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ENERGY SECTOR AND AGRICULTURE: FEDERAL REVENUE FORGONE FROM TAX PROVISIONS

OFFICE OF THE PARLIAMENTARY BUDGET OFFICER
BUREAU DU DIRECTEUR PARLEMENTAIRE DU BUDGET

The Parliamentary Budget Officer (PBO) supports Parliament by providing economic and financial analysis for the purposes of raising the quality of parliamentary debate and promoting greater budget transparency and accountability.

Senator Rosa Galvez requested that the PBO estimate the cost of tax provisions specific to fossil fuel development including the deduction of resource-related expenses and incentives for liquid natural gas (LNG) capital investment. She also requested an estimate of the lost revenue from exemptions to the carbon levy for agriculture. This report provides estimated revenue impacts for the items requested.

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Executive Summary

This report looks at certain policies that may affect greenhouse gas emissions in response to questions posed by Senator Rosa Galvez. These policies concern the cost of certain tax provisions for fossil fuel development including the deduction of resource-related expenses and incentives for LNG capital investment. Senator Galvez also requested an estimate of forgone revenue from the exemption of fuels used by agricultural machinery and equipment from the carbon levy.

Table S-1 provides an estimate of the federal revenue impact of the requested tax provisions from 2015 to 2019 for corporations engaged in the oil, gas and coal mining sector. Canadian development expenses have the largest annual revenue impact. The revenue impact from exploration expenses and flow-through shares is projected to decline going forward due to restrictions introduced in Budget 2017. These estimates do not account for possible interactions with other federal or provincial tax measures, royalty regimes or the accounting treatment of such expenses.

Table S-1 Federal revenue impact of select income tax provisions for corporations engaged in the oil, gas and coal mining sector

Millions of dollars	2015	2016	2017	2018	2019
Canadian exploration expenses	159	31	332	111	71
Canadian development expenses	1,257	872	1,011	1,245	1,769
Canadian oil and gas property expenses	343	396	367	450	491
Foreign exploration and development expenses	65	15	22	20	38
Flow-through shares	34	29	25	34	6
Resource-related deductions total	**1,858**	**1,342**	**1,757**	**1,860**	**2,375**
Accelerated CCA for LNG capital equipment	**2**	**9**	**11**	**10**	**8**

Sources: Office of the Parliamentary Budget Officer, Statistics Canada T2-LEAP database.

Note: Given the volatility of such provisions from year to year, PBO provides estimates for the past five years of available corporate tax data.

Regarding the carbon levy exemption for agriculture, it came into effect in 2019 at $20 per tonne of carbon dioxide equivalent and is due to keep increasing until 2030. It will reach $50 in 2022 and then $170 in 2030. That means the bulk of the policy's forgone revenues remain in the future (Table S-2).

The fuels used for machinery and equipment account for roughly 80 per cent of fuels used for agriculture (the other 20 per cent are used for heating, primarily buildings and crops). Furthermore, since not all provinces are covered by the federal carbon levy, only 80 per cent (roughly) of fuels used for machinery and equipment are considered for federal revenue impacts.

Table S-2 Estimated foregone revenue from the carbon levy exemption to agriculture

Millions of dollars	**2019**	**2022**	**2030**
	179	447	1,517

Source: Office of the Parliamentary Budget Officer.

Note: Excludes farms whose gross revenue was less than $10,000 in 2019. Projected emissions increase in line with ECCC (2020). For calculating averages, the number of farms remain unchanged at 2019 levels.[1]

The estimate in Table S-2 does not account for the behavioural response by farmers from the increasing carbon levy. Revenues should fall as emissions decline – so foregone revenues would be lower. The magnitude of the potential response by farmers is underscored by estimates that in the rest of the economy, a carbon levy of $170 per tonne is expected to achieve the bulk of the reduction to 35 per cent below 2005 levels.[2]

These results also merit some further caution in their interpretation. Energy intensive industrial sectors in the rest of the economy that are exposed to international markets were put under the Output-Based Pricing System to avoid eroding their competitiveness. Future similar measures for agriculture would lower the foregone revenue.

