

SUBSIDIZING UNBURNABLE CARBON: TAXPAYER SUPPORT FOR FOSSIL FUEL EXPLORATION IN G7 NATIONS

AUGUST 2014



Researched and written by Shakuntala Makhijani.

This report was greatly improved by input from: Elizabeth Bast, Jacqueline Cottrell, Aldo Ravazzi Douvan, Nick Hildyard, Karyn Keenan, Stephen Kretzmann, Heike Mainhardt, Doug Norlen, Sam Pickard, Lucie Pinson, David Powell, Regine Richter, Ronald Steenblik, Yuki Tanabe, Antonio Tricarico, Knud Vöcking and Shelagh Whitley. The final content is the sole responsibility of Oil Change International.

Published by Oil Change International, Washington DC, USA August 2014

For more information on fossil fuel subsidies please visit:

www.priceofoil.org/fossil-fuel-subsidies/

and

www.shiftthesubsidies.org

Design: paul@hellopaul.com

Cover image: ©AP, Shell oil exploration drilling in the Alaskan Arctic

CONTENTS

Glossary	3
Executive Summary	4
Broken Promises for Subsidy Removal	6
Unburnable Carbon	8
Defining and Assessing Exploration Subsidies	10
Summary of Findings	14
Country Summaries	18
Canada	20
France	24
Germany	27
Italy	30
Japan	32
United Kingdom	37
United States	42
Conclusion	46

GLOSSARY

Exploration subsidies. Fossil fuel subsidies that promote the expansion of fossil fuel reserves, including the discovery of new resources. In this report, exploration subsidies refer to national subsidies and public finance specifically aimed at fossil fuel exploration activities, as well as support for extraction that is likely to include an exploration component.

Fossil fuel exploration. Activities by both public and private actors aimed at expanding the amount of oil, gas, and coal resources. In this report, exploration in the oil and gas sector refers to activities to expand proven reserves. For the coal sector, exploration activities also include development of coal deposits (i.e., greenfield coal mine development) and expansions of existing mines.

Fossil fuel subsidies. Broadly speaking, any government action that lowers the cost of production, lowers the cost of consumption, or raises the price received by producers. Types of fossil fuel subsidies include financial contributions or support from the government or private bodies funded by governments, including direct transfers of funds, transfer of risk such as loan guarantees, foregone revenue including through tax breaks, and provision of goods and services aside from general infrastructure.

National subsidies. In this report, 'national subsidies' refer to national-level fossil fuel exploration subsidies, such as tax breaks to companies and direct spending by government agencies on exploration activities.

Public finance. In this report, 'public finance' refers to the overall amount of financing provided in favorable financing arrangements for fossil fuel exploration and the expansion of extraction (including equity investments, low-interest loans, and loan guarantees) through institutions such as national development banks, export credit agencies, and aid agencies. For example, government loans provide a subsidy in the difference between the lower interest rates provided by the government and rates available through commercial financing. For guarantees, the subsidy comes from the risk of default by the loan recipient taken on by the government.

Because the share of overall financing that constitutes a subsidy depends on the terms of the arrangement, and this information is not transparent in many of the government institutions assessed in this report, the financing details necessary to calculate the subsidy amounts were not available. This report therefore provides the overall government financing for fossil fuel exploration separately from the national subsidy estimates.

Unburnable carbon. Fossil fuel reserves that cannot be burned in a climate-safe world. According to the Intergovernmental Panel on Climate Change (IPCC) and the International Energy Agency (IEA), the world already has significantly more carbon locked in proven fossil fuel reserves than it can afford to burn. In order to meet the internationally agreed goal of limiting global average temperature increase to at most 2 degrees Celsius, at least two-thirds of already existing, proven reserves of fossil fuels need to be left in the ground.

4 EXECUTIVE SUMMARY

In June 2014, G7 leaders reaffirmed their commitment to combating climate change and ending inefficient subsidies for oil, gas, and coal – the latest in a string of commitments from world leaders to reform fossil fuel subsidies, beginning at the 2009 G20 Summit. The G7 leaders' declaration included the following statements:

We therefore remain committed to low-carbon economies with a view to doing our part to limit effectively the increase in global temperature below 2°C above pre-industrial levels.

and:

We remain committed to the elimination of inefficient fossil fuel subsidies and continued discussions in the OECD on how export credits can contribute to our common goal to address climate change.¹

However, the **continued public funding of fossil fuel industry expansion** by G7 countries, as demonstrated by the fossil fuel exploration subsidies highlighted in this report, suggests these commitments are not being taken very seriously.

All fossil fuel subsidies support oil, gas, and coal at the expense of cleaner forms of energy, but exploration subsidies that benefit the finding and quantifying of new fossil fuel reserves are especially destructive and counter-productive. Given that the world cannot use the large majority of known fossil fuels and maintain a stable climate, it is highly inefficient for governments to continue subsidizing exploration to find and develop new fossil fuel resources. In a carbon-constrained world, these subsidies should be the immediate priority for removal.

This survey of **fossil fuel exploration subsidies** finds that the G7 continues to spend at least \$8 billion annually on 'national subsidies' for the expansion of oil, gas, and coal reserves through direct subsidies (e.g. tax deductions and R&D spending) and more than an additional \$10 billion annually on 'public financing' (loans, guarantees, equity investments, etc.) from government banks and institutions. These amounts include the public money that goes toward measures and projects specifically aimed at fossil fuel exploration activities, as well as subsidies and financing for extraction that are likely to include an exploration component.²

Alberta tar sands ©Howl Arts Collective



¹ The Brussels G7 Summit Declaration, June 5, 2014, https://www.consilium.europa.eu/uedocs/cms_Data/docs/pressdata/en/ec/143078.pdf

² This report focuses on national subsidies and public finance that incentivize fossil fuel exploration. Many subsidies (such as tax deductions for oil and gas drilling costs) benefit exploration activities as well as development. Box 1 provides a more detailed discussion of transparency issues and the methodology used in this report.

According to the Intergovernmental Panel on Climate Change (IPCC) and the International Energy Agency (IEA), the world already has significantly more carbon locked in proven fossil fuel reserves than it can afford to burn. In order to meet the internationally agreed goal of limiting global average temperature increase to at most 2 degrees Celsius, at least two-thirds of already existing, proven reserves of fossil fuels need to be left in the ground. Reserves that cannot be burned in a climate-safe world have been termed “unburnable carbon.” **If we accept the science that the world has significantly more fossil fuel reserves than it can afford to burn, it then follows that it makes no sense to use public funds to incentivize prospecting for more unburnable carbon.**

This report focuses on exploration subsidies because they are so clearly wasteful and inefficient from a climate perspective. Our key findings are:

☒ **G7 countries continue to spend at least \$8 billion annually on national subsidies to fossil fuel exploration – promoting the expansion of oil, gas, and coal reserves through direct subsidies and tax breaks.**

- ☒ The United States government alone provides \$5.1 billion in national subsidies to fossil fuel exploration each year.
- ☒ The United Kingdom has introduced major new national subsidies in the past few years to encourage offshore and unconventional oil and gas exploration and development, resulting in annual national subsidies to exploration of up to \$1.2 billion each year.
- ☒ The Canadian government provides \$928 million in quantified annual national subsidies to exploration, but the actual value is likely much higher due to several major subsidies with unknown values and the fact that Canada’s oil sector is currently undergoing a massive expansion, driven by the growth in tar sands production.
- ☒ **G7 countries together additionally provide an average of more than \$10 billion each year in public finance (e.g. low-interest loans, guarantees, equity investments) for fossil fuel exploration projects.**
- ☒ Because Japan has limited domestic fossil fuel resources, it has provided by far the most known public financing for fossil fuel exploration – \$5.7 billion in average annual financing from 2010 to 2013, almost entirely for overseas projects aimed at securing fossil fuels for Japanese consumption.

- ☒ The United States and Canada follow with annual averages of \$2.6 billion and roughly \$2 billion, respectively, in public financing for exploration activities over the same period.
- ☒ Multilateral development banks (MDBs) – the World Bank Group, the European Investment Bank, the European Bank for Reconstruction and Development, and the Asian Development Bank – provided an annual average of \$758 million in public financing for exploration from 2010 to 2013. Through its funding of these MDBs, G7 countries accounted for half of this exploration support.
- ☒ The lack of transparency and data availability for national subsidies and public financing poses a major barrier to holding G7 countries accountable to keeping their pledge to phase out inefficient fossil fuel subsidies.

Continued public support – through national subsidies and public financing – for fossil fuel exploration is wholly inconsistent with agreed climate goals of limiting global warming to 2 degrees Celsius. To demonstrate clear progress on their commitment to phase out fossil fuel subsidies, G7 leaders should:

- ☒ Immediately eliminate all fossil fuel exploration subsidies, and adopt a strict timeline for phase-out of remaining fossil fuel subsidies with country-specified measurable outcomes;
- ☒ Close loopholes in country commitments in the G20, UNFCCC, and other international forums to avoid introducing new fossil fuel subsidies, including through safeguards to ensure that fossil fuel infrastructure is excluded from bilateral investment incentives and funds for infrastructure in developing countries;
- ☒ Increase transparency through a publicly disclosed, consistent reporting scheme for all fossil fuel subsidies; and
- ☒ Establish or identify an international body to facilitate and support fossil fuel subsidy reform.

The world is in a very deep hole with climate change, and according to a popular truth – the first law of holes – when you’re in one, it’s time to stop digging.³ The first step towards that goal is to stop using taxpayer dollars to buy shovels.

³ Wikipedia, First Law of Holes, http://en.wikipedia.org/wiki/First_law_of_holes

BROKEN PROMISES FOR SUBSIDY REMOVAL

In September 2009, leaders of the Group of 20 (G20) countries, the world's major economies, pledged to phase out inefficient fossil fuel subsidies.⁴ The commitment was an important recognition by world leaders that the hundreds of billions of dollars in subsidies provided by governments each year to promote the production and use of fossil fuels create an uneven playing field that puts renewable energy sources at a disadvantage and accelerates growth in greenhouse gas emissions.

Five years later, the G20 countries are struggling to live up to their pledge. The lack of transparency and accountability remains a major barrier in this area, and some countries have since even introduced significant new fossil fuel subsidies.⁵

However, countries continue to reiterate commitments to phasing out fossil fuel

subsidies. At the June 2014 ministerial meeting in Brussels, the G7 countries (a subset of the G20) reaffirmed their commitment to national fossil fuel subsidy elimination, as well as continued discussions on the need to reduce climate impacts of export credit financing.⁶

So far, most of the government and international institution focus on reporting and reforming subsidies has been on measures that reduce the cost of fossil energy for consumers. These consumption subsidies do encourage fossil energy use and give an advantage to fossil fuel sources. As such, efforts to remove them should certainly continue with adequate measures to protect access to affordable energy for low-income households.

However, the subsidies that encourage fossil fuel production – including exploration, development and extraction,

fuel transportation and processing, fossil fuel-based electricity production and distribution, and decommissioning of retired infrastructure – are the greatest culprits, creating incentives for corporations to continue to dig up oil, gas, and coal reserves rather than invest in renewable energy. Figure 1 displays these stages of fossil fuel production and examples of subsidies, starting with exploration subsidies that are the focus of this report.

This report highlights national subsidies and public finance for fossil fuel exploration activities specifically in G7 countries.⁷ A forthcoming report undertaken jointly between Oil Change International and the Overseas Development Institute will examine exploration subsidies in all G20 countries.

⁴ G20 nations committed to "rationalize and phase out over the medium term inefficient fossil fuel subsidies that encourage wasteful consumption." This language has been broadly interpreted to mean a phase out of fossil fuel subsidies.

⁵ Doug Koplow, "Phasing Out Fossil-Fuel Subsidies in the G20: A Progress Update," Earth Track and Oil Change International, 2012, http://priceofoil.org/content/uploads/2012/06/FIN_OCI_Phasing_out_fossil-fuel_g20.pdf

⁶ European Commission, *The Brussels G7 Summit Declaration*, June 5, 2014, http://europa.eu/rapid/press-release_MEMO-14-402_en.htm

⁷ These countries are: Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States.

Figure 1. Stages of Fossil Fuel Production and Examples of National Subsidies

Exploration	Development and Extraction	Transportation and Processing	Fossil Fuel Electricity Production and Heating	Decommissioning
<ul style="list-style-type: none"> ☑ Tax deductions for exploration expenses ☑ Tax deductions for general investment costs, which can include exploration, such as coal mining equipment, well drilling expenses, and earned depletion allowance ☑ Access to reduced-price fuel for fossil fuel extraction activities, including exploration ☑ Government-funded R&D for exploration technologies ☑ Direct government spending on exploration activities, including seismic surveys and exploratory drilling 	<ul style="list-style-type: none"> ☑ Reduced royalty rates for fossil fuel production ☑ Tax deductions for fossil fuel investment costs that are explicitly distinct from exploration deductions (e.g. Canadian Development Expense vs. Canadian Exploration Expense) 	<ul style="list-style-type: none"> ☑ Government investment in road, rail, pipeline, and shipping infrastructure for fossil fuel transportation ☑ Tax breaks for property used for petroleum refining 	<ul style="list-style-type: none"> ☑ Government-provided loan guarantees for fossil fuel power plants ☑ Government investment in electricity transmission and distribution infrastructure for fossil fuel power plants ☑ Government-funded R&D on "clean" coal, carbon capture and storage, and coal gasification ☑ Power purchase agreements 	<ul style="list-style-type: none"> ☑ Tax deductions for costs associated with coal mine closure or oil and gas well abandonment (e.g. land reclamation)

UNBURNABLE CARBON

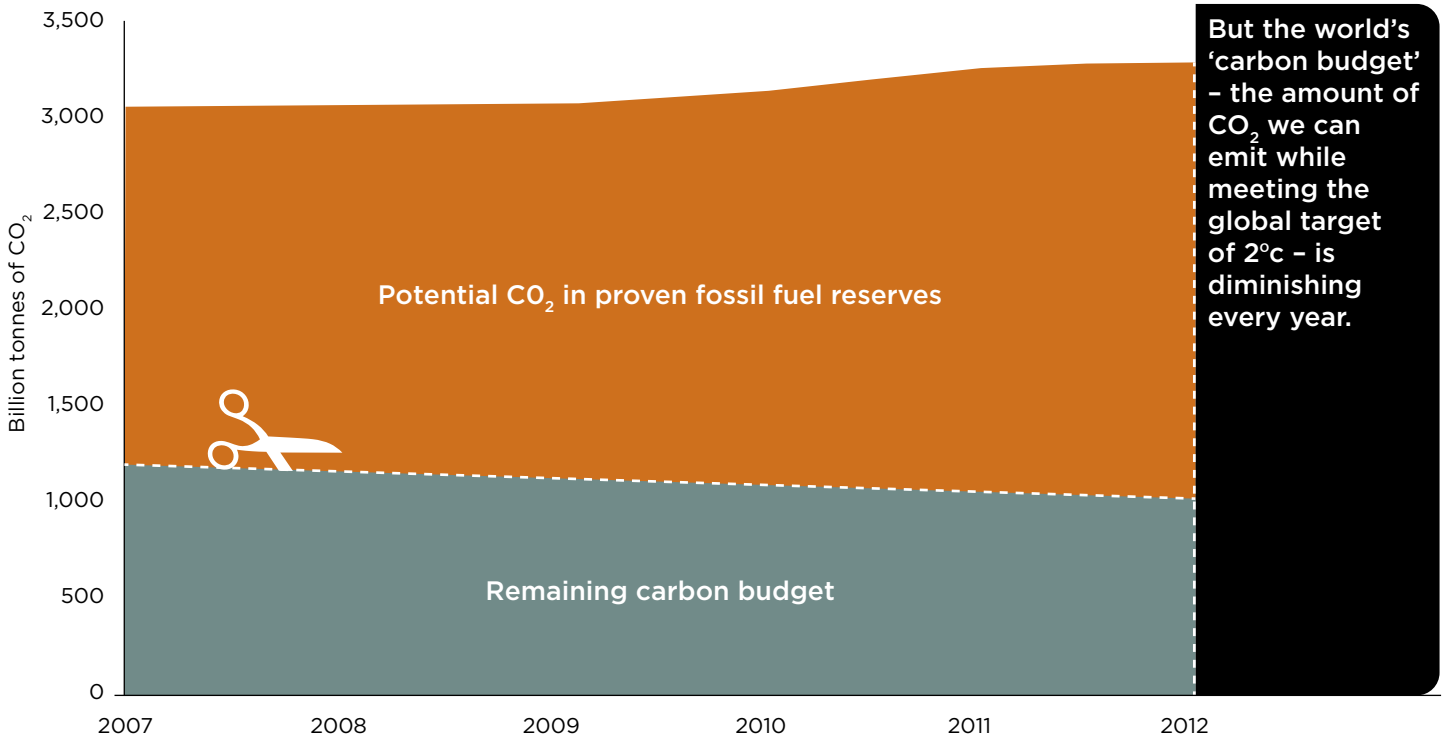
At the 2010 United Nations Framework Convention on Climate Change (UNFCCC) negotiations in Cancun, Mexico, governments around the world agreed on the goal of limiting global average temperature increase to at most 2 degrees Celsius above pre-industrial levels in order to avoid catastrophic climate change impacts.⁸

Following their lead, the world's preeminent scientific institutions working on climate and energy issues determined the amount of fossil fuels that could be burned to stay within this limit and, consequently, the amount that needs to be left in the ground. In 2012, the International Energy Agency (IEA) warned that "no more than one-third of proven reserves of

fossil fuels can be consumed prior to 2050 if the world is to achieve the 2°C goal."⁹

Similarly, in 2013 the Intergovernmental Panel on Climate Change calculated the Earth's "carbon budget," concluding that the world can only emit 1,000 gigatons (Gt) of CO₂ in the future for a likely chance of staying below 2 degrees Celsius.¹⁰ This

Figure 2. The Shrinking Global Carbon Budget



Visit <http://priceofoil.org/hole> to explore Oil Change International's full interactive graphic on unburnable carbon.

