

Fossil Fuel Subsidies

An analysis of federal financial support to Canada's oil sector

Sarah Dobson • Amin Asadollahi

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Executive summary

The oil industry provides economic benefits in the short and medium term, but more permanent external benefits are less certain and are countered by the sector's environmental impacts. This paper provides an analysis of federal financial support for the oil sector as well as recommendations on policy options. It recognizes progress made by Canada in phasing out certain subsidies, while noting that remaining federal direct and indirect support measures are largely inefficient and unnecessary.

The amount of tax revenue from the oil and gas sector that the federal government is foregoing and other direct federal support measures may already exceed the amount it is collecting — \$1.3 billion in 2012. Federal corporate income taxes have fallen every year from 2009 to 2012, while subsidies to the oil sector appear to have been rising. It is not unreasonable to conclude that the value of foregone tax revenues and other direct federal support for the oil sector now comes close to exceeding the entire budget of Environment Canada, at the same time that the department's budget is being cut.

Recommendations provided in this paper are developed against the backdrop of significant forecasted growth in the oilsands. This growth will mean increased costs to governments for support measures, and increased environmental impacts passed on to future generations. In order to reduce taxpayer-funded support for the fossil fuel sector, governments need to take immediate action to reflect the current economic reality and create the fiscal conditions necessary to enable a transition to a clean energy future. Moreover, fully phasing out fossil fuel subsidies could bring Canada up to 12% closer to meeting its 2020 climate change commitment.

In this report, we recognize that subsidies could be efficient in the presence of imperfect markets that produce less than the socially optimal amount of a product or service — for example, in infant industries, where it may be difficult for an emerging domestic industry to compete with established firms, or in an industry that is going through difficult times. While it may have been in the case during its inception, today Canada's oil sector is not operating in such a market. The sector is growing strongly, with total Canadian production increasing at an annualized rate of 3.4% from 2007-2012.¹ Moreover, in 2012, Canada accounted for nearly 5% of global oil production; it is expected to be the third-largest global contributor to new oil production over the next two decades.² In Alberta, this trend is likely to continue, with production expected to more than double between 2009 and 2020 even if all subsidies were removed.

We also recognize that exploration activities will always carry some risk, and the oilsands will always be a high-cost source of oil, placing Canadian companies at some disadvantage relative to international suppliers of conventional oil. However, Canada's oil sector is well positioned to carry a larger portion of the risk from new exploration and development activities, and to be

¹ Canadian Association of Petroleum Producers, "Appendix B Production Data," *Crude Oil Forecast, Markets & Transportation* (2013). <http://www.capp.ca/forecast/Pages/default.aspx>

² Yadullah Hussain, "Canada to emerge as the fourth-fastest growing oil player in the world: IEA," *Financial Post*, November 12, 2013. http://business.financialpost.com/2013/11/12/canada-to-emerge-as-the-fourth-fastest-growing-oil-player-in-the-world-iea/?_lsa=5e40-9686

competitive in international markets without significant support from governments. In fact, companies in the oil sector are now among Canada's most profitable, with the cumulative profits of the four largest publicly traded oil companies exceeding \$10 billion in 2012.^{3,4}

Despite its profitability, growth and environmental footprint, the Canadian oil sector remains a significant recipient of federal financial support. Canada, however, is not alone in its persistent subsidization of the oil sector. Fossil fuel subsidies in general (which include production and consumption subsidies for oil, natural gas and coal) are a significant cost to governments worldwide. They also encourage increased energy use, which in turn contributes to increased global greenhouse gas (GHG) emissions.

At the 2009 Pittsburgh Summit, G20 leaders committed to a phase-out of “inefficient fossil fuel subsidies,” stating that they “encourage wasteful consumption, distort markets, impede investment in clean energy sources and undermine efforts to deal with climate change.”⁵ Prior to 2009, Canada had announced plans for the phase-out of four major fossil fuel subsidies with a combined value of \$879 million. Since 2009, the federal government has announced plans to phase out another four programs, and made changes in the deduction rates for oilsands mines, aiming for a consistent approach across the oil sector. These additional post-2009 phase-out efforts are expected to save the federal government a total of \$150 million once fully implemented. Recognizing this progress made by Canada, this paper highlights additional opportunities to phase out explicit and implicit inefficient fossil fuel subsidies — opportunities which can result in increased federal revenues.

The two primary remaining subsidy programs are the Canadian Development Expense (CDE) and the Canadian Exploration Expense (CEE). The combined value of these programs in the oil sector was estimated at \$711 million in 2008.⁶ Exploration expenses in the conventional oil sector have been volatile since the financial crisis of 2008. After an initial crash, however, these development expenses have more than recovered, increasing by 27% relative to 2008 levels in 2012. In the oilsands, exploration and development expenses are not tracked separately, but capital expenses had increased by 50% relative to 2008 levels in 2012. As both the CDE and the CEE provide firms with accelerated deduction rates, their annual subsidies increase as the level of a firm's annual expenditures increases. Thus, it is plausible to assume that federal subsidies to the oil sector via the CDE and CEE have grown since 2008.

We also note, using Environment Canada's estimates on the social cost of carbon, that a lack of carbon price has resulted in an implicit subsidy of between \$4 and \$18 billion a year to the

³ In June 2013, the Globe & Mail released a ranking of Canadian publically traded companies by after-tax profits. Looking at the top 15 companies, oil and gas producers take up four of these spots, with after-tax profits ranging from \$1.9 to \$3.7 billion. In: *Report on Business*, “Top 1000: Exclusive rankings of Canada's most profitable companies.” June 27, 2013. <http://www.theglobeandmail.com/report-on-business/rob-magazine/top-1000/top-1000/article12829649>

⁴ Unless otherwise noted, all dollar values in the report are in Canadian dollars.

⁵ Global Subsidies Initiative, “G-20 Timeline: 24 September 2009, G-20 Pittsburgh Summit leaders commit to reform fossil fuel subsidies.” <http://www.iisd.org/gsi/timeline>

⁶ 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 of the International Institute for Sustainable Development, 2010), 62. http://www.iisd.org/gsi/sites/default/files/ffs_awc_3canprovinces.pdf

sector. As a result of regulatory uncertainty, some oil and gas companies have been using internal shadow carbon pricing; a revenue opportunity with environmental benefits that the government has failed to capitalize on.

Looking forward, Canada's oil sector is set to continue to grow at a rapid pace, driven primarily by expansion in the oilsands. As of February 2014, there were 81 approved and "under construction" in situ and oilsands mining projects scheduled to start operations between 2014 and 2020.⁷ There are a further 74 projects in the application stage, while an additional 56 have been announced.⁸ Start-up dates for these latter projects extend out to 2030 and beyond. By leaving support measures for the oil sector in place, the federal government is committing to the risk of higher subsidy costs — both environmental and financial — and growing support of the fossil fuel sector in the years ahead.

To reduce the environmental and financial cost of the oil sector, the federal government should:

(1) Phase out the Canadian Development Expense

The Canadian Development Expense, which provides support for pre-production expenses for oil sector projects, should be phased out completely. Phase-out could take effect immediately following the adoption of the 2015 federal budget, or it could take place gradually over a period of five years.

(2) Reclassify eligible expenses for the Canadian Exploration Expense

The deductible rate under the Canadian Exploration Expense should be reclassified so that it applies only to unsuccessful exploration expenses. This will limit deductions to legitimate search costs only, and align successful exploration expenses with the useful life of an asset.

(3) Introduce federal oil and gas regulations that put Canada on track to meet its 2020 emission reduction target

While an economy-wide carbon price that accounts for the global cost of carbon pollution is widely seen as the most efficient policy tool for driving emissions reductions, the federal government is instead pursuing "sector-by-sector" emissions regulations. There is some indication that regulations for the oil and gas sector will be modelled on Alberta's Specified Gas Emitters Regulation. For such regulatory approach to be effective in putting Canada on track to meeting its 2020 climate commitments, the federal government would need to:

- require a sector-wide 42% emission intensity reduction over the current projected 2020 levels
- set a technology fund price of at least \$100 per tonne of emissions to create an incentive for facility-level GHG reductions
- limit access to offset credits as a means of compliance

⁷ Pembina Institute calculations; data source: Oilsands Review, "Oilsands Projects – Statistics," <http://www.oilsandsreview.com/statistics/projects.asp>

⁸ Pembina Institute calculations; data source: Oilsands Review, "Oilsands Projects – Statistics."

1. Introduction

Subsidies are a common public policy tool that governments may employ to support a specific economic sector or to achieve a desired social outcome. Subsidies may be applied on:

1. The producer side of the market, through production subsidies that reduce the cost to firms of supplying a good or service, or
2. On the consumer side, through consumption subsidies that reduce the cost to individuals of purchasing a good or service.

On both sides of the market, the two primary types of subsidies are “transfer of funds,” either directly or indirectly, and “tax expenditures,” defined by the World Trade Organization (WTO) as when government revenue that is otherwise due is foregone or not collected.⁹

Both types of subsidies reduce costs for producers and consumers. Both types generally lead to a greater amount of a good or service being purchased and supplied than would have occurred in a market in which no subsidy exists.

There are numerous market circumstances that justify the use of subsidies (i.e., under which the use of subsidies will tend to improve overall social welfare). Subsidies can support infant industries (defined in Box 1), encourage research and development that creates economy-wide knowledge spillovers, or encourage the production and exchange of goods and services that generate positive externalities.¹⁰ In all of these examples, more investment, or the production of more of a good or service, is the socially desirable outcome. This is why, for example, the government subsidizes post-secondary institutions or provides free flu shots at the start of the winter months.

Box 1: What is an infant industry?

An infant industry is a new, small domestic industry. It typically demonstrates large economies of scale and scope — that is, costs are high when the industry is small but will fall as the industry grows, typically as a result of learning-by-doing and cost savings from increased levels of production. When an infant industry starts out, it is often competing against established foreign competitors with lower costs. Subsidies to the infant industry allow it to be internationally competitive in its early stages of development. In theory, once an industry has grown large enough, costs will fall to levels that are competitive with foreign rivals, and the supporting subsidies can be removed.¹¹

⁹ World Trade Organization, *Agreement on Subsidies and Countervailing Measures*, 229.
http://www.wto.org/english/docs_e/legal_e/24-scm.pdf

¹⁰ A positive externality is “. . . a benefit that accrues to somebody who is outside, or external, to the decision about consuming or using a good or resource that causes the externality.” In: Barry C. Field and Nancy D. Olewiler, *Environmental Economics, Third Canadian Edition* (McGraw-Hill Ryerson, 2011), 62.

¹¹ Christopher Ragan and Richard Lipsey, *Microeconomics, Thirteenth Canadian Edition* (Pearson Canada Inc., 2011), 870.

The fossil fuel sector is significantly subsidized around the world, on both the production and consumption side. Proponents often cite the infant industry argument when fossil fuel production subsidies are first introduced.¹² Consumption subsidies, particularly in developing countries, are justified by their proponents on the grounds of the positive externalities generated by affordable access to energy. In recent years, however, these subsidies have become a source of growing global concern.

First, fossil fuel subsidies represent a significant opportunity cost of resources. The International Energy Agency's (IEA) *World Energy Outlook 2013* estimates the value of global subsidies for fossil fuel consumption at \$544 billion US in 2012.¹³ In 2010, the International Institute for Sustainable Development (IISD) estimated subsidies for fossil fuel production to be at least \$100 billion US per year.¹⁴ Second, fossil fuel consumption and production are the largest human-caused sources of global GHG emissions.¹⁵

Greenhouse gas emissions induced by excess production represent a cost of current fossil fuel subsidies; as a result, phasing out subsidies offers a significant emission reduction opportunity. As shown in Figure 1, the IEA estimates that with a phase-out of over 95% of fossil fuel consumption subsidies, global carbon dioxide emissions will fall by 2.4 gigatonnes (Gt) by 2020.¹⁶ This represents approximately 18 to 30% of the (estimated) emissions reductions that are required by 2020 for the world to get on track to a trajectory capable of limiting global warming to a 2°C rise.¹⁷

The removal of consumption subsidies generates emissions reductions in two ways. First, by increasing the cost of energy, it removes the incentive for over-consumption. Second, by increasing the value of energy savings, it increases the incentive for investments in energy efficiency. The removal of production subsidies will have similar impacts: by increasing the cost of supplying energy, it removes the incentive for over-investment by producers in the fossil fuel industry.

¹² David Victor, *The Politics of Fossil-Fuel Subsidies* (Global Subsidies Initiative of the International Institute for Sustainable Development, 2010), 7. http://www.iisd.org/gsi/sites/default/files/politics_ffs.pdf

¹³ International Energy Agency, *World Energy Outlook 2013* (2013), 93. This estimate includes subsidies to fossil fuels consumed by end users and subsidies to fossil fuel inputs to electric power generation.