1. Federal tax provisions related to the fossil fuel sector

1.1. Income tax provisions

The *Income Tax Act* contains several provisions that are specific to the resource sector. The most important are special deductions for costs related to finding, acquiring and developing resource properties.

Tedds (2017) provides a historical review of the tax treatment of resource-related expenses in Canada.[3] Following the Second World War, expenses related to the exploration and development of resource properties were permitted to be deductible from income (rather than capital[4]); in the 1970s, these expenses were separated into different classes and deduction allowances (Tedds, 2017). More recently, Budget 2017 reduced the deduction allowance for drilling expenses related to oil and gas activities.[5]

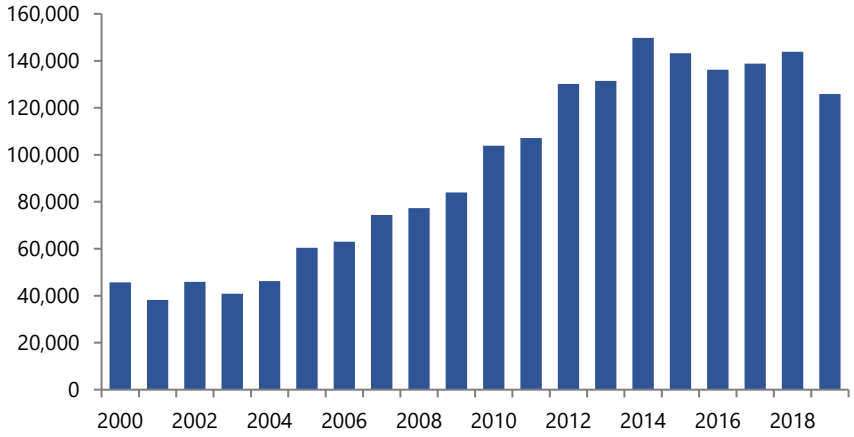
The largest tax provisions in nominal value that are specific to corporations engaged in oil, gas and coal mining activities are on Schedule 12 of the T2 form. These permit corporations in the oil, gas and mining industries to deduct the following resource-related expenses from their net income for tax purposes:

- **Canadian exploration expenses** (CEEs) are those incurred by the taxpayer for determining the existence, location, extent, or quality of a mineral resource, petroleum or natural gas, in Canada. A taxpayer can, in a given tax year, fully deduct their year-end pool of CEE.
- **Canadian development expenses** (CDEs) are those incurred in acquiring, and bringing into production, a resource property. A taxpayer can deduct, in a given tax year, up to 30 per cent of their year-end pool of CDE.
- **Canadian oil and gas property expenses** (COGPE) includes the cost of acquiring an oil and gas property. A taxpayer can deduct, in a given tax year, up to 10 per cent of their year-end pool of COGPE; and,
- **Foreign exploration and development expenses** (FEDE) include expenses in respect of drilling, exploration, prospecting, surveying, and acquisition costs relating to a foreign resource property. This deduction is significantly smaller than the other resource deductions in nominal terms. The deductibility and allowance rate are determined on a case-by-case basis[6].

Yearly growth in the total cumulative resource-related expense pools has slowed since 2014 but they remain at historically-elevated levels (Figure 1-1). Corporations in the oil and gas sector have experienced declining profits due to various factors[7] since 2014, and therefore corporations have had less opportunity to use expense pools to reduce their taxable income. Moreover, oil, gas and coal mining corporations have reduced exploration and development since 2014 – new annual expenses averaged $21 billion from 2015 to 2019 compared to $31 billion from 2005 to 2014 (Figure 1-2).

