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# A Distributional Analysis of the Federal Fuel Charge under the 2030 Emissions Reduction Plan



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.

This report provides a distributional analysis of the federal fuel charge under the Government's 2030 Emissions Reduction Plan.

April 17 2024: Estimates of household net costs incorporating "fiscal and economic impacts" reflect the broad economic impact of federal-equivalent carbon pricing—that is, the economic impact of the fuel charge and output-based pricing system (OBPS).

[April 17 2024: Distributional analysis of carbon pricing \(Additional Analysis\)](#)

[March 24 2022: A Distributional Analysis of Federal Carbon Pricing under A Healthy Environment and A Healthy Economy \(Report\)](#)

July 4, 2024: Text in the March 30, 2023 version of this report was revised to ensure consistency with the economic impact of federal-equivalent carbon pricing (that is, the fuel charge and output-based pricing system). Estimates of economic impacts and household costs have not been revised.

Lead Analysts:

Nasreddine Ammar, Advisor-Analyst

Marianne Laurin, Analyst

Diarra Sourang, Advisor-Analyst

This report was prepared under the direction of:

Chris Matier, Director General

Marie-Eve Hamel Laberge, Martine Perreault and Rémy Vanherweghem assisted with the preparation of the report for publication.

For further information, please contact [pbo-dpb@parl.gc.ca](mailto:pbo-dpb@parl.gc.ca).

Yves Giroux

Parliamentary Budget Officer

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# Table of Contents

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Summary	1
Household net cost of the federal fuel charge – fiscal impact	1
Household net cost of the federal fuel charge – fiscal and economic impacts	3
Budgetary impacts of the federal fuel charge	4
Appendix A: Climate Action Incentive payments and household net costs	6
Appendix B: Budgetary impacts of the federal fuel charge by province	13
Notes	17

# Summary

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This report provides an update to previous PBO distributional analysis<sup>1</sup> of federal carbon pricing to include the Government's 2030 Emissions Reduction Plan<sup>2</sup> and the expansion of the federal fuel charge to include Newfoundland and Labrador, Nova Scotia, and Prince Edward Island starting on July 1, 2023.<sup>3</sup>

The scope of the report is limited to estimating the distributional impact of the federal fuel charge and does not attempt to account for the economic and environmental costs of climate change.<sup>4</sup>

As in previous analysis, our estimates reflect the direct "fiscal" (or, "use-side") impact on households that is, the federal fuel charge and related GST paid less the rebate received as Climate Action Incentive payments, as well as the "economic" (or, "source-side") impact of carbon pricing on household income. Our estimates of the economic impact reflect the loss in real, or inflation-adjusted, employment and investment income due to the fuel charge and federal-equivalent output-based pricing system (OBPS).<sup>5</sup>

This update incorporates the most recent data released by Statistics Canada (supply and use tables, interprovincial trade flows and physical flow accounts for GHG emissions), Environment and Climate Change Canada (projected GHG emissions under the 2030 Emissions Reduction Plan) and PBO's March 2023 Economic and Fiscal Outlook.

The following presents a condensed overview of our estimates of the distributional impacts in fiscal year 2030-31, the year in which the federal fuel charge reaches \$170 per tonne of carbon dioxide equivalent. Appendices A and B provide detailed estimates of the distributional and budgetary impacts of the increase in the federal fuel charge from \$65 per tonne in 2023-24 to \$170 per tonne in 2030-31. The data sources, methodology and assumptions used to estimate the distributional impacts are described in previous reports.<sup>6</sup>

## Household net cost of the federal fuel charge – fiscal impact

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Considering only the fiscal impact of the fuel charge, we estimate that most households will see a net gain, receiving more in rebates from Climate Action Incentive payments<sup>7</sup> than the total amount they pay in the federal fuel charge (directly and indirectly<sup>8</sup>) and related GST in Alberta, Saskatchewan, Manitoba, Ontario, Prince Edward Island, and Newfoundland and Labrador (Table 1).

For Nova Scotia, we estimate that households in the third, fourth and fifth income quintiles will see a net loss, paying more in the federal fuel charge and related GST than they receive in Climate Action Incentive payments.

Our estimates for Nova Scotia reflect its relatively low share of exports in domestic production.<sup>9</sup> As a consequence, revenue from the federal fuel charge will be generated almost entirely from household energy consumption, both directly and indirectly, resulting in the smallest net gain in 2030-31.

Relative to household disposable income, the fiscal-only impact of the federal fuel charge is broadly progressive. That is, lower income households face lower net costs (larger net gains) compared to higher income households. For example, with the federal fuel charge at \$170 per tonne in 2030-31, the largest net gain is for households in the lowest income quintile in Saskatchewan (3.2 per cent of disposable income); the largest net loss is for households in the top income quintile in Manitoba (0.12 per cent of disposable income).

Table 1 Household net cost of the federal fuel charge in 2030-31 by income quintile (fiscal impact only)

		1 <sup>st</sup> quintile	2 <sup>nd</sup> quintile	3 <sup>rd</sup> quintile	4 <sup>th</sup> quintile	5 <sup>th</sup> quintile	Average
Alberta	Net cost	-\$870	-\$974	-\$960	-\$404	-\$682	-\$776
	% of disposable income	-2.1%	-1.3%	-0.8%	-0.2%	-0.2%	-0.5%
Saskatchewan	Net cost	-\$1,194	-\$987	-\$889	-\$518	\$142	-\$699
	% of disposable income	-3.2%	-1.5%	-0.8%	-0.3%	0.1%	-0.5%
Manitoba	Net cost	-\$832	-\$549	-\$427	-\$160	\$327	-\$321
	% of disposable income	-2.3%	-0.8%	-0.4%	-0.1%	0.1%	-0.3%
Ontario	Net cost	-\$586	-\$425	-\$193	-\$91	\$258	-\$202
	% of disposable income	-1.5%	-0.6%	-0.2%	-0.1%	0.1%	-0.1%
Nova Scotia	Net cost	-\$353	-\$278	\$68	\$194	\$220	-\$33
	% of disposable income	-1.1%	-0.5%	0.1%	0.2%	0.1%	-0.0%
Prince Edward Island	Net cost	-\$590	-\$480	-\$334	-\$145	\$267	-\$253
	% of disposable income	-1.9%	-0.8%	-0.4%	-0.1%	0.1%	-0.2%
Newfoundland and Labrador	Net cost	-\$764	-\$622	-\$263	-\$387	-\$132	-\$436
	% of disposable income	-2.2%	-1.1%	-0.3%	-0.3%	-0.1%	-0.4%