¹⁴ International Institute for Sustainable Development, *A How-to Guide: Measuring subsidies to fossil-fuel producers* (Global Subsidies Initiative Policy Brief, 1). http://www.iisd.org/gsi/sites/default/files/pb7_ffs_measuring.pdf

¹⁵ Global Carbon Project, *Global Carbon Budget 2013* (2013). http://www.globalcarbonproject.org/carbonbudget/13/files/GCP_budget_2013.pdf

¹⁶ IEA, OPEC, OECD, World Bank, *Analysis of the Scope of Energy Subsidies and Suggestions for the G-20 Initiative*, Joint Report (2010), 29. <http://www.oecd.org/env/45575666.pdf>

¹⁷ In 2012, the estimated global emissions reductions required to stay below 2°C of warming was 8 to 13 Gt CO₂e. In: United Nations Environment Programme, *The Emissions Gap Report 2012: Executive Summary* (2012), 1. http://www.unep.org/publications/ebooks/emissionsgap2012/portals/50143/Emissions2012_Exec%20Summary_EN.pdf

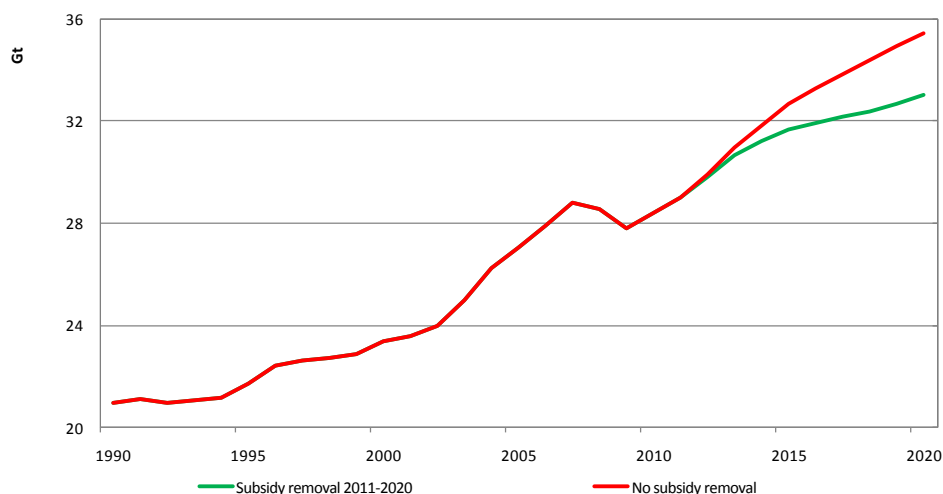


Figure 1. Impact of a consumption subsidy phase-out on energy-related carbon dioxide emissions

Source: IEA et al.¹⁸

At its 2009 Pittsburgh Summit, the G20 committed to a phase-out of “inefficient fossil fuel subsidies,” stating that they “encourage wasteful consumption, distort markets, impede investment in clean energy sources and undermine efforts to deal with climate change.”¹⁹ In advance of the 2010 Toronto Summit, G20 ministers were asked to prepare implementation plans and timetables for the phase-out of subsidies. The expectation going into Toronto was that G20 leaders would agree to a joint target and timeline for phase-out.²⁰ At the conclusion of the summit, however, the G20 Toronto Summit Declaration encouraged countries to continue working towards the goal of subsidy phase-out, while stating that specific strategies and timeframes should be based on national circumstances.²¹

With individual countries left to establish their own phase-out plans, global progress towards fossil fuel subsidy phase-out since 2010 has been limited. An external 2012 progress update found the G20’s lack of a strict definition for “inefficient fossil fuel subsidies,” and its decision that countries should pursue strategies based on national circumstances, has led some countries to craft a definition that allows them to pursue phase-out in a very limited way.²²

This report considers fossil fuel subsidies in Canada, focusing on federal production subsidies to the oil sector. Our objective is to provide an overview of the progress Canada has made in phasing out its federal oil sector subsidies, to assess the rationale for current subsidization of the oil sector in Canada, and to identify further advances that Canada can make.

¹⁸ IEA et al., *Analysis of the Scope of Energy Subsidies and Suggestions for the G-20 Initiative*, 30.

¹⁹ Global Subsidies Initiative, “G-20 Timeline: 24 September 2009, G-20 Pittsburgh Summit leaders commit to reform fossil fuel subsidies.” <http://www.iisd.org/gsi/timeline>

²⁰ Clare Demerse, “Leaked G20 documents: Canada won’t cut extra subsidies for fossil fuels,” *Pembina Institute*, June 29, 2010. <http://www.pembina.org/blog/345>

²¹ Government of Canada G20, “The G-20 Toronto Summit Declaration,” <http://epe.lac-bac.gc.ca/100/206/301/faitc-aecic/g20/2013-08-14/summit-sommet/2010/toronto-declaration-toronto1b0e.html?lang=eng>.

²² Doug Koplow, *Phasing Out Fossil Fuel Subsidies in the G20: A Progress Update* (2012), 11. http://globalrfa.org/file_download/16/Phasing_Out_Fossil-Fuel_Subsidies_in_the_G20.pdf

Chapter 2 provides an overview of the economic rationale for subsidies and discusses the negative impacts of subsidies to the oil sector, focusing on the opportunity cost of current subsidy programs, externalities generated by activity in the oil sector, and the preferential treatment of the oil sector relative to other industries in Canada. Chapter 3 discusses progress towards fossil fuel subsidy phase-out, outlining actions in Canada and the U.S. since the 2009 G-20 commitment. Chapter 4 concludes with the recommendation that Canada complete the phase-out of its remaining fossil fuel subsidies.

Box 2: What about other fossil fuel subsidies in Canada?

Consumption subsidies

Recent reports from the International Monetary Fund (IMF) and the OECD do not identify any explicit federal consumption subsidies for fossil fuels in Canada.^{23,24} Rather, the IMF report finds that once adjusted for distribution and transport costs, the price that Canadians pay for petroleum products and coal is equal to an international benchmark price.

The IMF report does identify implicit consumption subsidies in Canada, which result from consumer prices that do not reflect the full marginal external cost of fossil fuel consumption. For fuel consumption in motor vehicles, these marginal external costs include, for example, combustion pollution, road congestion and damage, and traffic accidents. The IMF estimates the value of all fossil fuel subsidies, including petroleum and coal, in Canada in 2011 were equal to 1.5% of GDP and 4.0% of federal government revenues.²⁵

Provincial subsidies

Provincial production subsidies to the oil sector exist across Canada in the form of discounted royalty programs, transfer of funds and tax expenditure subsidies. As one example, the province of Alberta offers numerous subsidies to oil companies, with the vast majority of the value coming from royalty relief. A recent report from the International Institute for Sustainable Development (IISD) identified nine royalty reduction, credit, or exemption programs, estimated to result in \$484.5 million in foregone provincial government revenues in 2009.^{26,27} Another \$100 million in provincial government revenues is estimated to be lost as a result of the government accepting the bitumen royalty in kind.²⁸

In addition to the subsidies built into the royalty program, the Alberta government provides direct subsidies and tax reductions. Direct subsidies, primarily in the form of oilsands infrastructure spending, were estimated by the IISD to be \$195.5 million in 2009, and foregone government revenue through tax breaks was estimated at \$260.5 million.²⁹

The IISD estimates the total value of provincial subsidies to Alberta's oil sector was \$1.049 billion in 2009.³⁰ A recent report from the OECD also finds significant consumption subsidies for petroleum

²³ OECD, *Inventory of Estimated Budgetary Support and Tax Expenditures for Fossil Fuels 2013* (2013), 87-91. http://www.oecd-ilibrary.org/environment/inventory-of-estimated-budgetary-support-and-tax-expenditures-for-fossil-fuels-2013_9789264187610-en

²⁴ International Monetary Fund, *Energy Subsidy Reform: Lessons and Implications* (2013), 7 and 47. <http://www.imf.org/external/np/pp/eng/2013/012813.pdf>

²⁵ IMF, *Energy Subsidy Reform*, 52 and 62.

²⁶ All dollar values of Canadian subsidy estimates are Canadian dollars unless otherwise noted.

²⁷ Sawyer and Stiebert, *Fossil Fuels – At What Cost?*, 44.

²⁸ Ibid.

²⁹ Ibid., 45.

³⁰ Ibid., 15.

products at the provincial level. Across all provinces and territories, it estimates the value of these consumption subsidies in 2011 at \$1.4 billion.³¹

It is not clear whether the language of the G-20 commitment to the phase-out of fossil fuel subsidies extends to subsidy programs at the subnational level. In Canada, however, provincial subsidy programs are pervasive. Thus, as a country, Canada cannot transition to a neutral tax system with no preferential treatment for the fossil fuel sector without expanding the discussion to include the elimination of subsidy programs in existence at the provincial level. (However, as noted above, the focus of this report is on the federal government's subsidies to the oil sector.)

Subsidies to other fossil fuel sectors

Unless otherwise specified, the federal subsidies identified in this report extend to the entire extractive industry sector, which includes all oil and gas and mining activities. We have chosen to focus on the oil sector as it is Canada's largest and fastest growing fossil fuel sector, driven primarily by Alberta's rapidly expanding oilsands development. Oil is also the sector for which estimates of the current values of subsidies are most readily available.

Looking forward, the gas sector, and more specifically the rapidly growing liquefied natural gas (LNG) industry, stands to be the recipient of significant federal subsidies in the near future. The Government of British Columbia is anticipating the construction of at least three LNG export facilities by 2020.³² Currently 14 separate project consortia have been announced; seven have received approvals from the National Energy Board for the export of LNG.³³ The natural gas supply for these facilities will primarily come from an increase in natural gas extraction in northeastern British Columbia. Currently all of the exploration and development expenses that accompany this increase in natural gas extraction are eligible for federal subsidies.

In addition to the current subsidies for LNG-related drilling activities, the Canadian Association for Petroleum Producers (CAPP) has lobbied for additional subsidies to support LNG export facilities. Specifically, in advance of Budget 2013, CAPP's sole budget recommendation was for LNG export facilities to be reclassified as manufacturing plants, allowing each individual facility to claim an accelerated capital cost allowance valued at approximately \$2 billion over 10 years.³⁴ With three facilities planned for 2020, the total annual cost of this subsidy request would be \$600 million per year.

³¹ OECD, *Inventory of Estimated Budgetary Support and Tax Expenditures for Fossil Fuels 2013*, 113-114.

³² British Columbia Ministry of Energy, Mines and Natural Gas, *British Columbia's Liquefied Natural Gas Strategy: One year update* (2013), 5. http://www.gov.bc.ca/com/attachments/LNGreport_update2013_web130207.pdf

³³ Peter Tertzakian, "Surf's up for Western Canadian LNG spending," *The Globe and Mail*, January 13, 2013. <http://www.theglobeandmail.com/report-on-business/industry-news/energy-and-resources/surfs-up-for-western-canadian-lng-spending/article16308544/#dashboard/follows/>

³⁴ Tyler Bryant, "No more handouts for the natural gas industry," *iPolitics Insight*, February 22, 2013. <http://www.ipolitics.ca/2013/02/22/no-more-handouts-for-the-natural-gas-industry/>

2. Progress towards fossil fuel subsidy phase-out

2.1 Overview of progress

Canada's first step towards the phase-out of federal oil sector subsidies was on January 1, 1990, when it eliminated the earned depletion deduction.³⁵ On January 1, 2004, the Syncrude remission order came to an end, and over the period of 2003-2006, the federal government phased out the resource allowance, and replaced it with a deduction for royalties and mining taxes paid.

In the 2007 federal budget, the government announced a phase-out plan for the accelerated capital cost allowance for oilsands, a tax measure that had been in place since 1972 for oilsands mines and since 1996 for in situ oilsands projects.³⁶ The accelerated capital cost allowance (ACCA) is typically used to promote investment and grow emerging industries. Budget 2007 recognized that, at over 1.1 million barrels of production per day in 2006, Canada's oilsands sector was "healthy and vibrant," and concluded the ACCA was no longer required.^{37,38} The phase-out plan allowed companies to claim ACCA through to 2010, followed by a gradual reduction in rates between 2011 and 2015.

Following Budget 2007, Canada's progress on phasing-out subsidies stalled for a number of years. Canada slowly resumed the phase-out in Budget 2011, when the federal government announced that oilsands property expenses would no longer be eligible for deduction under the Canadian Development Expense (CDE), but rather they would be treated as a Canadian Oil & Gas Property Expense.³⁹ This reduced the eligible deductions from 30% per year to 10% per year. The government also announced a phase-in plan for oilsands pre-production development expenses to be treated as a CDE, deductible at a rate of 30% per year. Previously these expenses were deductible at 100% in the year incurred under the Canadian Exploration Expense (CEE).⁴⁰ These changes were presented as a phase-out option in the Department of Finance's 2010 memorandum (see Box 3 below), and the budget documents estimated that these changes would save the government \$75 million per year once fully implemented.^{41,42} The goal of both of these recommendations was to bring deductions for oilsands mining projects in line with those

³⁵ Descriptions of all subsidies referenced in this section are provided in Appendix 1, Tables A1 and A2.