Figure 1-1 Cumulative resource-related expense accounts by oil, gas and coal mining corporations

Millions of dollars

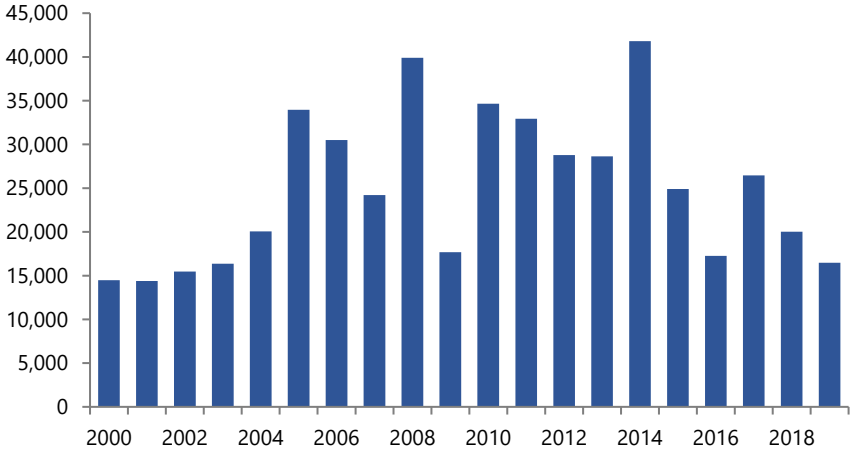


Sources: Office of the Parliamentary Budget Officer, Statistics Canada T2-LEAP database.

Note: Values correspond to total CEE, CDE and COGPE expense pools at year end.

Figure 1-2 Annual resource-related expenses by oil, gas and coal mining corporations

Millions of dollars



Sources: Office of the Parliamentary Budget Officer, Statistics Canada T2-LEAP database.

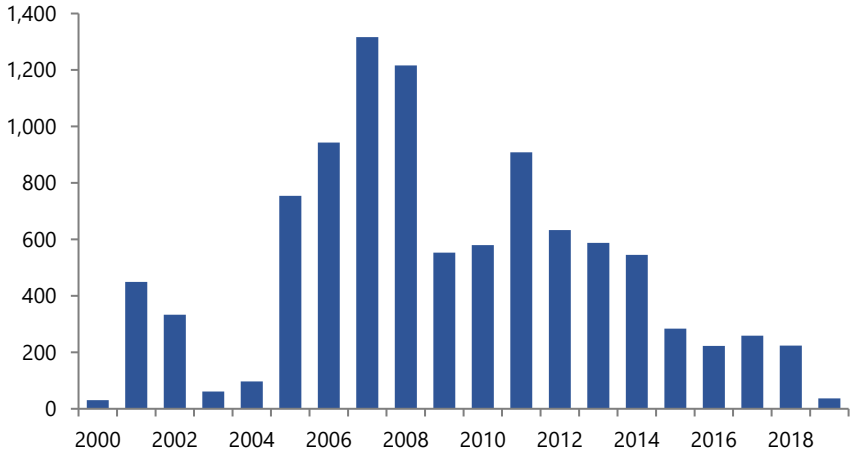
The tax treatment of resource-related expenses provide tax advantages to corporations through two mechanisms:

- Unused expenses can be carried forward indefinitely for tax purposes in a corporation's account. This provides a long-term tax advantage to corporations as losses can usually only be carried forward for 20 years; and,
- Expenses from CEE and CDE pools can also be renounced to a corporation's shareholders via flow-through share (FTS) agreements.[8] This provides a tax benefit to investors which can use the transferred expense to reduce their taxable income. Therefore, FTS trade at a premium and provide useful source of equity capital for corporations which are not yet profitable.

The value of exploration and development expenses renounced by oil, gas and coal mining corporations to investors via flow-through share agreements have declined significantly over the past 15 years (Figure 1-3). This is partly due to lower investment levels in the sector (as shown in Figure 1-2) as well as policy actions that restrict access to the flow-through share mechanism for fossil fuel-related activities.[9]

Figure 1-3 **Renounced expenses via flow-through share aggreements, oil, gas and coal mining corporations**

Millions of dollars



Sources: Office of the Parliamentary Budget Officer, Statistics Canada T2-LEAP database.

