

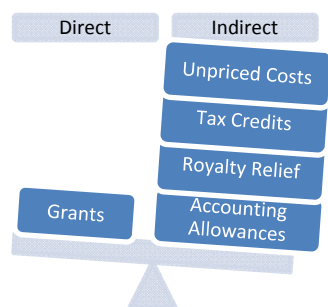
Issue Brief

Fossil Fuel Subsidies: A Closer Look at Tax Breaks, Special Accounting, and Societal Costs

June 2011

EXECUTIVE SUMMARY

Government intervention in energy markets has a long history. Policies in a number of forms promote or subsidize the production of energy, though consensus on the suitability, scale and effectiveness of these policies is rare. Direct subsidies, in this context, refer to spending on research and development and other programs. They receive a great deal of scrutiny and are often subject to annual appropriations or active review. Indirect subsidies refer to foregone government revenue, or tax expenditures. Their scale outnumbers that of their direct subsidy counterparts by three to one, and can remain in effect indefinitely, without re-examination.¹



Numerous energy subsidies exist in the U.S. tax code and have been there for up to a century. In certain cases the circumstances relevant at the time of implementation may no longer exist. Today, for example, the domestic fossil fuel industries (coal, oil, natural gas) are mature and highly profitable, and numerous other energy resources that do not create the negative health and environmental effects associated with the extraction and burning of fossil fuels are available. One example is the far-reaching negative effects

that mining and burning coal will have on air and water quality across the United States. There is a risk that indirect subsidies like tax breaks or favorable accounting treatments, once implemented, do not react to changes in circumstances and, therefore, persist far longer than appropriate or necessary. As such, insufficient attention to indirect subsidies should be even more concerning to the public. This concern is heightened by the scale of the issue. **The indirect subsidies examined in this paper alone most likely will amount to nearly \$50 billion over the next decade, and represent just a select number of subsidies offered to the fossil fuel industry.** In fact, the National Academy of Sciences indicates the cost of externalities of fossil fuel usage may be greater than \$1 trillion over a ten-year period, in addition to any climate-related costs, which are not included in the scope of this paper.

In recent years, major international institutions such as the G20,² International Energy Agency,³ and the Organization of Economic Cooperation and Development (OECD)⁴ have called for the phase-out of fossil fuel subsidies. Given the ever increasing policymaker focus on the widening federal deficit, energy security, and the dangers associated with climate change, it is useful to re-examine the array of indirect federal subsidies available to fossil fuels. Policymakers should determine whether their existence is still justified at this time, what the impacts of such subsidies are, and whether Congress should consider repealing or modifying these subsidies. But if a given subsidy is justified as an essential part of the government's role in the energy markets, it should be consistent with an overarching, coordinated, and well-organized energy policy. Otherwise, those federal funds (which are significant) could skew the market.

INTRODUCTION

The federal government provides numerous subsidies (both direct and indirect) to the fossil fuel industry. In certain cases, quantifying these subsidies is fairly simple. Appropriations and grants, for example, tend to have assigned monetary amounts. In other cases, establishing an amount associated with these subsidies is more challenging. It often can be difficult to reach consensus on whether a policy is truly a subsidy, and if so, whether the policy specifically and intentionally supports the fossil fuel industries.

This fact sheet examines a select array of indirect fossil fuel subsidies, and is not comprehensive of the full spectrum.⁵ It provides some background of each policy, an estimate of the amount of money in question in recent years, and the nature of prerequisite information necessary to determine its continued validity today. Specifically, this brief considers examples of indirect subsidies in the following categories:

- **Directed Tax Subsidies:** *Special provisions in the U.S. tax code specifically to support and reward domestic fossil fuel-related production*
- **Other Tax Benefits:** *Special provisions in the U.S. tax code that were extended to domestic fossil fuel-related production*
- **Abnormal Accounting:** *Special accounting treatments that are applied to reduce the tax burden on fossil fuel-related production*
- **Royalty Relief:** *Special dispensation given to fossil fuel-related production to use taxpayer-owned land at sub-market rates*
- **Societal Costs:** *Areas where a negative externality to fossil fuel-related production is recognized, and a policy has been implemented to reflect this, but the policy collects a revenue stream insufficient to fully account for the externality. Other societal costs exist in areas where a negative externality to fossil fuel-related production is recognized, but no policy has yet been implemented to account for the externality.*