Source: Office of the Parliamentary Budget Officer.

Note: Net cost is calculated as the federal fuel charge and related GST paid (that is, the gross cost) less Climate Action Initiative payments received. Net cost as a percentage of disposable income is calculated relative to disposable income without carbon pricing.

A negative cost is a "net gain", meaning that the amount of Climate Action Initiative payments received exceeds the costs to the household.

The 1<sup>st</sup> quintile represents the lowest household income quintile; the 5<sup>th</sup> quintile represents the highest household income quintile.

## Household net cost of the federal fuel charge – fiscal and economic impacts

We incorporate estimates of the economic impact from the federal fuel charge and federal-equivalent OBPS into our calculation of net cost to provide a more complete picture of the overall impact on households in provinces where the fuel charge applies.

Our estimate of the economic impact captures the loss in employment and investment income that would result from the federal fuel charge and federal-equivalent OBPS.<sup>10</sup> Differential impacts on the returns to capital and wages, combined with differences in the distribution of employment and investment income drive the variation in household net costs across provinces.

When the economic impact of carbon pricing is combined with the fiscal impact, the net cost increases for all households, reflecting the overall negative economic impact of the fuel charge and federal-equivalent OBPS (Table 2).

Table 2 Household net cost of the federal fuel charge in 2030-31 by income quintile (fiscal and economic impacts)

		1 <sup>st</sup> quintile	2 <sup>nd</sup> quintile	3 <sup>rd</sup> quintile	4 <sup>th</sup> quintile	5 <sup>th</sup> quintile	Average
Alberta	Net cost	-\$592	\$62	\$1,460	\$4,053	\$8,871	\$2,773
	% of disposable income	-1.4%	0.1%	1.3%	2.4%	2.7%	1.9%
Saskatchewan	Net cost	-\$1,036	-\$319	\$929	\$2,632	\$6,456	\$1,723
	% of disposable income	-2.7%	-0.5%	0.9%	1.8%	2.4%	1.4%
Manitoba	Net cost	-\$688	\$70	\$1,028	\$2,043	\$4,964	\$1,490
	% of disposable income	-1.9%	0.1%	1.0%	1.4%	1.9%	1.2%
Ontario	Net cost	-\$408	\$165	\$1,269	\$2,425	\$5,622	\$1,820
	% of disposable income	-1.0%	0.2%	1.1%	1.5%	1.7%	1.3%
Nova Scotia	Net cost	-\$226	\$215	\$1,127	\$2,101	\$4,368	\$1,513
	% of disposable income	-0.7%	0.4%	1.3%	1.7%	1.9%	1.4%
Prince Edward Island	Net cost	-\$449	\$16	\$1,118	\$2,072	\$4,833	\$1,521
	% of disposable income	-1.4%	0.0%	1.3%	1.7%	2.2%	1.5%
Newfoundland and Labrador	Net cost	-\$689	-\$280	\$680	\$2,008	\$4,872	\$1,316
	% of disposable income	-2.0%	-0.5%	0.8%	1.6%	2.1%	1.2%

Source: Office of the Parliamentary Budget Officer.

Note: Net cost (fiscal and economic impacts) is calculated as the fuel charge and related GST paid, plus the income loss due to the economic impact of the fuel charge and federal-equivalent OBPS (that is, the gross cost), less Climate Action Initiative payments received and the reduction in personal income taxes paid. Net cost as a percentage of disposable income is calculated relative to disposable income without carbon pricing.

A negative cost is a “net gain”, meaning that the amount of Climate Action Initiative payments received and the reduction in personal income taxes exceed the costs to the household.

The 1<sup>st</sup> quintile represents the lowest household income quintile; the 5<sup>th</sup> quintile represents the highest household income quintile.

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Taking into consideration both fiscal and economic impacts, we estimate that most households will see a net loss, paying more in the federal fuel charge and GST, as well as receiving lower incomes (due to the fuel charge and federal-equivalent OBPS), compared to the Climate Action Incentive payments they receive and lower personal income taxes they pay (due to lower incomes).<sup>11</sup>

That said, relative to disposable income, our estimates of household net cost of the federal fuel charge continue to show a progressive impact (that is, larger net costs for higher income households). Given that the fuel charge and OBPS lower investment returns relative to wages, and that investment income makes up a larger share of total income for higher income households, their cost is proportionately larger.

In 2030-31, accounting for both fiscal and economic impacts, the largest net gain is for households in the lowest income quintile in Saskatchewan (2.7 per cent of disposable income); the largest net loss is for households in the top income quintile in Alberta (2.7 per cent of disposable income).

## Budgetary impacts of the federal fuel charge

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Table 3 presents our updated estimates of the impact of the federal fuel charge on federal budgetary revenues and program spending over 2023-24 to 2030-31. Our estimates incorporate reductions in personal income taxes that arise from the economic impact of lower household employment and investment income.<sup>12</sup> Appendix B provides the detailed budgetary impacts by province.