We do not consider in this report the efficiency or fairness of the tax treatment of the above expenses relative to other income tax provisions. Tedds (2017) discusses the historical, economic and strategic arguments for and against the current tax treatment including whether such provisions are necessary given the significant changes to the corporate tax system since they were introduced.

In 2015, the federal government provided accelerated capital cost allowance (CCA) treatment for certain property acquired for use in facilities in Canada that liquefy natural gas. Eligible depreciable property under class 47 had a CCA rate of 8 per cent plus an additional 22 per cent allowance on eligible liquefaction activities. Non-residential buildings at a facility that liquefies natural gas had a CCA rate of 6 per cent plus an additional 4 per cent under the accelerated CCA in Class 1.[10]

Mckenzie and Mintz (2011) compare the marginal effective tax rate on investment in the fossil fuel sector compared to other industries in Canada. They argue that tax expenditure analysis is too narrow to capture the interactions between tax, royalty and other fiscal supports as well as economic rents.[11]

1.2. Exempting agriculture activity from the carbon levy

Greenhouse gas emissions from agricultural activity in Canada amounted to 10 per cent (73 Mt) of all emissions in 2019 as reported in Canada's National Inventory Report of 2021. Only a part of that (13.6 Mt) was related to emissions from fossil fuel use, of which, about 10 Mt are from operating machinery and equipment while the other 3.6 Mt are from heating buildings and drying crops (though greenhouses are mostly exempt, 0.5 Mt). The other non-fuel emissions consist primarily of methane from livestock, and nitrous oxide from crops.

Since the Pan-Canadian Framework on Clean Growth and Climate Change[12] covers fuel-based emissions in its pricing mechanisms, it potentially applies to all 13.6 Mt in emissions from fuel use in agriculture. But in recognition that Canada's agriculture sector operates in a global market where prices are beyond the control of any one farmer or country, accommodation was made for emissions from machinery and equipment, as well as greenhouses; they are either wholly or partially exempt. The remaining 3.1 Mt from heating are not exempt. However, the need for heating tends to be concentrated within certain regions, and in certain farm operations. So, the cost is not spread evenly.[13]

In sum, the federal exemption for agriculture shields a small but significant source of emissions. Since provinces also do not price emissions from agriculture, and direct non-fuel emissions are not yet covered, almost 10 per cent of Canada's total emissions are largely exempt.

In this section, we attempt to identify the fuel consumed for operating machinery and equipment on farms in regions covered by the federal carbon levy. This is necessary to estimate foregone revenues from the exemption. These data from Statistics Canada's Supply and Demand of Primary and

Secondary Energy separate gasoline and diesel from heating fuels (natural gas, propane, etc). Ideally, administrative data would be used that isolated exempt fuels delivered to each farm. Unfortunately, such data are not collected by any federal agency, so our results are necessarily approximative. For example, some gasoline used by farmers is currently levied, so that revenue would be unaffected if the levy were removed.

Moreover, agriculture is not a homogenous sector, for example, in 2019, 81 per cent of farm revenue was accounted for by only 18 per cent of farms – each of which had revenues over $500,000 annually. Indeed, half of all farms were either losing money or barely profitable (column 4 of Table 1-1).[14]

Table 1-1 Gross receipts and income by farms (2019)

Gross receipts	Number of farms reporting	Share of total gross farm receipts	Net operating income*
Under $10,000	27,565	0.2%	n.a.
$10,000 to $24,999	25,565	0.5%	-$3,354
$25,000 to $49,999	22,755	1.1%	$1,045
$50,000 to $99,999	23,720	2.2%	$9,343
$100,000 to $249,999	28,540	6.0%	$31,226
$250,000 to $499,999	19,640	9.1%	$75,186
$500,000 to $999,999	16,865	15.4%	$153,465
$1,000,000 to $1,999,999	9,725	17.5%	$306,261
$2,000,000 and over	6,465	48.0%	$931,443

Source: Statistics Canada Table 32-10-0136-01, Farm operating revenues and expenses. Includes data adapted from Statistics Canada, Farm operating revenues and expenses, 2016 and 2019, 2021-11-18. This does not constitute an endorsement by Statistics Canada of this product.

