

## Carbon Dividends Would Benefit Canadian Families

September 24, 2018

New Study Shows that  
Returning Carbon Revenues  
Directly to Households  
would be Net Financially  
Positive for the Vast  
Majority of Households



A study commissioned by Canadians for Clean Prosperity shows that the vast majority of households, regardless of income level, would receive more money in the form of carbon dividend cheques than they would pay in carbon taxes, should the federal government introduce carbon dividends in those provinces in which it brings in its carbon tax “backstop” starting in 2019.

Several provinces, particularly Ontario and Saskatchewan, have suggested that they will not comply with federal legislation requiring provinces to bring in a carbon pricing plan compatible with national benchmark standards. If they fail to do so, the federal government has said that it will impose a pricing “backstop” on those non-compliant provinces. This would take the form of a direct carbon tax, starting at \$20 per tonne in January 2019, and rising by \$10 per year until reaching \$50 in 2022.

The federal Greenhouse Gas Pollution Pricing Act requires the federal government to return all of the revenues collected from the pricing backstop to the province or territory it is collected from. It may take the form of payments to the provincial or territorial governments, or payments to individuals and businesses within the province. Prime Minister Justin Trudeau and Environment and Climate Change Minister Catherine McKenna have suggested that rather than sending the money to provincial governments, they may choose to send money directly to households.

Collecting a carbon tax on all fossil fuel emissions in a jurisdiction, and then returning the proceeds of such a tax as direct, equal per capita payments to citizens or households, is called a “fee and dividend” or “carbon dividend” approach. This idea has been popularized in the United States by organizations such as the Citizens Climate Lobby and the Climate Leadership Council, however, it is not as familiar in the Canadian climate policy debate.

A frequent complaint about carbon pricing and carbon taxes is that it imposes costs on consumers and households for everyday expenses such as gasoline and home heating. A \$20 per tonne carbon tax, for instance, would mean paying roughly 4.5 cents more per litre on gasoline or \$1.00 per gigajoule of natural gas for home heating. These direct energy costs, and the indirect costs of carbon pricing (for things such as transportation costs of goods passed on as higher prices), will mean higher costs for households in the order of hundreds of dollars per year. However, there have been widely varying estimates of what the actual costs to average households would be. Returning money directly to households in the form of a dividend cheque has been suggested as a mechanism to ensure that families are not unfairly burdened by increased energy costs. This does not mean that households would receive back the same amount that they paid in carbon taxes. Every individual would receive an equal per capita payment – the more individuals and households can reduce their greenhouse gas emissions, the more money they will save.

What has been unclear up until now is how a carbon dividend approach would affect average households, and different household types with different numbers of people or income levels.

Canadians for Clean Prosperity commissioned Dave Sawyer of EnviroEconomics to investigate:

- A. How much Canadians in three provinces – Saskatchewan, Ontario and Alberta – would pay in carbon taxes under the federal backstop (taking into account both direct and indirect costs);
- B. How much revenue would be collected from each province under the federal backstop; and
- C. How much households of different compositions and of different income levels would receive back if the money was returned as carbon dividends, and whether those households would see net benefits or net costs.

We chose to look at Saskatchewan, Ontario and Alberta as the Saskatchewan and Ontario governments have already served notice that they will not comply with the federal carbon pricing legislation, and Alberta faces ongoing policy choices about how carbon revenues are spent – made more acute by the upcoming provincial election.

**The results show that at almost all income levels and for almost all family types, families and households would receive more money back in carbon dividends than they would pay out in carbon taxes or indirect costs.**

There will be enough funds to give households back more than they paid in because carbon taxes are collected not only on households but also on business and industrial emissions. To ensure jobs are not lost, large emitter companies in trade sensitive sectors such as cement or steel manufacturing would have their payments largely refunded through the federal Output Based Pricing System. However, our modelling assumes that the federal government would choose to recycle all other revenues directly to households. We also looked at scenarios where the federal government chose to recycle only part of the revenues to households, but our focus here – and our policy recommendation – is the scenario where the federal government returns all carbon revenues to households. More details on all of these calculations and the methodology used to determine them can be found at [www.enviroeconomics.org](http://www.enviroeconomics.org).