In 2023-24, with the federal fuel charge set at \$65 per tonne, we estimate that the Government will collect \$11.8 billion in fuel charges from the seven provinces where the charge applies. With the charge rising to \$170 per tonne in 2030-31, we project that the Government will collect \$25.0 billion in fuel charges under the 2030 Emissions Reduction Plan.

With the return of fuel charge proceeds to households and provincial governments through higher program spending, there is no *direct* impact on the budgetary balance.<sup>13</sup>

However, the Government will also collect revenue from the GST on its fuel charge. We estimate that \$429 million in GST from the fuel charge will be collected in 2023-24, rising to \$924 million in 2030-31.

When the economic impact of carbon pricing is incorporated, we observe a decrease in employment and investment income, which leads to a reduction in federal personal income tax (PIT) revenues in the provinces where the fuel charge applies. In 2023-24, we estimate that the federal fuel charge and federal-equivalent OBPS will reduce PIT revenues by \$2.2 billion. The impact on PIT revenues is projected to reach \$8.0 billion in 2030-31.

Table 3 Budgetary impacts of the federal fuel charge under the 2030 Emissions Reduction Plan

\$ millions	2023- 2024	2024- 2025	2025- 2026	2026- 2027	2027- 2028	2028- 2029	2029- 2030	2030- 2031
<b>Budgetary revenues</b>								
Fuel charge proceeds	11,767	14,329	16,403	18,443	20,257	21,806	23,421	24,957
Goods and Services Tax	429	526	603	680	749	811	870	924
Personal income tax	-2,197	-2,855	-3,621	-4,516	-5,358	-6,223	-7,097	-7,985
<b>Total</b>	<b>9,999</b>	<b>12,000</b>	<b>13,385</b>	<b>14,607</b>	<b>15,648</b>	<b>16,394</b>	<b>17,194</b>	<b>17,896</b>
<b>Program spending</b>								
Fuel charge proceeds returned	11,767	14,329	16,403	18,443	20,257	21,806	23,421	24,957
<b>Budgetary balance</b>	<b>-1,767</b>	<b>-2,329</b>	<b>-3,018</b>	<b>-3,836</b>	<b>-4,609</b>	<b>-5,412</b>	<b>-6,227</b>	<b>-7,060</b>

Source: Office of the Parliamentary Budget Officer.

Note: Budgetary impacts include only the revenues and spending in provinces where the federal fuel charge applies. Totals may not add due to rounding.

Given the structure of the federal fuel charge, the overall budgetary impact will effectively be limited to the economic impact of lower income tax revenues. We estimate that the federal fuel charge and federal-equivalent OBPS will reduce the budgetary balance (that is, increase the budgetary deficit) by \$1.8 billion in 2023-24 and ultimately by \$7.1 billion in 2030-31.



# Appendix A: Climate Action Incentive payments and household net costs

Table A-1 Alberta: Climate Action Incentive payments and household net costs, 2023-24 to 2030-31

\$ per household		2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030	2030-2031
Climate Action Incentive payments	1 <sup>st</sup> quintile	1,278	1,481	1,644	1,797	1,905	1,973	2,062	2,142
	2 <sup>nd</sup> quintile	1,615	1,853	2,053	2,250	2,386	2,472	2,583	2,684
	3 <sup>rd</sup> quintile	1,782	2,050	2,279	2,490	2,640	2,735	2,858	2,970
	4 <sup>th</sup> quintile	1,972	2,286	2,549	2,785	2,953	3,059	3,197	3,321
	5 <sup>th</sup> quintile	2,152	2,482	2,772	3,029	3,211	3,327	3,477	3,612
	<b>Average</b>	<b>1,756</b>	<b>2,032</b>	<b>2,269</b>	<b>2,468</b>	<b>2,617</b>	<b>2,711</b>	<b>2,833</b>	<b>2,943</b>
Net cost (fiscal impact only)	1 <sup>st</sup> quintile	-535	-616	-684	-748	-783	-799	-836	-870
	2 <sup>nd</sup> quintile	-619	-693	-765	-843	-881	-898	-937	-974
	3 <sup>rd</sup> quintile	-610	-684	-763	-834	-870	-883	-923	-960
	4 <sup>th</sup> quintile	-281	-308	-355	-387	-387	-375	-389	-404
	5 <sup>th</sup> quintile	-433	-484	-553	-606	-625	-628	-656	-682
	<b>Average</b>	<b>-492</b>	<b>-558</b>	<b>-634</b>	<b>-682</b>	<b>-707</b>	<b>-714</b>	<b>-746</b>	<b>-776</b>
Net cost (fiscal and economic impacts)	1 <sup>st</sup> quintile	-440	-500	-547	-584	-592	-579	-587	-592
	2 <sup>nd</sup> quintile	-299	-307	-291	-248	-177	-84	-13	62
	3 <sup>rd</sup> quintile	198	304	420	566	787	1,029	1,242	1,460
	4 <sup>th</sup> quintile	1,103	1,439	1,781	2,205	2,679	3,163	3,607	4,053
	5 <sup>th</sup> quintile	2,970	3,629	4,368	5,276	6,207	7,140	8,005	8,871
	<b>Average</b>	<b>710</b>	<b>911</b>	<b>1,137</b>	<b>1,445</b>	<b>1,783</b>	<b>2,136</b>	<b>2,453</b>	<b>2,773</b>

Source: Office of the Parliamentary Budget Officer.

Note: For fiscal-only impact estimates, net cost is calculated as the federal fuel charge and related GST paid (that is, the gross cost) less Climate Action Initiative payments received.

For fiscal and economic impact estimates, net cost is calculated as the federal fuel charge and related GST paid, plus the income loss due to the fuel charge and federal-equivalent OBPS (that is, the gross cost), less Climate Action Initiative payments received and the reduction in personal income taxes paid.