DIRECTED TAX SUBSIDIES

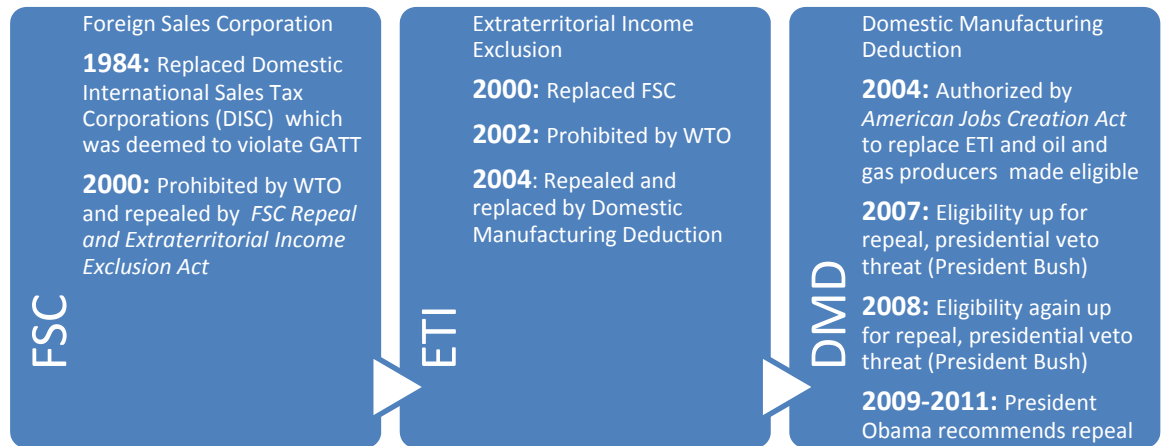
A number of tax breaks provided to the fossil fuel industry are used as a means of encouraging domestic energy production. Here is an example that specifically supports the U.S. coal industry; this subsidy is long-standing and has a sizeable impact on government expenditures.

The **Capital Gains Treatment of Royalties on Coal Credit**, introduced in §177(j) and §117(k) of the *Revenue Act of 1951* (P.L. 82-183), allows owners of coal mining rights to reclassify income traditionally subject to the income tax as having been received under royalty contracts, thereby allowing owners to pay a reduced tax rate. In 1950 and 1951, Congress increased a number of taxes to pay for the United States' entry into the Korean War, despite high World War II tax rates still largely in effect at that time. With prevailing 1951 marginal income tax rates ranging up to a high of 91 percent (depending on the income band) and capital gains tax rates at 25 percent regardless of income, the reclassification was primarily adopted to insulate certain owners of coal mining rights from high marginal income tax rates, reducing the tax burden associated with production of coal, thus encouraging additional production. It reflected a similar tax treatment for lumber, and provided a mining incentive for owners who might not receive significant advantage from "percentage depletion" (discussed later). Since then, both income and capital gains tax rates for individuals have fallen, and the capital gains tax rate for individual owners currently stands at 15 percent. However, the credit is still available to members of the coal industry and was projected to be worth \$170 million in FY 2009, having totaled \$1 billion in tax expenditures over the period 2002-2008.^{6,7}

OTHER TAX BENEFITS

The **Domestic Manufacturing Deduction** (IRC §199), authorized by the *American Jobs Creation Act of 2004* (P.L. 108–357), supports a range of companies by decreasing their effective corporate tax rate. Despite its roots in supporting the international competitiveness of the manufacturing sector, producers of oil and gas also were made eligible under IRC §199. For the oil and gas sectors alone, this provision is expected to cost \$13.2 billion over the period 2010-2019.⁸ Previously, U.S. manufacturing exporters were eligible for the extraterritorial income exclusion (ETI), a tax break applied to aid exports with 50 percent U.S. manufactured content. However, these features caused the regime to resemble a prohibited export tax subsidy. In 2002, the World Trade Organization (WTO) ruled that the ETI violated international trade laws, and in late 2004, it was repealed after the European Union (EU), with the support of the WTO, applied sanctions in the form of countervailing duties.⁹ The Domestic Manufacturing Deduction was authorized to compensate for this repeal.