⁸ United Nations Framework Convention on Climate Change, The Cancun Agreements, 2010, <http://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf>

⁹ International Energy Agency (IEA), *World Energy Outlook 2012*, Executive Summary, <http://www.iea.org/publications/freepublications/publication/English.pdf>

¹⁰ Intergovernmental Panel on Climate Change, *Climate Change 2013: The Physical Science Basis*, Summary for Policymakers, http://www.ipcc.ch/report/ar5/wgl/docs/WGIAR5_SPM_brochure_en.pdf, p. 25

means that almost 70 percent of proven fossil fuel reserves need to stay in the ground, consistent with the IEA's assertion (Figure 2).¹¹

Unfortunately, fossil fuel reserve trends are moving in the wrong direction. While trends in individual countries vary widely, the overall amount of oil and gas reserves in the G7 countries has increased by 27 percent since 2008 (Figure 3).¹² Reserves growth in Canada and the United States drove the increase. At the same time, reserves declined in France, Germany, Italy, Japan, and the United Kingdom.

Total oil and gas exploration expenditure (by both state-owned companies and private entities that often receive significant government incentives for exploration) has similarly increased, growing by 30 percent across all countries since 2008 to reach US\$46.2 billion in 2013 (Figure 4).¹⁴ Exploration spending grew within Canada, France, Germany, and the United States over this period, while declining in Italy, Japan, and the United Kingdom.

Identifying trends in coal resources is vastly different than for oil and gas

reserves, which depend on the profitability of extracting technically recoverable resources. In contrast, estimates for the coal reserves base are rough estimates, calculated based on geological factors without consideration of profitability. Activities and investments targeted strictly at coal exploration are therefore difficult to distinguish from mining expansion and development. This report therefore focuses on support from G7 governments for coal exploration, expansion, and development.

Figure 3. Oil and Gas Reserves in the G7¹³

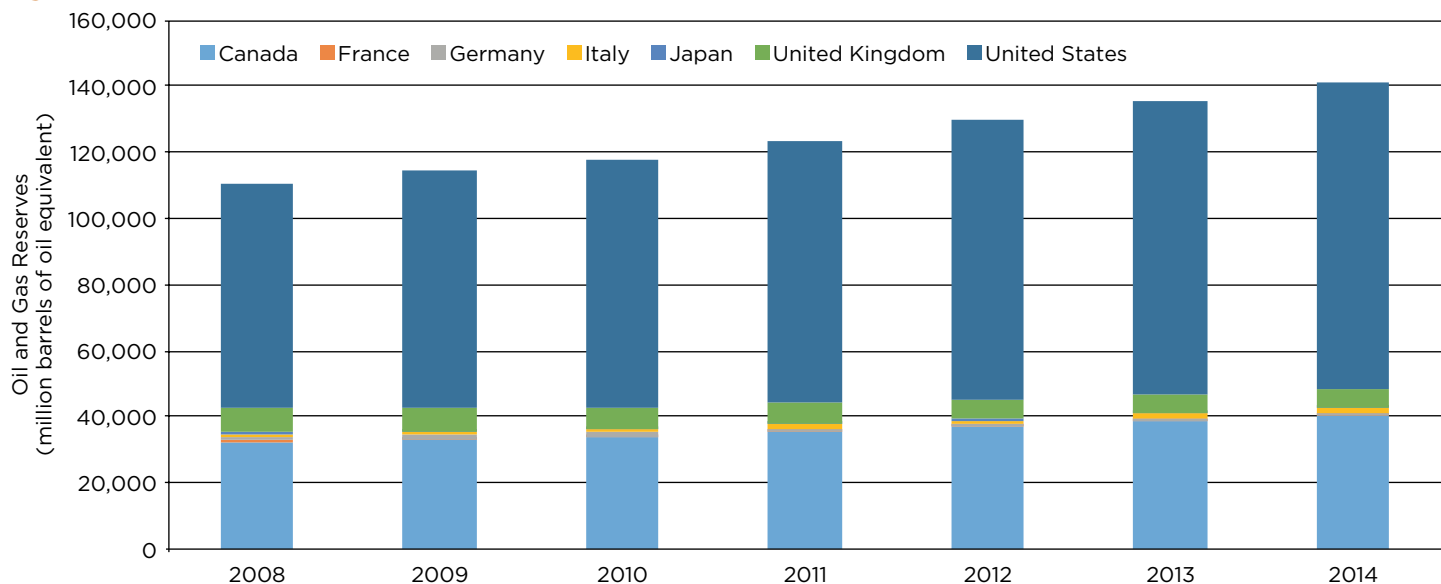
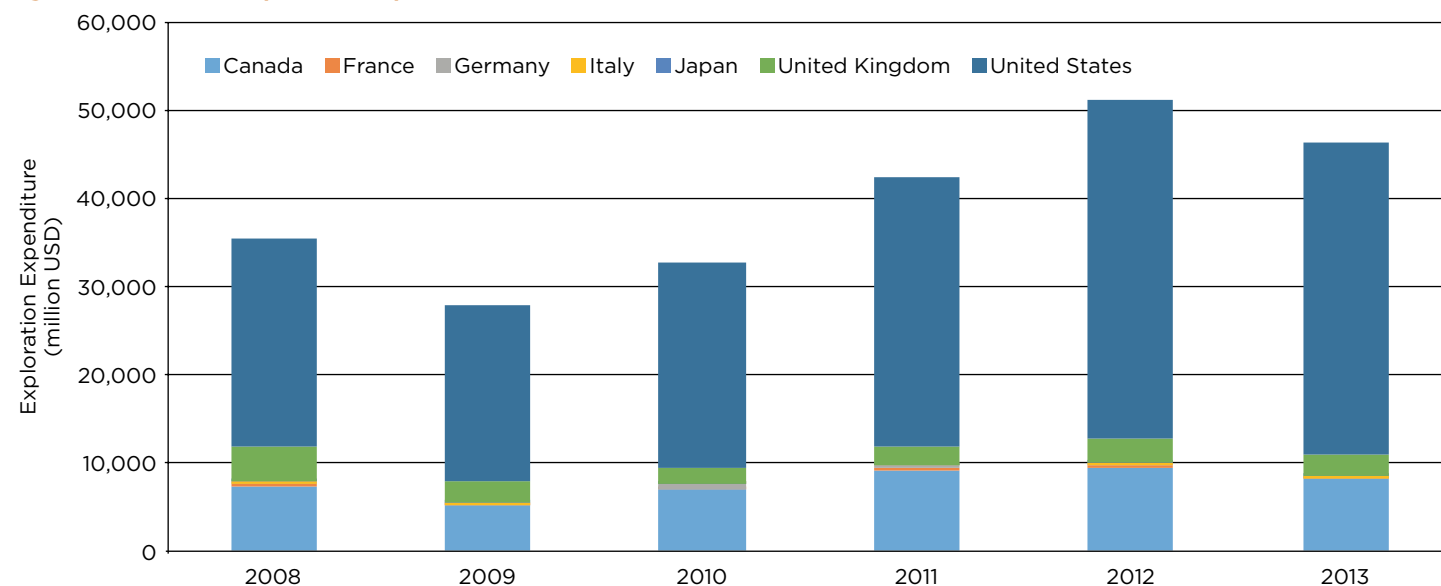


Figure 4. Oil and Gas Exploration Expenditure in the G7¹⁵



11 Oil Change International, "Time to climb out of the climate hole," November 2013, <http://priceofoil.org/hole>
 12 Rystad UCube database. Note: The Rystad database presents oil and gas resource data in terms of p90, p50, pmean, and unallocated resources. For the purposes of this report, p90 resources are used as a proxy for proven reserves.
 13 Rystad UCube database
 14 Rystad UCube database. Dollar amounts throughout this report are in USD unless otherwise noted.
 15 Rystad UCube database

DEFINING AND ASSESSING EXPLORATION SUBSIDIES

Although often highly political at the national level, there is strong consensus at the international level, including in the World Trade Organization (WTO) and the Organization for Economic Cooperation and Development (OECD), regarding what constitutes a subsidy. Broadly speaking, a fossil fuel subsidy is any government action that lowers the cost of production, lowers the cost of consumption, or raises the price received by producers. Types of fossil fuel subsidies include financial contributions or support from the government or private bodies funded by governments, including direct transfer of funds, transfer of risk such as loan guarantees, foregone revenue including through tax breaks, and provision of goods and services below market rate aside from general infrastructure.¹⁶

This report divides exploration subsidies into 'national subsidies', such as tax breaks to companies and direct spending by government agencies, and favorable 'public financing' (e.g. low-interest loans, equity, loan guarantees) from government institutions for projects both within countries and overseas.

Favorable public financing arrangements significantly reduce the costs of fossil fuel investment and are often the deciding factor in whether a project moves forward and receives additional commercial finance. Because the share of overall financing that constitutes a subsidy depends on the terms of the arrangement, and this information is not transparent in many of the government institutions assessed in this report, the financing details necessary to calculate the subsidy amounts were not available. This report therefore provides the overall government financing for fossil fuel exploration separately from the national subsidy estimates. This public financing can come from a range of institutions including national development banks, export-import banks, other state-owned banks, and bilateral aid agencies.

Lack of transparency and other data availability issues pose a major barrier to accounting for fossil fuel subsidies and financing generally, and for exploration in particular. Box 1 lays out these challenges and the methodology used in this report to deal with each issue.

¹⁶ Definition paraphrased from OECD, "An OECD-Wide Inventory of Support to Fossil-Fuel Production or Use," 2012, http://www.oecd.org/site/tadffss/Fossil%20Fuels%20Inventory_Policy_Brief.pdf and WTO, "Defining Subsidies," *World Trade Report 2006*, http://www.wto.org/english/res_e/booksp_e/anrep_e/wtr06-2b_e.pdf





Box 1. Exploration Subsidy Transparency and Data Availability Limitations

Lack of transparency and wide variations in data availability pose a major obstacle for assessing the scope and impact of fossil fuel subsidies. This box describes the transparency and data challenges related to compiling annual fossil fuel exploration subsidy totals, as well as the approach used in this report to deal with each of these issues. In order for governments to be fully accountable for removing subsidies and support for fossil fuel exploration, greater transparency is required.

In 2014, for the first time, G20 fossil fuel subsidy self-reporting will begin to include a peer review process, which will provide countries with the opportunity to provide feedback on other governments' own subsidy estimates and progress on reform. If implemented properly, this peer review process could serve as an important starting point for improving transparency and accountability on fossil fuel subsidy repeal.

Exploration Subsidies

Lack of Transparency of Subsidy Beneficiaries and Project Documents. Many national subsidies benefit fossil fuel extraction alongside exploration, so even if the overall subsidy amount is available the share specifically benefitting exploration cannot be determined. This report includes the full amount of these subsidies, but notes in a separate column which subsidies are specifically targeted toward exploration. Similarly, many public finance investments and projects are targeted at fossil fuel production in addition to exploration, but the share of financing specifically for exploration is not provided. As with national subsidies, projects that are specifically targeted at exploration are noted in this report when that information is available, but all fossil fuel extraction financing and investments that could reasonably be assumed to include exploration are included in the total figures.

National Subsidies

Amounts and Calculations. In many cases, even when a subsidy has been identified, the amount that it costs the government has not been calculated or made public, whether by national

governments or other independent research institutions. When no reliable data sources are available, this report notes "N/A" for the annual national subsidy value. In this regard, the total national subsidy values for exploration are underestimates as the values for these subsidies cannot be included.

Different data sources use different methodologies for calculating the value of fossil fuel subsidies. This report divides national subsidies into two general categories: tax deductions and exemptions for exploration costs (generally valued as the foregone revenue to the government as a result of these tax provisions, or in some cases the estimated future value of repealing the subsidy), and direct spending (for example the cost of seismic surveys or exploratory drilling conducted directly by a government agency). Estimates from both of these categories are included in the national subsidy total for each country.

Timelines. This report provides estimates for the annual amount of national subsidies – fossil fuel exploration subsidies provided by national governments. Unfortunately, the most recent year for annual subsidy estimates available varies by data source, both across and within countries. For example, data from the OECD, one of the most comprehensive sources on fossil fuel subsidies across its member countries, is currently only available through 2011. In other cases, estimates are derived from independent reports that were only published on a one-time basis, meaning that more recent annual estimates have not been conducted since. Whenever possible, this report uses more recent official estimates, but when these are not available the most recent year's data are provided. In all cases, the year(s) for the estimate is noted.

Another issue with yearly subsidy data is that some of the subsidies described in this report are in the midst of being phased out, but are still generating revenue losses for national governments. In some cases, data on the losses that are still being incurred or that are projected until the phase-out is complete are available. In other cases only the value of the

subsidy prior to the phase-out start is known, in which case this report still includes the data but makes a note that the subsidy is being phased out. Some subsidies that have been recently phased out are listed, with a value of 0 as they are no longer generating losses for the government.

Finally, some subsidy data sources provide projections of expected future costs to the government, rather than estimates of actual past losses. Often annual data are available, in which case this report cites a range of projected subsidy values and the years for which they are expected.

Because of the wide range of years and due to the use of projected values for some subsidies, the exchange rate at the time of report writing was used for all conversions to U.S. dollars.

Comparison across Countries. While this report provides estimates for fossil fuel exploration subsidies in all G7 countries, caution is required in direct comparison of subsidy amounts across countries. As the OECD emphasizes in its subsidy calculation methodology, most fossil fuel subsidies are a result of deductions and exemptions from the benchmark tax regime, which can vary widely by country.¹⁷ Nevertheless, examining the variation in overall exploration subsidies can still provide a useful overview of the extent to which different countries prioritize fossil fuel development, especially over other economic sectors. This report therefore presents total national subsidy amounts for each country, as well as total national subsidies in all G7 countries.

Public Finance

Failure to Label Finance a Subsidy. Governments provide support and take on liability for fossil fuel exploration through financing from public institutions such as state-owned banks and export credit and aid agencies. Despite the massive amount of government support channeled to fossil fuels through these institutions, they are not traditionally calculated as subsidies.

Public finance institutions such as state-owned banks, national development banks, export credit agencies, and bilateral development banks subsidize fossil fuel exploration through favorable financing in the form of loans, loan guarantees, insurance, and equity investments. In many cases, this financing is crucial in getting projects off the ground and in attracting the necessary additional commercial financing.

Lack of Transparency of Financing Terms. The share of overall financing that constitutes a subsidy depends on the terms of the arrangement. For example the subsidy element of government loans derives from the difference between the lower interest rates provided by the government compared to rates available through commercial financing. For guarantees, the subsidy comes from the risk of default by the loan recipient taken on by the government. Even if the government never becomes responsible for the loan due to default, the liability is transferred to the balance sheet of the government, which lowers the country's credit rating, increases the cost of debt, and can inhibit the country's ability to borrow.

However, in most cases the terms of these public finance arrangements are not transparent so it is not possible to determine the share of the financing that constitutes a government subsidy. Due to this lack of data transparency, this report provides a separate estimate for the full amount of financing for exploration-related projects from G7 government institutions.

¹⁷ OECD, "Methodology," OECD-IEA Fossil Fuel Subsidies and Other Support, <http://www.oecd.org/site/tadffss/methodology.htm>

SUMMARY OF FINDINGS

Exploration subsidies – **national subsidies and public finance that promote the expansion of fossil fuel reserves, including the discovery of new resources** – are among the most harmful and wasteful subsidies, given that the majority of the world’s already proven reserves need to stay in the ground to avoid catastrophic climate change. Investing government resources in exploration expenditure is also a risky financial endeavor, as these taxpayer dollars may be lost when policies are implemented to restrict fossil fuel extraction in line with climate goals.

The largest share of exploration subsidies in the G7 is targeted toward expanding oil and gas reserves. However, several countries provide incentives for coal exploration as well. National subsidies in G7 countries total \$8.2 to \$8.8 billion each year, and G7 countries provide more than an additional \$10 billion in public financing annually.

NATIONAL SUBSIDIES

Most of the countries assessed have national subsidies that directly support fossil fuel exploration activities, such as tax deductions for exploration expenses and direct funding by government agencies to conduct seismic tests and exploratory drilling to identify new fossil fuel reserves.

In addition, many subsidies that benefit fossil fuel production more broadly, like tax deductions for drilling and investment costs, also promote exploration activities. **Both categories – exploration-specific and extraction subsidies that incentivize exploration – are analyzed in this report.**

Many states and provinces within countries provide significant additional exploration subsidies. These are not examined in this analysis because assessing such sub-national subsidies requires detailed local knowledge of fossil fuel projects and policies and how these are reported in the relevant government budgeting process. A lack of such coordinated knowledge and the labor-intensity of deriving subsidies and aggregating sub-national subsidies mean that few comprehensive examples exist.¹⁸

Table 1 provides a summary of national exploration subsidies in the G7, which total \$8.2 to \$8.8 billion each year.

PUBLIC FINANCE

Bilateral Finance. Governments also play a major role in incentivizing oil, gas, and coal exploration both within the countries and overseas by providing favorable financing (including equity investments, low-interest and/or long-tenor loans, and loan guarantees) through institutions such as

national development banks, export credit agencies, and aid agencies. The availability of this financing is often a key factor in enabling fossil fuel exploration projects to proceed and to attract additional commercial financing, in particular for risky, large-scale investments.

Unfortunately, the availability of detailed data on financing for projects varies widely by country and agency, so the scope and precision of public fossil fuel exploration financing information provided in this report also vary (Box 1). In many cases, public financing institutions only publish overall funding amounts for fossil fuel extraction projects or financing for fossil fuel exploration and production companies, even when these investments likely include significant support for exploration activities. The lack of transparency at many of these public institutions is a major barrier to meaningful fossil fuel subsidy reform. **This report captures fossil fuel extraction investments by public financing agencies that may include exploration, and, data-permitting, highlights exploration-specific financing.**

Because financing amounts can vary greatly from year to year, Table 2 presents the average amount – more than \$10 billion – financed annually from 2010 through 2013.