Table A-2 Saskatchewan: Climate Action Incentive payments and household net costs, 2023-24 to 2030-31

\$ per household		2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030	2030-2031
Climate Action Incentive payments	1 <sup>st</sup> quintile	1,399	1,634	1,823	2,024	2,174	2,233	2,365	2,517
	2 <sup>nd</sup> quintile	1,576	1,848	2,055	2,261	2,428	2,494	2,642	2,811
	3 <sup>rd</sup> quintile	1,786	2,102	2,342	2,600	2,792	2,867	3,038	3,232
	4 <sup>th</sup> quintile	1,983	2,327	2,596	2,881	3,094	3,178	3,367	3,582
	5 <sup>th</sup> quintile	2,152	2,528	2,824	3,130	3,361	3,453	3,657	3,892
	Average	1,781	2,093	2,334	2,587	2,779	2,854	3,023	3,217
Net cost (fiscal impact only)	1 <sup>st</sup> quintile	-679	-786	-871	-967	-1,035	-1,044	-1,110	-1,194
	2 <sup>nd</sup> quintile	-589	-686	-748	-809	-862	-857	-911	-987
	3 <sup>rd</sup> quintile	-523	-613	-667	-738	-782	-767	-816	-889
	4 <sup>th</sup> quintile	-336	-383	-409	-450	-469	-432	-461	-518
	5 <sup>th</sup> quintile	-4	12	36	54	80	151	161	142
	Average	-428	-495	-538	-590	-622	-599	-636	-699
Net cost (fiscal and economic impacts)	1 <sup>st</sup> quintile	-623	-720	-791	-876	-928	-920	-969	-1,036
	2 <sup>nd</sup> quintile	-365	-412	-418	-416	-402	-328	-314	-319
	3 <sup>rd</sup> quintile	80	119	209	328	469	674	813	929
	4 <sup>th</sup> quintile	675	882	1,131	1,393	1,704	2,069	2,363	2,632
	5 <sup>th</sup> quintile	2,289	2,778	3,337	3,967	4,596	5,275	5,877	6,456
	Average	410	525	687	871	1,079	1,345	1,545	1,723

Source: Office of the Parliamentary Budget Officer.

Note: For fiscal-only impact estimates, net cost is calculated as the federal fuel charge and related GST paid (that is, the gross cost) less Climate Action Initiative payments received.

For fiscal and economic impact estimates, net cost is calculated as the federal fuel charge and related GST paid, plus the income loss due to the fuel charge and federal-equivalent OBPS (that is, the gross cost), less Climate Action Initiative payments received and the reduction in personal income taxes paid.

Table A-3 Manitoba: Climate Action Incentive payments and household net costs, 2023-24 to 2030-31

\$ per household		2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030	2030-2031
Climate Action Incentive payments	1 <sup>st</sup> quintile	855	1,016	1,150	1,275	1,394	1,502	1,606	1,684
	2 <sup>nd</sup> quintile	922	1,098	1,244	1,379	1,507	1,624	1,738	1,822
	3 <sup>rd</sup> quintile	1,055	1,260	1,428	1,583	1,730	1,864	1,994	2,091
	4 <sup>th</sup> quintile	1,157	1,368	1,562	1,721	1,882	2,028	2,169	2,274
	5 <sup>th</sup> quintile	1,270	1,514	1,719	1,908	2,085	2,247	2,403	2,520
	Average	1,050	1,248	1,417	1,570	1,716	1,849	1,978	2,074
Net cost (fiscal impact only)	1 <sup>st</sup> quintile	-413	-492	-560	-621	-682	-738	-791	-832
	2 <sup>nd</sup> quintile	-272	-326	-372	-412	-453	-490	-522	-549
	3 <sup>rd</sup> quintile	-208	-253	-290	-321	-354	-383	-405	-427
	4 <sup>th</sup> quintile	-77	-85	-114	-116	-131	-145	-149	-160
	5 <sup>th</sup> quintile	177	206	224	248	267	285	314	327
	Average	-155	-185	-216	-239	-264	-288	-304	-321
Net cost (fiscal and economic impacts)	1 <sup>st</sup> quintile	-368	-436	-491	-540	-587	-628	-664	-688
	2 <sup>nd</sup> quintile	-87	-87	-78	-61	-38	-9	28	70
	3 <sup>rd</sup> quintile	214	286	378	496	617	746	886	1,028
	4 <sup>th</sup> quintile	515	690	867	1,084	1,304	1,538	1,791	2,043
	5 <sup>th</sup> quintile	1,635	2,029	2,456	2,949	3,428	3,930	4,449	4,964
	Average	386	502	633	791	951	1,122	1,305	1,490

Source: Office of the Parliamentary Budget Officer.

Note: For fiscal-only impact estimates, net cost is calculated as the federal fuel charge and related GST paid (that is, the gross cost) less Climate Action Initiative payments received.

For fiscal and economic impact estimates, net cost is calculated as the federal fuel charge and related GST paid, plus the income loss due to the fuel charge and federal-equivalent OBPS (that is, the gross cost), less Climate Action Initiative payments received and the reduction in personal income taxes paid.

