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

Path to Net Zero Series:

Distributional Analysis of the Federal Fuel Charge (aka "carbon tax" and "price on pollution")

November 2024

Presentation to

TABE

Why is the PBO doing this work?

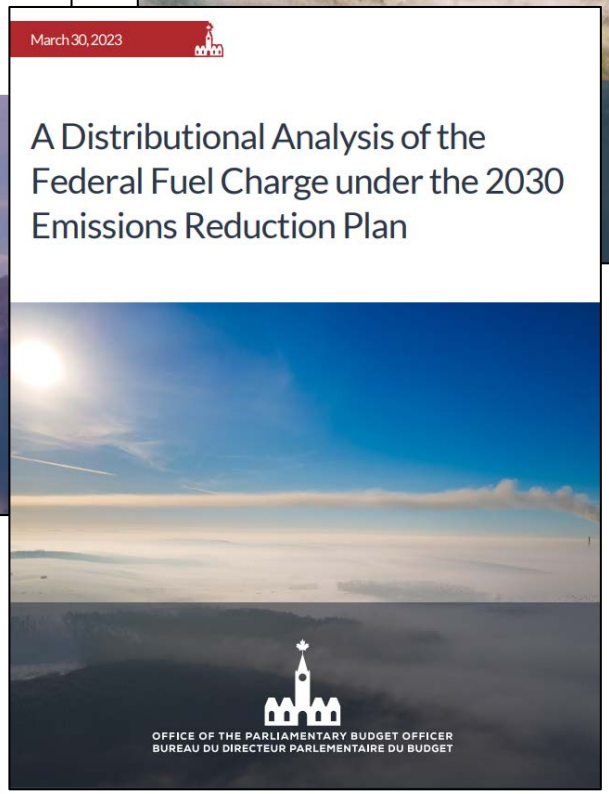
The PBO is an independent Agent of Parliament mandated to provide non-partisan economic and fiscal analysis

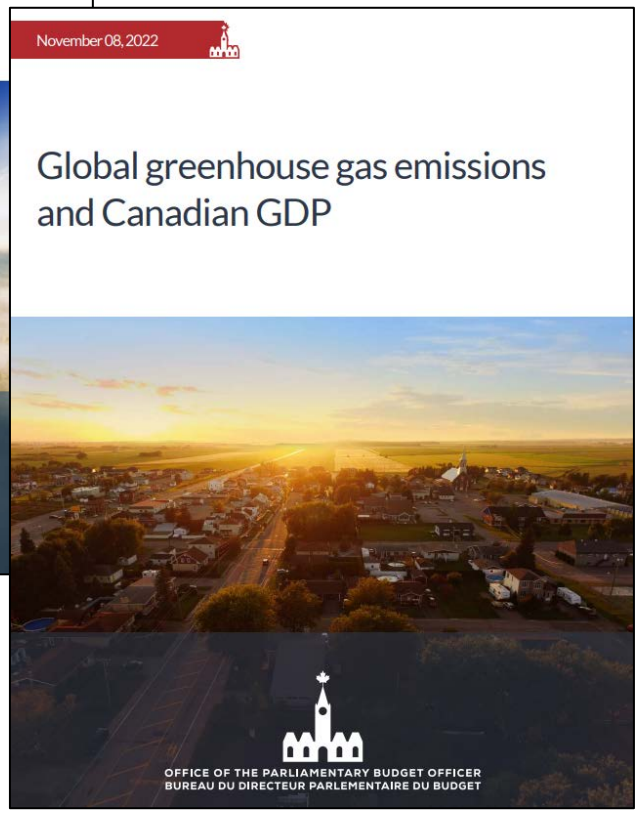
Reliable, Trustworthy Information

Background


February 04, 2020
REVIEWING THE FISCAL AND DISTRIBUTIONAL ANALYSIS OF THE FEDERAL CARBON PRICING SYSTEM
OFFICE OF THE PARLIAMENTARY BUDGET OFFICER
BUREAU DU DIRECTEUR PARLEMENTAIRE DU BUDGET


March 24, 2022
A DISTRIBUTIONAL ANALYSIS OF FEDERAL CARBON PRICING UNDER A HEALTHY ENVIRONMENT AND A HEALTHY ECONOMY


March 30, 2023
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


November 08, 2022
Global greenhouse gas emissions and Canadian GDP
OFFICE OF THE PARLIAMENTARY BUDGET OFFICER
BUREAU DU DIRECTEUR PARLEMENTAIRE DU BUDGET

October 10, 2024

A Distributional Analysis of the Federal Fuel Charge – Update

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

Acknowledgements

- We thank, without implication:
  - Officials at Environment and Climate Change Canada
    - Projections of GHG emissions, fuel charge proceeds and estimates of the economic and GHG impacts of the fuel charge and large-emitter trading systems (LETS).
  - Officials at Finance Canada for consultations related to calculating the direct and indirect fiscal impacts of the federal fuel charge on households.
  - Officials at the Congressional Budget Office and at CPB Netherlands Bureau for Economic Policy Analysis for providing feedback related to PBO's methodology and assumptions.