¹⁸ Exceptions include “Mining the age of entitlement: State government assistance to the minerals and fossil fuel sector,” The Australia Institute, <http://www.tai.org.au/content/mining-age-entitlement> and “Fossil Fuels – At What Cost? Government support for upstream oil activities in three Canadian provinces: Alberta, Saskatchewan, and Newfoundland and Labrador,” Global Subsidies Initiative, http://www.iisd.org/gsi/sites/default/files/ffs_awc_3canprovinces.pdf

Table 1. Annual Fossil Fuel Exploration Subsidies by Country*

Country	National Subsidy Amount (million USD)
Canada	\$928
France	\$42
Germany	\$344
Italy	\$407
Japan	\$724
United Kingdom	\$644 to \$1,202
United States	\$5,123
Total G7 Annual Exploration Subsidies	\$8,212 to \$8,770

*Caution is required when comparing subsidy values across countries due to varying levels in base taxation rates.

Table 2. Total Domestic and Overseas Public Finance for Fossil Fuel Exploration

Country	Average Annual Public Finance for Fossil Fuel Extraction from 2010 to 2013 (million USD)
Canada*	\$1,414 to \$2,734*
France	\$73
Germany	\$19
Italy	\$458*
Japan	\$5,623
United Kingdom	\$319
United States	\$2,584
Total G7 Public Finance for Fossil Fuel Exploration, Annual Average 2010 to 2013	\$10,490 to \$11,810

*Due to data availability, the value for Canadian public finance is the annual average from January 2012 to May 2014. Italy's estimate includes equity investments from 2010 to 2013, as well as a 2013-only estimate for additional export credit financing.

Multilateral Development Banks. G7 countries are also some of the largest shareholders of most major multilateral development banks (MDBs), including the various branches of the World Bank Group, as well as the European Investment Bank, the European Bank for Reconstruction and Development, and the Asian Development Bank, each of which provided tens to hundreds of millions of dollars in financing for fossil fuel exploration projects¹⁹ from 2010 to 2013, for an overall annual average of \$758.2 million (Table 3).²⁰ Because it holds the largest shares in most of the MDBs, the United States provided the most exploration financing of any country, with 15.5 percent of the total in from

2010 to 2013, followed by Germany, the United Kingdom, and France which each contributed about 7 percent.

Between 2008 and 2013, the World Bank Group provided more than \$3.1 billion in loans, equity financing, and guarantees for projects that involve fossil fuel exploration. The majority of this financing – \$2.3 billion – was provided by the International Finance Corporation (IFC), the World Bank’s private sector arm, with the remainder from the Multilateral Investment Guarantee Agency (MIGA) and the International Development Association (IDA).

In all, the major MDBs supported \$4.5 billion in financing to projects that included fossil fuel exploration activities between 2008 and 2013, with a combined \$1.6 billion in financing in 2013. Over the same period MDBs also financed six technical assistance, capacity building, and/or policy programs for governments that included support for fossil fuel exploration.

Of the major MDBs, the World Bank consistently provides by far the most support for fossil fuel exploration, accounting for nearly 70 percent of exploration project financing between fiscal years 2008 and 2013.

Table 3. G7 Country Shares of Exploration Financing through MDBs

Country	Average Annual Exploration Financing through MDBs from 2010 to 2013 (million USD)	Share of Total MDB Exploration Financing
Canada	\$21.1	2.8%
France	\$51.5	6.8%
Germany	\$53.4	7.0%
Italy	\$42.9	5.7%
Japan	\$42.0	5.5%
United Kingdom	\$52.6	6.9%
United States	\$117.2	15.5%
Total G7	\$380.7	50.2%
Other Countries	\$377.6	49.8%
Total MDB Finance for Fossil Fuel Exploration, Annual Average 2010 to 2013	\$758.2	100.0%

¹⁹ As is the case throughout this report, “exploration projects” refers to projects that can be reasonably be assumed to include support for fossil fuel exploration.

²⁰ Data is based on MDB exploration financing data from Oil Change International, ShiftTheSubsidies.org and shares of MDBs held by each G7 country from the respective MDB annual reports and replenishment agreements.

Mountaintop removal coal mine in Kayford Mountain, West Virginia ©AP



COUNTRY SUMMARIES



Canada is currently investing in a massive expansion of its oil production. The increase in Canada's oil reserves and production relies on some of the riskiest and most energy intensive sources of oil, including tar sands and deep water offshore and Arctic drilling. Due largely to the growth in tar sands, Canada's oil production increased by 53 percent since 2000, reaching nearly four million barrels per day in 2013.²¹ Canada has a wide array of national subsidies totaling at least \$928 million annually to encourage fossil fuel exploration, including tax benefits for nearly all exploration activities. The full value of Canadian national subsidies for exploration is likely much higher, as several major subsidies are not quantified due to a lack of data availability.

Canada is also one of the larger sources of public finance for fossil fuel exploration in the G7, providing an annual average of between \$1.4 billion and \$2.7 billion in public finance through Export Development Canada (EDC), the country's export credit agency, from January 2012 to May 2014.²²



France has very limited domestic fossil fuel resources and relies on nuclear energy for most of its electricity. Total oil and gas exploration expenditure in France varies by year but is consistently small.²³ Furthermore, while shale gas activity is beginning to grow in other parts of Europe, France currently has a moratorium on fracking, although some worry that this provisional ban could be lifted. France has only limited exploration subsidies and stands out among G7 countries for its progress on phasing them out. However, mostly through direct funding of oil and gas exploration research, France continues to provide about \$42 million in annual national subsidies for exploration.

France also provided \$73 million in average annual public financing for exploration between 2010 and 2013 through three guarantees from its export credit agency, Compagnie Française d'Assurance pour le Commerce Extérieur (COFACE). Two of these COFACE guarantees were to Sercel in Russia, specifically for exploration, and the other was for the development of the Ichthys LNG field in Australia.



Germany currently has some of the strongest renewable energy policies and greenhouse gas emissions reduction targets in the world, and has accelerated its phase-out of nuclear energy following the 2011 Fukushima nuclear disaster in Japan. Due to its limited domestic conventional oil and gas resources, identification of virtually all coal reserves, and an energy policy that focuses on renewable energy, Germany does not have any major national subsidies specifically aimed at fossil fuel exploration. However, the government does provide tax exemptions (worth \$344 million in 2011) to fossil fuel producers that could benefit exploration activities. Despite the past trend of refusing permits for shale gas projects, the new government has demonstrated openness to studying fracking, which could result in some direct spending on shale gas exploration in Germany.²⁴

Germany's public financing for fossil fuel exploration is targeted toward overseas projects. Unfortunately, financing from development and export credit agencies in Germany is even less transparent


²¹ Rystad UCube database

²² Export Development Canada, Individual Transaction Information, <https://www19.edc.ca/edcsecure/disclosure/DisclosureView.aspx>

²³ Rystad UCube database

²⁴ Vera Eckert, "Unleash German shale to halt gas output decline, industry pleads," *Reuters*, February 6, 2014, <http://www.reuters.com/article/2014/02/06/germany-fracking-idUSL5NOL4IT020140206>


than in other G7 countries. Since 2010, the only public financing amount found for fossil fuel extraction projects was \$75.8 million in financing for a coal mine in Serbia in 2012 by KfW, Germany's export finance bank. Due to the limited availability of financing information, this likely underestimates the full extent of Germany's support for overseas fossil fuel exploration.

 **Italy** has very limited oil, gas, and coal resources, and the remaining reserves are rapidly dwindling. As a result, public and private oil and gas exploration expenditure within Italy remains minimal.²⁵ The value of the Italian government's direct national subsidies for fossil fuel exploration are almost entirely due to cheap access to government land for fossil fuel exploration and production through low lease rates. Legambiente, an Italian environmental NGO, estimates that updating leasing rates – including for prospecting and research activities – would have resulted in an additional \$407 million in government revenue in 2012.²⁶ The Italian government also owns a 30 percent share of the multinational oil giant Eni, giving it the decisive (and veto) vote among all Eni shareholders. Eni is based in Italy and has oil and gas exploration operations around the world.²⁷ While this is not included in the national subsidies estimate, the government involvement in Eni is a form of public support.

Italy also provides public finance for fossil fuel exploration, concentrated in overseas oil and gas. Through equity investments in oil and gas companies by CDP, a state-owned bank, along with export credit financing, the Italian government provided \$458 million in average annual public financing for exploration between 2010 and 2013.


 **Japan.** With scarce and rapidly dwindling fossil fuel resources of its own, Japan engages in only a small amount of domestic oil and gas exploration and relies heavily on fossil fuel imports to meet its energy needs, especially following the accelerated phase-out of nuclear power since the Fukushima disaster in 2011. Japan provides some national subsidies to promote oil and gas exploration domestically, while providing significant support for projects by Japanese companies overseas. National subsidies currently total \$724 million, down from a high of over \$2.5 billion in 2007.²⁸ The Japan Oil, Gas and Metals National Corporation (JOGMEC) conducts geological surveys and exploratory oil and gas drilling both in Japan and overseas, and provides these data to Japanese companies. JOGMEC also provides technical support and develops new exploration technologies to assist companies in their exploration activities.²⁹ Direct exploration expenditure by JOGMEC was \$23 million in 2013.³⁰

Based on available data, Japan is by far the largest provider of public finance for overseas fossil fuel exploration projects. Through financing by JOGMEC, the Japan Bank for International Cooperation (JBIC), and Nippon Export and Investment Insurance (NEXI), the Japanese government provided an annual average of \$5.7 billion in financing for overseas oil, gas, and coal exploration projects between 2010 and 2013.

 **United Kingdom.** Coal production in the UK has declined in recent decades and further dropped by nearly half since 2000.³¹ Although conventional oil and gas reserves are similarly declining and public and private oil and gas exploration expenditure is variable, over the past few years the UK government has implemented massive national subsidies

to promote exploration and development of risky and unconventional oil and gas, including deep-water offshore resources and shale gas.³² The UK stands out as a major industrialized economy that, despite the G20 pledge, has dramatically expanded the scope of its oil and gas exploration subsidies, in particular for shale gas and offshore resources. Exploration subsidies in the UK total up to \$1.2 billion each year, mostly through tax exemptions introduced as recently as 2013.³³

Public finance for fossil fuel exploration from the UK averaged \$319 million between 2010 and 2013 for overseas activities. The UK government also provides fossil fuel exploration support through the CDC Group, its development finance institution, but data on the share of CDC financing for these funds are not available.

 **United States.** Oil and gas exploration, production, and reserves are increasing in the U.S., due in large part to hydraulic fracturing (fracking) technology, which has enabled the development of vast shale deposits in recent years. Although President Obama has pledged to tackle climate change and eliminate fossil fuel subsidies, he champions the oil and gas boom as the centerpiece of his Administration's "All of the Above" energy strategy, which is also responsible for the rapid increase in the value of fossil fuel subsidies since he took office. The United States provides \$5.1 billion in annual subsidies that support fossil fuel exploration, mostly in the form of tax deductions for exploration and drilling costs.³⁴

U.S. government public financing for fossil fuel exploration overseas averaged \$2.6 billion annually from 2010 to 2013, dominated by financing from the U.S. Export-Import Bank.

25 Rystad UCube database

26 Legambiente, "Stop sussidi alle fonti fossili: 12 miliardi di euro, a scapito dell'ambiente, dell'innovazione e delle tasche degli italiani," November 23, 2013, <http://www.legambiente.it/contenuti/comunicati/stop-sussidi-alle-fonti-fossili-12-miliardi-di-euro-scapito-dell-ambiente-dell-innovazione-e-delle-tasche-degli-italiani>

27 Eni, *Annual Report 2013*, http://www.eni.com/en_IT/attachments/publications/reports/reports-2013/Annual-Report-2013.pdf?home_2010_en_tab=altri_documentazione

28 Organization for Economic Cooperation and Development (OECD), OECD-IEA Fossil Fuel Subsidies and Other Support, <http://www.oecd.org/site/tadffss/>

29 JOGMEC, Oil and Natural Gas, <http://www.jogmec.go.jp/english/oil/index.html>

30 Rystad UCube database

31 EIA, International Energy Statistics, <http://www.eia.gov/cfapps/ipdbproject/iedindex3.cfm?tid=1&pid=7&aid=1&cid=UK,&syid=2001&eyid=2012&unit=TST>

32 Rystad UCube database

33 David Powell, *UK tax breaks to oil and gas companies in 2013/14: worth £2.7 billion*, Friends of the Earth, June 2014, <https://www.foe.co.uk/sites/default/files/downloads/briefing-uk-tax-breaks-oil-gas-companies-2013/14-worth-2.7-billion-46637.pdf>

34 OMB, *Analytical Perspectives: Budget of the U.S. Government*, <http://www.gpo.gov/fdsys/browse/collectionGPO.action?collectionCode=BUDGET>

COUNTRY DESCRIPTIONS

CANADA

The following sections provide more information on each country, including background on the energy sector and additional details on national subsidies and public finance for exploration activities.

Background

Canada is currently investing in a massive expansion of its oil production, relying on some of the riskiest and most energy intensive sources of oil, including tar sands and deep water offshore and Arctic drilling. Due largely to the growth in tar sands, Canada's oil production increased by 53 percent between 2000 and 2013, reaching nearly four million barrels per day.³⁵

Oil companies have significantly increased their investment in exploration in Canada,

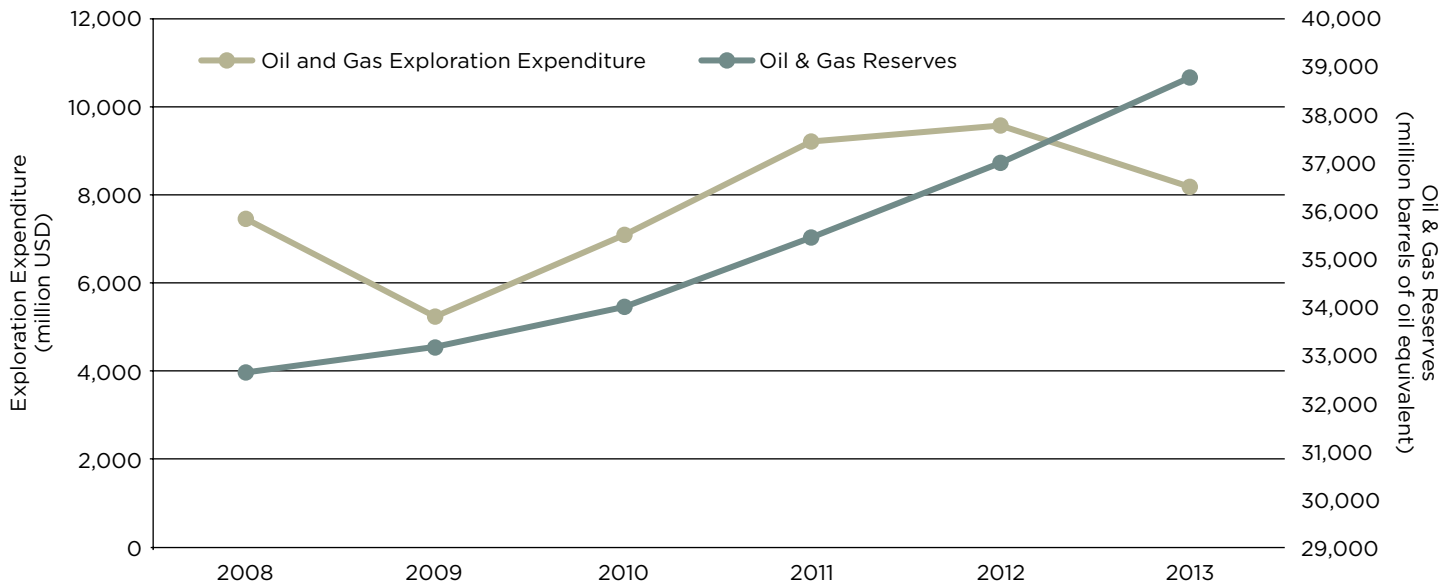
with public and private oil and gas exploration expenditures growing by 29 percent since 2008 to reach \$9.6 billion in 2012, before dipping slightly to \$8.2 billion in 2013. Alongside the increase in tar sands production and exploration expenditure, Canadian oil and gas reserves have increased rapidly in recent years, growing by 24 percent since 2008 to reach more than 40 billion barrels of oil equivalent at the beginning of 2014 (Figure 5).³⁶

National Subsidies

The Canadian government offers a wide array of national subsidies totaling \$928 million annually to encourage fossil fuel exploration, including tax benefits for nearly all exploration activities (Table 4).