Table A-4 Ontario: Climate Action Incentive payments and household net costs, 2023-24 to 2030-31

\$ per household		2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030	2030-2031
Climate Action Incentive payments	1 <sup>st</sup> quintile	689	810	918	1,023	1,121	1,209	1,290	1,362
	2 <sup>nd</sup> quintile	797	945	1,067	1,188	1,302	1,404	1,498	1,582
	3 <sup>rd</sup> quintile	901	1,073	1,218	1,357	1,487	1,604	1,711	1,806
	4 <sup>th</sup> quintile	983	1,161	1,318	1,474	1,615	1,742	1,859	1,963
	5 <sup>th</sup> quintile	1,061	1,258	1,424	1,593	1,746	1,883	2,010	2,122
	Average	885	1,047	1,185	1,324	1,451	1,565	1,670	1,763
Net cost (fiscal impact only)	1 <sup>st</sup> quintile	-298	-345	-390	-435	-477	-513	-551	-586
	2 <sup>nd</sup> quintile	-211	-250	-278	-308	-339	-364	-395	-425
	3 <sup>rd</sup> quintile	-91	-109	-123	-135	-147	-155	-173	-193
	4 <sup>th</sup> quintile	-43	-43	-47	-58	-62	-63	-76	-91
	5 <sup>th</sup> quintile	135	163	190	207	227	249	255	258
	Average	-100	-114	-125	-142	-155	-164	-183	-202
Net cost (fiscal and economic impacts)	1 <sup>st</sup> quintile	-241	-275	-304	-332	-356	-374	-392	-408
	2 <sup>nd</sup> quintile	-43	-32	-7	14	47	87	124	165
	3 <sup>rd</sup> quintile	298	384	506	645	792	953	1,110	1,269
	4 <sup>th</sup> quintile	601	820	1,044	1,296	1,564	1,849	2,134	2,425
	5 <sup>th</sup> quintile	1,766	2,224	2,730	3,290	3,850	4,438	5,026	5,622
	Average	478	627	799	987	1,184	1,396	1,605	1,820

Source: Office of the Parliamentary Budget Officer.

Note: For fiscal-only impact estimates, net cost is calculated as the federal fuel charge and related GST paid (that is, the gross cost) less Climate Action Initiative payments received.

For fiscal and economic impact estimates, net cost is calculated as the federal fuel charge and related GST paid, plus the income loss due to the fuel charge and federal-equivalent OBPS (that is, the gross cost), less Climate Action Initiative payments received and the reduction in personal income taxes paid.

Table A-5 Nova Scotia: Climate Action Incentive payments and household net costs, 2023-24 to 2030-31

\$ per household		2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030	2030-2031
Climate Action Incentive payments	1 <sup>st</sup> quintile	482	758	859	949	1,035	1,099	1,143	1,221
	2 <sup>nd</sup> quintile	566	898	1,016	1,126	1,228	1,304	1,356	1,448
	3 <sup>rd</sup> quintile	590	929	1,049	1,152	1,256	1,334	1,387	1,482
	4 <sup>th</sup> quintile	662	1,039	1,174	1,311	1,429	1,518	1,579	1,686
	5 <sup>th</sup> quintile	747	1,183	1,337	1,474	1,607	1,706	1,775	1,895
	Average	608	963	1,090	1,205	1,314	1,396	1,452	1,551
Net cost (fiscal impact only)	1 <sup>st</sup> quintile	-148	-230	-261	-286	-310	-324	-325	-353
	2 <sup>nd</sup> quintile	-118	-188	-214	-235	-254	-262	-254	-278
	3 <sup>rd</sup> quintile	-2	5	8	22	28	42	71	68
	4 <sup>th</sup> quintile	48	92	105	111	126	149	188	194
	5 <sup>th</sup> quintile	67	109	122	146	162	183	215	220
	Average	-29	-43	-51	-51	-53	-46	-24	-33
Net cost (fiscal and economic impacts)	1 <sup>st</sup> quintile	-108	-179	-202	-218	-229	-228	-214	-226
	2 <sup>nd</sup> quintile	21	-9	9	39	73	120	182	215
	3 <sup>rd</sup> quintile	303	393	491	610	730	861	1,008	1,127
	4 <sup>th</sup> quintile	588	787	968	1,177	1,396	1,629	1,880	2,101
	5 <sup>th</sup> quintile	1,341	1,701	2,073	2,539	2,983	3,443	3,916	4,368
	Average	431	537	665	826	987	1,162	1,351	1,513

Source: Office of the Parliamentary Budget Officer.

Note: For fiscal-only impact estimates, net cost is calculated as the federal fuel charge and related GST paid (that is, the gross cost) less Climate Action Initiative payments received.

For fiscal and economic impact estimates, net cost is calculated as the federal fuel charge and related GST paid, plus the income loss due to the fuel charge and federal-equivalent OBPS (that is, the gross cost), less Climate Action Initiative payments received and the reduction in personal income taxes paid.

Table A-6 Prince Edward Island: Climate Action Incentive payments and household net costs, 2023-24 to 2030-31

\$ per household		2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030	2030-2031
Climate Action Incentive payments	1 <sup>st</sup> quintile	505	800	910	998	1,086	1,149	1,223	1,288
	2 <sup>nd</sup> quintile	596	944	1,078	1,192	1,298	1,373	1,462	1,539
	3 <sup>rd</sup> quintile	665	1,058	1,203	1,341	1,460	1,545	1,645	1,733
	4 <sup>th</sup> quintile	748	1,187	1,356	1,510	1,644	1,739	1,852	1,950
	5 <sup>th</sup> quintile	811	1,288	1,471	1,638	1,784	1,887	2,009	2,116
	Average	664	1,055	1,205	1,335	1,453	1,538	1,637	1,724
Net cost (fiscal impact only)	1 <sup>st</sup> quintile	-222	-355	-406	-438	-481	-520	-557	-590
	2 <sup>nd</sup> quintile	-179	-284	-329	-358	-393	-425	-455	-480
	3 <sup>rd</sup> quintile	-120	-194	-221	-248	-272	-295	-317	-334
	4 <sup>th</sup> quintile	-45	-72	-89	-99	-111	-125	-137	-145
	5 <sup>th</sup> quintile	121	190	207	230	245	245	255	267
	Average	-88	-141	-167	-180	-200	-221	-239	-253
Net cost (fiscal and economic impacts)	1 <sup>st</sup> quintile	-167	-292	-337	-360	-385	-412	-430	-449
	2 <sup>nd</sup> quintile	-24	-88	-91	-88	-66	-47	-16	16
	3 <sup>rd</sup> quintile	311	356	446	572	709	839	975	1,118
	4 <sup>th</sup> quintile	630	768	929	1,158	1,382	1,611	1,844	2,072
	5 <sup>th</sup> quintile	1,568	1,994	2,403	2,893	3,379	3,856	4,337	4,833
	Average	465	550	671	838	1,007	1,172	1,345	1,521

Source: Office of the Parliamentary Budget Officer.

