rates, but also a review of fair value determination methods, as well as a restriction of the total area offered in single lease sales. BOEMRE found that a slower pace of leasing increases competition, thereby increasing the maximum bid levels for individual tracts and possibly increasing revenue from the overall leasing system as well.¹⁰⁹

In addition to individual subsidy reforms, a broader overhaul of the management of federal oil and gas resources is warranted. GAO has repeatedly chastised DOI for allowing oil, gas, and coal companies' interests to supersede the public good as it relates to shared public energy resources.¹¹⁰ Sweeping reform measures are needed to simplify revenue collection from existing leases, eliminate subsidies and phase out new federal leases, and put an end to industry influence in decision-making over public resources.

CONCLUSION

This analysis identifies that the level of subsidy currently enjoyed by fossil fuel producers on public lands is significant compared to many unfunded or underfunded public priorities. For example, \$7 billion in subsidies to fossil fuel companies could instead nearly double support for mandatory computer science education programs for all public school students.¹¹¹ It could pay for fixing the lead-contaminated water system in Flint, MI, and still cover the cost necessary for researchers to accelerate the development of new cancer detection and treatments – more than six times over.¹¹²

The current Administration can take several measures to ensure U.S. taxpayers are not providing billions in wasteful subsidies to an industry imperiling our future and to protect taxpayers by minimizing unfunded liabilities from fossil fuel production on public lands and waters. These reforms would help cut government waste and reduce greenhouse gas emissions by removing incentives that enable fossil fuel production where it is not economically viable on its own.

Ultimately, the best way to end taxpayer giveaways to the fossil fuel industry and protect our shared public lands and waters, while also assessing the climate implications of current and proposed future development, would be to restart the programmatic environmental impact study for federal coal leasing and launch an integrated review for federal oil and gas production, with a view towards a just transition for workers and communities as fossil fuel production on federal lands is phased out.

*Although public lands owned by every American, the Bureau of Land Management has essentially handed over vast acreages to the oil and gas industry for drilling and fracking. January 30, 2015.
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APPENDIX I: METHODOLOGY FOR CALCULATING SELECTED SUBSIDIES FOR FOSSIL FUEL PRODUCTION ON FEDERAL LANDS

Methodology and approach to estimating subsidies in this analysis

This report uses an inventory approach to assess subsidies that benefit fossil fuels – oil, gas, and coal – produced on federal lands and waters. Inventories are a bottom-up method, where policies and measures that may impact a particular industry or sector are assessed, and those with a subsidy component are then included in a list of measures, with the amount of the subsidy estimated or calculated where available data allows. The approach is used by a number of international organizations, including the OECD, to assess government support measures for fossil fuel production and consumption.

The main drawback of the inventory approach is that it is dependent on the availability and transparency of data and information on policies – meaning that it may miss certain subsidies entirely and may undercount the value of the subsidies it does identify, as many subsidies cannot be quantified based on available data.

In defining subsidies, this report relies primarily on an internationally agreed definition established by the World Trade Organization (WTO) in its Agreement on Subsidies and Countervailing Measures, which considers subsidies to include any financial contribution by a government, or agent of a government, that is recipient-specific and confers a benefit on its recipients in comparison to other market participants.¹¹³

This includes direct transfer of funds (such as grants and concessional loans); potential transfers of funds or liabilities (such as loan guarantees or government assuming reclamation and cleanup liability); government revenue that is otherwise due is foregone or not collected (such as targeted tax credits), as well as government provision of goods or services, and an income or price support.

This definition of subsidies has been accepted by the U.S. Government as well as 153 member states of the WTO, and this analysis uses this definition as a basis for identifying subsidies to the production of coal, oil, and gas on U.S. federal lands and waters.

In addition to subsidies under the definition of the WTO, this report also assesses what additional revenue could be realized through changes to royalties for fossil fuels produced on federal lands and waters, based on prevailing royalty rates for fossil fuels produced on state and private lands in major fossil fuel producing U.S. states.

Explanation of methodology for calculating individual subsidies

Some of the subsidy figures reported in the inventory are taken directly from published sources. Where published estimates are not available, some are calculated using a set of assumptions to produce an estimate of the subsidy value. The assumptions used to estimate subsidy values are described below:

Lost royalties on offshore drilling for leases issued from 1996 through 2000 (Outer Continental Shelf Deep Water Royalty Relief Act)

This subsidy estimate (\$2,120 million) is taken from a figure developed by the Government Accountability Office (GAO).¹¹⁴ In 2008, GAO estimated that foregone revenues from the failure to include price thresholds that triggered royalty payments in leases issued from 1996 through 2000 could cost as much as \$53 billion in foregone revenue over the remaining 25-year lifetime of the wells. This analysis amortized the estimated \$53 billion over 25 years, yielding an annual figure of up to \$2,120 in foregone revenues from lost royalties. It is important to note that this estimate is based on a high oil price scenario of a \$100 average barrel of oil and an average natural gas price of \$8 per thousand cubic feet. If lower oil prices persist for a sustained period of time, the average annual subsidy amount may be considerably lower.