Through the **Canadian exploration expense**, estimated at \$214 million in 2009, oil, gas, and mining companies can fully deduct exploration expenses including the costs of geological surveys and exploratory drilling, whether or not

Figure 5. Oil & Gas Exploration Expenditure and Reserves in Canada³⁷



³⁵ Rystad UCube database

³⁶ Ibid

³⁷ Ibid

Table 4. Canadian Exploration Subsidies

Subsidy	Subsidy Type	Targeted Fossil Fuels	Estimated Annual Amount (million USD)	Timeframe for Subsidy Value Estimate	Specifically Targeted at Exploration?
Tax Deductions and Exemptions					
Canadian exploration expense: 100% deduction of exploration expenses ³⁸	Tax deduction	Oil, Gas & Coal	\$214	2009	Yes
Flow-through share deduction: companies can pass on exploration and development expense deductions to shareholders to attract investors ³⁹	Tax deduction	Oil, Gas & Coal	\$284	2011	Yes
Exploration limited partnerships: proceeds taxed as capital gains at just 50% the rate of regular income ⁴⁰	Tax deduction	Oil, Gas & Coal	N/A*	N/A*	Yes
Foreign resource expense (FRE) and foreign exploration and development expense (FEDE): 30% deduction for exploration costs overseas ⁴¹	Tax deduction	Oil, Gas & Coal	N/A*	N/A*	Yes
Earned depletion allowance: 33.3% deduction of certain expenses (up to 25% of resource profits prior to phase-out) to encourage exploration and development ^{**42}	Tax deduction	Oil, Gas & Coal	\$9	2011 (phased-out in 1990 but pre-1990 deductions still being claimed)	Yes
Duty exemption offshore exploration equipment imports ⁴³	Tax exemption	Oil & Gas	N/A*	N/A*	Yes
Canadian oil and gas property expenses: 10% deduction for the cost of exploration and drilling rights, drilling costs, and rental or royalty expenses ⁴⁴	Tax deduction	Oil & Gas	N/A*	N/A*	
Accelerated capital cost allowance (ACCA) for tar sands projects and accelerated write-offs for some intangible tar sands costs ^{**45}	Tax deduction	Oil	\$276	2007 to 2011 (phase-out scheduled 2011-2014)	
Atlantic Investment Tax Credit: 10% tax credit on energy investments, especially offshore oil and gas ^{**46}	Tax deduction	Oil & Gas	\$115	2012 (full phase-out by 2017)	
Direct Spending					
Exploration and extraction R&D: agencies include Atlantic Canada Opportunities Agency, Natural Sciences and Engineering Research Council, Industry Canada, and Western Economic Diversification Canada ⁴⁷	Direct spending	Oil & Gas	\$30	2012	
Total Annual Exploration Subsidies			\$928		

*Subsidy estimate not available **In the process of being phased out but still generating losses

these efforts lead to significant discoveries and resource development.⁴⁸ If exploration expenditures are not deducted in the year they were made, they can be carried forward indefinitely to be deducted in later years.⁴⁹

For certain companies such as junior exploration companies that do not yet turn a significant profit, these tax deductions have limited benefit due to their lack of taxable revenue. The **flow-through share deduction** allows these companies (mostly limited partnerships) to pass

exploration expenses on to their investors, who can deduct them from their personal income taxes.⁵⁰ This subsidy encourages investment in exploration companies to take advantage of the tax deductions.⁵¹ The profits of **exploration limited partnerships** are taxed as capital gains, at only half the

38 Dave Sawyer and Seton Stiebert, Fossil Fuels – At What Cost? Government support for upstream oil activities in three Canadian provinces: Alberta, Saskatchewan, and Newfoundland and Labrador,” Global Subsidies Initiative, November 2010, http://www.iisd.org/gsi/sites/default/files/ffs_awc_3canprovinces.pdf

39 Office of the Auditor General of Canada, “Chapter 4—A Study of Federal Support to the Fossil Fuel Sector,” 2012 Fall Report of the Commissioner of the Environment and Sustainable Development, 2013, http://www.oag-bvg.gc.ca/internet/English/parl_cesd_201212_04_e_37713.html.html Organization for Economic Cooperation and Development (OECD), OECD-IEA Fossil Fuel Subsidies and Other Support, <http://www.oecd.org/site/tadffss/>

40 Sprott Asset Management, Sprott Flow-Through Limited Partnerships, <http://www.sprott.com/products/sprott-flow-through-limited-partnerships/>

41 Natural Resources Canada, Mining-Specific Tax Provisions, <https://www.nrcan.gc.ca/mining-materials/taxation/mining-taxation-regime/8892#lnk10>

42 Organization for Economic Cooperation and Development (OECD), OECD-IEA Fossil Fuel Subsidies and Other Support, <http://www.oecd.org/site/tadffss/>

43 Government of Canada, “Annex 2 - Tax Measures: Supplementary Information,” Budget 2014, <http://www.budget.gc.ca/2014/docs/plan/annx2-1-eng.html>

44 Natural Resources Canada, Mining-Specific Tax Provisions, <https://www.nrcan.gc.ca/mining-materials/taxation/mining-taxation-regime/8892#lnk12>

45 Office of the Auditor General of Canada, “Chapter 4—A Study of Federal Support to the Fossil Fuel Sector,” 2012 Fall Report of the Commissioner of the Environment and Sustainable Development, 2013, http://www.oag-bvg.gc.ca/internet/English/parl_cesd_201212_04_e_37713.html

46 Natural Resources Canada, Mining-Specific Tax Provisions, <https://www.nrcan.gc.ca/mining-materials/taxation/mining-taxation-regime/8892#lnk7>

47 Office of the Auditor General of Canada, “Chapter 4—A Study of Federal Support to the Fossil Fuel Sector,” 2012 Fall Report of the Commissioner of the Environment and Sustainable Development, 2013, http://www.oag-bvg.gc.ca/internet/English/parl_cesd_201212_04_e_37713.html

48 Dave Sawyer and Seton Stiebert, Fossil Fuels – At What Cost? Government support for upstream oil activities in three Canadian provinces: Alberta, Saskatchewan, and Newfoundland and Labrador,” Global Subsidies Initiative, November 2010, http://www.iisd.org/gsi/sites/default/files/ffs_awc_3canprovinces.pdf

49 Natural Resources Canada, Mining-Specific Tax Provisions, <https://www.nrcan.gc.ca/mining-materials/taxation/mining-taxation-regime/8892#lnk8>

50 Drew Hasselback, “Flow-through shares: Canada’s quirky tax innovation,” Financial Post, March 7, 2013, <http://business.financialpost.com/2013/03/07/flow-through-shares-canadas-quirky-tax-innovation/>

51 Office of the Auditor General of Canada, “Chapter 4—A Study of Federal Support to the Fossil Fuel Sector,” 2012 Fall Report of the Commissioner of the Environment and Sustainable Development, 2013, http://www.oag-bvg.gc.ca/internet/English/parl_cesd_201212_04_e_37713.html

rate of the regular income tax, further encouraging investment.⁵²

For fossil fuel companies operating abroad, the **foreign resource expense** and **foreign exploration and development expense** allow Canadian companies to deduct 30 percent of exploration expenses incurred overseas.⁵³

The **earned depletion allowance**, worth \$9 million in 2011, was implemented specifically to promote resource exploration and development.⁵⁴ The subsidy was phased out in 1990, but companies continue to claim expenses from before that year.⁵⁵ This provision allowed companies to deduct one-third of certain expenses from their tax base; prior to its phase-out the deduction typically totaled up to 25 percent of a company's total resource profits.

The **duty exemption for imports of mobile offshore drilling units** is designed to further reduce exploration costs for oil and gas companies. This tax break, which was renewed for five years in 2009 and was permanently implemented in the 2014 budget, specifically aims to promote oil and gas exploration in the offshore Atlantic and Arctic.⁵⁶ These regions are among the worst in the world when it comes to the financial and environmental risks of oil and gas production.⁵⁷

An additional tax incentive, the **Canadian oil and gas property expense**, allows companies to take a 10 percent deduction for the costs of acquiring oil and gas wells and rights. This subsidy applies to the upstream oil and gas industry more broadly, including exploration along with other extraction and production activities.⁵⁸

Measures passed in 2007 and 2011 aim to "align the tax treatment" of tar sands with the conventional oil and gas sector by eliminating tar sands-specific incentives.⁵⁹ The 2007 Canadian budget implemented

a schedule to phase out **accelerated depreciation for tar sands projects**, which previously cost the federal government \$276 million each year by allowing companies to deduct 100 percent of asset costs.⁶⁰ Over four years beginning in 2011, the subsidy will be reduced to make tar sands projects subject to the regular 25 percent depreciation rate available to oil, gas, and mining assets.⁶¹

In its 2011 budget, the Canadian government eliminated an additional tar sands preference by reclassifying costs of acquiring tar sands property and leases, previously eligible for the 30 percent Canadian development expense deduction, as Canadian oil and gas property expenses eligible for the lower 10 percent deduction rate, saving up to \$69 million each year by 2015/16.⁶²

In 2012 the Canadian government scheduled a phase out for the **Atlantic Investment Tax Credit**, worth \$115 million each year through tax credits for certain oil, gas, and mining investments including exploration activities. A tax credit rate of 5 percent will continue to apply to assets acquired through 2015, and companies will still be able to benefit from the deduction for past expenses until 2017.⁶³

On top of tax incentives, the Government of Canada also provides about \$30 million in direct funding each year for fossil fuel exploration and extraction through the **research and development (R&D)** activities of its own agencies, including the Atlantic Canada Opportunities Agency, the Natural Sciences and Engineering Research Council, Industry Canada, and Western Economic Diversification Canada.⁶⁴

PUBLIC FINANCE

The Business Development Bank of Canada (BDC), a state-owned bank, provided \$3.5 million in financing to the mining, oil, and gas industry within Canada in 2013, with a focus on small and medium

enterprises. Through financing from Export Development Canada (EDC), Canada's export credit agency, the Canadian government provides a much larger amount of support for exploration in other countries. Canada provided between \$3.4 and \$6.6 billion for overseas fossil fuel exploration projects from January 2012 through May 2014 – an annual average of \$1.4 to \$2.7 billion over the 29-month period. Among other activities, EDC provides financing for "general corporate purposes," which allows companies to use the funds for any purpose, including fossil fuel exploration. In the overview used for this report, EDC provides a range of the financing provided in each transaction rather than the exact amount. These ranges are reflected in the data for the individual transactions and overall financing totals presented below.

Domestic

BDC provides loans, venture capital, and consulting services to Canadian businesses, prioritizing small and medium enterprises.⁶⁵ BDC provides a relatively small amount of additional support to oil and gas extraction through subordinate financing investments for medium- to high-risk projects. In 2013, BDC provided \$3.5 million for mining, oil, and gas extraction projects.⁶⁶ The share of this financing dedicated to exploration was not readily available.

International

Between January 2012 and May 2014, EDC provided between \$3.4 to \$6.6 billion in loans that likely supported companies' exploration activities (Table 5).⁶⁷

Canada also contributed an annual average of \$21.1 million to fossil fuel exploration projects from 2010 to 2013 through its shares in the World Bank Group, European Bank for Reconstruction and Development, and Asian Development Bank which range from 2.5 to 5 percent depending on the institution.⁶⁸

52 Sprott Asset Management, Sprott Flow-Through Limited Partnerships, <http://www.sprott.com/products/sprott-flow-through-limited-partnerships/>

53 Natural Resources Canada, Mining-Specific Tax Provisions, <https://www.nrcan.gc.ca/mining-materials/taxation/mining-taxation-regime/8892#ink10>

54 Organization for Economic Cooperation and Development (OECD), OECD-IEA Fossil Fuel Subsidies and Other Support, <http://www.oecd.org/site/tadffss/>

55 Natural Resources Canada, Mining-Specific Tax Provisions, <https://www.nrcan.gc.ca/mining-materials/taxation/mining-taxation-regime/8892#ink14>

56 Government of Canada, "Annex 2 - Tax Measures: Supplementary Information," *Budget 2014*, <http://www.budget.gc.ca/2014/docs/plan/anx2-1-eng.html>

57 *Frozen Future: Shell's ongoing gamble in the US Arctic*, Greenpeace, February 2014, <http://priceofoil.org/content/uploads/2014/02/Frozen-Future.pdf>

58 Natural Resources Canada, Mining-Specific Tax Provisions, <https://www.nrcan.gc.ca/mining-materials/taxation/mining-taxation-regime/8892#ink12>

59 Government of Canada, "Annex 4: Tax Measures: Supplementary Information, Notices of Ways and Means Motions and Draft Amendments to Various GST/HST Regulations," *Budget 2012*, <http://www.budget.gc.ca/2012/plan/anx4-eng.html#BITM3>

60 Office of the Auditor General of Canada, "Chapter 4—A Study of Federal Support to the Fossil Fuel Sector," *2012 Fall Report of the Commissioner of the Environment and Sustainable Development*, 2013, http://www.oag-bvg.gc.ca/internet/English/parl_cesd_201212_04_e_37713.html

61 Ibid.

62 Organization for Economic Cooperation and Development (OECD), OECD-IEA Fossil Fuel Subsidies and Other Support, <http://www.oecd.org/site/tadffss/>

63 Natural Resources Canada, Mining-Specific Tax Provisions, <https://www.nrcan.gc.ca/mining-materials/taxation/mining-taxation-regime/8892#ink7>

64 Office of the Auditor General of Canada, "Chapter 4—A Study of Federal Support to the Fossil Fuel Sector," *2012 Fall Report of the Commissioner of the Environment and Sustainable Development*, 2013, http://www.oag-bvg.gc.ca/internet/English/parl_cesd_201212_04_e_37713.html

65 BDC, Overview, <http://www.bdc.ca/EN/about/overview/Pages/overview.aspx>

66 BDC, Annual Report 2013, http://www.bdc.ca/EN/Documents/annualreport/BDC_AnnualReport_2013.pdf

67 Export Development Canada, Individual Transaction Information, <https://www19.edc.ca/edcsecure/disclosure/DisclosureView.aspx>

68 Data is based on MDB exploration financing data from Oil Change International, ShiftTheSubsidies.org and shares of MDBs held by each G7 country from the respective MDB annual reports and replenishment agreements.

Table 5. EDC Fossil Fuel Exploration Loans, January 2012 to May 2014*

Company	Country of Transaction	Year	Amount (million USD)
Canacol Energy Colombia S. A.	Colombia	2014	\$23 to \$46
Reliance Industries Ltd.	India	2014	\$460
Parex Resources Inc.	Colombia	2014	\$28
Sanjel Corporation	Canada	2014	\$46 to \$92
Petróleos Mexicanos (PEMEX)	Mexico	2014	\$230 to \$460
QEP Resources	United States	2014	\$46 to \$92
Gazprom Neft	Russia	2014	\$46 to \$92
Xtreme Drilling and Coil Services Corp.	United States	2014	\$23 to \$46
Empresa Nacional del Petróleo	Chile	2013	\$23 to \$46
Devon Energy Corporation	United States	2013	\$23 to \$46
Petróleos Mexicanos (PEMEX)	Mexico	2013	\$46 to \$92
Petróleo Brasileiro (Petrobras)	Brazil	2013	\$230 to \$460
Gran Tierra Energy	Colombia	2013	\$14 to \$23
Transglobe Petroleum International Inc.	Egypt	2013	\$23 to \$46
Athabasca Oil Corporation	Canada	2013	\$23 to \$46
Top-Co Inc.	Canada	2013	\$14 to \$23
MEG Energy Corp.	Canada	2013	\$92 to \$230
Talisman Energy Inc.	Canada	2013	\$92 to \$230
Husky Energy	Canada	2013	\$92 to \$230
Petrominerales Colombia Ltd.	Colombia	2013	\$23 to \$46
Canaport LNG (Irving Oil)	Canada	2012	\$5 to \$14
Pan American Energy	Argentina	2012	\$14 to \$23
Maurel & Prom	Gabon	2012	\$46 to \$92
Devon Energy	United States	2012	\$92 to \$230
Petróleos Mexicanos (PEMEX)	Mexico	2012	\$46 to \$92
Calfrac Well Services Ltd	Canada	2012	\$23 to \$46
Hyduke Energy Services Inc.	Argentina	2012	\$5 to \$14
National Oilwell Varco Inc	United States	2012	\$92 to \$230
Calmena Energy Services Inc.	Brazil	2012	\$5 to \$14
Pacific Rubiales Energy Corp.	Colombia	2012	\$14 to \$23
Precision Drilling Corporation	Canada	2012	\$23 to \$46
Sanjel Group Ltd.	Canada	2012	\$46 to \$92
Hyduke Energy Services Inc.	Canada	2012	\$5 to \$14
Petróleo Brasileiro (Petrobras)	Brazil	2012	\$460 to \$920
Transglobe Petroleum International Inc.	Egypt	2012	\$23 to \$46
Prairie Mines & Royalty Ltd., Coal Valley Resources Inc.	Canada	2012	\$23 to \$46
Odebrecht Drilling Norbe Six GmbH	Brazil	2012	\$5 to \$14
Petróleos Mexicanos (PEMEX)	Mexico	2012	\$230 to \$460
Penn West Petroleum Ltd.	Canada	2012	\$46 to \$92
Nexen Inc.	Canada	2012	\$92 to \$230
Australia Pacific LNG Processing Pty. Ltd.	Australia	2012	\$230 to \$460
Parex Resources	Colombia	2012	\$14 to \$23
Parex Resources	Colombia	2012	\$14 to \$23
BG Energy Holdings Ltd.	United Kingdom	2012	\$230 to \$460
QEP Resources Inc.	United States	2012	\$23 to \$46
Canacol Energy	Colombia	2012	\$14 to \$23
Total EDC Fossil Fuel Exploration Financing, January 2012 to May 2014			\$3,417 to \$6,607

*Only projects with CA\$5 million or more in financing are shown.

FRANCE

BACKGROUND

France has very limited domestic fossil fuel resources and relies on nuclear energy for most of its electricity. Total oil and gas exploration expenditure in France varies by year but is consistently small (Figure 6).⁶⁹ In July 2014, French Minister of Foreign Affairs Laurent Fabius renewed the call for an end to fossil fuel subsidies, including in France, and for both public and private financial institutions to invest in renewable energy rather than fossil fuels in order to meet the global 2-degree climate goal.⁷⁰

Furthermore, while shale gas activity is beginning to grow in other parts of Europe, France currently has a moratorium on fracking, although some worry that this provisional ban could be lifted. The French Institute of Petroleum (discussed below) is actively involved in evaluating shale gas resources across Europe.