Note: For fiscal-only impact estimates, net cost is calculated as the federal fuel charge and related GST paid (that is, the gross cost) less Climate Action Initiative payments received.

For fiscal and economic impact estimates, net cost is calculated as the federal fuel charge and related GST paid, plus the income loss due to the fuel charge and federal-equivalent OBPS (that is, the gross cost), less Climate Action Initiative payments received and the reduction in personal income taxes paid.

Table A-7 Newfoundland and Labrador: Climate Action Incentive payments and household net costs, 2023-24 to 2030-31

\$ per household		2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030	2030-2031
Climate Action Incentive payments	1 <sup>st</sup> quintile	720	1,160	1,312	1,448	1,552	1,666	1,787	1,893
	2 <sup>nd</sup> quintile	861	1,385	1,571	1,738	1,864	2,000	2,146	2,274
	3 <sup>rd</sup> quintile	936	1,510	1,704	1,893	2,030	2,178	2,337	2,476
	4 <sup>th</sup> quintile	1,030	1,656	1,882	2,082	2,232	2,396	2,570	2,723
	5 <sup>th</sup> quintile	1,113	1,791	2,035	2,264	2,428	2,606	2,795	2,962
	Average	934	1,497	1,702	1,887	2,023	2,171	2,329	2,468
Net cost (fiscal impact only)	1 <sup>st</sup> quintile	-297	-481	-542	-593	-640	-680	-726	-764
	2 <sup>nd</sup> quintile	-254	-409	-460	-502	-535	-562	-596	-622
	3 <sup>rd</sup> quintile	-136	-221	-233	-251	-255	-255	-263	-263
	4 <sup>th</sup> quintile	-166	-268	-305	-327	-348	-358	-376	-387
	5 <sup>th</sup> quintile	-65	-106	-119	-132	-133	-130	-135	-132
	Average	-185	-294	-332	-363	-384	-399	-421	-436
Net cost (fiscal and economic impacts)	1 <sup>st</sup> quintile	-274	-454	-507	-552	-590	-622	-658	-689
	2 <sup>nd</sup> quintile	-153	-276	-299	-307	-305	-294	-292	-280
	3 <sup>rd</sup> quintile	172	163	221	285	381	482	576	680
	4 <sup>th</sup> quintile	565	652	820	1,048	1,281	1,526	1,763	2,008
	5 <sup>th</sup> quintile	1,435	1,785	2,206	2,720	3,248	3,789	4,325	4,872
	Average	347	377	488	637	802	974	1,141	1,316

Source: Office of the Parliamentary Budget Officer.

Note: For fiscal-only impact estimates, net cost is calculated as the federal fuel charge and related GST paid (that is, the gross cost) less Climate Action Initiative payments received.

For fiscal and economic impact estimates, net cost is calculated as the federal fuel charge and related GST paid, plus the income loss due to the fuel charge and federal-equivalent OBPS (that is, the gross cost), less Climate Action Initiative payments received and the reduction in personal income taxes paid.

# Appendix B: Budgetary impacts of the federal fuel charge by province

Table B-1 Alberta: budgetary impacts of the federal fuel charge under the 2030 Emissions Reduction Plan

\$ millions	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030	2030-2031
<b>Budgetary revenues</b>								
Fuel charge proceeds	3,488	4,125	4,693	5,228	5,653	5,972	6,364	6,739
Goods and Services Tax	115	137	155	173	188	200	213	225
Personal income tax	-769	-967	-1,199	-1,485	-1,741	-1,993	-2,235	-2,477
Total	2,835	3,295	3,649	3,916	4,100	4,180	4,342	4,487
<b>Program spending</b>								
Fuel charge proceeds returned	3,488	4,125	4,693	5,228	5,653	5,972	6,364	6,739
<b>Budgetary balance</b>	<b>-654</b>	<b>-830</b>	<b>-1,044</b>	<b>-1,312</b>	<b>-1,553</b>	<b>-1,793</b>	<b>-2,022</b>	<b>-2,252</b>

Source: Office of the Parliamentary Budget Officer.

Note: Totals may not add due to rounding.

Table B-2 Saskatchewan: budgetary impacts of the federal fuel charge under the 2030 Emissions Reduction Plan

\$ millions	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030	2030-2031
<b>Budgetary revenues</b>								
Fuel charge proceeds	962	1,147	1,294	1,453	1,581	1,645	1,767	1,906
Goods and Services Tax	33	40	45	51	55	58	63	67
Personal income tax	-122	-153	-189	-232	-272	-311	-350	-390
Total	873	1,034	1,150	1,271	1,364	1,392	1,479	1,583
<b>Program spending</b>								
Fuel charge proceeds returned	962	1,147	1,294	1,453	1,581	1,645	1,767	1,906
<b>Budgetary balance</b>	<b>-89</b>	<b>-113</b>	<b>-144</b>	<b>-181</b>	<b>-216</b>	<b>-253</b>	<b>-288</b>	<b>-323</b>

Source: Office of the Parliamentary Budget Officer.

Note: Totals may not add due to rounding.