Note*: For Gross Receipts $10,000 to $24,999, only non-incorporated farms are included. Limited data seen by PBO suggest that including incorporated farms would lower net operating income in that class.

On the other hand, farms with low gross receipts will generally be the ones using the least amount of on-farm fuel – even though fuel used per dollar of gross receipts is higher.

Moreover, policy options are available to mitigate the full impact of removing the exemption – particularly on small farms, while still providing incentives to reduce emissions. This can be illustrated through the policy used for other industrial sectors – the output-based pricing system (OBPS). It was also introduced to provide both relief and incentive to firms that are vulnerable to international market forces.[15]

Fuel-use in agriculture

GHG Emissions from fuel-use in agriculture come mainly from gasoline and diesel fuel for machinery and equipment (Table 1-2).

Table 1-2 Fuel use in Agriculture (2019)

Fuel type	Consumption	Emisions (Mt)
	Gigalitres	
Natural gas	1,109	2.17
	Megalitres	
Kerosene and stove oil	16	0.04
Light fuel oil	73	0.19
Heavy fuel oil	189	0.60
Gas plant natural gas liquids (NGL's)	413	0.69
Motor gasoline	1,478	3.27
Diesel fuel oil	3,992	10.71

Sources: Statistics Canada. Table 25-10-0030-01, Supply and demand of primary and secondary energy. Office of the Parliamentary Budget Officer.

Note: All farms, in all regions. Also includes hunting and trapping -- about 20% of the total. All fuels delivered to First Nations are exempt from the carbon levy.

To determine which parts of Canada's agricultural sector would be most impacted by ending the exemption, we compare the fuel expenditure per dollar of revenue generated for each sub-sector (Table 1-3). Crop production is more fossil-fuel intensive than animal production, with some crops having almost 6 per cent of revenue go to paying for fuel (a significant factor is drying of crops for storage).

Table 1-3 Fuel expense relative to revenue (%), 2019

Crop production	**5.0%**
Greenhouse, nursery, and floriculture production	2.2%
Fruit and tree nut farming	2.8%
Other vegetable (except potato) and melon farming	3.1%
Potato farming	3.8%
Oilseed and grain farming	5.7%
Other crop farming	5.9%
Animal production	**2.7%**
Poultry and egg production	1.3%
Hog and pig farming	1.8%
Dairy cattle and milk production	2.9%
Beef cattle ranching and farming, including feedlots	3.2%
Other animal production	4.8%
All farm types	**3.9%**

Source: Statistics Canada. Table 32-10-0136-01, Farm operating revenues and expenses.

Note: This table does not include farmers whose revenue from operations is less than $10,000 per year.

The carbon levy

The federal carbon backstop began at $20 per tonne in 2019 and will increase until it reaches $50 in 2022. After that it will increase by $15 annually to $170 in 2030. For perspective, applying those carbon prices to all projected fossil fuels used in agriculture (as reported in ECCC, 2020) would hypothetically generate revenues of $0.7 billion in 2022, rising significantly until 2030. However, determining the financial impact of rising carbon prices requires taking into consideration the specific fossil fuel uses of various types of farming operations and the potential substitution to other forms of energy over time.

More insight can be gained by looking at farm purchases of diesel and gasoline to gauge which farms would contribute the bulk of levy revenues (Table 1-4). This accounts for some of the heterogeneity across farms and distinguishes small operations from the large industrial ones that increasingly dominate the sector.