³⁶ Department of Finance Canada, *The Budget Plan 2007: Aspire to a Stronger, Safer, Better Canada* (2007), 412. <http://www.budget.gc.ca/2007/pdf/bp2007e.pdf>.

³⁷ Canadian Association of Petroleum Producers, *Statistical Handbook* (2013), "Canadian Synthetic and Bitumen Production 1967-2012," Table 03-02A. <http://statshb.capp.ca/SHB/Sheet.asp?SectionID=3&SheetID=85>

³⁸ Department of Finance Canada, *The Budget Plan 2007*, 64.

³⁹ Government of Canada, *The Next Phase of Canada's Economic Action Plan: A Low-Tax Plan for Jobs and Growth* (2011), 311. <http://www.budget.gc.ca/2011/plan/Budget2011-eng.pdf>

⁴⁰ Ibid.

⁴¹ Department of Finance, *Memorandum: G-20 Commitment – Fossil Fuel Subsidies* (2010), 5.

⁴² Government of Canada, *The Next Phase of Canada's Economic Action Plan*, 263.

available to the conventional oil and gas sector. As noted below, work remains to bring the conventional oil and gas sector's tax treatment into line with that of a neutral tax system.

In Budget 2012, the government announced the phase-out of the Atlantic Investment Tax Credit for the oil and gas and mining sectors, which is estimated to save the government \$85 million per year once fully implemented.⁴³ The government cited a commitment to the 2009 G20 resolution to phase out fossil fuel subsidies, and the goal of improving neutrality of the tax system for the oil and gas and mining sectors, as the primary reasons for this phase-out. Similar to its phase-out of the ACCA for oilsands in 2007, the government also recognized that the oil and gas and mining sector in the Atlantic region is “robust and growing,” and no longer in need of special treatment.⁴⁴

The government did not make any progress on fossil fuel subsidy phase-out in Budget 2013 or Budget 2014. Rather, in Budget 2014, the government moved in the opposite direction, making permanent the elimination of tariffs on mobile offshore drilling units used in offshore oil and gas exploration and development.⁴⁵ Budget 2014 does not provide an estimate of the cost of this subsidy.

Table 2 in Appendix A.1 provides a full list of federal oil sector subsidies for which phase-out plans have been announced, and their estimated annual value near the time of phase-out. The estimated combined annual value of all phased-out subsidies is \$1,046 million⁴⁶ — a significant savings to the federal government. As the next section describes, however, significant subsidy programs still remain in effect, which the government has thus far given no indication of plans to phase out.

Box 3: Canada's response to the G20 fossil fuel subsidy phase-out commitment

The G20 committed to a global phase-out of fossil fuel subsidies at its Pittsburgh summit in 2009. Countries were requested to submit implementation plans for achieving this objective prior to the G20's Toronto summit in 2010. Leading into Toronto's G20 meeting, the Department of Finance prepared a memorandum for Minister of Finance Jim Flaherty in which two options were presented — Canada could lead by example and explore opportunities for additional fossil fuel subsidy phase-out, or it could seek ways to minimize its commitment.⁴⁷ In the event the federal government chose this latter option, the memorandum also included recommendations of ways Canada could present this decision to the G20.

The memorandum recommended the former option, noting three potential benefits for Canada from doing so: the identification and elimination of inefficient subsidies, fiscal benefits of removing such

⁴³ Government of Canada, *Jobs, Growth and Long-Term Prosperity: Economic Action Plan 2012* (2012), 380. <http://www.budget.gc.ca/2012/plan/pdf/Plan2012-eng.pdf>

⁴⁴ Ibid., 118.

⁴⁵ Government of Canada, *The Road to Balance: Creating Jobs and Opportunities* (2014), 144. <http://www.budget.gc.ca/2014/docs/plan/pdf/budget2014-eng.pdf>

⁴⁶ Additional savings will come from treating oilsands mining pre-production costs as a Canadian Development Expense, rather than a Canadian Exploration Expense. However, this also means the annual foregone revenue from the Canadian Development Expense will increase, as a greater overall number of oil projects will be eligible for claiming deductions under the subsidy.

⁴⁷ Department of Finance, *Memorandum: G-20 Commitment – Fossil Fuel Subsidies*, 1-3.

measures, and presentation of a “green deliverable” at the Toronto summit that could contribute to climate change mitigation.⁴⁸ In countries’ implementation plans that were leaked prior to the 2010 G20 meeting, however, it became clear that the Canadian government chose to forego the Department of Finance’s recommendation. Rather than announcing new plans for further phase-out, Canada opted to meet its commitment by citing the reforms it had already made: the earned depletion, resource allowance and Syncrude remission order that were already phased out, and the ACCA that was on its way.⁴⁹ This was the exact rationale recommended for justification of the “minimizing its commitment” option in the Department of Finance memorandum. Looking forward, Canada kept its commitment vague, stating that it “ . . . will continue to review its policies on an ongoing basis to ensure that they provide an internationally competitive economic environment, while achieving their aims in an efficient manner.”⁵⁰

Box 4: United States’ response to the G20 fossil fuel subsidy phase-out commitment

Every year since coming to office in 2009, President Obama has advocated for the elimination of fossil fuel subsidies in his budget proposals to Congress, showing his administration’s desire for a significant response to the G20 commitment. In its initial phase-out plan, the U.S. identified and analyzed 12 tax provisions that provided benefit to the development of oil and gas resources.⁵¹ These 12 tax provisions were shown to cost the U.S. government almost \$3.9 billion annually in 2009.⁵² The analysis of each of these provisions showed that all 12 provided a tax preference toward the development of fossil fuels, added to the distortion of the market and provided no obvious strategic environmental or social benefits. Maintaining these tax provisions would therefore serve solely to support the continued production of fossil fuels.

Although the tax provisions identified by the Obama Administration’s strategy showed a significant commitment to the identification of costly fossil fuel subsidies, the timelines provided within the strategy for phase-out were less motivating. Each of the tax provisions identified within the strategy would have to be passed by enabling legislation in the U.S. Congress before the proposal could become law, and therefore were subject to the timelines of those processes. Thus no binding timelines for phase-out of fossil fuel subsidies were provided within the original U.S. strategy presented to the G20.

In February 2011, Senator Robert Menendez introduced the *Close Big Oil Tax Loopholes Act* with the aim of delivering on the commitments made at the G20 meetings. This bill proposed to repeal some of the tax programs that benefit the five largest and most profitable oil companies. Although considered a “no-brainer” by the Senator sponsoring the bill, especially in light of rising concern about the federal deficit, the motion to proceed was rejected with a vote of 52/48 for the act (the bill required 60 votes in the affirmative to proceed).⁵³ Senator Menendez reintroduced the bill in 2012, but again failed to gain the necessary votes.

In 2013, President Obama twice reiterated his commitment to phasing out fossil fuel subsidies: first with his 2013 budget, and then in his June 2013 speech outlining his proposed climate change action

⁴⁸ Ibid., 3.

⁴⁹ Government of Canada, *Canadian Reforms to Taxation of Fossil Fuel Production: Action Plan* (2010), 1-3.

⁵⁰ Ibid., 3.

⁵¹ *G20 Initiative on Rationalizing and Phasing Out Inefficient Fossil Fuel Subsidies: Implementation Strategies and Timetables* (2010), 44.

https://www.hse.ru/data/2012/04/17/1250180042/Annexes_of_Report_to_Leaders_G20_Inefficient_Fossil_Fuel_Subsidies.pdf

⁵² Ibid., 37-38

⁵³ Govtrack.us, “S. 940 (112th): Close Big Oil Tax Loopholes Act.” <http://www.govtrack.us/congress/bills/112/s940>

plan. On February 13, 2013 Senator Menendez reintroduced the *Close Big Oil Tax Loopholes Act*. It was referred to committee for consideration but did not move forward.⁵⁴ In November 2013, Senator Bernie Sanders and Representative Keith Ellison introduced the *End Polluters Welfare Act*, which proposed to go well above and beyond the *Close Big Oil Tax Loopholes Act*, eliminating \$110 billion in fossil fuel subsidies over 10 years.⁵⁵ The bill was assigned to a congressional committee on November 21, 2013, but also did not move forward.⁵⁶

Despite President Obama's rhetorical commitment to removing the market distortions caused by fossil fuel subsidies and phasing out wasteful tax programs, until Congress and the House of Representatives can agree, there will be little to no progress on the elimination of fossil fuel subsidies in the United States.

Canada's federal government does not face the same constraints as the United States; the beginning of a program to phase out fossil-fuel subsidies simply requires a commitment in the federal budget. With this commitment, the federal government would be setting an example for the provinces, and taking a commendable leadership position among G20 countries.

2.2 Current subsidies in Canada

The most recent inclusive estimate of Canada's producer subsidies to the oil sector came from the IISD in 2010.⁵⁷ In a report issued as part of its Global Subsidies Initiative, the IISD looked at the application of provincial and federal subsidies in three Canadian provinces.^{58,59} The report estimated a total subsidy cost of \$2.8 billion in 2008/09.^{60,61} The division of total subsidy costs among provinces and the federal government is shown in Figure 2.

⁵⁴ Ibid.

⁵⁵ *End Polluter Welfare Act: Comprehensive Fossil Fuel Subsidy Repeal to Save Taxpayers Over \$110 Billion* (2013), http://www.sanders.senate.gov/imo/media/doc/EPW_Act_fact_sheet.pdf

⁵⁶ Govtrack.us, "S. 1762: End Polluter Welfare Act of 2013." <https://www.govtrack.us/congress/bills/113/s1762>.)

⁵⁷ A 2011 paper from the University of Calgary School of Public Policy criticizes the approach used by the IISD in estimating the value of Canadian subsidies to the oil sector. It identifies four main problems with the IISD methodology, and argues that if the objective is to understand how resources are allocated in an economy, then the effect of subsidies must be measured at the margin through the calculation of a marginal effective tax rate for oil and gas investments. While we acknowledge limitations with the IISD methodology, our primary objective when referring to the IISD estimates is to provide an approximate quantification of the value of Canada's subsidies to the oil sector. In our assessment, the IISD report remains the most recent and complete source for this information. For further information on the arguments from the University of Calgary School of Public Policy see: Kenneth J. McKenzie and Jack Mintz, "The Tricky Art of Measuring Fossil Fuel Subsidies: A Critique of Existing Studies," *SPP Research Papers* 4, no. 114 (2011). <http://www.policyschool.ucalgary.ca/sites/default/files/research/mckenzie-mintz-fossil-fuel.pdf>

⁵⁸ The Global Subsidies Initiative was established by the IISD in 2005, with the objective of analyzing subsidies (not only fossil fuel), and encouraging government to achieve economic, environmental and social benefits through subsidy reform. For more information, see <http://www.iisd.org/gsi>.

⁵⁹ The three provinces considered in the IISD report were Newfoundland & Labrador, Saskatchewan and Alberta. In 2009, these provinces accounted for approximately 90% of the reported GDP generated by oil and gas extraction activities, and approximately 80% of the reported GDP generated by support activities (including exploration) for the oil and gas and mining sectors. Pembina Institute calculation using Statistics Canada, CANSIM Table 379-0030, "Gross domestic product (GDP) at basic prices, by North American Industry Classification System (NAICS), provinces and territories." <http://www5.statcan.gc.ca/cansim/pick-choisir?lang=eng&p2=33&id=3790030>

⁶⁰ Sawyer and Stiebert, *Fossil Fuels – At What Cost?*, 34.

Canada's most significant producer subsidies to the oil sector are federal tax expenditure subsidies. According to the IISD estimates, these amounted to \$1.2 billion in 2008. The remainder of the \$2.8 billion in total subsidy expenditures comes from federal level transfer of funds subsidies, discussed in Box 5, and from a range of subsidies at the provincial level. Subsidies considered at the provincial level include transfer of funds and tax expenditures, as well as programs that provide royalty relief or reductions.