Table B-3 Manitoba: budgetary impacts of the federal fuel charge under the 2030 Emissions Reduction Plan

\$ millions	2023- 2024	2024- 2025	2025- 2026	2026- 2027	2027- 2028	2028- 2029	2029- 2030	2030- 2031
<b>Budgetary revenues</b>								
Fuel charge proceeds	663	797	915	1,025	1,133	1,234	1,335	1,415
Goods and Services Tax	25	30	34	38	42	46	50	53
Personal income tax	-87	-114	-145	-181	-215	-251	-289	-326
<b>Total</b>	<b>601</b>	<b>713</b>	<b>803</b>	<b>882</b>	<b>959</b>	<b>1,028</b>	<b>1,096</b>	<b>1,142</b>
<b>Program spending</b>								
Fuel charge proceeds returned	663	797	915	1,025	1,133	1,234	1,335	1,415
<b>Budgetary balance</b>	<b>-62</b>	<b>-84</b>	<b>-111</b>	<b>-143</b>	<b>-173</b>	<b>-205</b>	<b>-238</b>	<b>-273</b>

Source: Office of the Parliamentary Budget Officer.

Note: Totals may not add due to rounding.

Table B-4 Ontario: budgetary impacts of the federal fuel charge under the 2030 Emissions Reduction Plan

\$ millions	2023- 2024	2024- 2025	2025- 2026	2026- 2027	2027- 2028	2028- 2029	2029- 2030	2030- 2031
<b>Budgetary revenues</b>								
Fuel charge proceeds	6,068	7,319	8,428	9,541	10,591	11,566	12,488	13,335
Goods and Services Tax	233	283	326	370	411	451	485	515
Personal income tax	-1,102	-1,472	-1,899	-2,386	-2,854	-3,347	-3,857	-4,380
<b>Total</b>	<b>5,199</b>	<b>6,130</b>	<b>6,855</b>	<b>7,525</b>	<b>8,148</b>	<b>8,670</b>	<b>9,116</b>	<b>9,471</b>
<b>Program spending</b>								
Fuel charge proceeds returned	6,068	7,319	8,428	9,541	10,591	11,566	12,488	13,335
<b>Budgetary balance</b>	<b>-869</b>	<b>-1,189</b>	<b>-1,573</b>	<b>-2,016</b>	<b>-2,443</b>	<b>-2,896</b>	<b>-3,372</b>	<b>-3,864</b>

Source: Office of the Parliamentary Budget Officer.

Note: Totals may not add due to rounding.

Table B-5 Nova Scotia: budgetary impacts of the federal fuel charge under the 2030 Emissions Reduction Plan

\$ millions	2023- 2024	2024- 2025	2025- 2026	2026- 2027	2027- 2028	2028- 2029	2029- 2030	2030- 2031
<b>Budgetary revenues</b>								
Fuel charge proceeds	304	489	559	624	685	732	764	819
Goods and Services Tax	13	21	24	26	29	31	33	35
Personal income tax	-64	-83	-105	-130	-155	-180	-206	-231
Total	252	427	478	521	560	583	592	623
<b>Program spending</b>								
Fuel charge proceeds returned	304	489	559	624	685	732	764	819
<b>Budgetary balance</b>	-52	-62	-81	-103	-125	-149	-172	-196

Source: Office of the Parliamentary Budget Officer.

Note: Totals may not add due to rounding.

Table B-6 Prince Edward Island: budgetary impacts of the federal fuel charge under the 2030 Emissions Reduction Plan

\$ millions	2023- 2024	2024- 2025	2025- 2026	2026- 2027	2027- 2028	2028- 2029	2029- 2030	2030- 2031
<b>Budgetary revenues</b>								
Fuel charge proceeds	49	80	92	104	115	123	132	141
Goods and Services Tax	2	3	4	4	5	5	5	6
Personal income tax	-11	-15	-19	-23	-27	-32	-36	-40
Total	40	68	77	86	92	96	101	106
<b>Program spending</b>								
Fuel charge proceeds returned	49	80	92	104	115	123	132	141
<b>Budgetary balance</b>	-9	-12	-15	-19	-23	-27	-31	-35

Source: Office of the Parliamentary Budget Officer.

Note: Totals may not add due to rounding.

Table B-7 Newfoundland and Labrador: budgetary impacts of the federal fuel charge under the 2030 Emissions Reduction Plan

\$ millions	2023- 2024	2024- 2025	2025- 2026	2026- 2027	2027- 2028	2028- 2029	2029- 2030	2030- 2031
<b>Budgetary revenues</b>								
Fuel charge proceeds	232	372	422	468	500	535	571	602
Goods and Services Tax	8	14	16	17	19	20	21	23
Personal income tax	-41	-52	-65	-80	-95	-110	-125	-140
Total	199	333	373	405	424	445	468	485
<b>Program spending</b>								
Fuel charge proceeds returned	232	372	422	468	500	535	571	602
<b>Budgetary balance</b>	-33	-39	-49	-62	-76	-90	-103	-117

Source: Office of the Parliamentary Budget Officer.

Note: Totals may not add due to rounding.

# Notes

1. See PBO's March 2022 report, A Distributional Analysis of Federal Carbon Pricing under A Healthy Environment and A Healthy Economy, available at: <https://www.pbo-dpb.ca/en/publications/RP-2122-032-S--distributional-analysis-federal-carbon-pricing-under-healthy-environment-healthy-economy--une-analyse-distributive-tarification-federale-carbone-dans-cadre-plan-un-environnement-sain-une-eco>.
2. The Government announced the release of its 2030 Emissions Reduction Plan on March 29, 2022. The full plan is available at: <https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/climate-plan-overview/emissions-reduction-2030/plan.html>.