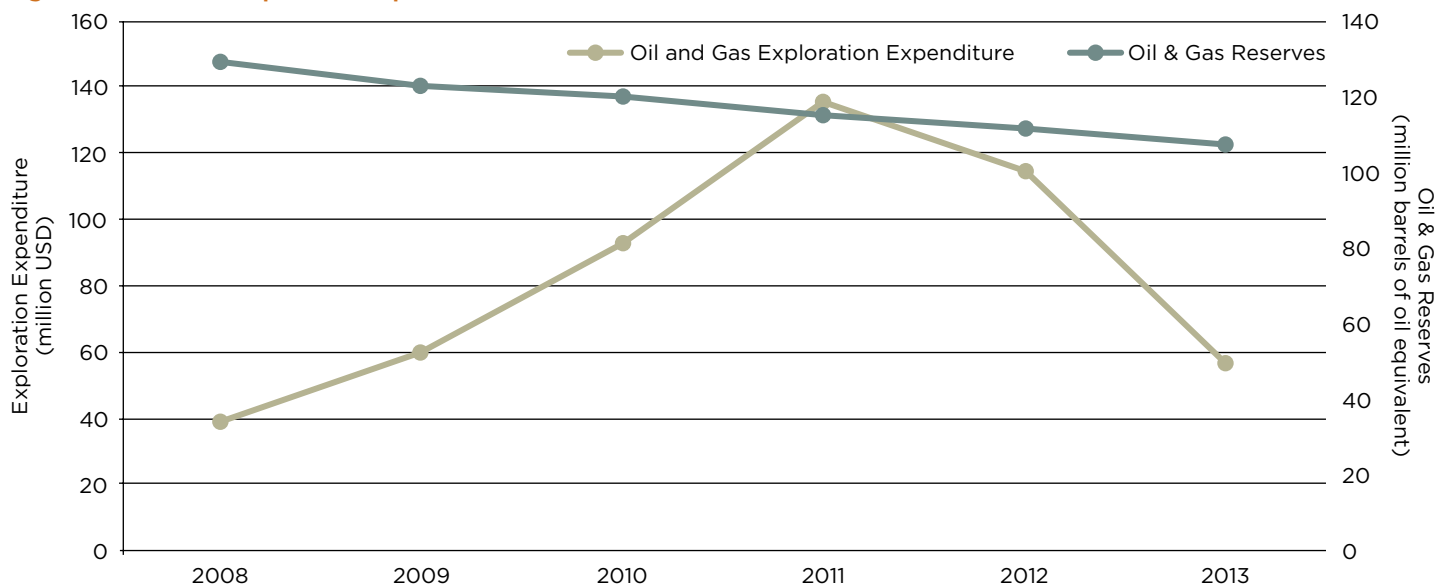
NATIONAL SUBSIDIES

With negligible conventional fossil resources and as one of the few countries with strong restrictions on the extraction

of unconventional oil and gas, France has only limited exploration subsidies and has made progress on phasing them out (Table 6). However, mostly through direct funding of oil and gas exploration research, France continues to provide about \$42 million in annual exploration subsidies.

In 2010, France phased out the subsidy that allowed oil and gas companies to deduct a fixed percentage of their revenue from their income tax base if they **reinvested the deducted amount in**

Figure 6. Oil and Gas Exploration Expenditure and Reserves in France⁷¹



69 Rystad UCube database

70 "Dérèglement climatique: l'appel de Fabius," *Le Figaro*, July 6, 2014, <http://www.lefigaro.fr/flash-eco/2014/07/06/97002-20140706FILWWW00141-dereglement-climatique-l-appel-de-fabius.php>

71 Rystad UCube database



Oil wells north of Bakersfield, California ©Tommaso Galli

Table 6. French Exploration Subsidies

Subsidy	Subsidy Type	Targeted Fossil Fuels	Estimated Annual Amount (million USD)	Timeframe for Subsidy Value Estimate	Specifically Targeted at Exploration?
Tax Deductions and Exemptions					
Partial tax deduction for exploration costs: allowed oil and gas companies to deduct a percentage of revenue if the amount was reinvested in exploration (phased out in 2010) ⁷²	Tax deduction	Oil & Gas	0	Phased out	Yes
Value-added tax (VAT) exemption: certain offshore oil and gas drilling equipment was exempted from the 19.6% VAT (phased out in 2011) ⁷³	Tax exemption	Oil & Gas	0	Phased out	Yes
Excise tax exemption for natural gas producers ⁷⁴	Tax exemption	Gas	\$2	2011	
Direct Spending					
Exploration research through the French Institute of Petroleum (IFP) ⁷⁵	Direct spending	Oil & Gas	\$40*	2013	Yes
Total Annual Exploration Subsidies			\$42		

*Total IFP funding was \$200 million in 2013; we assume that one-fifth of this total funding was dedicated to exploration activities, as fossil fuel reserves expansion is one of IFP's five strategic priorities.

72 Organization for Economic Cooperation and Development (OECD), OECD-IEA Fossil Fuel Subsidies and Other Support, <http://www.oecd.org/site/tadffss/>

73 Ibid.

74 Ibid.

75 Sénat, Projet de loi de finances pour 2013 : Recherche en matière de développement durable, <http://www.senat.fr/rap/a12-153-8/a12-153-811.html>

exploration. In previous years, this subsidy totaled up to \$20 million.⁷⁶ Unlike subsidy phase-out in some other countries that is implemented gradually and can take decades for full elimination, the repeal of this provision went into effect immediately.

Similarly, the 2011 policy to phase out the **exemption of offshore drilling equipment from the 19.6 value-added tax (VAT)** took effect from the beginning of 2012. The subsidy, in place since 1971, was meant to encourage exploration and development of oil and gas resources in France's continental shelf.⁷⁷

The French government still provides a production subsidy through an exemption from the excise tax on fuel consumption for natural gas companies, which reduces the costs of gas exploration in France. However, due to limited natural gas resources and production in France, this subsidy is relatively small at \$2 million per year.⁷⁸

France also continues to subsidize oil and gas exploration through the French Institute of Petroleum (IFP), which received \$200 million in government funding in 2013.⁷⁹ While IFP engages in research on a range of topics from biofuels to carbon sequestration, one of the Institute's five strategic priorities is the expansion of fossil fuel reserves through exploration.⁸⁰ IFP has developed a range of exploration software programs to quantify petroleum resources, including through 3D seismic imaging. IFP also has numerous joint exploration projects with industry, including several to identify shale gas resources across Europe (despite the fracking moratorium within France). Finally, at the request of the Ministry of Economy, Finance, and Industry, IFP conducts regional studies to identify petroleum resources in France and its overseas territories.⁸¹

PUBLIC FINANCE

In 2013, France's export credit agency,

Compagnie Française d'Assurance pour le Commerce Extérieur (COFACE), provided three loan guarantees totaling \$291 million to overseas exploration projects. These guarantees in 2013 were the only major exploration financing from COFACE since at least 2010, resulting in an annual average of \$73 million of French public financing over the 2010 to 2013 period.

International

In 2013, COFACE provided two guarantees to Sercel in Russia specifically aimed at exploration, and an additional guarantee for the development of the Ichthys LNG field in Australia (Table 7).⁸²

France also contributed an annual average of \$51.5 million to fossil fuel exploration projects from 2010 to 2013 through its shares in the World Bank Group, European Bank for Reconstruction and Development, European Investment Bank, and Asian Development Bank, which range from 2 to 16 percent depending on the institution.⁸³

Table 7. COFACE Fossil Fuel Exploration Guarantees, 2010 to 2013

Project	Country	Company	Year	Amount (million USD)	Specifically Targeted at Exploration?
Ichthys LNG	Australia	Thermodyn SAS	2013	\$230	
Equipment for petroleum research	Russia	Sercel	2013	\$23	Yes
Equipment for petroleum research	Russia	Sercel	2010	\$38	Yes
Total Fossil Fuel Exploration Financing, 2010 to 2013				\$291	

76 Organization for Economic Cooperation and Development (OECD), OECD-IEA Fossil Fuel Subsidies and Other Support, <http://www.oecd.org/site/tadffss/>

77 Ibid.

78 Ibid.

79 Sénat, Projet de loi de finances pour 2013 : Recherche en matière de développement durable, <http://www.senat.fr/rap/a12-153-8/a12-153-811.html>

80 Institut français du pétrole, En bref, <http://www.ifpenergiesnouvelles.fr/ifpen/en-bref>

81 Institut français du pétrole, Exploration, <http://www.ifpenergiesnouvelles.fr/developpement-industriel/exploration-production/exploration>

82 COFACE, Liste Trimestrielle des Projets Pris en Garantie, Documents Relatifs à L'Évaluation Environnementale et Sociale, <http://www.coface.fr/Garanties-publiques/Evaluation-environnementale-et-sociale>

83 Data is based on MDB exploration financing data from Oil Change International, ShiftTheSubsidies.org and shares of MDBs held by each G7 country from the respective MDB annual reports and replenishment agreements.

GERMANY

BACKGROUND

Germany currently has some of the strongest renewable energy policies and greenhouse gas emissions reduction targets in the world, and has accelerated its phase-out of nuclear energy following the 2011 Fukushima nuclear disaster in Japan. This shift away from conventional fossil and nuclear energy is known in Germany as the “Energiewende,” or energy transition.⁸⁴ Renewable energy generation under the Energiewende has more than made up for the phased-out nuclear plants. However, due to flaws in the European Emissions Trading System,

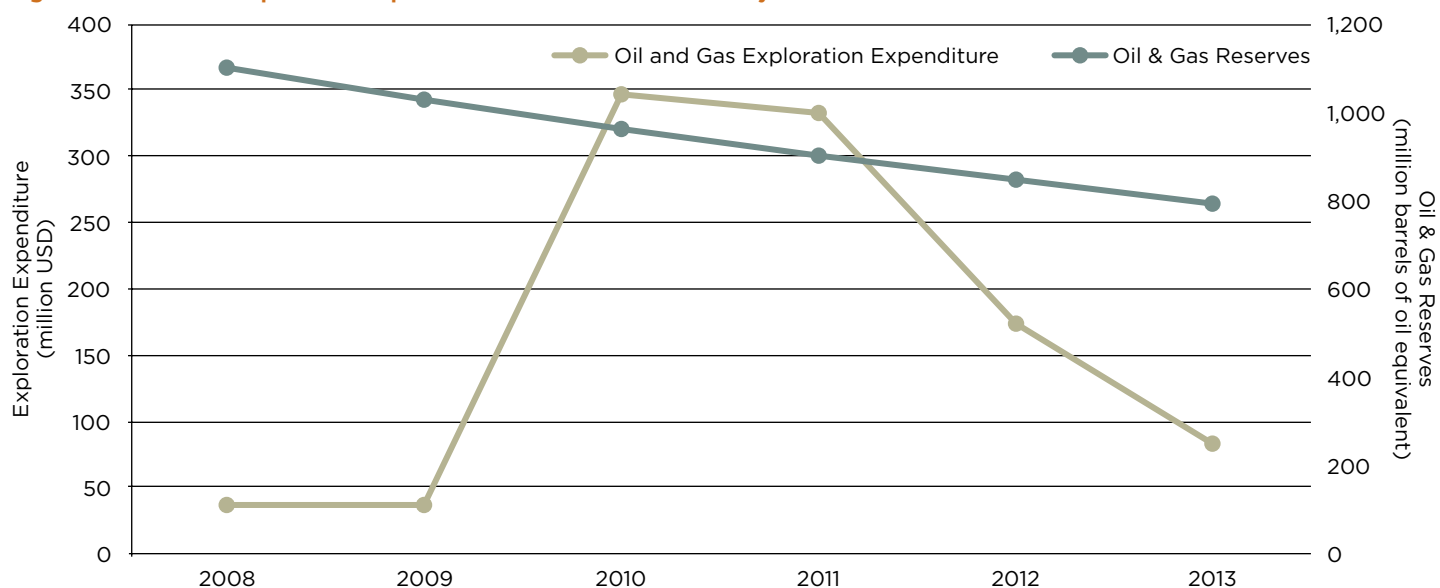
coal power is currently cheaper than natural gas in Germany, causing a recent short-term increase in Germany’s coal production and consumption. In general, Germany is on track to meet its emissions reduction targets, although additional renewable energy and energy efficiency measures are required to compensate for the increase in coal use.⁸⁵

Like its neighbor France, Germany has limited and dwindling conventional oil and gas resources. However, Germany has been somewhat more open than France in allowing exploration and development of

potential shale gas reserves, establishing restrictions but falling short of a full moratorium on hydraulic fracturing. In July 2014, the German government established a plan prohibiting shale gas drilling less than 3,000 meters below the surface and established measures to protect aquifers from injection liquids used in shale gas exploration activities.

Public and private oil and gas exploration expenditure dropped significantly in 2012 and 2013 and is low compared with major oil and gas producing countries assessed in this report (Figure 7).⁸⁶

Figure 7. Oil and Gas Exploration Expenditure and Reserves in Germany⁸⁷



84 Heinrich Böll Stiftung, Energy Transition: The German Energiewende, <http://energytransition.de/>

85 EIA, International Energy Statistics, <http://www.eia.gov/cfapps/ipdbproject/iedindex3.cfm?tid=1&pid=1&aid=2&cid=GM,&syid=2008&eyid=2012&unit=TST>

86 Rystad UCube database

87 Ibid.



Table 8. German Exploration Subsidies

Subsidy	Subsidy Type	Targeted Fossil Fuels	Estimated Annual Amount (million USD)	Timeframe for Subsidy Value Estimate
Manufacturer privilege: companies are exempt from tax on fuels used for fossil fuel production ⁸⁹	Tax exemption	Oil, Gas & Coal	\$344	2011
R&D for offshore oil and gas extraction ⁹⁰	Direct spending	Oil & Gas	N/A*	N/A*
Total Annual Exploration Subsidies			\$344	

Table 9. KfW Fossil Fuel Exploration Guarantees, 2010 to 2013

Project	Country	Year	Amount (million USD)
MB Kolubara coal mine in Serbia	Russia	2012	\$75.8
Total Fossil Fuel Exploration Financing, 2010 to 2013			\$75.8

NATIONAL SUBSIDIES

Due to its limited domestic conventional oil and gas resources, identification of virtually all coal deposits, and an energy policy that focuses on renewable energy, Germany does not have any major subsidies specifically aimed at fossil fuel exploration. However, the government

does provide tax exemptions to fossil fuel producers that could benefit exploration activities (Table 8). Despite the past trend of refusing permits for shale gas projects, the new government has demonstrated openness to studying fracking, which could result in some direct spending on shale gas exploration in Germany.⁸⁸

The German government provides a **manufacturer privilege**, worth \$344 million in 2011, that exempts companies from paying a tax on fuel used in fossil fuel production.⁹¹ While this applies to oil, gas, and coal production generally, it could also benefit exploration by reducing the cost of fuel used in exploration activities.

⁸⁸ Vera Eckert, "Unleash German shale to halt gas output decline, industry pleads," *Reuters*, February 6, 2014, <http://www.reuters.com/article/2014/02/06/germany-fracking-idUSL5NOL41TO20140206>

⁸⁹ Organization for Economic Cooperation and Development (OECD), OECD-IEA Fossil Fuel Subsidies and Other Support, <http://www.oecd.org/site/tadffss/>

⁹⁰ Doug Koplow et al., *Untold Billions: Fossil-Fuel Subsidies, Their Impacts and the Path to Reform*, Global Subsidies Initiative, August 2010, http://earthtrack.net/files/uploaded_files/mapping_ffs.pdf

⁹¹ Organization for Economic Cooperation and Development (OECD), OECD-IEA Fossil Fuel Subsidies and Other Support, <http://www.oecd.org/site/tadffss/>



Mountaintop removal coal mine in Kayford Mountain, West Virginia ©Kate Wellington

A 2010 review of fossil fuel policies also found that Germany provides an undetermined amount of funding for **research and development relating to offshore oil and gas extraction**, which could include exploration components.⁹²

PUBLIC FINANCE

Germany's public financing for fossil fuel exploration is targeted toward overseas projects. Unfortunately, financing from development and export credit agencies in Germany is highly opaque. As a result of the limited availability of project details, it is difficult to determine the full extent of Germany's support for overseas fossil fuel exploration. Since 2010, the amount for only one fossil fuel extraction project supported by KfW, Germany's export finance bank, is available, with \$75.8 million in financing for a coal mine in Serbia in 2012 – for an annual average of \$19 million in known financing over the four-year period from 2010 to 2013.

International

KfW is currently intensifying financing of German maritime companies investing in offshore oil and gas through its largest subsidiary, KfW IPEX-Bank. In particular, in 2013 KfW instituted a program to provide export credit financing for projects involving a minimum of \$30 million of German equipment per investment to offshore oil and gas ship, vessel, and platform projects. Most of this will likely be for overseas oil and gas extraction due to Germany's limited domestic resources and the fact that currently 70 percent of German shipbuilding and offshore revenue is generated outside of Germany.⁹³ Information on the total amount of loans expected to be made through this program was unavailable.

KfW also provides financing for coal, but from 2010 to 2013 loan details were only available for one coal mining project – \$75.8 million in 2012 for the MB Kolubara coal mine in Serbia (Table 9).⁹⁴

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), the German Society for International Cooperation, appears to fund overseas fossil fuel extraction to a lesser extent. However, these projects seem to be geared more toward resource governance rather than directly increasing exploration and extraction. For example, in 2013 GIZ provided an unknown amount of financing for a project aimed at “strengthening resource governance in the gas sector in Tanzania”.⁹⁵ Due to lack of transparency in this institution, information on additional fossil fuel projects is not available.

Germany also contributed an annual average \$53.4 million to fossil fuel exploration projects from 2010 to 2013 through its shares in the World Bank Group, European Bank for Reconstruction and Development, European Investment Bank, and Asian Development Bank which range from 4 to 16 percent depending on the institution.⁹⁶

⁹² Doug Koplou et al., *Untold Billions: Fossil-Fuel Subsidies, Their Impacts and the Path to Reform*, Global Subsidies Initiative, August 2010, http://earthtrack.net/files/uploaded_files/mapping_ffs.pdf

⁹³ <https://www.kfw-ipex-bank.de/pdf/Business-sectors/Maritime-Industries/2013-04-08-German-and-European-maritime-equipment-finance.pdf>

⁹⁴ Natural Resources Defense Council (NRDC), unpublished data on international financial institution coal financing

⁹⁵ GIZ, Project data, <https://www.giz.de/projektseiten/index.action>

⁹⁶ Data is based on MDB exploration financing data from Oil Change International, ShiftTheSubsidies.org and shares of MDBs held by each G7 country from the respective MDB annual reports and replenishment agreements.