Updated analysis

- Includes recent policy changes, new GHG projections from ECCC and microsimulation data from Statistics Canada.
- To address the computable general equilibrium (CGE) modelling oversight in our previous reports, we now incorporate estimates of the economic impact of the fuel charge only.
- We have used estimates of the economic impact of the fuel charge from ECCC
  - EC-PRO: 10-province and 3-territory, multi-sector CGE model of the Canadian economy.

Key limitations

Comparative policy analysis

- PBO *does not* provide economic, fiscal or climate policy recommendations to parliamentarians.
  - We do not provide comparative policy or cost-benefit analyses.

Counterfactual scenarios

- Counterfactual scenario without carbon pricing should not be seen as an alternative policy option of "doing nothing".
  - Impact of a policy often measured relative to a scenario without the policy in question, with the counterfactual serving as a "control" scenario.

Key limitations, continued

Benefits of reducing Canada's GHG emissions

- In all our reports on carbon pricing since 2018—PBO clearly indicated that it did not account for the benefits of reducing Canada's GHG emissions. We don't do cost-benefit analysis.

Key findings

Household net cost of the federal fuel charge (fiscal impact only)

"Fiscal impact only": federal fuel charge paid directly and indirectly, GST paid, less the Canada Carbon Rebate (CCR) received.

- In 2030-31, the average household in each income quintile will see a net gain.
  - Except for the highest income quintile in Prince Edward Island, Nova Scotia and New Brunswick.
- The largest net gain in 2030-31 is for the average household in the lowest income quintile in Saskatchewan (4.5% of disposable income);
  - Largest net cost in 2030-31 is for the average household in the top income quintile in PEI (0.1% of disposable income).

Key findings, continued

Household net cost of the federal fuel charge (fiscal and economic impacts)

We incorporate ECCC's estimates of the loss in employment and investment income from the fuel charge.

- ECCC estimates that the fuel charge rising to $170 per tonne in 2030-31 will lower real GDP in backstop provinces by 0.6%.
- In 2030-31, the average household in the top three income quintiles will face a net cost (with both fiscal **and** economic impacts considered).
- Largest net gain in 2030-31 is for the average household in the lowest income quintile in Saskatchewan (4.0% of disposable income); the largest net cost is for the average household in the top income quintile is also in Saskatchewan (1.8% of disposable income).

Key findings, continued

Comparison to March 2023 estimates of household net cost

- Updated estimates continue to show that the average household across most income quintiles in backstop provinces will face a net **cost** when both fiscal and economic impacts of the federal fuel charge are considered. Consistent with our March 2023 report

- Our updated estimates (fiscal and economic impacts) show lower net costs compared to our March 2023 estimates. This reflects lower "fiscal" costs of the fuel charge and lower "economic" costs based on ECCC's estimates.

- Broadly speaking, our updated estimates (fiscal impact only) show larger net gains (lower net costs) for average households across income quintiles in 2030-31.
  - Reflects changes to the projection of emissions subject to the federal fuel charge and changes to assumptions underlying our interprovincial input-output model simulations.

Key findings, continued

GHG emissions reductions under carbon pricing – ECCC estimates

- The fuel charge will reduce GHG emissions by almost 13 Mt in 2030. Will lower real GDP by 0.6% in 2030.
- Fuel charges and large-emitter trading systems (LETS) in all provinces and territories will reduce GHG emissions by 62 Mt in 2030 and will lower real GDP by 0.9% in 2030.
- LETS will be responsible for most of the GHG emissions reductions from carbon pricing in Canada.
  - ECCC's estimates: emissions reductions from LETS are significantly less costly, compared to the fuel charge.

Upcoming Reports

- Update on Federal Housing
- Analysis of the Government's Fall Statement and Public Accounts
- Economic impact of immigration
- Election Proposal Costing…

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

www.pbo-dpb.ca

pbo-dpb@parl.gc.ca

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

Additional slides

Table 1: Average household net cost of the federal fuel charge in 2030-31 (fiscal impact only)