Q.  
Do Carbon  
Dividends  
kill jobs?

The following tables show the impact of a federal carbon tax backstop and carbon dividends to households for these three provinces.

## Costs

The first set of tables show the increased direct carbon costs that households would pay for energy use in Ontario, Saskatchewan and Alberta. This includes costs such as fuel for transportation and home heating. Costs in Saskatchewan and Alberta are higher than in Ontario, in part due to the increased use of coal fired electricity in those provinces. For instance, while a household earning \$60-80,000 per year would pay an average of \$165 in increased carbon costs for energy in Ontario in 2019, a similar household in Saskatchewan or Alberta would pay \$259 and \$249 more per year respectively. Note that higher income households tend to emit more carbon than lower income households.

Figure 1: Ontario Household Carbon Costs in Purchased Energy (\$2017, central value)

Income Group	2019	2020	2021	2022
<\$20k	\$116	\$164	\$207	\$245
\$20k- \$40k	\$132	\$188	\$239	\$284
\$40K-\$60k	\$156	\$221	\$277	\$326
\$60K-\$80k	\$165	\$231	\$286	\$332
\$80K-\$100K	\$188	\$266	\$333	\$389
\$100K-\$150K	\$214	\$306	\$386	\$455
>150K	\$230	\$326	\$410	\$480

Figure 2: Saskatchewan Household Carbon Costs in Purchased Energy (\$2017, central value)

Income Group	2019	2020	2021	2022
<\$20k	\$206	\$295	\$373	\$441
\$20k- \$40k	\$203	\$287	\$358	\$419
\$40K-\$60k	\$234	\$327	\$403	\$467
\$60K-\$80k	\$259	\$361	\$444	\$511
\$80K-\$100K	\$278	\$389	\$481	\$556
\$100K-\$150K	\$298	\$419	\$520	\$602
>150K	\$339	\$476	\$591	\$684

Figure 3: Alberta Household Carbon Costs in Purchased Energy (\$2017, central value)

Income Group	2019	2020	2021	2022
<\$20k	\$184	\$257	\$321	\$376
\$20k- \$40k	\$215	\$301	\$374	\$436
\$40K-\$60k	\$245	\$340	\$421	\$487
\$60K-\$80k	\$249	\$343	\$422	\$486
\$80K-\$100K	\$268	\$370	\$455	\$524
\$100K-\$150K	\$289	\$400	\$492	\$566
>150K	\$311	\$430	\$530	\$610

The second set of tables show the indirect costs households would pay in these provinces. These figures were calculated by looking at the goods and services that typical households consume in Statistics Canada household consumption expenditure data, and then calculating the greenhouse gas intensity of that basket of goods and services. Indirect costs are much closer in all three provinces.

Figure 4: Ontario Household Indirect Costs in Non-Energy Consumption (\$2017, central value)

Income Group	2019	2020	2021	2022
<\$20k	\$39	\$58	\$76	\$94
\$20k- \$40k	\$48	\$70	\$92	\$114
\$40K-\$60k	\$65	\$96	\$126	\$155
\$60K-\$80k	\$74	\$109	\$144	\$177
\$80K-\$100K	\$84	\$125	\$164	\$202
\$100K-\$150K	\$95	\$140	\$184	\$227
>150K	\$118	\$175	\$229	\$283

Figure 5: Saskatchewan Household Indirect Costs in Non-Energy Consumption (\$2017, central value)