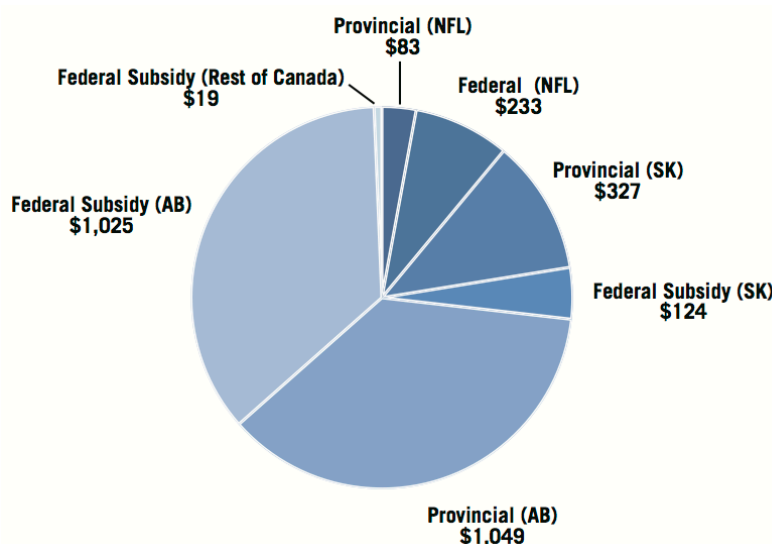


Figure 2. Breakdown of annual subsidy to oil sector (total value \$2.8 billion (\$ millions))

Source: IISD⁶²

Canada's fossil fuel subsidy phase-out progress, discussed in the previous section, has focused on ending federal tax expenditure subsidies, most notably the ACCA for oilsands. When deducting the value of subsidies for which phase-out plans have been announced, the IISD estimate drops to \$711 million.⁶³ This is the estimated value, in 2008, of the two major subsidy programs still in place — the CDE and the CEE.^{64,65} Two smaller subsidy programs that also

⁶¹ The IISD report estimates tax expenditure subsidies for 2008 and direct spending and credit support subsidies for 2009.

⁶² Sawyer and Stiebert, *Fossil Fuels – At What Cost?*, 15.

⁶³ The fossil fuel subsidy programs which were included in the IISD estimate, and for which phase-out plans have since been announced or implemented, are the ACCA for oilsands (\$300 million), the Atlantic Canada Investment Tax Credit (\$100 million) and the Capital Cost Allowance for Oilsands Leases & Building Mines (\$50 million).

⁶⁴ While the CDE and CEE are federal subsidies, by reducing a firm's taxable income, they also reduce a firm's provincial taxes. When including provincial government revenue foregone, the cost of these subsidies increases to \$1,080 million in 2008 (provincial revenues foregone are \$253 million in Alberta, \$64 million in Saskatchewan and \$52 million in Newfoundland and Labrador). Source: Sawyer and Stiebert, *Fossil Fuels – At What Cost?*, 45, 50 and 54.

⁶⁵ There is some discussion on whether the CDE and CEE are properly categorized as subsidies or whether they accurately align deduction rates with the exposure and risk that companies take on when investing in uncertain exploration and development activities. For the purposes of this report we consider them as subsidies as they meet the WTO definition (provided in the Introduction) of "Government revenue that is otherwise due is foregone or not collected." Treating the CDE and CEE as subsidies is also consistent with recent reports from the IISD, OECD, and the Commissioner of the Environment and Sustainable Development. Sources: (i) WTO, *Agreement on Subsidies and Countervailing Measures*, 229; (ii) Sawyer and Stiebert, *Fossil Fuels – At What Cost?*; (iii) IEA et al., *Analysis*

remain are the Canadian Oil and Gas Property Expense and Flow Through Shares, for which the IISD does not provide independent estimates. Table 3 in Appendix A.2 provides a description of Canada's currently outstanding subsidy programs to the oil sector.

Box 5: Federal “transfer of funds” subsidies to the oil sector

Subsidies that meet the WTO's transfer of funds definition are paid either directly to the oil sector, or directly to a company or institution that is doing work in support of the oil sector. For example, from 2007 to 2012, the National Research Council spent \$13 million on the Institute for Chemical Process and Environmental Technology's Oil Sands Project, which focused on researching existing and emerging technologies for bitumen extraction and upgrading.⁶⁶ The value of these subsidies is easier to measure than tax expenditure subsidies, as they represent a direct expense by government departments each year. (Tax expenditure subsidies, which reduce the revenues governments would otherwise have collected, are tougher to quantify because they require access to tax data and comparison against a baseline.)

The IISD estimates that in 2009 the federal government transferred funds of \$240 million to the oil sector through a combination of credit support and direct spending support programs. A more recent report from the Commissioner of Environment and Sustainable Development estimates that from the 2007–08 to 2011–12 fiscal years, the federal government spent \$508 million on direct support to the oil sector, or an average of just over \$100 million per fiscal year.⁶⁷ The Commissioner's study estimates that just over half of this spending was dedicated to clean energy initiatives. Unlike most oil sector subsidies, these clean energy expenditures could result in positive externalities through reduced pollution.

The discrepancy in estimates between the IISD and the Commissioner report comes primarily from Natural Resources Canada's Clean Energy Fund, announced in Budget 2009, which committed \$1 billion over five years to support clean energy technologies.⁶⁸ Since 2009, the Clean Energy Fund has invested in large-scale carbon capture and storage demonstration projects and smaller-scale demonstration projects of renewable energy and clean energy systems technologies.⁶⁹

While the federal government continues to provide long-term support for the expansion of the oil and gas sector through the continuation of its tax expenditure subsidy programs, it is not providing ongoing support to the Clean Energy Fund. Rather, a note on the Clean Energy Fund website states, “There is no current call for proposals and we do not expect that there will be any further calls.”⁷⁰

It is important to note that foregone tax revenue through the CDE and the CEE will increase if the anticipated growth in the oil sector, driven by the expanding oilsands, unfolds as industry and government projections foresee. Provincial and federal regulators continue to rapidly approve oilsands projects. As of February 2014, there were 81 approved and “under construction” in situ

of the Scope of Energy Subsidies and Suggestions for the G-20 Initiative; and (iv) Office of the Auditor General of Canada, *Report of the Commissioner of the Environment and Sustainable Development: A Study of Federal Support to the Fossil Fuel Sector* (2012), http://www.oag-bvg.gc.ca/internet/docs/parl_cesd_201212_04_e.pdf

⁶⁶ Auditor General, *Report of the Commissioner of the Environment and Sustainable Development*, 20.

⁶⁷ Ibid., 17.

⁶⁸ Government of Canada, *Budget 2009: Canada's Economic Action Plan 2009* (2009), 179. <http://www.budget.gc.ca/2009/pdf/budget-planbudgetaire-eng.pdf>

⁶⁹ Natural Resources Canada, “Clean Energy Fund.” <http://www.nrcan.gc.ca/energy/science/programs-funding/1482>

⁷⁰ Ibid.

and oilsands mining projects scheduled to start operations between 2014 and 2020.⁷¹ There are a further 74 projects in the application stage, while an additional 56 have been announced.⁷² Start-up dates for these latter projects extend out to 2030 and beyond.

Cumulatively, these projects add up to nearly 8 million barrels per day of oilsands production, over three times the current operating capacity of 2.5 million barrels per day.⁷³ While market rationalization means that not all of these projects will proceed, the Canadian Association of Petroleum Producers anticipates that by 2030 production levels will reach 4.8 million barrels per day.⁷⁴ With the CDE and CEE still in place, the federal government risks foregoing billions of dollars in tax revenues from accelerated deduction rates for pre-production costs for new projects over decades to come.

Explicit federal subsidies to the oil sector in Canada are the primary focus of this report; however, there are arguably additional subsidies that the oil sector receives by virtue of either a lack of government policy, or government policies that are too lax to cover the potential full cost of environmental liabilities. Box 6 considers how the lack of carbon price provides an additional subsidy to oil sector companies. Appendix B goes beyond the federal scope of this report and considers the risk of reclamation liabilities becoming a future subsidy at the provincial level.

Box 6: Is the lack of carbon price a subsidy to polluting industries?

Emissions from a carbon-emitting firm contribute to the global stock of carbon and thereby the damages associated with climate change. A carbon-emitting firm thus imposes a global cost on society through its private production decisions. Attempts to quantify this cost are often referred to as the social cost of carbon (SCC). The United States Environmental Protection Agency defines the SCC as "... an estimate of the economic damages associated with a small increase in carbon dioxide emissions, conventionally one metric ton, in a given year."⁷⁵

Environment Canada uses the SCC as part of its assessment of the costs and benefits of action each time it publishes a GHG regulation. Historically Environment Canada has used an estimate in the range of \$25 per tonne. However, in more recent regulatory statements, Environment Canada has also included a higher-end estimate that each tonne of GHG pollution could cost the world \$112.37 per tonne, which reflects the possibility of very costly climate damages.⁷⁶

Despite Environment Canada recognizing that carbon pollution carries a social cost, the federal government has chosen not to regulate carbon emissions from the oil and gas sector. As a result, some firms across Canada are emitting carbon at zero cost, receiving an implicit subsidy and making investment and production decisions that do not reflect their true social cost. (As noted below, several provincial governments have adopted carbon pricing policies of various strengths.)

⁷¹ Pembina Institute calculations; data source: Oilsands Review, "Oilsands Projects – Statistics." <http://www.oilsandsreview.com/statistics/projects.asp>

⁷² Pembina Institute calculations; data source: Oilsands Review, "Oilsands Projects – Statistics."

⁷³ Pembina Institute calculations; data source: Oilsands Review, "Oilsands Projects – Statistics."

⁷⁴ Canadian Association of Petroleum Producers, *Crude Oil Forecast, Markets & Transportation* (2013), 3. <http://www.capp.ca/forecast/Pages/default.aspx>

⁷⁵ United States Environmental Protection Agency, "The Social Cost of Carbon." <http://www.epa.gov/climatechange/EPAactivities/economics/scr.html>

⁷⁶ Matt Horne, Clare Demerse and P.J. Partington, *Getting on Track for 2020: Recommendations for greenhouse gas regulations in Canada's oil and gas sector* (Pembina Institute, 2013), 5. <http://www.pembina.org/pub/2427>

While the lack of a federal carbon price applies to all sectors, the distortion in production and investment decisions is arguably most prevalent in the oil and gas sector. The oil and gas sector is the largest carbon-emitting sector in Canada for which the federal government has not introduced emissions regulations. In 2011, emissions from the sector totalled 163 Mt of CO₂-equivalent. Using Environment Canada's estimates of the SCC, the lack of carbon price corresponds to an implicit subsidy to the sector of between \$4 and \$18 billion a year.

A recent study by the International Monetary Fund estimated that when treating the lack of carbon price as an additional subsidy to energy consumption, the annual global value of fossil fuel subsidies in 2011 increases from \$480 billion to \$1.9 trillion.⁷⁷ The study reports that removing all subsidies could lead to a 13% decline in global CO₂ emissions, or an annual reduction of 4.6 billion tonnes (gigatonnes, or Gt) of carbon. This is almost twice the emissions reductions predicted by the IEA from the phase-out of traditional ("non-carbon price") fossil fuel subsidy programs only. Looking at Canada specifically, the IMF found that the lack of carbon price on petroleum products created a subsidy equal to 1.0% of GDP and 2.6% of government revenues in 2011.⁷⁸

While the federal government is strongly opposed to economy-wide carbon pricing, the Government of British Columbia has a carbon tax in effect at a rate of \$30 per tonne. It applies to roughly 75% of the province's carbon pollution, and was recently lauded by the OECD as a leading example of carbon pricing.⁷⁹ Recent analysis by Sustainable Prosperity suggests the tax has reduced per capita fuel consumption in British Columbia by 19% more than the rest of Canada, and has done so without harming GDP growth.⁸⁰

Alberta also has a version of a carbon price, implemented through the Specified Gas Emitters Regulation, which requires major industrial facilities to reduce their emissions intensity by 12% relative to a facility-specific historical baseline level. If companies do not meet this intensity target in their own operations, they have three other options for their emissions exceeding the allowed amount: purchase offset credits (emission reductions that occur in Alberta, but outside the regulated sectors); pay into a technology fund at a price of \$15 per tonne; or purchase credits from another facility that has exceeded its target.⁸¹ The current version of this regulation expires in September 2014, and there is currently little public indication of what the next version will look like. There were promising signs in the spring of 2013, when the provincial government considered strengthening SGER through a "40/40" plan, which would require companies to achieve a 40% reduction in emissions intensity and raise the technology fund contribution rate to \$40 per tonne.⁸² Since that proposal became public, however, there have been no public commitments to a given price or target level from the Government of Alberta. Rather, there have been indications that the province is now considering a less stringent update to the regulations, with emission intensity reductions of 24% and a technology fund contribution rate of \$30 instead.⁸³

Lastly, it is notable that in the absence of a national carbon price, many oil and gas companies have introduced shadow carbon pricing, a practice where they apply a notional market price to carbon when

⁷⁷ IMF, *Energy Subsidy Reform*, 1.