History of export-related benefits for manufacturing and eligibility of oil and gas producers^{8,10}



The extension of this provision to the oil and gas industry has already been up for repeal a number of times, but has yet to be removed from the federal tax code. Support for these tax breaks from President George W. Bush and a number of members of the 110th Congress ensured that any proposed repeals were not considered in legislation.^{10,11} The Obama administration has recommended repeal of this provision in its FY 2012 budget request.¹²

ABNORMAL ACCOUNTING

Certain accounting methods available to companies in the oil and gas industry reduce an eligible party's tax burden, creating what are generally viewed as indirect subsidies to this industry. This section does not examine the structure of these rules, but does provide explanations when possible in the footnotes.

Depletion, like depreciation, is a method of recovering capital costs on an investment. Percentage depletion, a technique available to independent oil and gas producers and royalty owners (and some other mineral extraction companies), allows a predefined percentage deduction of the gross income from the site, irrespective of the actual costs incurred. Generally speaking, the percentage depletion rates available to oil and gas producers in relevant legislation are higher than the actual costs, so electing to take percentage depletion has the effect of reducing one's tax burden.

In 1913, a tax deduction recognizing that mineral deposits were depleted over the productive life of a natural resource site allowed a reasonable tax deduction (not to exceed five percent of the value of the deposit) to the producer of any mineral. In 1918, following World War I, the discovery value depletion method was authorized allowing deductions to oil and natural gas properties far in excess of the value of the deposit.¹³ This action was the precursor to **percentage depletion**; in 1926, percentage depletion (IRC §613) replaced discovery value depletion, under the *1926 Revenue Act* (P.L. 69-20), which allowed a 27.5 percent flat rate deduction of income from 1926 to 1969.

Ultimately, benefits to producers from the percentage depletion were considered so substantial that by 1975, major integrated oil and natural gas companies were excluded.[†] Most recently, however, the *Energy Policy Act of 2005* (P.L. 109-58, EPACT) actually broadened the range of eligible companies. While minor modifications to applicable rates for remaining companies have occurred over time, roughly two-thirds of domestic oil production in 2006 came from independent producers potentially eligible to take percentage depletion.¹⁴ **This subsidy is estimated to have totaled \$5.4 billion over the period 2002-2008, and is projected to cost \$670 million in FY 2012 and over \$11 billion over the next decade.**¹⁵

Oil and gas companies are also allowed to **accelerate amortization** schedules for other types of costs. This accounting method shortens the period over which up front capital costs are apportioned, increasing the amount deducted in each year. This reduces recorded taxable profits in the early years of a project and, in turn, decreases the tax burden payable in these years without actually affecting the company's incoming cash flow. Exploration and development costs are a good example of these abnormalities, and the treatments of intangible drilling costs (IDCs) and geological and geophysical costs (G&Gs) provide two good studies. Typical accounting policies would capitalize such costs and write them off slowly over the economic life of the asset in question—in this case, the well.

But costs associated with the drilling of new oil or natural gas investments (IDCs) can be wholly expensed in the first year by most oil and gas companies, and 70 percent expensed by major integrated firms, at their option. Found in IRC §59, §263, and §291, this option was enacted by law in 1954, though based on regulations issued in 1916, and remains one of the longest standing tax benefits to the oil and gas industry. **It is estimated to cost \$1.9 billion in FY 2012, and \$12.4 billion over the next decade.**¹⁶