Backstop province	1st quintile	2nd quintile	3rd quintile	4th quintile	5th quintile	Average
Newfoundland and Labrador	-$893	-$971	-$642	-$606	-$467	-$713
	-2.8%	-1.8%	-0.8%	-0.5%	-0.2%	-0.7%
Prince Edward Island	-$491	-$404	-$317	-$123	$302	-$204
	-1.6%	-0.7%	-0.4%	-0.1%	0.1%	-0.2%
Nova Scotia	-$598	-$549	-$222	-$249	$50	-$313
	-2.0%	-1.0%	-0.3%	-0.2%	0.0%	-0.3%
New Brunswick	-$472	-$336	-$240	-$178	$22	-$241
	-1.5%	-0.6%	-0.3%	-0.2%	0.0%	-0.2%
Ontario	-$642	-$472	-$243	-$277	-$28	-$331
	-1.9%	-0.7%	-0.2%	-0.2%	-0.0%	-0.3%
Manitoba	-$793	-$636	-$611	-$537	-$126	-$537
	-2.5%	-1.1%	-0.7%	-0.4%	-0.1%	-0.5%
Saskatchewan	-$1,424	-$1,385	-$1,298	-$1,185	-$733	-$1,205
	-4.5%	-2.2%	-1.4%	-0.9%	-0.3%	-1.0%
Alberta	-$768	-$888	-$856	-$339	-$782	-$725
	-2.1%	-1.3%	-0.8%	-0.2%	-0.2%	-0.5%

Source: Office of the Parliamentary Budget Officer.

Table 2: ECCC estimates of the economic impacts of the fuel charge in 2030, per cent

Backstop province	Real GDP	Labour income	Capital income
Newfoundland and Labrador	-0.9	-1.8	-2.0
Prince Edward Island	-0.5	-1.2	-2.1
Nova Scotia	-0.5	-1.5	-2.4
New Brunswick	-0.5	-1.2	-2.1
Ontario	-0.7	-1.3	-2.1
Manitoba	-0.5	-1.6	-2.5
Saskatchewan	-0.5	-2.2	-3.3
Alberta	-0.6	-1.3	-2.4
Total – backstop provinces	-0.6	-1.4	-2.3

Source: Environment and Climate Change Canada.

Table 3: Average household net cost of the federal fuel charge in 2030-31 (fiscal and economic impacts)

Backstop province	1st quintile	2nd quintile	3rd quintile	4th quintile	5th quintile	Average
Newfoundland and Labrador	-$798	-$612	$183	$1,164	$3,314	$652
	-2.5%	-1.1%	0.2%	1.0%	1.5%	0.6%
Prince Edward Island	-$443	-$137	$202	$753	$2,488	$575
	-1.5%	-0.2%	0.2%	0.6%	1.1%	0.6%
Nova Scotia	-$500	-$218	$370	$654	$2,593	$580
	-1.6%	-0.4%	0.5%	0.6%	1.2%	0.6%
New Brunswick	-$410	-$120	$214	$609	$1,991	$457
	-1.3%	-0.2%	0.3%	0.5%	0.9%	0.5%
Ontario	-$540	-$87	$588	$1,085	$3,467	$903
	-1.6%	-0.1%	0.6%	0.7%	1.1%	0.7%
Manitoba	-$670	-$211	$218	$817	$3,295	$693
	-2.1%	-0.4%	0.3%	0.7%	1.3%	0.6%
Saskatchewan	-$1,275	-$698	$155	$1,316	$4,970	$894
	-4.0%	-1.1%	0.2%	1.0%	1.8%	0.7%
Alberta	-$641	-$400	$130	$1,265	$3,122	$697
	-1.8%	-0.6%	0.1%	0.8%	1.0%	0.5%

Source: Office of the Parliamentary Budget Officer.

Table 4: Budgetary impacts of the federal fuel charge, billions of dollars

	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030	2030-2031
Fuel charge proceeds	13.0	15.2	17.2	19.3	21.1	22.9	24.4
Goods and Services Tax	0.4	0.5	0.5	0.6	0.6	0.7	0.7
Net personal income tax	-1.9	-2.3	-2.8	-3.3	-3.8	-4.4	-4.8
Fuel charge proceeds returned	-13.0	-15.2	-17.2	-19.3	-21.1	-22.9	-24.4
Budgetary balance	-1.5	-1.9	-2.3	-2.7	-3.2	-3.7	-4.0

Source: Office of the Parliamentary Budget Officer.

Table 5: ECCC estimates of GHG emissions reductions and real GDP impacts from the federal fuel charge in 2030

Backstop province	Emissions reduction in 2030 (Mt)	Impact on real GDP in 2030
Newfoundland and Labrador	0.7	-0.9
Prince Edward Island	0.2	-0.5
Nova Scotia	0.3	-0.5
New Brunswick	0.1	-0.5
Ontario	5.3	-0.7
Manitoba	0.8	-0.5
Saskatchewan	2.0	-0.5
Alberta	3.5	-0.6
Total – backstop provinces	12.8	-0.6

Source: Environment and Climate Change Canada.

Table 6: ECCC estimates of GHG emissions reductions and real GDP impacts from carbon pricing in 2030

Canada	Emissions reduction in 2030	Impact on real GDP in 2030
Fuel charge only (ECCC, March 2024)	15	-0.7
Fuel charge and large-emitter trading systems (ECCC, March 2024)	62	-0.9
Fuel charge and large-emitter trading systems (ECCC, Fall 2023)	78	-0.9

Source: Environment and Climate Change Canada.