⁷⁸ Ibid., 57 and 62.

⁷⁹ P.J. Partington, "A 'textbook example' of good climate policy, OECD praises B.C.'s carbon tax," *Pembina Institute*, October 21, 2013. <http://www.pembina.org/blog/757>

⁸⁰ Stewart Elgie and Jessica McClay, *BC's Carbon Tax Shift After Five Years: Results* (Sustainable Prosperity, 2013), 6. <http://www.sustainableprosperity.ca/dl1026&display>

⁸¹ P.J. Partington, "How carbon pricing currently works in Alberta," *Pembina Institute*, April 5, 2013. <http://www.pembina.org/blog/708> <http://www.pembina.org/blog/708>

⁸² Simon Dyer, "What you need to know about Alberta's 40/40 carbon pricing proposal," *Pembina Institute*, April 5, 2013.

⁸³ David Sawyer "A Timbit with that Double-Double? Costs and emission reductions of renewed carbon policy in Alberta." <http://www.iisd.org/publications/costs-emission-reductions-renewed-carbon-policy-alberta>

conducting financial analysis or making business decisions. Shadow carbon pricing prepares companies for future carbon regulations, motivates innovation and informs investment decisions, particularly for long-term projects. A recent report from Sustainable Prosperity identified 10 energy sector companies using a shadow carbon price ranging from \$15 to \$68 per tonne of CO₂ or CO₂e.⁸⁴

When applying a shadow carbon price, a firm internalizes its external cost of carbon. This should lead to a decrease in its carbon emissions (relative to a scenario where no shadow price is in place) and help to counter the over-production of carbon emissions that comes from the lack of a national carbon price. However, it does not eliminate the implicit subsidy for the carbon emissions that do occur. As noted in the Sustainable Prosperity report: "...while laudable, the use of a shadow carbon price by certain companies is not a substitute for the policy certainty of a regulated market price for carbon. Company action cannot be expected to substitute for government policy on this crucial issue."⁸⁵

⁸⁴ Sustainable Prosperity, *Shadow Carbon Pricing in the Canadian Energy Sector*, Policy Brief (March 2013), 1. <http://www.sustainableprosperity.ca/dl1015&display>

⁸⁵ Ibid., 2

3. Rationale and impacts of oil sector subsidies in Canada

3.1 The rationale for subsidies

The key impact of an effective subsidy is that it decreases costs for either consumers or producers of a product, and by doing so, increases market activity — typically measured either by investment or the exchange of products and services — in a targeted sector. Under perfect market conditions a subsidy is never justified; rather, the socially optimal level of production will be achieved through private market transactions. Unfortunately, very few markets meet that standard. Rather, real world markets most often display characteristics of an imperfect market. A certain subset of these characteristics — as described in Table 1 — can provide a positive rationale for the use of subsidies.

Some of the market characteristics described in Table 1 could at one time have been used to justify subsidies to the oil sector. Since then, the industry has evolved and grown. While some characteristics still persist in a more limited form, they are now being counteracted — and arguably dominated — by negative externalities in the form of environmental damages from rapidly expanding production activities, particularly in Alberta's oilsands region. Cumulative effects of oilsands development are having significant impacts on air, water, land and wildlife, with numerous indicators approaching and exceeding science-based thresholds.⁸⁶

Canada's primary remaining subsidy programs for the oil sector are the CDE and the CEE, which quicken production growth by providing accelerated deduction rates for pre-production development and exploration expenses respectively. Until the negative externalities of growing production are appropriately priced, it is hard to argue in support of these subsidies. Rather, current market characteristics further support the premise that industry-wide subsidies are not needed and should be phased out.

⁸⁶ For example, in 2011 Environment Canada classified almost all herds of woodland caribou in northern Alberta as "very unlikely to survive." Source: Canadian Press, "Caribou recovery plan near oilsands may target wolves," *CTV News*, September 12, 2011. <http://www.ctvnews.ca/caribou-recovery-plan-near-oilsands-may-target-wolves-1.696155>

Table 1. Market failures used to rationalize subsidies

Market characteristic	Subsidy rationale	Does this characteristic currently apply to Canada's oil sector?
Positive externalities	A positive externality is defined as “a benefit that accrues to somebody who is outside, or external, to the decision about consuming or using a good or resource that causes the externality.” ⁸⁷ One example of a positive externality is knowledge spillovers from research and development activities. An individual firm does not benefit from knowledge spillovers, and if anything, may be cautious of generating valuable information for competitors. As a result, private firms will typically under-invest in research and development and too little knowledge will be generated relative to the social optimum. ⁸⁸	Current federal subsidy programs primarily support exploration and development activities by firms. As each area of geographic exploration is unique, industry-wide positive externalities in the form of knowledge spillovers are limited. Greater potential for knowledge spillovers exist in the development of clean extraction technologies, or procedures for reclamation and remediation — areas that receive limited subsidy support. ⁸⁹
Information asymmetries	Information asymmetries exist when “one party to a transaction has more or better relevant information about the transaction than the other party.” ⁹⁰ The case for subsidization is most often made in capital markets, where borrowers have more information than lenders concerning the riskiness of their projects. ⁹¹ This is often the case in fledgling industries, where even to borrowers, the riskiness of a project is highly uncertain. Subsidies that decrease costs in early investment years, or which provide some form of credit support, can be effective in decreasing risk and increasing	Exploration activities in the oil sector will always carry some risk. However, companies in the oil sector are now among Canada's most established and profitable, and the sector is well positioned to make private investment decisions, and attract investors, without significant support from government. ⁹²

⁸⁷ Field and Olewiler, *Environmental Economics*, 62.

⁸⁸ Robert Ford and Wim Suyker, “Industrial Subsidies in the OECD economies,” *OECD Economic Studies*, no. 15 (1990), 56. <http://www.oecd.org/eco/growth/35370703.pdf>

⁸⁹ At the federal level, clean extraction technologies and reclamation and remediation procedures are primarily supported by direct expenditure subsidies. The Fall 2012 Report of the Commissioner of the Environment and Sustainable Development found that from 2007–08 to 2011–12 nearly 60% of the \$492.1 million the federal government spent on direct expenditure subsidies went to clean technology (\$281.2 million) or reclamation and remediation (\$12.6 million). While it is noteworthy that clean technology and reclamation and remediation were receiving a majority of direct expenditure support, the average annual subsidy to these activities is less than \$60 million, falling far short of the annual subsidy for exploration and development activities. Source: Auditor General, *Report of the Commissioner of the Environment and Sustainable Development*, 18.

⁹⁰ Ragan and Lipsey, *Microeconomics*, 397.

⁹¹ Ford and Suyker, “Industrial Subsidies in the OECD economies”, 57.

⁹² In June 2013, the Globe & Mail released a ranking of Canadian publicly traded companies by after-tax profits. Looking at the top fifteen companies, oil and gas producers take up four of these spots, with after-tax profits ranging from \$1.9 to \$3.7 billion. In: *Report on Business*, “Top 1000: Exclusive rankings of Canada's most profitable companies.” June 27, 2013. <http://www.theglobeandmail.com/report-on-business/rob-magazine/top-1000/top-1000/article12829649/#dashboard/follows/>

	socially desirable investment.	
Increasing returns to scale & infant industries	Industries with “increasing returns to scale” are those characterized by decreasing average production costs: i.e. as they grow, each unit produced becomes cheaper, either as a result of increased efficiency from “learning by doing” or of increased production quantity resulting from high “up-front” investments made before production can begin. ⁹³ In both cases, the initial high costs of production can make it difficult for infant industries to compete with established counterparts.	Canada's oil sector is well established and growing, no longer meeting the criteria for an infant industry. The sector accounted for nearly 5% of global oil production in 2012, and is expected to be the third-largest global contributor to new oil production over the next two decades. ⁹⁴

Questions put forward at the conclusion of a Fall 2012 study from the Commissioner of the Environment and Sustainable Development offer further support for the need to reassess the rationale for current subsidies to the oil sector. The assessment identified a number of questions for parliamentarians to ask concerning the government's continued support of fossil fuel subsidies, including the following:⁹⁵

- What steps has the government taken to ensure that support to the fossil fuel sector is not contradicting or impeding policy objectives related to the environment and sustainable development?
- How is the government working to achieve policy coherence among economic, social and environmental factors in supporting sustainable development?
- What are the financial implications of the various tax expenditures the government offers the fossil fuel sector?
- What policy objectives do the various tax expenditures for the fossil fuel sector achieve? Are they still relevant? Do they achieve their purpose? How is their effectiveness measured?

3.2 Opportunity cost

Even without considering the market distortion created by fossil fuel subsidies, they represent a significant opportunity cost to the federal government, and to Canadians. Taxes not collected as a result of preferential tax treatment for the fossil fuel sector is government revenue that is not available for spending on other federal programs and services.

Canada's primary remaining subsidy programs for the oil sector are the CDE and the CEE. The IISD estimated that in 2008, foregone federal government revenues from the CDE and CEE were \$478 million and \$233 million, respectively.^{96,97} For comparison, the combined total of \$711

⁹³ Ford and Suyker, “Industrial Subsidies in the OECD economics”, 56.

⁹⁴ Yadullah Hussain, “Canada to emerge as the fourth-fastest growing oil player in the world: IEA,” *Financial Post*, November 12, 2013. http://business.financialpost.com/2013/11/12/canada-to-emerge-as-the-fourth-fastest-growing-oil-player-in-the-world-iea/?_lsa=5e40-9686

⁹⁵ Auditor General, *Report of the Commissioner of the Environment and Sustainable Development*, 29.

⁹⁶ Sawyer and Stiebert, *Fossil Fuels – At What Cost?*, 34.

million for these two subsidy programs represented 63% of Environment Canada's total spending of \$1,120 million in the 2008-09 fiscal year.⁹⁸

Due to the difficulty in estimating tax expenditure subsidies, more recent estimates of the CDE and CEE do not exist. The Commissioner of the Environment and Sustainable Development lists both subsidies in its summary of tax expenditure subsidies, but provides no estimate of their values, citing a lack of necessary data from Finance Canada.⁹⁹ However, when looking at the IISD estimate in conjunction with development and expenditure trends in the conventional oil sector, and capital expenditure trends in the oilsands since 2008 (as shown in Figure 3), there is a strong suggestion that the annual subsidy value has increased.

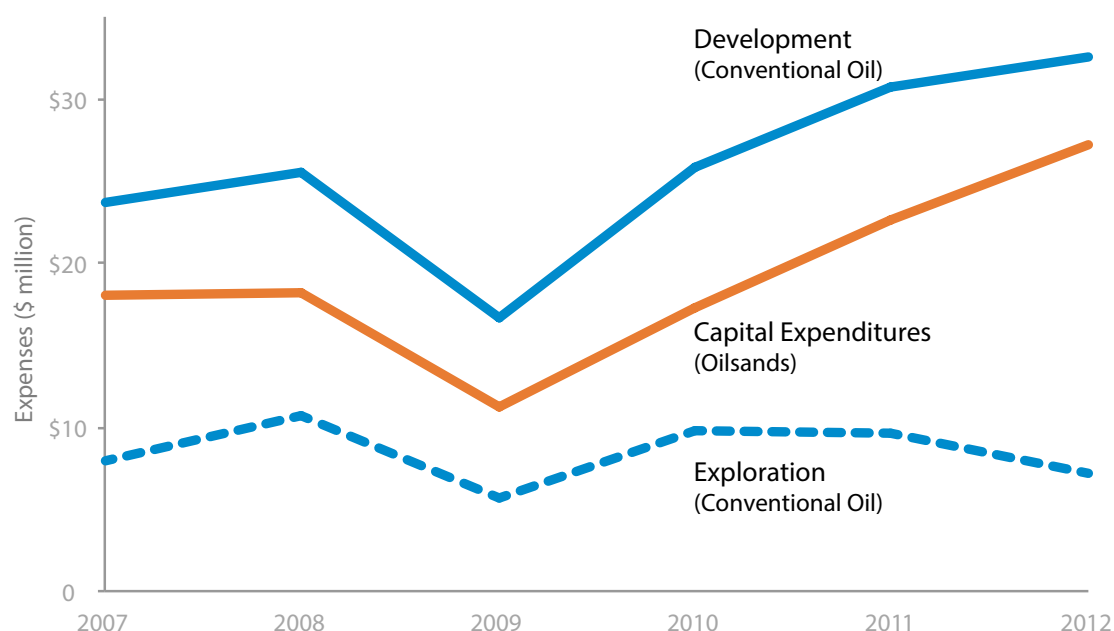


Figure 3. Expenditures in the oil sector, 2007–2012

Data source: CAPP¹⁰⁰

⁹⁷ Relative to a normalized tax system with constant deduction rates across all sectors, accelerated deduction rates reduce the taxable income of oil companies by larger amounts in years immediately after the expense is incurred, thereby decreasing taxes payable in those years. Calculating the loss of government revenue requires a comparison with what the company would have paid in taxes if it were following a normalized schedule for deductions. The IISD report uses two methods in estimating both the Canadian Development Expense and the Canadian Exploration Expense in 2009. The first method likely overstates the value of the subsidy by calculating the current year tax loss, implicitly assuming the company will not be profitable at any time in the future. The second method likely understates the value of the subsidy by using a present value calculation to compare taxes paid under a neutral and accelerated deduction rate over the entire depreciable period, implicitly assuming the company will be profitable in all future periods. Reported values are the averages of these two methods.