Geological and geophysical costs include expenditures for geologists, seismic surveys, gravity meter surveys, magnetic surveys, and other capital costs needed for obtaining and accumulating data that serve as the basis for an investment decision. Prior to 2005, these costs for productive wells were written off over the life of the well. New subsidies, enacted in §1329 of EPACT 2005, reduced the amortization period to two years. For major integrated petroleum companies, the *Tax Increase Prevention and Reconciliation Act of 2005* (P.L. 109-222) partially scaled back the subsidies, lengthening the amortization period to five years and, in 2007, the *Energy Independence and Security Act* (P.L. 110-140, EISA) further lengthened the period to seven years. Other companies retain the full subsidy, however, and **this tax expenditure was estimated to cost \$59 million in FY 2012 and \$1.1 billion over the next decade.**¹⁷

ROYALTY RELIEF

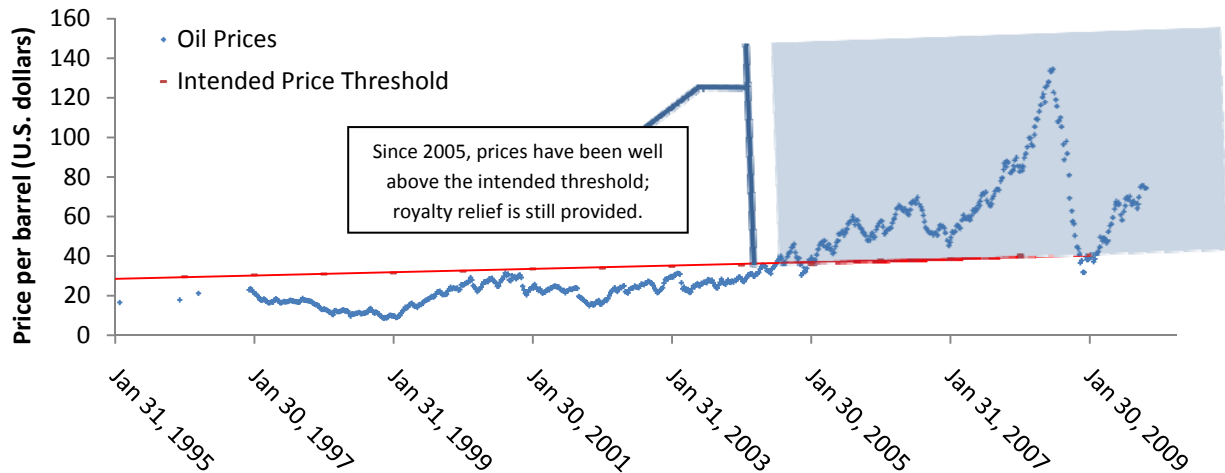
The federal government leases taxpayer-owned lands and the rights to develop the natural resources therein to interested parties. In the event that sites are productive, royalty payments are due from the developer to the federal government. Here, one piece of legislation that provides heavy subsidies to offshore deep water development in the form of royalty relief is given further review.

From 1991-1995, following the end of the Persian Gulf War, oil prices hovered around near-historic lows of \$20 per barrel—significantly below the average price of \$101.63 per barrel in 2011—and far below the peak level of \$140-147 seen in the summer of 2008.¹⁸ As a result, Congress passed the *Deepwater Royalty Relief Act of 1995* (P.L. 104-58, DWRRRA), waiving or reducing the amount of royalties (on leases issued between 1995 and 2000) that companies would otherwise be obligated to pay, consequently supporting the production of oil and gas in a low price environment. In authorizing such legislation, Congress intended for royalty relief to apply only during times of low oil and natural gas prices. To reflect this, in implementing the act, the Department of the Interior's Minerals Management Service (MMS)[‡] set price thresholds above which royalty relief would not apply for leases sold in 1996, 1997 and 2000. However, MMS

[†] *The integrated oil and gas sector is composed of companies engaged in the exploration and production of oil and gas, as well as at least one other significant activity in oil refining, marketing and transportation, or in the chemicals industry. Major integrated firms are the largest such firms.*