ITALY

BACKGROUND

Italy has very limited oil, gas, and coal resources, and its remaining reserves are rapidly dwindling. As a result, public and private companies spend only a small amount on exploration within Italy (Figure 8).⁹⁷ However, Italy is home to multinational oil giant Eni, which is 30 percent owned by the Italian government and invests in major exploration projects around the world.

NATIONAL SUBSIDIES

Italy has two subsidies that incentivize fossil

fuel exploration, totaling more than \$400 million annually (Table 10).

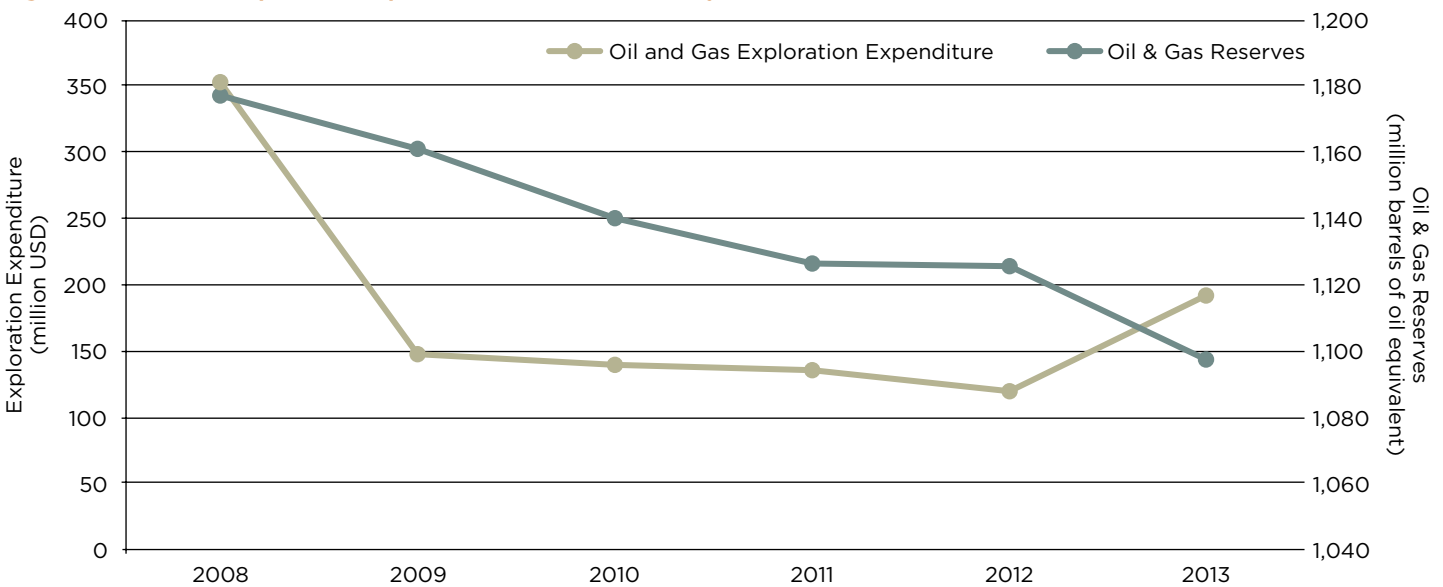
Oil and gas companies in Italy are provided with **cheap access to government land** for oil and gas exploration and production. Legambiente, an Italian environmental NGO, estimates that updating leasing rates – including for prospecting and research activities – would have resulted in an additional \$407 million of government revenue in 2012 alone.¹⁰¹

The Italian government also provides a **reduction in the excise tax paid on natural gas consumption for oil and gas field operations**, including exploration. Due to the low level of oil and gas activity in Italy, this subsidy is relatively small, at about \$400,000 per year.¹⁰²

PUBLIC FINANCE

Italy's public finance for fossil fuel exploration is concentrated in overseas oil and gas. Through equity investments in oil and gas companies, the Italian government

Figure 8. Oil and Gas Exploration Expenditure and Reserves in Italy⁹⁸



97 Rystad UCube database

98 Ibid.

99 Legambiente, "Stop sussidi alle fonti fossili: 12 miliardi di euro, a scapito dell'ambiente, dell'innovazione e delle tasche degli italiani," November 23, 2013, <http://www.legambiente.it/contenuti/comunicati/stop-sussidi-alle-fonti-fossili-12-miliardi-di-euro-scapito-dell-ambiente-dell-innovazione-e-delle-tasche-degli-italiani>

100 Ministry of Economics and Finance, Bilancio: *Stato di Previsione Dell'Entrata, 2014*, http://www.rgs.mef.gov.it/_Documenti/VERSIONE-I/Attivit-i/Bilancio_di_previsione/Bilancio_finanziario/2014/DisegnodiBilancio/AllegatoaldisegnodiBilancio/01-Allegato_tecnico-Entrata.pdf; Ministry of Economics and Finance Gruppo di lavoro sull'erosione fiscale, November 22, 2011, http://www.mef.gov.it/primo-piano/documenti/20111229/Relazione_finale_del_gruppo_di_lavoro_sullerosione_fiscale.pdf

101 Legambiente, "Stop sussidi alle fonti fossili: 12 miliardi di euro, a scapito dell'ambiente, dell'innovazione e delle tasche degli italiani," November 23, 2013, <http://www.legambiente.it/contenuti/comunicati/stop-sussidi-alle-fonti-fossili-12-miliardi-di-euro-scapito-dell-ambiente-dell-innovazione-e-delle-tasche-degli-italiani>

102 Ministry of Economics and Finance, *Bilancio: Stato di Previsione Dell'Entrata, 2014*, http://www.rgs.mef.gov.it/_Documenti/VERSIONE-I/Attivit-i/Bilancio_di_previsione/Bilancio_finanziario/2014/DisegnodiBilancio/AllegatoaldisegnodiBilancio/01-Allegato_tecnico-Entrata.pdf

Table 10. Italian Exploration Subsidies

Subsidy	Subsidy Type	Targeted Fossil Fuels	Estimated Annual Amount (million USD)	Timeframe for Subsidy Value Estimate
Low lease rates for prospecting, research, and production ⁹⁹	Tax deduction (cheap access to government land)	Oil & Gas	\$407	2012
Excise duty reduction for natural gas used in fossil fuel extraction operations ¹⁰⁰	Tax deduction	Oil & Gas	\$0.4	2014-2016
Total Annual Exploration Subsidies			\$407.4	

Table 11. CDP Oil and Gas Exploration Company Equity Purchases, 2010 to 2013

Company	Year	Equity Share	Amount (million USD)
Fincantieri Oil & Gas S.p.A	2013	100%	\$10
Vard Holdings Ltd.	2013	55.63%	\$620
Total CDP Exploration Financing, 2010 to 2013			\$630

Box 2. Government Role in Eni Exploration

The Italian government owns a 30 percent share of multinational oil giant Eni, giving it the decisive (and veto) vote among all Eni shareholders. Eni, a major multinational oil company, is based in Italy and has oil and gas exploration and production operations around the world.¹⁰³ The Italian government's 30 percent share of Eni is mostly through Cassa Depositi e Prestiti (CDP), a majority state-owned bank, which owns a 26 percent stake that was worth more than \$20 billion at the end of 2013.¹⁰⁴ The remainder of the government's share is held by the Italian Treasury.

Eni spent a total of \$2.2 billion on exploration in 2013 and is currently engaged in deep-water and ultra deep-water exploration in Nigeria, Angola, Congo, Gabon, Brazil, and the Gulf of Mexico. Eni is also involved in major projects to explore for oil and gas resources in Mozambique, Kenya, Vietnam, Myanmar, Indonesia, Australia, and the Russian and Ukrainian frontier areas of the Black Sea. Additionally, in 2013 Eni began oil and gas exploration in the Arctic, in the Russian and Norwegian sections of the Barents Sea.¹⁰⁵

provided \$630 million in exploration financing from 2010 to 2013 – an annual average of \$158 million. With export credit lending for oil and gas projects through Servizi Assicurativi del Commercio Estero (SACE), Italy provided an additional estimated \$300 million in exploration financing in 2013 alone.

International

In 2013, Italian state-owned bank CDP purchased equity stakes, valued at a total of \$630 million, in two oil and gas companies that engage in exploration (Table 11). Although CDP provides regular financing for fossil fuel infrastructure projects, these

appear to be the only exploration company equity investments since at least 2010.¹⁰⁶

Italy's export credit agency, SACE, was acquired by CDP in 2012 and lists oil and gas projects as a top priority for its project lending portfolio, which totals \$1 to \$1.5 billion each year.¹⁰⁷ In 2013, the oil and gas sector – including exploration – accounted for 23 percent of SACE financing, providing the assumption that SACE provides roughly \$300 million in oil and gas loans each year.¹⁰⁸ However, project lists and details were not available based on preliminary research.

Società italiana per le imprese all'estero (SIMEST), is another Italian agency set up to facilitate Italian foreign investment. While again project details and financing amounts were not readily available, SIMEST has supported oil and gas projects, likely including exploration, in Kazakhstan and Mozambique over the past few years.¹⁰⁹

Italy also contributed an annual average of \$42.9 million to fossil fuel exploration projects from 2010 to 2013 through its shares in the World Bank Group, European Bank for Reconstruction and Development, European Investment Bank, and Asian Development Bank which range from 2 to 16 percent depending on the institution.¹¹⁰

¹⁰³ Eni, *Annual Report 2013*, http://www.eni.com/en_IT/attachments/publications/reports/reports-2013/Annual-Report-2013.pdf?home_2010_en_tab=altri_documentazione

¹⁰⁴ Cassa depositi e prestiti (CDP), 2013 Annual Report, <http://www.cassaddpp.it/static/upload/201/2013-annual-report.pdf>

¹⁰⁵ Eni, *Annual Report 2013*, http://www.eni.com/en_IT/attachments/publications/reports/reports-2013/Annual-Report-2013.pdf; Eni, Deep Water, https://www.eni.com/en_IT/innovation-technology/eni-projects/deep-water/deep-water-project.shtml

¹⁰⁶ CDP, Annual Reports and Key Figures, <http://www.cassaddpp.it/en/company-profile/facts-and-figures/annual-reports-and-key-figures.html>

¹⁰⁷ SACE, Project & Structured Finance, http://www.sace.it/GruppoSACE/content/en/consumer/products/banks_products/project_finance/

¹⁰⁸ Cassa depositi e prestiti (CDP), 2013 Annual Report, <http://www.cassaddpp.it/static/upload/201/2013-annual-report.pdf>

¹⁰⁹ SIMEST SpA, *Annual Report 2012*, http://www.simest.it/key-listing/uploads/Annual_Report_2012.pdf, p. 15 and *Annual Report for 2009*, http://www.simest.it/key-listing/uploads/Abridged_Report_2009_p2.pdf, p. 61

¹¹⁰ Data is based on MDB exploration financing data from Oil Change International, ShiftTheSubsidies.org and shares of MDBs held by each G7 country from the respective MDB annual reports and replenishment agreements.

JAPAN

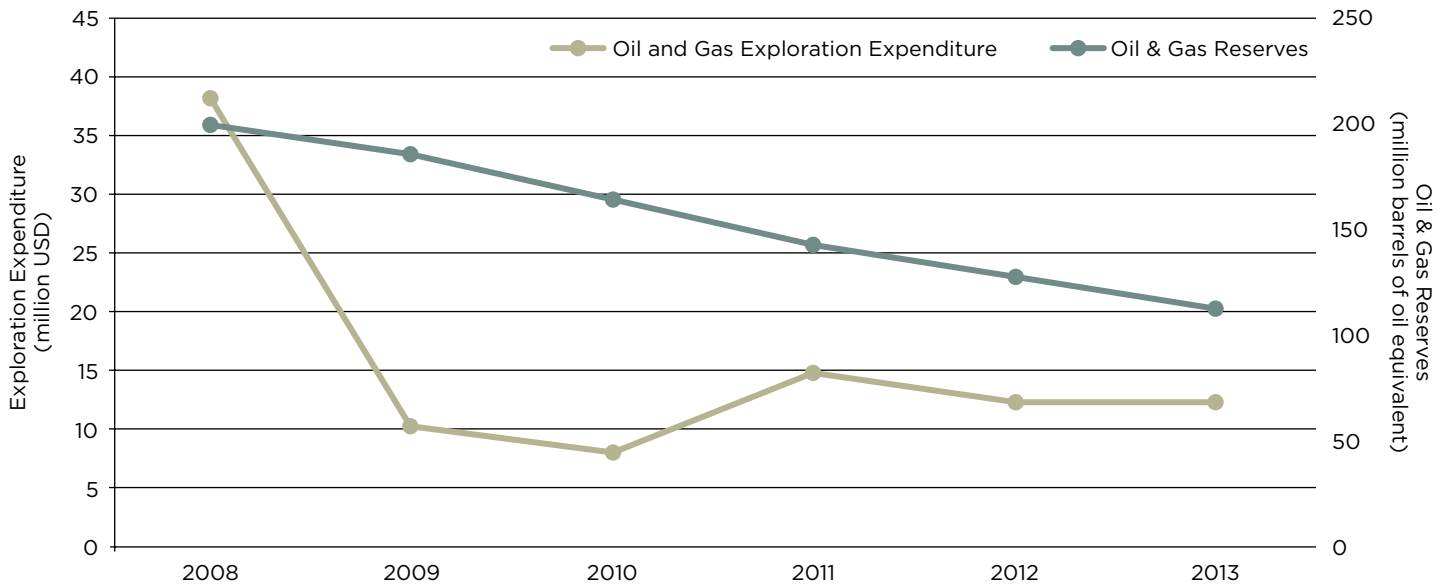
BACKGROUND

With scarce and rapidly dwindling fossil fuel resources of its own, Japan engages in only a small amount of domestic oil and gas exploration and relies heavily on fossil fuel imports to meet its energy needs, especially following the accelerated phase-out of nuclear power following the Fukushima

disaster in 2011. Public and private oil and gas exploration expenditure within Japan, as well as Japan's oil and gas reserves, are declining (Figure 9).¹¹¹ Increasing interest in offshore methane hydrates resources and in the South China Sea (disputed by China) could result in increased exploration in Japan in future years.

The Japanese government is actively involved in promoting oil, gas, and coal exploration and extraction overseas in order to secure energy resources. Overseas oil and gas exploration expenditure by Japanese companies increased by more than five times since 2000 to reach \$1.4 billion in 2013 (Figure 10).¹¹³

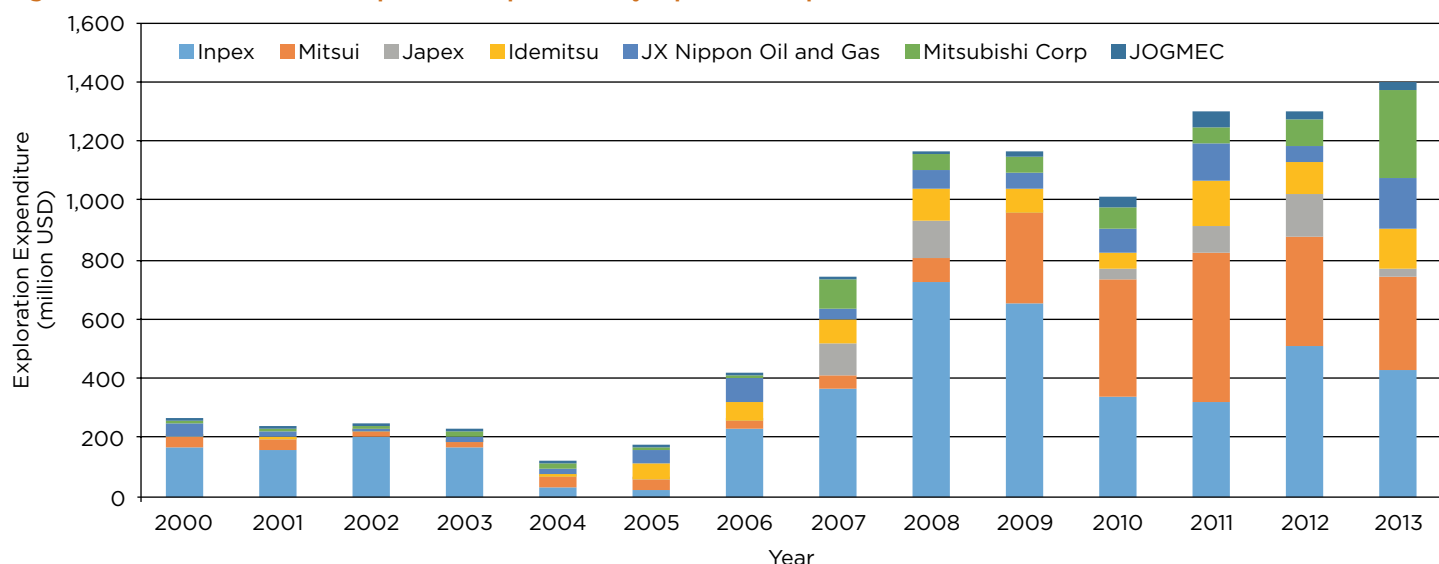
Figure 9. Oil and Gas Exploration Expenditure and Reserves in Japan¹¹²



¹¹¹ Rystad UCube database

¹¹² Ibid.

¹¹³ Ibid.

Figure 10. Overseas Oil and Gas Exploration Expenditure by Japanese Companies¹¹⁴**Table 12. Japanese Exploration Subsidies**

Subsidy	Subsidy Type	Targeted Fossil Fuels	Estimated Annual Amount (million USD)	Timeframe for Subsidy Value Estimate	Specifically Targeted at Exploration?
Natural Gas Exploration Subsidy ¹¹⁶	Unclear**	Gas	\$400	2011	Yes
Oil Prospecting Subsidy ¹¹⁷	Unclear**	Oil	\$301	2011	Yes
Direct Spending					
Japan Oil, Gas and Metals National Corporation (JOGMEC) ¹¹⁸	Direct spending	Oil & Gas	\$23	2013	Yes
Total Annual Exploration Subsidies			\$724		

*Subsidy estimate not available **Subsidy information from OECD; subsidy type not identified

NATIONAL SUBSIDIES

Japan provides major subsidies to promote oil and gas exploration by Japanese companies overseas, and to a smaller extent domestically. These subsidies currently total \$724 million, down from a high of over \$2.5 billion in 2007 (Table 12).¹¹⁵

Based on the preliminary English-language research conducted for this analysis, there is relatively little detail available on the nature of **oil and gas exploration subsidies** provided by the Japanese government. However, OECD data shows that these subsidies are substantial.