However, there are also elements of this estimate that are conservative. The majority of oil and gas produced under the leases in question would normally be subject to a 12.5% royalty rate. A minority of production, that occurring in shallow water of less than 400m depth, would normally be subject to a 16.7% royalty rate. As we are relying on a GAO estimate as the basis for our subsidy figure, we did not adjust our estimate of foregone royalties to account for a potential increase in royalty rates to 20%, as we did for the remaining royalty revenues in one of our other subsidy estimates. If we did include this increase, the value of this subsidy could be significantly higher.

Below-Market Royalty Rates

To assess the gap between current and potential rates of royalty for *onshore* fossil fuel production on federal lands, this figure represents a conservative estimate of additional revenue that would be realized if federal royalties were on par with the lower end of those charged by the State of Texas – a major fossil fuel-producing state – for fossil fuels produced on state land (20%, instead of the 12.5% rate currently charged federally, a rate dating back to the 1920 Mineral Leasing Act). The maximum rate of royalty levied by Texas for production on state lands – 25% – applies only to oil and gas leases on school and university properties. While fossil fuel resources are a natural endowment and royalty rates of 25% or higher may be appropriate to ensure a fair return to resource owners, we assumed an escalation to only 20% – the more standard rate for oil and gas leases on other state lands in Texas – to provide a more conservative estimate.

The estimate of the value of foregone royalties (\$3,192 million)¹¹⁵ is likely conservative, as this analysis simply considered the current rate of royalty payments reported by the Department of the Interior, and multiplied the amount by a ratio of the increase represented by an escalation of royalties from 12.5% to 20%. This would not capture situations where leases are currently exempted from paying royalties, or where appropriate levels of royalties are

not levied as a result of other issues (for example, transfer pricing in the case of coal production).

Powder River Basin Coal Lease Subsidy

This figure (\$1,383 million) is derived from a 2012 IEEFA report,¹¹⁶ with some adjustments. The report estimates \$28.9 billion in foregone revenues over 30 years. Considered annually, this figure would be approximately \$963 million. While this analysis is backward-looking, not forward-looking, it represents the best available estimate of total subsidy accruing to coal produced in the Powder River Basin.

\$700 million of the \$963 million annual subsidy estimate in the IEEFA report is a calculation based on assessing a portion of coal sale values, currently paying no royalties, at the established royalty rate of 12.5%. The remainder – \$263 million – are other types of subsidy that benefit Powder River Basin coal production, for example underpaid rental rates and bid fees, which we have not modified from the IEEFA report.

Assuming a 20% royalty rate, as we have in this analysis, instead of a 12.5% rate, yields \$1,120 million instead of \$700 million. Adding the \$263 million to the \$1,120 million figure results in the final total value of \$1,383 million included in this analysis.

Flaring on Public Lands

As described under the report heading on “Gas venting and flaring,” the EIA estimates that in 2014, venting and flaring in federal offshore Gulf of Mexico waters totaled over 16 billion cubic feet of gas.¹¹⁷ Using EIA figures to estimate an average natural gas price of \$5.21 per thousand cubic feet,¹¹⁸ this venting and flaring resulted in a loss of \$86.4 million worth of onshore and offshore federal gas resources.

APPENDIX II: TYPES OF BONDS FOR COAL MINE RECLAMATION

There are three major types of bonds that coal mining companies use to meet bond coverage requirements that are meant to ensure that mine reclamation costs will be covered if the mining company fails to adequately meet the reclamation requirements, or if the company goes bankrupt.

- Surety bond – companies provide bonds through surety (insurance) companies to ensure that: (a.) the permit-holder will complete reclamation of the mine site, (b.) the surety company will complete the mine reclamation, or (c.) the surety company will pay the bond amount to OSMRE to cover reclamation costs;
- Collateral bond – companies provide collateral to guarantee collateral costs, including “cash; certificates of deposit; liens on real estate; letters of credit; federal, state, or municipal bonds; and investment-grade securities deposited directly with the regulatory authority;”
- Self bond – companies with net worth of at least \$10 million and fixed assets within the U.S. of at least \$20 million with a bond rating of “A” can guarantee that it will satisfy mine reclamation requirements without a separate surety or collateral to cover the failure to do so.¹⁹

APPENDIX III: PAYMENT TO FEDERAL GOVERNMENT FOR OCS DEVELOPMENT

Water Depth (m)	Annual Rent for First Five Years (\$/acre)	Minimum Bid (\$/acre)	Royalty Rate
0-200	7.00	25.00	18.75%
200-400	11.00	25.00	18.75%
400-800	11.00	100.00	18.75%
800-1,600	11.00	100.00	18.75%
1,600-2,000	11.00	100.00	18.75%
>2,000	11.00	100.00	18.75%

Source: GAO 2013. Oil and Gas Resources: Actions Needed for Interior to Better Ensure a Fair Return. <http://www.gao.gov/assets/660/659515.pdf>

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