[‡] *In 2010, the MMS was renamed the Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE).*

failed to set price thresholds for leases issued in 1998 and 1999, which given the dramatic rise in oil prices since, has resulted in significant unintended subsidies. Furthermore, in 2006, the oil and gas company Kerr-McGee challenged the legality of the MMS's authority to include price thresholds on 1996, 1997 and 2000 leases. In October 2007, the U.S. District Court for the Western District of Louisiana ruled in favor of Kerr-McGee, and although the Department of Justice appealed this decision, the Court of Appeals for the Fifth Circuit affirmed this ruling in January 2009.¹⁹



Oil prices and intended price thresholds for royalty relief, Source: EIA, MMS

The subsidy created by the failure to set legally binding price thresholds for profitable, high oil and gas price environments is extremely large, although the exact size is sensitive to production volumes and commodity prices. The subsidy associated with the 1998 and 1999 leases is estimated at \$1 billion to date, with future costs up to \$14.7 billion.^{20,21} As a result of the challenge on the authority of MMS in implementing existing legislation, **a further \$1.13 billion may have to be refunded to lessees, and additional losses of up to \$53 billion over the lifetime of the leases can be expected.**²²

Against this backdrop, it is worth noting that several additional industry-wide offshore royalty relief measures were offered under EPACT 2005.²³ Relief is also offered on a lease-specific basis. **Over the period 2002-2008, the aggregated subsidy associated with foregone revenue from offshore lands alone was estimated at approximately \$7 billion.**²⁴

A 2007 report by the Government Accountability Office (GAO) found “the U.S. federal government receives one of the lowest government takes among the jurisdictions evaluated,” consolidating a long-standing position.

One of the first expanded, or comprehensive, studies was completed by Van Meurs Corporation in 1994 for the World Bank. That study showed that the [U.S.] government take from federal onshore lands, Gulf of Mexico deepwater, and Gulf of Mexico shallow, ranked lower than 194, 191, and 180 [respectively] out of 226 fiscal systems in 144 countries, territories, and joint development zones analyzed.

- GAO, 2007, www.gao.gov/new.items/d07676r.pdf

SOCIETAL COSTS: RECOGNIZED AND UNRECOGNIZED

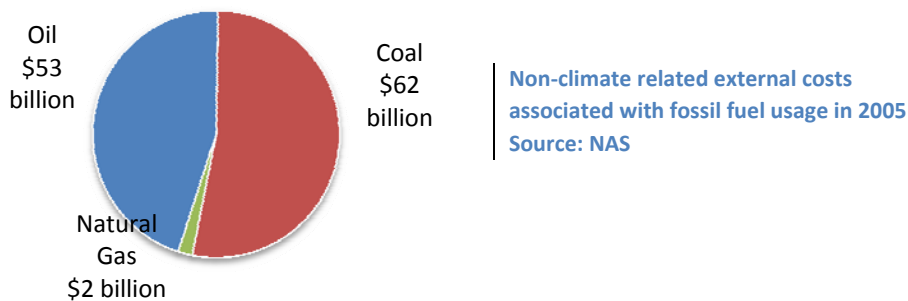
The benefits and costs to society of any good should be reflected in its price. However, certain societal effects associated with the production, distribution or consumption of energy are not priced in free markets. In a select number of cases, governments have identified these costs and tried to reflect them via financial intervention. The exact size of these costs is often difficult to foresee, and so where the intervention has been insufficient, there may still remain a subsidy. One such example is the establishment of a trust fund to treat coal miners who suffered health impacts from mining.

The unhealthy conditions in coal mines can trigger the development of *neumoconiosis* or “black lung disease,” which is caused by inhaling coal dust and leads to respiratory impairment and often death. In 1977, Congress recognized this externality of coal mining and enacted the *Black Lung Benefits Revenue Act of 1977* (P.L. 95-227) which imposed the Black Lung Excise Tax (BLET) on the coal mining industry. The tax revenue was intended to support a trust fund set up to pay coal miners’ related medical costs. However, the trust fund has been in deficit every year since its inception in 1978,²⁵ as the tax imposed was insufficiently sized to cover its intended purpose. Moreover, FY 2009 appropriations included \$6.5 billion for a one-time intergovernmental transfer to pay some of this debt, authorized through the *Emergency Economic Stabilization Act of 2008* (P.L. 110-343).²⁶ This is but one example of a social cost or externality and the scale of monetary cost to taxpayers.