Information on the nature of **direct spending on exploration by the Japan Oil, Gas and Metals National Corporation (JOGMEC)** is more readily available (in addition to information on this agency's financing of overseas exploration projects – see “Public Finance” section). JOGMEC conducts geological surveys and exploratory oil and gas drilling both in Japan and overseas, and provides this data to Japanese exploration and production companies. In addition, JOGMEC provides technical support and develops new exploration technologies to assist companies in their exploration activities.¹¹⁹

Exploration expenditure by JOGMEC was \$23 million in 2013.¹²⁰

PUBLIC FINANCE

Through financing by JOGMEC, the Japan Bank for International Cooperation (JBIC), and Nippon Export and Investment Insurance (NEXI), Japan provided \$22.6 billion in public finance for fossil fuel exploration from 2010 to 2013 – an annual average of \$5.7 billion – for projects overseas.

¹¹⁴ Rystad UCube database

¹¹⁵ Organization for Economic Cooperation and Development (OECD), OECD-IEA Fossil Fuel Subsidies and Other Support, <http://www.oecd.org/site/tadffss/>

¹¹⁶ Ibid.

¹¹⁷ Ibid.

¹¹⁸ JOGMEC, Oil and Natural Gas, <http://www.jogmec.go.jp/english/oil/index.html>

¹¹⁹ Ibid.

¹²⁰ Rystad UCube database

Ensuring the stable supply of energy resources for Japan, including by supporting resource development and constructing oil storage facilities, is among several lending sectors for the Development Bank of Japan, a state-owned bank. However, English-language project details and lists were not readily available.¹²¹

International

Because most of Japan's fossil fuel interests are overseas, the government provides favorable financing for exploration for both Japanese and foreign companies through many different channels, including the Japan Oil, Gas and Metals National Corporation (JOGMEC), the Japan Bank for International Cooperation (JBIC), and Nippon Export and Investment Insurance (NEXI).

Due to its particular focus on oil and gas development, JOGMEC provides extensive, targeted financing for fossil fuel exploration through liability guarantees and equity (Table 13).¹²² The total estimate of \$6.6 billion in JOGMEC overseas exploration financing (for projects active as of March 2013) is likely an underestimate due to the lack of data for some projects. In recent years, JOGMEC appears to be shifting its focus to financing projects in other industrialized countries, notably Australia and Canada.

Table 13. JOGMEC Oil and Gas Exploration Financing, 2010 to 2013

Company	Country	Year	Financing Type	Amount (million USD)	Specifically Targeted at Exploration?
JAPEX Montney Ltd.	Canada	2013	Equity	\$220	
Cutbank Dawson Gas Resources Ltd.	Canada	2013	Liability Guarantee	\$2,000	
INPEX Ichthys Pty. Ltd.	Australia	2012	Liability Guarantee	\$20	
Pan Pacific Energy K.K.	Australia	2012	Equity	\$280	
PE Wheatstone Pty. Ltd.	Australia	2012	Liability Guarantee	\$1,300	
INPEX Gas British Columbia Ltd.	Canada	2012	Equity	\$400	
Greenland Petroleum Exploration Co., Ltd.	Greenland	2012	Equity	N/A*	Yes
Japan Energy E&P Australia Pty. Ltd.	Australia	2011	Equity	\$100	Yes
Diamond Resources Exmouth Pty. Ltd.	Australia	2011	Equity	\$120	Yes
Cordova Gas Resources Ltd.	Canada	2011	Liability Guarantee	\$750	
Shale Gas Investment B.V.	Canada	2011	Equity	\$120	
INPEX Babar Selaru, Ltd.	Indonesia	2011	Equity	\$160	Yes
INPEX Masela Ltd.	Indonesia	2011	Equity	N/A*	
MOECO Tuna E&P Co., Ltd.	Indonesia	2011	Equity	\$20	Yes
JX Nippon Oil & Gas Exploration (Onshore Sarawak) Ltd.	Malaysia	2011	Equity	\$100	Yes
INPEX Gulf of Mexico Co., Ltd.	United States	2011	Equity	\$70	Yes
INPEX West Congo Petroleum Ltd.	Democratic Republic of Congo	2010	Equity	\$30	Yes
JAPEX Garraf Ltd.	Iraq	2010	Equity	\$160	
Sakhalin Oil and Gas Development Co., Ltd.	Russia	2010	Liability Guarantee	\$360	
CIECO Exploration and Production (UK) Ltd.	Denmark	2010	Liability Guarantee	\$20	Yes
Japan Carabobo Ltd.	Venezuela	2010	Equity	\$300	
NOEX (Cuu Long) Ltd.	Vietnam	2010	Equity	\$50	Yes
Total JOGMEC Oil and Gas Exploration Financing, 2010 to 2013				\$6,580	

*Information not available

JBIC also provides extensive financing for oil, gas, and coal projects overseas – \$15.9 billion since 2010. This includes billions

of dollars in financing for coal mines, by far the most coal financing of any export credit agency. These projects are likely

to include exploration and expansion components and so are included in the financing total for Japan (Table 14).¹²³

¹²¹ <http://www.dbj.jp/en/solution/social/resources/index.html>

¹²² JOGMEC E&P Projects (March 2013), <http://www.jogmec.go.jp/content/300057581.jpg>

¹²³ Based on JBIC, Energy and Natural Resources, <http://www.jbic.go.jp/en/efforts/support/resources> and unpublished data on international financial institution coal financing from the Natural Resources Defense Council (NRDC), citing data from the Japan Center for Sustainable Environment and Society

Table 14. JBIC Fossil Fuel Exploration Financing, 2010 to March 2014

Project	Country	Company	Year	Amount (million USD)
Coal-bed methane field development	Australia	Toyota Tsusho Corp.	2014	\$126
Shale oil and gas development	United States	Mitsui	2014	\$782
Coal mine development	Australia	Mitsubishi	2013	\$1,540
Coal mine expansion	Australia	Idemitsu Australia Resources Pty Ltd	2013	\$350
Gas field development for LNG	Australia	Tokyo Gas	2013	\$159
Oil sands development expansion	Canada	Japan Canada Oil Sands Ltd.	2013	\$300
Offshore oil development	Ghana	Tullow Oil	2013	\$508
Oil field development	Italy	Mitsui E&P Italia A S.r.l.	2013	\$830
Private equity fund for energy and resource projects in North America	Regional - North America	Energy Opportunity Fund, L.P.	2013	\$50
Oil and gas development	United Arab Emirates	<u>Abu Dhabi National Oil Co.</u>	2013	\$3,000
Coal mine acquisition	Australia	JFE Holdings, Inc.	2012	\$160
Memorandum of understanding for LNG supply	Australia	Woodside Petroleum	2012	None
Coal mine acquisition	Australia	Sumisho Coal Australia Pty. Ltd. (Sumitomo Corp.)	2012	\$302
New coking coal mine	Australia	Mitsui Kestrel Coal Investment Pty. Ltd.	2012	\$259
Coal mine acquisition	Canada	JX Nippon Oil & Energy Corporation	2012	\$261
Coal-bed methane field acquisition	Canada	Toyota Tsusho Corp.	2012	N/A*
Shale gas development	Canada	INPEX Corp.	2012	\$180
Coal mine acquisition	Colombia	ITOCHU Coal Americas Inc.	2012	\$619
Samurai bond guarantees	Qatar	Qatar Petroleum	2012	N/A*
Unconventional oil and gas development	United States	JD Rockies Resources Ltd. (ITOCHU Corp.)	2012	\$308
Tight oil development	United States	Sumitomo Corp.	2012	N/A*
Shale oil development	United States	JGC Exploration Eagle Ford LLC	2012	\$49
Coal mine acquisition	Australia	Sojitz Coal Resources Pty. Ltd.	2011	\$145
Acquisition of coal-bed methane interests	Australia	Tokyo Gas	2011	\$175
Developing offshore pre-salt oil field	Brazil	Cernambi Sul MV24 B.V.	2011	\$675
Shale gas development	Canada	Cordova Gas Resources Ltd.	2011	\$258
Coal mine acquisition	Canada	Marubeni Corp.	2011	\$169
Expansion of natural gas supply	Indonesia	Badan Pelaksana Kegiatan Usaha Hulu Minyak dan Gas Bumi (BPMIGAS)	2011	None
Gas field development for LNG	Australia	Tokyo Gas	2010	\$102
Developing offshore pre-salt oil field	Brazil	Tupi Pilot MV22 B.V.	2010	\$480
Coal mining equipment	Indonesia	PT Pamapersada Nusantara (PAMA)	2010	\$50
Offshore oil and gas vessels	Norway	K Line Offshore A.S.	2010	\$170
Oil and gas development	United Arab Emirates	Abu Dhabi National Oil Co.	2010	\$3,000
Shale gas acquisition	United States	Mitsui E&P USA LLC	2010	\$700
Coal supply	Vietnam	Vietnam National Coal and Mineral Industries Group	2010	\$150
Total JBIC Fossil Fuel Exploration Financing, 2010 to March 2014				\$15,857

*Financing amount not available

Project details for NEXI were less readily available, but it has provided financing for

two coal mining projects since 2010 (Table 15).¹²⁴

Table 15. NEXI Exploration Financing, 2010 to 2013

Project	Country	Year	Amount (million USD)
Acquiring Coal Interest Project	Colombia	2012	N/A*
Russia/SUEK Coal Mine and Port Expansion Project	Russia	2012	\$200
Total NEXI Exploration Financing, 2010 to 2013			\$200

*Financing amount not available

Japan also contributed an annual average of \$42 million to fossil fuel exploration projects from 2010 to 2013 through its

shares in the World Bank Group, European Bank for Reconstruction and Development, and Asian Development Bank which range

from 4 to 16 percent depending on the institution.¹²⁵

¹²⁴ Based on unpublished data on international financial institution coal financing from the Natural Resources Defense Council (NRDC)

¹²⁵ Data is based on MDB exploration financing data from Oil Change International, ShiftTheSubsidies.org and shares of MDBs held by each G7 country from the respective MDB annual reports and replenishment agreements.

UNITED KINGDOM

BACKGROUND

Coal production in the UK has declined significantly in recent decades and dropped again by nearly half since 2000.¹²⁶ Although conventional oil and gas reserves are similarly declining and public and private oil and gas exploration expenditure is variable, over the past few years the UK government has implemented massive

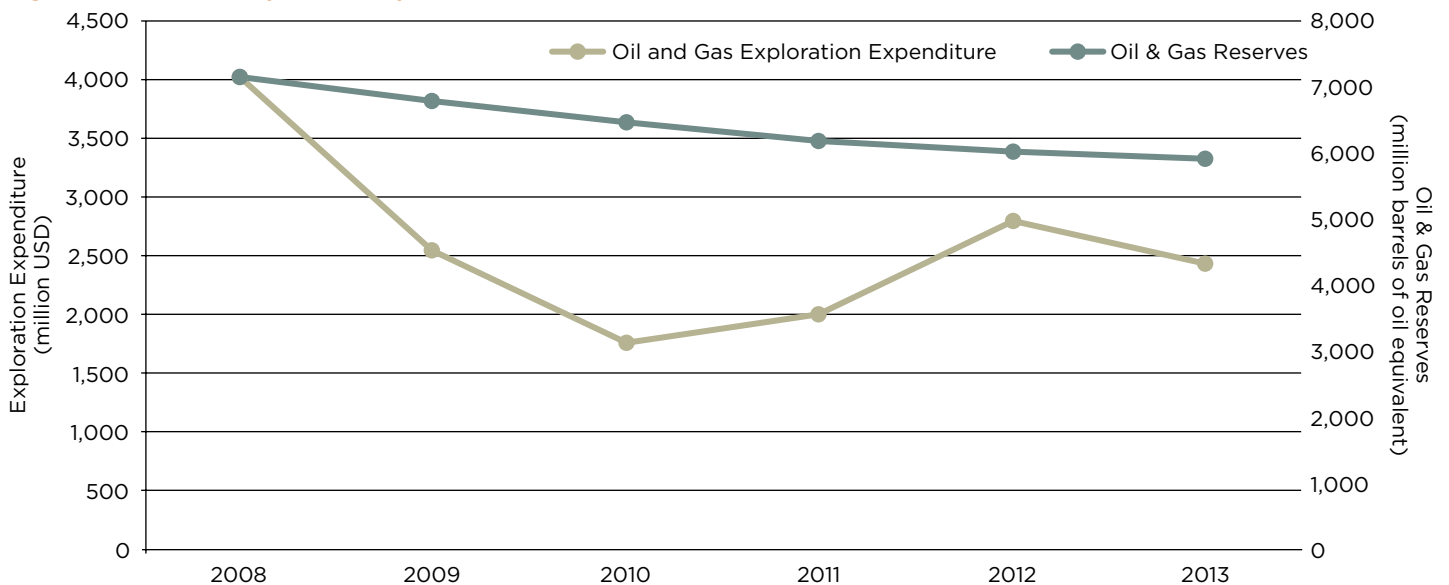
subsidies to promote exploration and development of risky and unconventional oil and gas, including deep-water offshore resources and shale gas (Figure 11).¹²⁷

NATIONAL SUBSIDIES

The UK stands out as a major industrialized economy that, despite the G20 pledge, has dramatically expanded the scope of its oil

and gas exploration subsidies, in particular for shale gas and offshore resources. Annual exploration subsidies in the UK total up to \$1.2 billion on average (Table 16).

Figure 11. Oil and Gas Exploration Expenditure and Reserves in the UK¹²⁸



126 Calculated based on data from EIA, International Energy Statistics, <http://www.eia.gov/cfapps/ipdbproject/iedindex3.cfm?tid=1&pid=7&aid=1&cid=UK,&syid=2001&eyid=2012&unit=TST>
 127 Rystad UCube database
 128 Ibid.

Table 16. UK Exploration Subsidies

Subsidy	Subsidy Type	Targeted Fossil Fuels	Estimated Annual Amount (million USD)	Timeframe for Subsidy Value Estimate	Specifically Targeted at Exploration?
Tax Deductions and Exemptions					
Ring-fence expenditure supplement: 10% annual increase in unclaimed exploration deductions for up to six years ¹²⁹	Tax deduction	Oil & Gas	N/A*	N/A*	Yes
Field allowances for “small or technically challenging new fields”: exemption from 32% tax on oil and gas income from certain fields, including shale gas and deep water offshore oil and gas ¹³⁰	Tax exemption	Oil & Gas	\$364 to \$922	FY 2013/14 (averaged over 5 years)	
Oil allowance: exemption from the petroleum revenue tax for one million metric tons of oil per year and 10 million metric tons over the lifetime of the oil field ¹³¹	Tax exemption	Oil	\$240	2011	
Tariff receipts allowance: excludes payments to oil and gas companies for use of their assets from the petroleum revenue tax ¹³²	Tax exemption	Oil & Gas	\$40	2011	
Uplift rate for oil and gas fields: companies can deduct an additional 35% of capital expenditure from the petroleum revenue tax ¹³³	Tax deduction	Oil & Gas	N/A*	N/A*	
Safeguard for less profitable fields: limits petroleum revenue tax to allow at least 15% post-tax return on capital ¹³⁴	Tax deduction	Oil & Gas	N/A*	N/A*	
Total Annual Exploration Subsidies			\$644 to \$1,202		

*Subsidy estimate not available

The **ring-fence expenditure supplement** was introduced in 2006 and allows oil and gas companies to increase the value of unclaimed tax deductions for exploration expenses by 10 percent per year for up to six years.¹³⁵

Oil and gas companies in UK are subject to a higher corporate tax rate than most other companies – 30 percent as opposed to 21 percent. Oil and gas companies pay an additional 32 percent supplementary charge on their income, for a total tax rate of 62 percent. Introduced in the 2009 national budget, the **field allowance** rule allows companies operating in certain types of fields to claim an exemption from the 32 percent supplementary charge

on income normally applied to oil and gas income, meaning these companies pay only the 30 percent corporate tax.¹³⁶ The UK government argues that because this measure removes an additional tax specific to the oil and gas industry, it is not a subsidy. However, because the field allowance rule is explicitly targeted at expanding oil and gas reserves and production by lowering tax rates, it is considered a subsidy for the purposes of this report.