⁹⁸ Environment Canada, *2009-2010 Estimates Part III – Departmental Performance Report* (2010), 33.

<http://www.tbs-sct.gc.ca/dpr-rmr/2009-2010/inst/doc/doc-eng.pdf>

⁹⁹ Auditor General, *Report of the Commissioner of the Environment and Sustainable Development*, 26.

¹⁰⁰ CAPP, *Statistical Handbook* (2013), “Net Cash Expenditures of the Petroleum Industry, 1947–1980, Canada,” Table 04-02A. <http://statshb.capp.ca/SHB/Sheet.asp?SectionID=4&SheetID=184>; CAPP, *Statistical Handbook* (2013), “Canada Oil Sands Expenditures, 1997–2012,” Table 04-16B.

<http://statshb.capp.ca/SHB/Sheet.asp?SectionID=4&SheetID=202>

In 2009 exploration, development and capital expenditures in the oil sector fell off drastically from 2008 levels as the sector was suffering from the impacts of the 2008 financial crisis. According to CAPP estimates, since 2009 exploration expenses in the conventional oil sector have remained somewhat volatile — increasing sharply in 2010, hovering at the same level in 2011 and then falling off again in 2012. Development expenses in the conventional oil sector, however, which are typically two to four times higher than exploration expenses in any given year, have rapidly recovered, increasing at an annualized rate of 25% from 2009 to 2012. Relative to 2008 levels, development expenditures were 27% higher in 2012.

CAPP does not separately track exploration and development expenses in the oilsands, but capital expenditures in the oilsands have also recovered quickly from the 2008 financial crisis, growing at an annualized rate of 34% from 2009 to 2012. Relative to 2008 levels, oilsands capital expenditures were 50% higher in 2012.

With the CDE and the CEE still firmly in place, and development and capital expenses in the oil sector continuing to trend upwards, the opportunity cost of subsidies to the oil sector in Canada looks set to grow in future years. By committing to the phase-out of these programs and collecting the full amount of taxes owed from the oil sector every year, the federal government could instead anticipate increasing its annual revenue from the oil sector. This additional revenue would also assist the federal government in maintaining balanced budgets going forward, a commitment made in the recent Throne Speech where the federal government proposed introducing a law that would require balanced budgets during normal economic times.¹⁰¹

3.3 The “environmental cost”

In its World Energy Outlook 2013, the IEA notes that “by encouraging over-consumption, energy subsidies can also give rise to large environmental costs, including emissions higher than would otherwise be the case.”¹⁰² While the IEA was referring to energy consumption subsidies, it is well accepted that the market impact of subsidies is independent of what side of the market the subsidy is applied to; that is, energy production subsidies will have the same market impact as energy consumption subsidies. Either type of subsidy for fossil fuels will lead to increased production, which in turn will result in larger environmental impacts associated with such production than if no subsidies were in place.

The environmental impacts from increased oil sector activity in Canada are both local and global in scale.

Locally, the negative environmental implications of oil sector production activities are most notable in the oilsands region of northern Alberta. Environmental impacts of the oilsands sector — a beneficiary of the CDE and CEE subsidies — are well documented, and include growing GHG emissions, deteriorating air quality, biodiversity losses, land disturbance, tailings pond

¹⁰¹ Steven Chase, “Prime Minister Harper proposed balanced-budget law in Throne Speech,” *The Globe and Mail*, October 16, 2013. <http://www.theglobeandmail.com/news/politics/governor-general-delivers-throne-speech/article14892433/#dashboard/follows/>

¹⁰² International Energy Agency, *World Energy Outlook 2013*, 270.

growth, and impacts to surface and groundwater sources from intensive water use and pollution.¹⁰³

The global environmental cost of Canada's oil sector subsidies is seen in the sector's increasing contribution to worldwide greenhouse gas pollution. Annual emissions for Canada's oil sector stood at 114 million tonnes (Mt) in 2011, and are expected to grow by over a third in the current decade, reaching an annual level of 158 Mt in 2020.¹⁰⁴ This increase is being driven primarily by the oilsands, where emissions are expected to increase from 55 to 101 Mt CO₂e between 2011 and 2020. As shown in Figure 4, the projected growth in emissions from the oilsands sector from 2005 to 2020 is the primary barrier keeping Canada from being on track to meet its international climate commitment of a 17% reduction in GHG emissions by 2020, relative to the 2005 level.

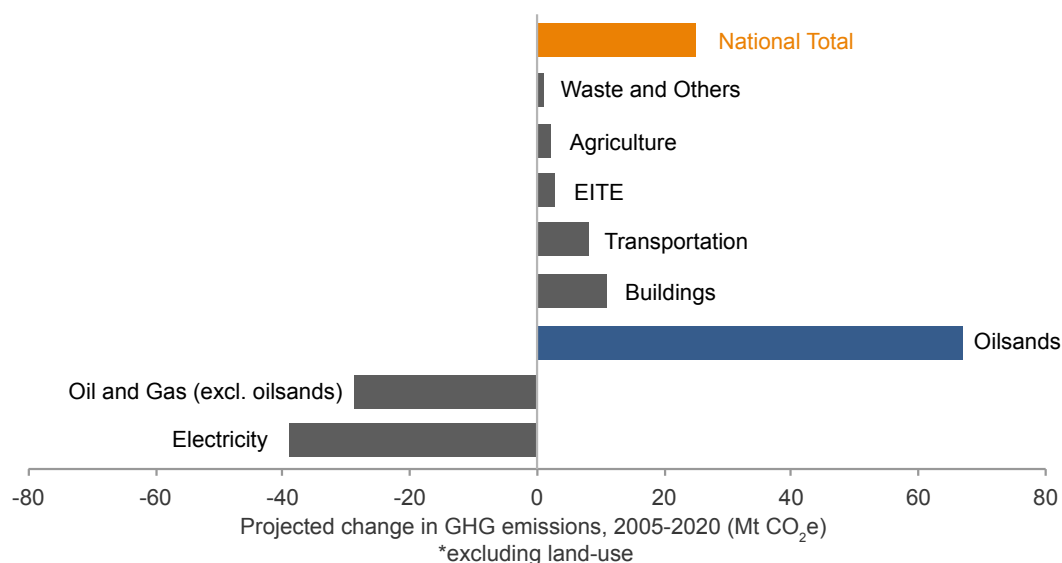


Figure 4. Projected change in Canada's GHG emissions by sector

Data source: Environment Canada¹⁰⁵

The elimination of fossil fuel subsidies is one mechanism through which Canada can move towards meeting its 2020 climate target. Using a computable general equilibrium model of Canada's economy, the IISD modelled the likely impact of a full provincial and federal phase-out of fossil fuel subsidies by 2020. Relative to a baseline scenario in which all identified 2009 fossil fuel subsidy programs stay in place, the researchers concluded that a full subsidy phase-out would decrease national greenhouse gas emissions by 2.1%. The largest decrease is seen in

¹⁰³ See, for example: (i) Jennifer Grant, Marc Huot, Nathan Lemphers, Simon Dyer and Matt Dow, *Beneath the Surface: A review of key facts in the oilsands debate* (The Pembina Institute, 2013), or (ii) The Pembina Institute, "Oilsands 101," <http://www.pembina.org/oil-sands/os101>

¹⁰⁴ Pembina Institute calculation including emissions from conventional oil production, oil sands, oil and natural gas transmission and downstream petroleum products; data source: Environment Canada, *Canada's Emissions Trends 2013* (2013), 15 and 21. http://www.ec.gc.ca/ges-ghg/985F05FB-4744-4269-8C1A-D443F8A86814/1001-Canada%27s%20Emissions%20Trends%202013_e.pdf

¹⁰⁵ Environment Canada, *Canada's Emissions Trends 2013*, 21 and 25. Pembina Institute graph in P.J. Partington, "Trending Bad: What Environment Canada's latest climate report says about Canada's carbon pollution," *Pembina Institute*, Oct. 29, 2013. <http://www.pembina.org/blog/758>

Alberta, where GHG emissions are expected to fall by 4.6% overall, and by 12% in the oilsands sector.¹⁰⁶

Environment Canada currently anticipates total Canadian emissions of 734 Mt CO₂e in 2020. The projection of total Alberta emissions in 2020 is 295 Mt CO₂e, of which 101 Mt are projected to come from oilsands projects. Assuming Environment Canada included the estimated emissions impact of the phase-out of the ACCA for oilsands, the phase-out of the Atlantic Canada Tax Credit for oil and the reclassification of oilsands mining pre-production expenses as development expenses, these emissions estimates will already account for a portion of the gains identified by the IISD modelling. Using the estimates from the IISD as an upper limit, however, suggests that a full phase-out of fossil fuel subsidies at the federal and provincial level could lead to annual emissions reductions of 12 to 15 Mt CO₂e. Canada's current 2020 emissions gap — the difference between expected 2020 emissions and emissions that would achieve Canada's 2020 climate commitment — is currently 122 Mt. Full fossil fuel subsidy phase-out could therefore move Canada 10 to 12% closer to meeting its 2020 target.

3.4 Preferential treatment to the oil sector?

In 2006, Canada made a commitment through its Advantage Canada plan to make the overall tax system simpler and fairer, with the objective of improving Canada's global competitive advantages. The plan recognized this goal would be "...enhanced by making the tax system more neutral across firm size, business structures and sectors."¹⁰⁷ While the government has made significant strides in neutralizing tax treatment within the oil sector, the tax neutrality of the oil sector relative to other sectors of the economy depends on how royalties are classified.

Under Canada's constitution, the provinces own all non-renewable resources within their boundaries. Oil companies operate under a license for extraction, and the royalties they submit to provincial governments acknowledge that, as owners of the resource, the provincial government is entitled to a share of the benefits from extraction.

If royalties are treated as an additional tax on the oil sector — perhaps tempting since they are submitted to government — then the onshore oil sector does not receive preferential treatment relative to other sectors of the economy. A recent study from the University of Calgary School of Public Policy estimated the marginal effective tax and royalty rate (METRR) for the oil sector in Alberta, British Columbia and Saskatchewan, and compared it to the marginal effective tax rate (METR) for the non-resource sector.^{108,109} It found that the METRR for the oil sector was

¹⁰⁶ Sawyer and Stiebert, *Fossil Fuels – At What Cost?*, 62-63.

¹⁰⁷ Department of Finance Canada, *Advantage Canada; Building a Strong Economy for Canadians* (2006), 75. <http://www.fin.gc.ca/ec2006/pdf/plane.pdf>

¹⁰⁸ The study also looked at the METRR and the METR for the offshore oil sector in Nova Scotia and in Newfoundland. For offshore oil, the study found that accounting for royalty rates actually increased the preferential treatment that is shown to the oil sector. This is attributed to the royalty structure providing an "excessive deductibility" of investment costs. Source: Jack Mintz and Duanjie Chen, *Taxing Canada's Cash Cow: Tax and Royalty Burdens on Oil and Gas Investments* (University of Calgary School of Public Policy, 2010), 2. <http://www.policyschool.ucalgary.ca/sites/default/files/research/cashcow1b.pdf>

¹⁰⁹ A 2010 paper from the Harris Centre at Memorial University criticizes the methodology used by University of Calgary School of Public Policy in estimating marginal effective tax rates for Newfoundland and Labrador and

strictly higher than the METR for the non-resource sector — ranging from a small difference of 0.5% to a much more significant gap of 24.7%.¹¹⁰

The question then is whether it is valid to treat royalties in the oil sector as an additional tax on firms. In answering this question, it is worth noting that royalties are not unique to the oil sector. Rather, they are seen in a range of industries where one individual or firm (the “licensee”) profits from the use of a product, or intellectual property, belonging to a separate individual or firm (the “licensor”). For example, a publisher will often enter into a royalty agreement with an author, wherein for every book the publisher sells, the publisher agrees to pay the author a fixed percentage of the retail price. This royalty payment is a cost of doing business for the publisher.

A royalty agreement between a publisher and author reflects the same tenets as resource royalty schemes in the oil sector: as the owner of the manuscript, the author is entitled to a share of the benefits from its sale. Paying royalties is simply a cost of doing business for a licensee, and in our assessment, should be treated as such in all scenarios, regardless of whether the licensor is a private firm, an individual or government.