Unrecognized Societal Costs

Most often, where markets fail to reflect the true cost of a product to society, governmental intervention to motivate such recognition in the form of regulations, taxes, subsidies or other instruments does not exist at all. Often, this is because of the technical complexity in quantifying the links between societal costs and underlying goods, rather than doubting that the link exists.

In EPACT 2005, Congress requested the National Academy of Sciences (NAS) to examine additional unpriced costs of energy production. In quantifying externalities, NAS tried to monetize these effects on human health, grain crop and timber yields, and building materials, among other criteria. Premature mortality and other health costs were considered to constitute the vast majority of the damages. NAS reported that for 2005 alone, the external costs of sulfur dioxide (SO₂), nitrous oxides (NO_x), and particulate matter (PM) associated with coal electricity generation totaled \$62 billion in the United States. The NAS study also reported that similar pollutants associated with combustion of natural gas for power and heat cost society \$2.2 billion. Fuels for the transportation sector, predominantly oil-based, cost \$53 billion.²⁷



The aggregate non-climate costs listed here total \$117 billion. NAS does express caution over the accuracy of the figures, but emphasizes that these numbers have been calculated conservatively:

There is little doubt that this aggregate total substantially underestimates the damages, because it does not include many other kinds of damages that could not be quantified for reasons explained in the report, such as damages related to some pollutants, climate change, ecosystems, infrastructure and security.

- “Hidden Costs of Energy: Unpriced Consequences of Energy Production and Use”
National Academy of Sciences, 2009

The externalities associated with fossil fuel production can be far-reaching, unforeseen, and exceptionally difficult to quantify. This is particularly the case when attempting to measure the impacts of fossil fuels on climate change. There is widespread consensus among scientists that most of the recent rise in average global temperature is the result of burning fossil fuels, namely coal, oil and natural gas.²⁸ To address the societal and environmental impacts faced by the United States, the U.S. Global Research Program issued a report in June 2009, “Global Climate Change Impacts in the United States,” compiling years of scientific research from 13 federal agencies and several major universities and research institutes. The report addressed the impacts the United States has already observed from climate change, as

well as future consequences. Among the many far-reaching effects, the report found that climate change will stress water resources, challenge crop and livestock production, place coastal areas at increasing risk, increase the threat to human health, and interact with other stressors such as pollution and population growth to create larger impacts than from any of these factors alone.²⁹

The difficulties in assessing the economic impacts of climate damages, particularly for a single year alone, means this brief is not able to report a figure – however, such damages do exist. A 2011 study led by researchers at the Harvard Medical School on the life-cycle analysis (which examines all stages of using a resource) of externalities just from Appalachian coal, estimated the climate damages to be \$21.3-215.9 billion.³⁰

CONCLUSION

The examples provided herein are illustrative of the range and forms of subsidies that exist for the fossil fuel industry. In many cases, they were originally enacted to promote investment. In some cases, like royalty relief or the Black Lung Trust Fund, they exist where original legislative intentions have not been achieved. In all cases, it is valuable to re-examine their relevance and necessity today, especially in light of the federal deficit.

Over the past century, the fossil fuel industry has matured, and incentives for development may no longer be justified. A range of new energy technologies has emerged over the past century, making viable a multitude of new energy resources. These provide valuable options for the future of U.S. energy production. Furthermore, scientific advances over the past century have informed us on the variety of ways our incumbent methods of energy production and consumption affect human health, our environment overall, and its many ecosystems. Such information should influence governmental policy, including how and what subsidies are incurred.

The problem with a number of indirect subsidies is they are not periodically re-examined, making it very difficult for the ever changing political, economic, scientific and environmental circumstances to feed in to the decisionmaking process with highly relevant information. To avoid conflicts or inefficiencies in a coordinated energy policy, the full range of subsidies must be recognized, identified, and their justification debated. Without this process, it is impossible to ensure that taxpayer money is well spent.

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- ¹⁷ OMB. 2012
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