Projections of greenhouse gas emissions provided by Environment and Climate Change Canada under the 2030 Emissions Reduction Plan show that national GHGs (excluding land use, land use change and forestry (LULUCF)) will reach 500 Mt in 2030. Including LULUCF, emissions in 2030 were projected to fall to 470 Mt (36.4 per cent below 2005 levels). This is somewhat lower than the 491 Mt (33.7 per cent below 2005 levels) projected in the recently released 5<sup>th</sup> Biennial Report to the United Nations (available at: <https://www.canada.ca/en/environment-climate-change/services/climate-change/greenhouse-gas-emissions/fifth-biennial-report-climate-change-summary.html>).

3. The Government announced the expansion of the federal fuel charge on November 22, 2022 (available at: <https://www.canada.ca/en/environment-climate-change/news/2022/11/the-government-of-canada-strengthens-pollution-pricing-across-the-country.html>).

In 2023, the federal fuel charge will apply to seven provinces and two territories as of July 1. British Columbia, New Brunswick, Quebec and the Northwest Territories will continue to implement their own carbon pricing systems. The federal Output-Based Pricing System (OBPS) will continue to apply to Manitoba, Prince Edward Island, Yukon and Nunavut.

Due to a lack of data, Yukon and Nunavut are excluded from our distributional analysis of the federal fuel charge. We have also excluded the federal OBPS from our distributional analysis given its limited application.

4. See PBO's November 2022 report, Global Greenhouse Gas Emissions and Canadian GDP, for an analysis of the long-term impact on the Canadian economy of changing weather patterns due to climate change. Available at: <https://www.pbo-dpb.ca/en/publications/RP-2223-015-S--global-greenhouse-gas-emissions-canadian-gdp--emissions-mondiales-gaz-effet-serre-pib-canadien>.
5. Our distributional analysis in this report does not include the economic impact of non-pricing measures such as the Clean Fuel Regulations that

will contribute to reducing emissions under the Government's 2030 Emissions Reduction Plan.

For a discussion of the economic impact of non-pricing measures under the Government's A Healthy Environment and A Healthy Economy plan, see PBO's June 2021 report, Beyond Paris: Reducing Canada's GHG Emissions by 2030, available at: <https://www.pbo-dpb.ca/en/publications/RP-2122-009-S--beyond-paris-reducing-canada-ghg-emissions-2030--dela-paris-reduire-emissions-gaz-effet-serre-canada-ici-2030>.

6. For additional details, please see previous PBO reports:

A Distributional Analysis of Federal Carbon Pricing under A Healthy Environment and A Healthy Economy (March 2022): <https://www.pbo-dpb.ca/en/publications/RP-2122-032-S--distributional-analysis-federal-carbon-pricing-under-healthy-environment-healthy-economy--une-analyse-distributive-tarification-federale-carbone-dans-cadre-plan-un-environnement-sain-une-eco>.

Reviewing the Fiscal and Distributional Analysis of the Federal Carbon Pricing System (February 2020): <https://www.pbo-dpb.ca/en/publications/RP-1920-024--reviewing-fiscal-distributional-analysis-federal-carbon-pricing-system--examen-analyse-financiere-distributive-systeme-federal-tarification-carbone>.

Fiscal and Distributional Analysis of the Federal Carbon Pricing System (April 2019): <https://www.pbo-dpb.ca/en/publications/RP-1920-009--fiscal-distributional-analysis-federal-carbon-pricing-system--analyse-financiere-distributive-systeme-federal-tarification-carbone-reviser-23-mai-2019>.

7. Recall that the Climate Action Incentive payments to households reflect their size and composition. Within a province, the per person amounts (that is, for the first and second adults, as well as each child) are the same across income quintiles. The variation across income quintiles within a province reflects differences in family size and composition.
8. Recall that direct costs to households include the federal fuel charge applied to their consumption of heating fuel and private transport (such as motor gasoline, diesel and lubricants). Indirect costs capture the federal fuel charge that is passed through by firms to non-energy products that households consume. Additional revenue from the federal fuel charge is generated by exports (excluding natural gas and petroleum products).
9. Based on the 2019 supply and use tables, international and interprovincial exports, expressed in basic prices, account for the lowest share of domestic supply (22 per cent) in Nova Scotia and the highest share (36 per cent) in Saskatchewan.
10. The national and sectoral estimates of the economic impact of the federal fuel charge rising to \$170 per tonne and federal-equivalent OBPS, relative to a scenario without the fuel charge and OBPS, are unchanged from our March 2022 report (see Table 3-1).

Following our March 2022 report, we used Statistics Canada's microsimulation model SPSD/M to allocate the impact on employment

and investment incomes to households in the seven provinces where federal fuel charge applies. The assumptions and calculations underlying the SPSPD/M simulation results were prepared by PBO analysts; the responsibility for the use and interpretation of these data is entirely that of PBO analysts.

11. In dollar terms, our updated estimates of household net cost for Alberta, Saskatchewan, Manitoba and Ontario are somewhat higher compared to our March 2022 report (see Table 3-2). The upward revision primarily reflects higher (nominal) household incomes projected over the medium term from our March 2023 Economic and Fiscal Outlook. That said, relative to household disposable income, our updated net cost estimates are broadly in line with our March 2022 report.
12. These estimates are partial in nature, in that they do not capture the full budgetary impact of the loss in household income. For example, households with lower incomes would likely reduce their spending on goods and services further, resulting in lower GST revenues; and lower corporate profits would lead to a reduction in corporate income tax revenues.
13. On a cash basis all proceeds raised are returned to the jurisdiction of origin. However, on a fiscal year basis there are timing (or accounting) differences between when proceeds are received and when they are returned, resulting in an impact on the budgetary balance. For simplicity, for this report, we have assumed that there is no impact on the budgetary balance from these timing differences. Our March 2023 Economic and Fiscal Outlook accounts for these timing differences.