When including royalties as part of the cost of doing business in the oil sector, it is clear that the sector currently receives a strong tax preference. The same study referenced previously from the University of Calgary School of Public Policy calculates the METR for the oil sector and compares it to the METR for the non-resource sector.¹¹¹ In Alberta, the study finds the METRs for the oilsands and conventional oil sectors to be 12.6% and 6.3% respectively. Compared against the non-resource 2012 METR of 18.5% in Alberta, this demonstrates a significant preferential tax treatment to the oil sector. As shown in Figure 5, results were similar in British Columbia and Saskatchewan, with the non-resource marginal effective tax rate exceeding the oil sector tax rate by 12.6 and 12.3 percentage points respectively.

questions the replicability of the results. We acknowledge disagreement over the methodology, but still consider these numbers to be the best available estimates for providing comparisons between taxation of the resource and non-resource sectors in multiple Canadian provinces. For a full description of the Harris Centre critique see: Wade Locke, *Do Newfoundland and Labrador Subsidize Offshore Oil and Gas Investments? An Independent Assessment of the Claims Made in Mintz and Chen (2010) and Mintz (2010)* (2010).

http://www.mun.ca/harriscentre/reports/wade_report_final.pdf

¹¹⁰ Mintz and Chen, *Taxing Canada's Cash Cow*, 7.

¹¹¹ Mintz and Chen, *Taxing Canada's Cash Cow*, 7. The five provinces considered were British Columbia, Alberta, Saskatchewan, Nova Scotia and Newfoundland and Labrador.

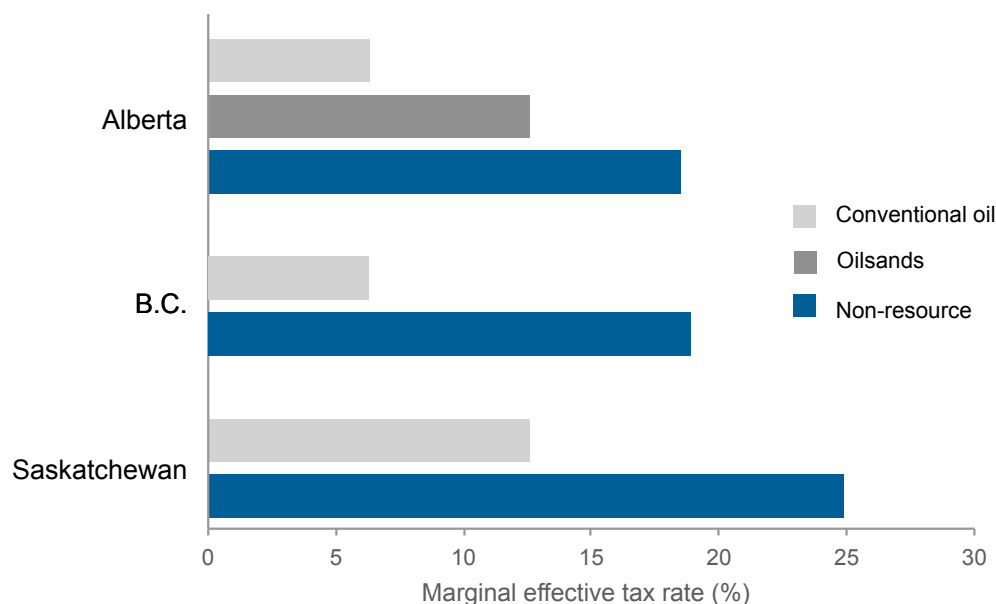


Figure 5. Marginal effective tax rate for oil sector and non-resource sector in Alberta, B.C. and Saskatchewan

Data source: Mintz and Chen¹¹²

One concern with eliminating preferential tax treatment to the oil sector is the potential for anti-competitive effects, both for Canadian oil companies in international markets and for Canadian industries downstream of the oil extraction sector (most notably refining). Box 7 addresses this concern.

Box 7: Q&A on the impacts of phasing out preferential tax treatment to the oil sector

(1) Subsidies to the oil sector exist in economies across the world. How can Canadian companies remain competitive if Canada is phasing out fossil fuel subsidies faster than other jurisdictions?

In its World Energy Outlook 2013, the IEA argues that fossil fuel subsidies have a negative competitive impact on an economy, stating they “create market distortions that are likely to lead to a misallocation of resources and a resulting loss of economic efficiency and welfare.”^{113,114} Removing subsidies results in overall efficiency gains for the economy as it takes away the incentive for over-investment in the development of high-carbon fuels.

Subsidy removal also generally results in an increase in revenues for government, which can be re-invested in initiatives that enhance Canada’s competitiveness. The IISD’s computable general equilibrium modelling found that with a complete phase-out of federal and provincial oil sector subsidies in Canada by 2020, federal government revenues would increase by 0.9%.¹¹⁵ Targeted

¹¹² Ibid.

¹¹³ International Energy Agency, *World Energy Outlook 2013*, 270.

¹¹⁴ As before, the IEA analysis is referring to fossil fuel consumption subsidies. However, as it is generally accepted that the impact of a subsidy is the same, regardless of whether it is applied to the consumer or producer side of the market, it is reasonable to extend the IEA conclusion to production subsidies as well.

¹¹⁵ Sawyer and Stiebert, *Fossil Fuels – At What Cost?*, 61

appropriately (for example through programs that support the development and deployment of clean energy alternatives) these additional revenues can help enhance Canada's long-term competitiveness in a global low-carbon economy.

(2) Perhaps the upstream oil sector can get by without subsidies but what about the downstream sector, particularly refining?

Under the Canadian Income Tax Act, the refining of crude oil to final transportation fuels is considered to be a manufacturing activity. There are no specific tax programs that provide incentives for the processing of crude oil over other forms of manufacturing, and therefore a phase-out of subsidies to the oil sector will not directly impact these refining operations.

If Canada takes action to phase out oil sector subsidies then refineries could see an indirect impact stemming from changes in oil extraction activities and the availability of feedstocks. Such indirect impacts, however, are likely to be limited. Canada's refining capacity is currently 1.7 million barrels per day, and approximately 1.0 million barrels per day is currently filled by Canadian crude.¹¹⁶ Canadian crude oil production levels were at 3.2 million barrels per day in 2012, comprised of 1.4 million barrels per day of conventional crude and 1.8 million barrels per day of bitumen, far exceeding current refining capacity. Furthermore, plans for refinery expansion in Canada are limited — Alberta's newest refinery is the first in North America in nearly three decades.¹¹⁷ In addition, the IISD's computable general equilibrium modelling finds that a phase-out of oil sector subsidies would not eliminate growth in the oil sector. In Alberta, output in the oilsands is likely to more than double between 2009 and 2020 even if all subsidies were removed. All of this suggests that a phase-out of oil sector subsidies is very unlikely to have a notable impact on the business activities of Canadian refineries.¹¹⁸

¹¹⁶ CAPP, *Crude Oil Forecast, Markets & Transportation*, ii.

¹¹⁷ Kelly Cryderman, "Canada's first new refinery in decades breaks ground," *The Globe and Mail*, September 19, 2013. <http://www.theglobeandmail.com/report-on-business/industry-news/energy-and-resources/canadas-first-new-refinery-in-decades-breaks-ground/article14426102/>

¹¹⁸ CAPP, *Crude Oil Forecast, Markets & Transportation*, iii.

4. Conclusions and recommendations

Canada's current subsidies to the oil sector continue to incentivize firms to engage in higher levels of exploration and development activities. These provisions are outdated, stemming from a time when oil exploration and development was facing significant risk, either from technological limitations or a lack of expertise in the field. The knowledge of the significant environmental impacts of extraction activities, particularly in the oilsands, was also limited and in some cases unknown.

Today, there is a much keener awareness of the negative environmental impacts that accompany oil sector extraction activities. Localized environmental damages from production activities and their global climate change impact need to be taken into account when determining the optimal level of oil sector production and investment. The oil sector's climate impact justifies a carbon price that would have firms internalize the negative external cost they impose through production — not policies that continue to reduce the cost to firms of expanding production activities. Lastly, from a purely financial standpoint, many of the companies that are benefiting from these subsidies are highly profitable. If further production expansion is in their private interest then they are well-positioned to pursue this path, and there is no convincing justification for having their start-up expenses subsidized by all Canadians.

Canada's commitments to phase out the Earned Depletion Expense, the Syncrude Remission Order, the Resource Allowance, and the Accelerated Capital Cost Allowance for Oilsands are saving the government approximately \$900 million per year today.¹¹⁹ More recently, the government's focus has been on neutralizing the tax treatment within the oil and gas sector. The government has announced plans to eliminate all preferential treatments for oilsands mining projects relative to the rest of the oil and gas sector, and this is expected to save the government up to an additional \$150 million per year once fully phased in.

It is also notable that the current government has largely held the line on not introducing new subsidies to the broader fossil fuel sector. In particular, thus far it has resisted lobbying efforts to introduce a new subsidy for LNG export facilities that could cost the government upwards of \$200 million per facility per year.^{120,121}

¹¹⁹ This value is based on foregone government revenues in the year in which the subsidy was phased out. Current annual values of the subsidies would likely be larger due to growing production.

¹²⁰ Tyler Bryant, "No more handouts for the natural gas industry," *iPolitics Insight*, February 22, 2013. <http://www.ipolitics.ca/2013/02/22/no-more-handouts-for-the-natural-gas-industry/>

¹²¹ Unfortunately, we would note that the government has found other methods through which to support increases in production in the oil sector. For example, in fiscal year 2013-14, the government spent \$40 million — \$24.5 million abroad and \$16 million for the domestic market — on advertising for Natural Resources Canada. Most of this budget, particularly in the international market, is being spent on promoting the oil and gas industry. As an example of non-monetary support of oilsands expansion, the federal government announced in October 2013 that in situ oilsands projects will not come under federal environmental assessment, thus simplifying and speeding up the approvals process. We do not explore these additional sources of federal government support to the oil sector in

To further its progress towards the phase-out of fossil fuel subsidies in Canada, we recommend the federal government undertake the following actions that address the remaining explicit and implicit subsidies at the federal level.

(1) Announce phase-out plans for the Canadian Development Expense in Budget 2015

The phase-out of the Canadian Development Expense could either take place immediately, or, as the government has done in the phase-out of previous fossil fuel subsidies, Budget 2015 could announce a phase-out schedule that allows for a gradual transition to the subsidy change. For example, when phasing out the ACCA for oilsands in Budget 2007, the government announced that the ACCA would be available in full for all assets acquired before March 19, 2007, as well as all assets acquired before 2012 as part of a project phase that began major construction prior to the day the 2007 budget was released. For all other assets, the government announced the ACCA would be phased out over the period of 2011 to 2015.

The government could use a similar schedule for the phase-out of the Canadian Development Expense. The full deduction could be provided to pre-production expenses incurred prior to budget day 2015, and for pre-production expenses incurred prior to 2017 on projects for which major construction had begun prior to budget day 2015. The phase-in period for all other expenses can occur over the period of 2016 to 2019, ensuring that by 2020, the Canadian Development Expense is no longer subsidizing any new pre-production expenses for oil and gas sector projects.

(2) Narrow the eligibility criteria for the Canadian Exploration Expense in Budget 2015

Exploration expenses differ from development expenses in that not all exploration expenses are a precursor to an operating project. Rather, some exploration may not be successful, and will not lead to any further development. The deductible rate under the Canadian Exploration Expense should be reclassified so that it applies only to clearly defined classifications of unsuccessful exploration expenses. This will limit deductions to legitimate search costs only, and align successful exploration expenses with the useful life of an asset. The Green Budget Coalition anticipates such a change could save the government over \$240 million per year.¹²²

We propose the government defines a fixed time frame during which firms can conduct exploration activities in a specified geographical area. The firm must make a decision on whether development will be pursued prior to the end of the predetermined time period.

more detail as they are outside the scope of this report. Source: (i) Canadian Press, "Oil and gas ad campaign cost feds \$40M at home and abroad," *CBC News*, November 27, 2013. <http://www.cbc.ca/news/politics/oil-and-gas-ad-campaign-cost-feds-40m-at-home-and-abroad-1.2442844> (ii) Canadian Press, "Federal government backs off oilsands assessments," *Global News*, October 26, 2013. <http://globalnews.ca/news/927583/federal-government-backs-off-oilsands-assessments/>

¹²² Green Budget Coalition, *Recommendations for Budget 2013* (2012), 7-8.