Table 1-4 Average hypothetical expanded carbon levy per farm (2022)

	With $50 carbon levy	
Gross receipts	**Crops**	**Livestock**
Under $10,000	n.a.	n.a.
$10,000 to $24,999	$323	$425
$25,000 to $49,999	$505	$697
$50,000 to $99,999	$817	$1,080
$100,000 to $249,999	$1,595	$1,776
$250,000 to $499,999	$3,324	$2,557
$500,000 to $999,999	$5,856	$3,348
$1,000,000 to $1,999,999	$10,452	$4,857
$2,000,000 and over	$24,956	$15,974
Average	***$3,305***	***$2,424***

Source: Office of the Parliamentary Budget Officer.

Note: These results use gasoline and diesel purchases by farms in Ontario, Manitoba, Alberta, and Saskatchewan. The chart is hypothetical since levies on those fuels is neither the current policy, nor proposed policy. For each category of gross receipts, the composition of heating and motor fuels is conjectured to be similar – potentially biasing this approximation to the extent the composition varies systematically across farm size. Since little change in on-farm fuel use is projected for 2022, only the magnitude of the levy changes in the projection. Lack of data precluded an estimate for the smallest farm operators. There is some cross-over between the two categories since in 2016 about 16 per cent of crops (by value) were produced by livestock farmers for on-farm feed.

Even within the broad categories of crops and livestock, there is considerable heterogeneity. So, among large-scale farms, the level of emissions would be dependent on the nature of the farm product. For example, storing corn requires that its water content be lowered from 35 per cent to 25 per cent through heating and drying, creating emissions when done by burning fossil fuels.

Again, this calculation is useful to show the value of the exemption for farm operations (and combined with Table 1-3, for farms producing various products). It also underscores that the impact depends on the scale of the farm. In the next section we explore the foregone revenue to government from the levy exemption.

2. Revenue impacts

We estimate the federal revenue impact of tax provisions relating to fossil fuel development and for exemptions from the federal carbon levy.

2.1. Income tax provisions

PBO estimates the revenue impacts of income tax provisions relating to fossil fuel development using administrative (T2) corporate income tax data.[16] We identify corporations engaged in oil, gas and coal mining activities using a 6-digit NAICS code derived by Statistics Canada from self-reported industry classification descriptions in the T2 filings. We use T2 corporate tax data up to the 2019 tax year which is the most recent available complete set of filings.

We then identify and aggregate resource-related expenditures by taxable oil, gas and coal mining corporations that were deducted from net income. We add these expenditures back into taxable income and simulated our T2 corporate tax model to estimate the change in federal corporate tax revenue.

Table 2-1 provides an estimate of the revenue impact of resource-related deductions by corporations in the oil, gas and coal mining sector from 2015 to 2019. The largest revenue impacts come from development and oil and gas property expenses.

Table 2-1 Revenue impact of resource-related deductions from net income by corporations in the oil, gas and coal sector

Millions of dollars	2015	2016	2017	2018	2019
Canadian exploration expenses	159	31	332	111	71
Canadian development expenses	1,257	872	1,011	1,245	1,769
Canadian oil and gas property expenses	343	396	367	450	491
Foreign exploration and development expenses	65	15	22	20	38
Total	**1,824**	**1,313**	**1,732**	**1,827**	**2,368**

Sources: Office of the Parliamentary Budget Officer, Statistics Canada T2-LEAP database.

For flow-through shares, we identify corporations in the oil, gas and coal mining sector that renounced exploration and development expenses via flow-through share agreements.[17] We include corporations that are not taxable (profitable) given that the expense is flowed-through and reduces the tax payable of an issuing corporation's investors.[18] Using SPSD/M, we estimate that investors that claim renounced resource expenses of their T1 return face a marginal effective tax rate of 29.9 per cent. Therefore, the

revenue impact of expenses renounced via FTS is derived from the spread between the marginal effective tax rate of the renouncing corporation and the (higher) rate faced by the investor deducting the expense from their net income.