With expansions to the field allowance subsidy in the 2010, 2012, and 2013 budgets, exploration in the following types of new oil and gas fields qualify for the this tax exemption:

- Small fields
- Ultra heavy oil fields
- Ultra high pressure or high temperature fields
- Remote deep water gas fields
- Large deep water oil fields
- Large shallow water gas fields
- Shale gas fields

While not an explicitly exploration-specific subsidy, the field allowance emphasis on the development of new oil fields

129 William Blyth, Energy Subsidies in the UK, Written evidence commissioned by the UK House of Commons Environmental Audit Committee, <http://data.parliament.uk/writtenevidence/WrittenEvidence.svc/EvidencePdf/700>

130 David Powell, UK tax breaks to oil and gas companies in 2013/14, *Friends of the Earth*, <https://www.foe.co.uk/sites/default/files/downloads/14-worth-2.7-billion-46637.pdf>

131 Organization for Economic Cooperation and Development (OECD), OECD-IEA Fossil Fuel Subsidies and Other Support, <http://www.oecd.org/site/tadffs/>

132 Ibid.

133 Ibid.

134 Ibid.

135 William Blyth, Energy Subsidies in the UK, Written evidence commissioned by the UK House of Commons Environmental Audit Committee, <http://data.parliament.uk/writtenevidence/WrittenEvidence.svc/EvidencePdf/700>

136 David Powell, *Fossil fuel tax breaks in the UK*, Friends of the Earth, February 2013, http://www.foe.co.uk/sites/default/files/downloads/tax_breaks_2013.pdf



Coal mine near Gloucester, Australia ©AP

incentivizes oil and gas exploration. According to a 2014 study by Friends of the Earth, the theoretical maximum for the total value of field allowances issued in FY 2013/14, had they been taken up in full, was £2.69 billion (US\$4.61 billion) over five years, or \$922 million each year. The UK Department of Energy and Climate Change responded that the actual value of field allowances issued in 2013/14 was £1.06 billion (US\$1.82 billion) over five years, or \$364 million each year.¹³⁷

Field allowances have been key to opening up new unconventional oil and gas fields in the UK. According to Friends of the Earth, “Every single new field licensed in 2013/14 received one of these tax breaks, and a number of existing fields had a tax break

granted to keep them producing.”¹³⁸ The expansion in the 2012 Budget to include additional deep water offshore drilling qualified fields off the coast of Shetland, opening up potentially hundreds of millions of barrels of oil and generating an additional £3 billion (US\$5 billion) in profit for these companies in that region alone.¹³⁹

The UK has additional subsidies dating back to 1975, which provide oil and gas companies with deductions and exemptions from the **petroleum revenue tax (PRT)** that could benefit exploration as well as extraction:

- ☐ The **oil allowance**, worth \$240 million in 2011, which exempts production of

up to one million metric tons of oil per year and 10 million metric tons over the lifetime of the oil field from the PRT;

- ☐ The **tariff receipts allowance**, worth \$40 million in 2011, excludes payments to oil and gas companies for use of their assets from the PRT;
- ☐ The **uplift rate for oil and gas fields** allows companies to deduct 35 percent of capital expenditure from the petroleum revenue tax; and
- ☐ The **safeguard for less profitable fields**, which limits petroleum revenue tax to allow at least a 15 percent post-tax return on capital.

¹³⁷ David Powell, *UK tax breaks to oil and gas companies in 2013/14: worth £2.7 billion*, Friends of the Earth, June 2014, <https://www.foe.co.uk/sites/default/files/downloads/briefing-uk-tax-breaks-oil-gas-companies-2013/14-worth-2.7-billion-46637.pdf>

¹³⁸ Ibid.

¹³⁹ David Powell, *Fossil fuel tax breaks in the UK*, Friends of the Earth, February 2013, http://www.foe.co.uk/sites/default/files/downloads/tax_breaks_2013.pdf

Project	Country	Fiscal Year	Amount (million USD)	Specifically Targeted at Exploration?
Petrobras oil and gas exploration	Brazil	2013	\$240	Yes
Petrobras oil and gas exploration and development	Brazil	2012	\$921	
Coal mining in Siberia	Russia	2012	\$91	
Coal mining in Siberia	Russia	2011	\$23	
Total UKEF Exploration Financing, 2010 to 2013			\$1,275	

Table 18. CDC Group Fossil Fuel Exploration Financing*

Equity Fund(s)	Fossil Fuel Extraction Projects	Financing (million USD)	CDC Share of Fund
Actis Infrastructure Fund	- Asia Pacific Exploration Consolidated oil and gas exploration - Candax Energy oil and gas exploration in Tunisia - GVK Energy coal mining in Jharkhand, India	N/A**	45%
Capital Alliance Private Equity Fund	- First Hydrocarbon Nigeria Ltd. oil and gas asset acquisition - Capsea Marine Ltd. offshore oilfield equipment in Gulf of Guinea - DWC Drilling land-based oil and gas exploration	\$435	N/A**
Aureos Funds and Abraaj Capital	- Oil and gas investments and services in West Africa and Central Asia - Ramky Infrastructure coal mining in Indonesia	N/A**	N/A**
Avigo SME Fund	- Offshore oil and gas platforms	N/A**	N/A**
ECP Africa Fund	- Ocean & Oil oil and gas production in Nigeria	N/A**	N/A**
ICICI Venture funds	- Sainik Mining and Allied Services Ltd. coal mining	N/A**	N/A**
IDFC Private Equity and Project Equity	- GMR Energy Ltd. coal mining in Orissa, India - Gujarat State Petronet Ltd. oil and gas fields - Adhunik Power and Natural Resources Limited coal mine in Jharkhand, India	N/A**	N/A**
Patria Investments funds	- P2Brasil oil and gas investments	N/A**	N/A**
Saratoga Asia Fund	- Adaro Energy coal mining in Indonesia	N/A**	N/A**

*Projects in bold are specifically for exploration **Information is not available



Coal loading facility at Kooragang Island in New South Wales, Australia ©Eyeweed

PUBLIC FINANCE

Public finance for fossil fuel exploration from the UK is targeted overseas, and totaled \$1.3 billion from 2010 to 2013 – an annual average of \$319 million – from two loans to Brazil’s national oil company in 2012 and 2013 and two guarantees for coal mining projects in Siberia in 2011 and 2012. The UK government also provides fossil fuel support through the CDC Group, its development finance institution, but data on the share of CDC financing for these funds are not available.

International

UK Export Finance (UKEF – formerly the Export Credits Guarantee Department) provided two major financing packages to Petrobras, Brazil’s national oil company in 2012 and 2013 (Table 17). The most recent guarantee was targeted specifically at exploration, while the nearly \$1 billion 2012 line of credit was intended to support both exploration and development in the Campos, Santos, and Espirito Santo Basins.¹⁴⁰ UKEF also funded coal mining expansion projects in Russia in 2011 and 2012.¹⁴¹

The CDC Group, the UK’s development finance institution, supports several private equity funds involved in oil and gas exploration (Table 18).¹⁴² However the amount of CDC financing that went toward these projects could not be determined.

The UK also contributed an annual average of \$52.6 million to fossil fuel exploration projects from 2010 to 2013 through its shares in the World Bank Group, the European Bank for Reconstruction and Development, the European Investment Bank, and the Asian Development Bank which range from 2 to 16 percent depending on the institution.¹⁴³

¹⁴⁰ UK Export Finance (UKEF) annual reports and accounts, <https://www.gov.uk/government/collections/uk-export-finance-annual-reports-and-accounts>; UKEF, "Notice of Support for a Category A Project: Petrobras Off Shore Oil and Gas Fields, Brazil," November 11, 2011, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/210732/petrobras-cat-a-notice-of-support-ukef.pdf

¹⁴¹ UKEF, Export Credits Guarantee Department Annual Report and Accounts, 2012-13, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/207721/ecgd-ukef-annual-report-and-accounts-2012-to-2013.pdf; UKEF, Export Credits Guarantee Department Annual Report and Accounts, 2011-12, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/222383/uk-export-finance-annual-report-and-accounts-2011-12.pdf

¹⁴² Nicholas Hildyard, *More than Bricks and Mortar: Infrastructure as Asset Class: A Critical Look at Private Equity Infrastructure Funds*, The Corner House, September 1, 2012, <http://www.thecornerhouse.org.uk/resource/more-bricks-and-mortar>

¹⁴³ Data is based on MDB exploration financing data from Oil Change International, ShiftTheSubsidies.org and shares of MDBs held by each G7 country from the respective MDB annual reports and replenishment agreements.

UNITED STATES

BACKGROUND

U.S. oil and gas exploration, production, and reserves are increasing, due in large part to hydraulic fracturing (fracking) technology which has enabled the

development of vast shale reserves in recent years. Oil and gas reserves have increased by 35 percent since 2008, reaching 92.5 billion barrels of oil equivalent at the start of 2014. Public and private

expenditure on exploration for oil and natural gas in the U.S. has grown even more rapidly, increasing by 63 percent since 2008 to reach \$38.3 billion in 2012, before dropping slightly in 2013 (Figure 12).¹⁴⁴

Figure 12. Oil and Gas Exploration Expenditure and Reserves in the U.S.,¹⁴⁵

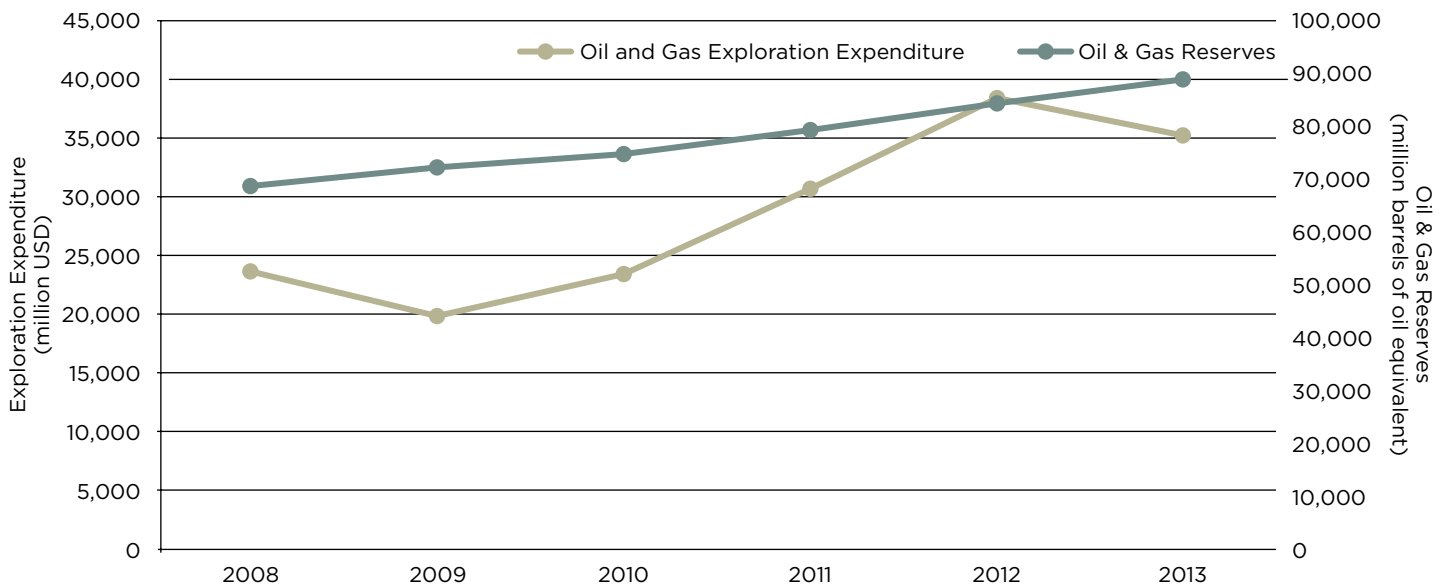


Table 19. U.S. Exploration Subsidies¹⁴⁸

Subsidy	Subsidy Type	Targeted Fossil Fuels	Estimated Annual Amount (million USD)	Timeframe for Subsidy Value Estimate	Specifically Targeted at Exploration?
Tax Deductions					
Amortization of geological and geophysical expenditures	Tax deduction	Oil & Gas	\$110	2013	Yes
Expensing of exploration and development costs	Tax deduction	Coal	\$26	2013	Yes
Deduction for intangible drilling costs	Tax deduction	Oil & Gas	\$3,500	2013	
Percentage depletion allowance	Tax deduction	Oil, Gas & Coal	\$900	2013	
Domestic manufacturing deduction	Tax deduction	Oil, Gas & Coal	\$587	2013	
Total Annual Exploration Subsidies			\$5,123		

Between 2008 and 2013, natural gas production increased by 20 percent and oil production increased by 44 percent, offsetting the downward trend in coal production.¹⁴⁶ As a result of these increases, the U.S. is now the world's largest producer of both oil and natural gas, ahead of Saudi Arabia and Russia.¹⁴⁷

Although President Obama has pledged to tackle climate change and eliminate fossil fuel subsidies, he champions the oil and gas boom as the centerpiece of his Administration's "All of the Above" energy strategy.

NATIONAL SUBSIDIES

The United States provides \$5.1 billion in annual subsidies that support fossil fuel exploration (Table 19).

The United States has two subsidies directed specifically at fossil fuel exploration. The **amortization of geological and geophysical expenditures**, worth \$110 million in 2013, allows oil and

gas companies to recover costs of seismic surveys and exploration drilling through income tax deductions.¹⁴⁹ The **expensing of exploration and development costs**, worth \$26 million in 2013, allows coal companies to deduct exploration costs from income tax payments.¹⁵⁰

Additionally, many subsidies that are aimed at oil and gas producers are used at least partly to subsidize exploration activities. The **deduction for intangible drilling costs**, worth \$3.5 billion in 2013, provides a 100 percent tax deduction for costs not directly part of the final operating oil or gas well (such as labor costs, survey work, and ground clearing), including oil and gas exploration and development costs.¹⁵¹

The **percentage depletion allowance**, worth \$900 million in 2013, allows independent fossil fuel producers to deduct 14 to 15 percent of large investment costs, including for exploration, from income taxes.¹⁵²

Finally, the **domestic manufacturing deduction**, worth \$587 million in 2013, allows fossil fuel producers to claim a tax break intended for U.S. manufacturers to prevent job outsourcing.¹⁵³ Because this tax deduction applies to fossil fuel producers as a whole, it can be used to benefit exploration activities.

PUBLIC FINANCE

U.S. public finance for overseas fossil fuel exploration totaled over \$10.3 billion from 2010 to 2013 – an annual average of \$2.6 billion – and was dominated by financing from the U.S. Export-Import Bank.

International

The U.S. provides billions of dollars in loans and guarantees each year for overseas oil and gas exploration projects through the U.S. Export Import Bank (ExIm) and, to a much smaller extent, the Overseas Private Investment Corporation (OPIC).¹⁵⁴

146 U.S. Energy Information Administration, International Energy Statistics, <http://www.eia.gov/cfapps/ipdbproject/IEDIndex3.cfm?tid=5&pid=53&aid=1>

147 Grant Smith, "U.S. Seen as Biggest Oil Producer After Overtaking Saudi Arabia," *Bloomberg*, July 4, 2014, <http://www.bloomberg.com/news/2014-07-04/u-s-seen-as-biggest-oil-producer-after-overtaking-saudi.html>

148 All subsidy estimates in this table are from OMB, *Analytical Perspectives: Budget of the U.S. Government*, <http://www.gpo.gov/fdsys/browse/collectionGPO.action?collectionCode=BUDGET>

149 Ibid.

150 Ibid.

151 Ibid.

152 Ibid.

153 Ibid.

154 Data in tables are from ExIm and OPIC annual reports available at <http://www.exim.gov/about/library/reports/annualreports/> and <http://www.opic.gov/media-connections/annual-reports>



Table 20. ExIm Fossil Fuel Exploration Financing, 2010 to 2013

Project	Country	Year	Financing Amount (million USD)
Queensland Curtis LNG project	Australia	2013	\$1,800
Pemex projects	Mexico	2013	\$1,500
Oil drilling equipment	Nigeria	2013	\$26
Australia Pacific LNG project	Australia	2012	\$2,950
Pemex projects	Mexico	2012	\$1,200
Offshore drilling in Mexico	Mexico	2012	\$132
Kemerovo (Siberia) coal mining	Russia	2012	\$66
Pemex onshore and offshore projects	Mexico	2011	\$1,000
Ecopetrol operations	Colombia	2011	\$460
PANUCO offshore drilling rig	Mexico	2011	\$128
Offshore drilling	Nigeria	2011	\$20
Oil and gas drilling	Mexico	2010	\$1,000
Total ExIm Exploration Financing, 2010 to 2013			\$10,282



Natural gas fracking wells in the Pennsylvania Marcellus shale ©AP

Notably, OPIC has instituted measures to limit greenhouse gas emissions from projects that it funds, resulting in a far smaller amount of exploration (\$53.4 million), and overall, fossil fuel financing compared with ExIm, which lent \$10.3

billion to exploration projects from 2010 to 2013 (Tables 20 and 21).

The United States also contributed an annual average of \$117.2 million to fossil fuel exploration projects from 2010 to

2013 through its shares in the World Bank Group, European Bank for Reconstruction and Development, and Asian Development Bank which range from 2 to 24 percent depending on the institution.¹⁵⁵

Table 21. OPIC Fossil Fuel Exploration Financing, 2010 to 2013

Project	Country	Year	Financing Amount (million USD)
Expansion of oil production	Colombia	2013	\$19
Palagua oil field drilling	Colombia	2011	\$24
Oil and gas drilling	Mexico	2011	\$10
Total OPIC Exploration Financing, 2010 to 2013			\$53

¹⁵⁵ Data is based on MDB exploration financing data from Oil Change International, ShiftTheSubsidies.org and shares of MDBs held by each G7 country from the respective MDB annual reports and replenishment agreements.

CONCLUSION

There is growing evidence that the world will not be able to avoid the worst impacts of climate change if countries continue to rely on fossil fuels for their energy needs. In particular, it is clear that we can only use a small percentage of proven fossil fuel reserves if global warming is to be held to 2 degrees Celsius.

Continued public support – through national government subsidies and public finance – for fossil fuel exploration is not consistent with agreed climate goals. To demonstrate clear progress on their commitment to phase out fossil fuel subsidies, G7 leaders should:

- ☒ Immediately eliminate all fossil fuel exploration subsidies, and adopt a strict timeline for phase-out of remaining fossil fuel subsidies with country-specified measurable outcomes;
- ☒ Close loopholes in country commitments in the G20, UNFCCC, and other international forums to avoid introducing new fossil fuel subsidies, including through safeguards to ensure that fossil fuel infrastructure is excluded from bilateral investment incentives and funds for infrastructure in developing countries;
- ☒ Increase transparency through a publicly disclosed, consistent reporting scheme for all fossil fuel subsidies; and
- ☒ Establish or identify an international body to facilitate and support fossil fuel subsidy reform.

The first law of holes is that when you're in one, stop digging. The first step towards that goal is to stop using taxpayer dollars to buy shovels.







Oil Change International
714 G Street SE, Suite 202
Washington, DC 20003
www.priceofoil.org

August 2014