(3) Introduce federal oil and gas regulations that will get Canada on track to meet its 2020 emissions reduction target

In 2005, Canada committed to reducing its carbon emissions by 17% below 2005 levels by 2020. While an economy-wide carbon price that accounts for the global cost of carbon pollution is widely seen as the most efficient policy tool for driving emissions reductions, the federal government is instead pursuing “sector-by-sector” emissions regulations. We focus this recommendation therefore on informing the regulations for the oil and gas sector.

In Spring 2013, the Pembina Institute released a report, *Getting on Track to 2020: Recommendations on greenhouse gas regulations in Canada’s oil and gas sector*, which outlines what the federal oil and gas regulations will need to look like in order for Canada to meet its 2020 emission reduction target. The report estimates the oil and gas sector will have to reduce its emissions by 42% relative to its projected 2020 emission level.¹²³ The report offers numerous recommendations for achieving these reductions, which we endorse here.

First, any regulations should cover both combustion and non-combustion emissions that can be accurately measured, they should apply to both new and existing facilities, and they should send a clear signal that their stringency will increase after 2020.¹²⁴

Second, there is some indication that the federal government is planning to adopt regulations modelled on Alberta’s Specified Gas Emitter’s Regulation.¹²⁵ Under this model, companies have the option of meeting the regulatory requirement by reducing emissions, purchasing offsets, or contributing to a technology fund. The recommendations for a similar model at the federal level are:¹²⁶

- charge a technology fund price of at least \$100 per tonne by 2020
- proactively manage the risk that offset credits may not equate to real emissions reductions
- allow unlimited trading between facilities within a set compliance period
- adopt a more stringent approach to the treatment of new facilities
- periodically review the system

The above recommendations will end the majority of explicit and implicit subsidies to the oil sector in line with the G20’s timeline, generating the federal government hundreds of millions of dollars in additional revenues every fiscal year. By removing the incentive for over-investment in exploration, development and production activities, it will also indicate a government commitment towards better moderating the pace of development and the associated negative environmental impacts.

¹²³ Horne et al., *Getting on Track for 2020*, 1.

¹²⁴ Ibid., 20.

¹²⁵ The Specified Gas Emitters Regulation provides companies with four options for meeting emissions reduction targets: making improvements to their operations (reducing source emissions), purchasing Alberta-based offset credits, contributing to a technology fund, or purchasing and using emission performance credits. Available at: <http://environment.alberta.ca/01838.html>

¹²⁶ Horne et al., *Getting on Track for 2020*, 3.

These recommendations are not only beneficial to Canada, but also to industry. Canada's current inaction on its international environmental commitments — fossil fuel subsidy phase-out and the 2020 emissions reduction target — creates an uncertain business environment for firms. Implementing the above recommendations will help resolve this uncertainty. Firms will know “the rules of the game” through to 2020, allowing them to make investments with greater confidence. Less financial support from government and a carbon price will also spur innovation, incentivizing oil sector companies to find cleaner and lower-cost ways of exploring, developing and extracting the resource.

From this perspective, continued progress on the phase-out of subsidies to the oil sector is clearly the responsible development decision, one that we encourage the federal government to make in the next federal budget.

Appendix A. Oil sector subsidy programs

A.1 Pre-2009 oil sector subsidy phase-out in Canada

A complete list of fossil fuel subsidy programs that were phased out before 2009 is provided in Table 2 below.

Table 2. Fossil fuel subsidy programs phased out before 2009

Subsidy program	Description ¹²⁷	Replacement program	Year phase-out is complete	Annual revenue foregone at time of phase-out
Earned Depletion	An additional 33 ¹ / ₃ % deduction from taxable income of certain exploration and development expenses, and other resource income. Allowances were cumulated in an earned depletion pool, and can be used annually to deduct up to 25% of resource profits. The earned depletion pool can be carried forward indefinitely. ¹²⁸	None. However, although accumulations to the allowance ended on December 31, 1989, the indefinite carryover resulted in the federal government spending an estimated \$70 million (total) on earned depletion from the 2006–07 to 2010–11 fiscal years	1989	\$102 million
Syncrude Remission Order	A remission order granted to Syncrude, allowing participants in the Syncrude oilsands projects to deduct both the resource allowance and Crown royalties paid.	Nothing. Following the end of the remission order, Syncrude oilsands projects were eligible to deduct from taxes only Crown royalties and mining taxes paid.	2003	\$143 million
Resource Allowance	A 25% deduction against resource profits (before deductions of interest, and exploration and development expenses) that proxies the deductibility of Crown	A deduction of Crown royalties and mining taxes paid.	2003	\$353 million

¹²⁷ All subsidy program descriptions and value estimates are obtained from (i) Amy Taylor, Mark S. Winfield and Matthew Bramley, *Gouvernement Spending on Canada's Oil and Gas Industry: Undermining Canada's Kyoto Commitment* (Pembina Institute, 2005); (ii) Government of Canada, *Canadian Reforms to Taxation of Fossil Fuel Production: Action Plan* (2010), 1-3, and (iii) Sawyer and Stiebert, *Fossil Fuels – At What Cost?*

¹²⁸ Auditor General, *Report of the Commissioner of the Environment and Sustainable Development*, 29.

Oil sector subsidy programs

	royalties and mining taxes. The tax deduction could be higher or lower than actual royalties and mining taxes paid in a year, or over the life of a project. In aggregate, the value of the resource allowance grew higher, providing a tax benefit to firms.			
Accelerated Capital Cost Allowance for Oilsands (ACCA)	Under the regular capital cost allowance, capital assets acquired by mining and oil and gas companies qualify for a depreciation rate of 25% on a declining balance basis. The ACCA for oilsands allows for an additional depreciation allowance of up to 100% of the asset cost. This allows individual oilsands projects to write off all of their capital costs before starting to pay any income tax.	Standardized capital cost allowance	2015	\$300 million
CCA Oilsands Leases and Building Mines	Depreciation rates for oilsands intangible assets such as leases, or building oilsands mines, can be treated as CDE and deducted at a rate of 30% year on a declining balance basis.	Canadian oil & gas property expense	2011	\$50 million
Atlantic Canada Investment Tax Credit	Provides a 10% tax credit on investments in manufacturing and energy production. In 2009, offshore oil and gas companies, primarily in Newfoundland and Labrador, received a large share of the total amount claimed for this credit.	None	2017	\$100 million
TOTAL				\$1,046 million

A.2 Current federal Canadian oil sector subsidy programs

Table 3. 2009 Canadian federal subsidies to the oil sector

Subsidy program	Description ¹²⁹	2009 revenue foregone
Canadian Exploration Expense (CEE)	Expenses incurred for the purpose of determining the existence, location, extent or quality of a mineral resource, or petroleum or natural gas deposit. The CEE also includes pre-production development expenses for a new mine. CEE expenses are deductible at 100% in the year they are incurred. Any unclaimed balance can be carried forward indefinitely.	\$233 million ¹³⁰
Canadian Development Expense (CDE)	Expenses incurred for the purpose of drilling, converting and completing an oil well in Canada; or sinking or excavating a mine shaft, main haulage way, or similar underground work completed after the mine came into production. CDE expenses are accumulated in a pool called the Cumulative Canadian Development Expense. Up to 30% of the unpaid balance in the pool is deductible at the end of each year. Unclaimed balances can be carried forward indefinitely.	\$478 million ¹³¹
Canadian Oil and Gas Property Expense (COGPE)	Cost of acquiring an oil or gas well; an interest or right to explore, drill, or extract petroleum or natural gas; or a qualifying interest or right in oil or gas production. Costs are eligible for an optional deduction of up to 10% per year on a declining balance basis.	Likely included above
Flow-through Shares (FTS)	A mechanism through which a company can flow through certain expenses to the purchaser of a share. These expenses are accredited to the investor, and reduce the investor's taxable income. The FTS allows costs to be claimed sooner than if they were retained by the corporation, and against income subject to higher taxation rates.	Likely small
TOTAL		\$711 million

Source: Adapted from IISD¹³²

¹²⁹ All subsidy program descriptions are obtained from (i) Natural Resources Canada, "Mining-Specific Tax Provisions." <http://www.nrcan.gc.ca/minerals-metals/business-market/mining-taxation-regime/4212#lnk11>; (ii) Sawyer and Stiebert, *Fossil Fuels – At What Cost?*

¹³⁰ The IISD report limits its consideration of fossil fuel subsidies to the oil sector in three Canadian provinces – Alberta, Saskatchewan and Newfoundland & Labrador. When considering all Canadian provinces, and support to the natural gas sector, the combined estimated value of the CEE and CDE increases, averaging \$1.34 billion per year over the period of 2004 to 2009. Source: Green Budget Coalition, *Recommendations for Budget 2012* (2011), 16. <http://www.greenbudget.ca/pdf/Green%20Budget%20Coalition%27s%20Recommendations%20for%20Budget%202012%20%28November%202011%29%20%282%29.pdf>

¹³¹ See Footnote 133

¹³² Sawyer and Stiebert, *Fossil Fuels – At What Cost?*, 40.

Appendix B. Reclamation liabilities: a subsidy in waiting?

A significant portion of resource extraction occurs on land that is leased from the government. Typically land leases require that once extraction ends, companies incur the full costs of reclamation, and ensure that the land is returned to its original state.

Oilsands mining is one of the most environmentally impactful resource extraction processes. In an effort to ensure reclamation occurs, and that oilsands operators pay the bill, the Government of Alberta has in place a Mine Financial Security Program (MFSP). While a commendable and necessary program, under the MFSP financial securities are not collected as the liability accrues. Rather, liability is managed by an asset-to-liability approach, where the value of a mine's undeveloped oilsands are considered as assets, or collateral, that can be used to pay for reclamation should the company be unable to do so. It is only as the mine approaches the end of its life that the full financial security, in the form of cash deposits, bonds and letters of credit, is collected. This approach is indicative of a risk-tolerant approach to liability by the Alberta government, and results in a time-span of 20-plus years during which very little security is collected by the government.¹³³

In 2012, the MFSP's Security Fund stood at \$967,585,502.¹³⁴ This covers 84,395 hectares of land that has been affected by oilsands mining. Of the total land affected, only 0.12%, or 104 hectares, has been certified as reclaimed.¹³⁵

The MFSP currently holds sufficient security to cover reclamation costs of approximately \$13,500 per hectare. Assuming the MFSP is held in securities that provide a 5% real rate of return, it will cover reclamation costs of almost \$58,350 per hectare of currently disturbed land in 2030. Based on a 2008 disturbance footprint of 49,647 hectares, the Pembina Institute estimated the total cost of reclamation liability to be \$10 to \$15 billion.¹³⁶ This works out to a per-hectare reclamation cost of approximately \$200,000 to \$300,000.

Applying these per-hectare reclamation estimates to current oilsands mining land disturbance, the shortfall between estimated total reclamation liabilities and financial securities held in the MFSP ranges from \$12 to \$20 billion. This works out to a per capita liability of between \$3,000 and \$5,200 for every person in the province.¹³⁷

¹³³ Nathan Lemphers, "New oilsands reclamation program more transparent, but still financially risky," *Pembina Institute*, March 24, 2011. <http://www.pembina.org/blog/513>

¹³⁴ Alberta Energy Regulator, *Annual Mine Financial Security Program Submissions* (2013), 1. <http://www.aer.ca/documents/liability/AnnualMFSPSubmissions.pdf>

¹³⁵ Government of Alberta, "Alberta's Oil Sands: Reclamation." <http://www.oilsands.alberta.ca/reclamation.html>

¹³⁶ Nathan Lemphers, Simon Dyer and Jennifer Grant, *Toxic Liability: How Albertans could end up paying for oilsands mine reclamation* (Pembina Institute 2010), 36. <http://www.pembina.org/pub/2075>.

¹³⁷ Pembina Institute calculation, assuming an Alberta population of 3,873,700. In: Statistics Canada, *Annual Demographic Estimates: Canada, Provinces and Territories* (2012), 18. <http://www.statcan.gc.ca/pub/91-215-x/91-215-x2012000-eng.pdf>

To the extent that oilsands reclamation costs that go unpaid by industry will fall on the Government of Alberta, this potential subsidy is outside the federal scope of this report. However, while the federal government may be at limited risk from subsidizing land reclamation costs in Alberta, it does face the risk of being held accountable for clean-up costs from oil spills that occur along transportation routes — either interprovincial pipelines or rail — where liability insurance or security is insufficient. As a recent example, the federal government has committed to paying 50% of the costs, with no cap, from the Lac-Mégantic disaster. The most recent estimate of costs is \$400 million, leaving the federal government and Canadian taxpayers responsible for a payment of \$200 million.¹³⁸

¹³⁸ QMI Agency, “Feds to pay 50% of Lac-Mégantic bill,” *Toronto Sun*, February 11, 2014. <http://www.torontosun.com/2014/02/11/feds-to-pay-50-of-lac-megantic-bill>