Table 2-2 provides an estimate of the revenue impact of renounced exploration and development expenses via flow though share agreements by corporations in the oil, gas and coal mining sector from 2015 to 2019. Budget 2017 changes to the classification of CDE and CEE expenses for corporations in the oil and gas sector are expected to reduce the revenue impact beginning in 2019.[19]

Table 2-2 Revenue impact of renounced exploration and development expenses via flow-though share agreements by corporations in the oil, gas and coal sector

Millions of dollars	2015	2016	2017	2018	2019
Canadian exploration expenses	22	12	13	24	1
Canadian development expenses	12	17	12	9	5
Total	**34**	**29**	**25**	**34**	**6**

Sources: Office of the Parliamentary Budget Officer, Statistics Canada T2-LEAP database.

Note: These estimates account for application of the mineral exploration tax credit on certain eligible coal mining expenditures.

An important consideration in interpreting these revenue impacts is that potential changes to the tax treatment of resource-related expenses could result in the reclassification of such expenses[20] and interactions with provincial royalty regimes. These factors could cause the fiscal cost of policy changes to differ considerably from the revenue impacts provided in this report.

Table 2-3 provides the revenue impact the accelerated CCA treatment for certain property acquired for use in facilities in Canada that liquefy natural gas. This policy changes the annual depreciation schedule of LNG capital assets so the revenue impact is front-loaded but eventually zero over the medium-term.

Table 2-3 Revenue impact of accelerated capital cost allowance for liquified natural gas equipment

Millions of dollars	2015	2016	2017	2018	2019
CCA classes 1 and 47	2	9	11	10	8

Sources: Office of the Parliamentary Budget Officer, Statistics Canada T2-LEAP database.

Note: This policy changes the annual depreciation schedule of LNG capital assets so the revenue impact is front loaded but eventually zero over the medium term. The policy expires for LNG capital property acquired after 2025.

2.2. Value of exempting agricultural activity from the federal carbon levy

Section 1.2 presented results regarding the distribution of the carbon levy exemption (for diesel fuel and gasoline). Those fuels represent 81 per cent of fuel-based emissions from regions where farms exempted from the federal levy.

Foregone revenue to the federal government from that exemption was $179 million in 2019, which could rise to $1.5 billion in 2030 in the absence of substitution effects (Table 2-4). While the average per farm is significant, it is skewed due to larger farms.

Table 2-4 Estimated value of carbon levy exemption for agriculture

	2019	2022	2030
Total (*millions)*	$179	$447	$1,517
Average per farm (*thousands)*	$1.2	$2.9	$10.0
Crop production	*$1.3*	*$3.3*	*$11.2*
Animal production	*$1.0*	*$2.4*	*$8.2*

Source: Office of the Parliamentary Budget Officer.

Note: Excludes farms whose gross revenue was less than $10,000 in 2019. Emissions increase in line with ECCC (2020) projections, but for calculating averages the number of farms remain unchanged at 2019 levels.

This calculation of the foregone revenue requires two important qualifications. The first is, again, that it omits behavioural responses by farmers to the levy. While there is room for debate concerning the ability of farmers to respond to a levy, having no response at all implies that the

estimate is an upper bound of foregone revenue. The second qualification is that it does not account for potential follow-on changes to removing the exemption due to international competition (e.g. Dobson, 2021).[21]

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Notes

1. Between 1961 and 2016 some 60 per cent of farmers stopped operating. At the same time, the total area under agriculture declined by only 8 per cent. These changes were not uniform within the sector. Small farms have been disappearing, while large farms (with revenues greater than $500,000) have been increasing rapidly. This trend is long term, so there could be a fifth fewer farms overall in 2030, but more large farms.
2. ECCC (2020) projects that the $170 carbon levy, when combined with other policies, will achieve the government's objective of reducing emissions to 35 per cent below 2005 levels in 2030.
3. See: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3484525
4. Prior to this change, exploration and development expenses were only deductible from income when the resource property was sold and recorded as a capital gain or loss.
5. Budget 2017 proposes that expenditures related to drilling or completing a discovery well (or in building a temporary access road to, or in preparing a site in respect of, any such well) generally be classified as CDE instead of CEE. This will ensure that expenditures more clearly linked to success are deducted gradually over time as development expenses. This component of drilling expenditures represents a majority of the oil and gas costs that currently qualify for CEE. See: https://www.budget.gc.ca/2017/docs/tm-mf/si-rs-en.html
6. The annual deductibility allowance cannot exceed 30 per cent.
7. For example, a sharp decline in global oil prices in late 2014, ongoing excess global supply, transportation bottlenecks affecting producers in western Canada and weaker energy demand during the global pandemic.
8. A flow-through share (FTS) allows a corporation to obtain financing for expenditures on exploration and development in Canada. By issuing flow-through shares, a company can "flow through" certain expenses to the share purchaser. These expenses are then deemed to have been incurred by the investor, not the corporation, which can reduce the investor's taxable income.

   For individual investors, the advantages can be twofold:

   - They receive a 100% tax deduction for the amount they invested in the shares, plus a 15 per cent tax credit in the case of an eligible mining expense.
   - They may see their investment appreciate if the exploration is successful.

   FTS-issuing corporations do not have to be Canadian, but they must be Canadian taxpayers that incur the expenses in Canada on qualified activities. Resource expenses that may be flowed through include Canadian exploration expenses and certain Canadian development expenses.

9. See endnote 5. Budget 2017 changes reclassify some drilling expenditures from CEE to CDE. CDE expenses have a lower deduction allowance and are less appealing to investors.
10. See: https://www.canada.ca/en/news/archive/2015/02/accelerated-capital-cost-allowance-liquefied-natural-gas.html

    The accelerated CCA allowance expires for LNG capital property acquired after 2025.
11. See: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3068334
12. See full text at http://publications.gc.ca/collections/collection_2017/eccc/En4-294-2016-eng.pdf
13. Though the federal carbon-price backstop only applies to Alberta, Manitoba, Ontario, Saskatchewan and Yukon, they account for some 80 per cent of emissions that are not exempted.
14. In 2019 about one third of farms were incorporated (as opposed to being self-employed) and for that group some 39 per cent had more net income from non-farm activity than from farm activity. Indeed, for incorporated farmers at the highest gross income levels ($2 million and higher), the non-farm net income was negative on average – an offset to taxable farm income.
15. The *incentive* to reduce emissions comes from the levy being applied to each tonne of emissions above an industry standard. If the industry standard is 80 per cent, then when the levy is $50, firms see that for each tonne of CO2 above the standard they can avoid paying the $50. The *relief* comes from not having to pay the levy on emissions that are very difficult to abate (at least in the short to medium term). So, when the industry standard for OBPS is set at 80 per cent, the average firm only has to pay the levy on 20 per cent of its emissions.
16. The data comprises the tax filings of all corporations that file a tax return in Canada. We access these data through a memorandum of understanding with Statistics Canada. More information regarding PBO's approach to corporate income tax modelling can be found here: https://www.pbo-dpb.gc.ca/en/blog/news/CIT
17. Lines 243, 244, 343 and 344 on Schedule 12 of the T2 return.
18. The majority of flow-through shares are held by individuals but some are held by corporations and partnerships.
19. See endnote 5.
20. For example, our analysis does not assume a counterfactual where some resource-related expenses could be reclassified as operating or capital expenses.
21. The Output-based Pricing System was designed to provide incentives for energy-intensive trade exposed (EITE) firms to reduce emissions while minimising the impact on their competitiveness (PBO, 2020, and references therein). Some accommodation could be made for agriculture to maintain competitiveness while still providing incentives to reduce emissions. This would have the effect of reducing the estimated foregone revenue.