Income Group	2019	2020	2021	2022
<\$20k	\$38	\$56	\$73	\$90
\$20k- \$40k	\$47	\$69	\$91	\$112
\$40K-\$60k	\$64	\$95	\$125	\$153
\$60K-\$80k	\$73	\$107	\$141	\$174
\$80K-\$100K	\$84	\$125	\$164	\$201
\$100K-\$150K	\$96	\$142	\$186	\$229
>150K	\$116	\$172	\$225	\$278

Figure 6: Alberta Household Indirect Costs in Non-Energy Consumption (\$2017, central value)

Income Group	2019	2020	2021	2022
<\$20k	\$36	\$53	\$70	\$87
\$20k- \$40k	\$46	\$68	\$89	\$110
\$40K-\$60k	\$64	\$95	\$125	\$154
\$60K-\$80k	\$73	\$108	\$142	\$174
\$80K-\$100K	\$85	\$125	\$164	\$202
\$100K-\$150K	\$96	\$142	\$187	\$230
>150K	\$116	\$172	\$225	\$277

## Benefits

The next table shows how much money citizens and average households would receive per capita. For instance, individuals in Ontario would receive \$135 per capita in 2019 if all revenues were returned on an equal per capita basis in the province. An individual in Saskatchewan would receive back \$430 per capita (because of both higher coal fired power use and more industrial emissions). An average Ontario household (2.6 people) would receive \$350 in 2019, while an average Saskatchewan household (2.5 people) would receive \$1075.

Figure 7: Estimated revenue to be returned equally to all households or per capita (central estimate)

Income Group		2019	2020	2021	2022
		<b>All revenue</b>			
Ontario	Household	\$350	\$517	\$679	\$836
	Per capita	\$135	\$199	\$261	\$322
Saskatchewan	Household	\$1,075	\$1,567	\$1,981	\$2,394
	Per capita	\$430	\$627	\$793	\$958
Alberta	Household	\$868	\$1,268	\$1,625	\$1,890
	Per capita	\$334	\$488	\$625	\$727

## Net Costs / Benefits

Under this scenario, households would face both increased carbon costs and financial assistance in the form of carbon dividends. Therefore, the question remains, would most households be further ahead or further behind? **Our calculations show that the vast majority of households at all income levels and family types would be net financial winners from a carbon dividends system.**

The amounts vary significantly, with lower income households and those in the more energy intensive provinces receiving a greater proportional benefit. For instance, in 2019, an Ontario household with an income over \$150,000 per year would receive only \$2 more in carbon dividends than they paid out in increased carbon costs. Yet a Saskatchewan family earning less than \$20,000 per year would receive an average of \$831 more back than they paid out.

Figure 8: Ontario Net Household Benefit / (Cost) (\$2017, central value)

Income Group	2019	2020	2021	2022
<\$20k	\$195	\$294	\$396	\$498
\$20k- \$40k	\$171	\$258	\$348	\$439
\$40K-\$60k	\$130	\$200	\$276	\$355
\$60K-\$80k	\$111	\$177	\$249	\$328
\$80K-\$100K	\$78	\$127	\$183	\$246
\$100K-\$150K	\$41	\$71	\$109	\$155
>150K	\$2	\$16	\$40	\$75

Figure 9: Saskatchewan Net Household Carbon Benefit / (Cost) (\$2017, central value)

Income Group	2019	2020	2021	2022
<\$20k	\$831	\$1,216	\$1,535	\$1,863
\$20k- \$40k	\$825	\$1,211	\$1,532	\$1,864
\$40K-\$60k	\$777	\$1,146	\$1,454	\$1,775
\$60K-\$80k	\$744	\$1,100	\$1,398	\$1,711
\$80K-\$100K	\$713	\$1,053	\$1,337	\$1,637
\$100K-\$150K	\$682	\$1,007	\$1,277	\$1,565
>150K	\$621	\$920	\$1,167	\$1,435

Figure 10: Alberta Net Household Benefit / (Cost) (\$2017, central value)

Income Group	2019	2020	2021	2022
<\$20k	\$648	\$957	\$1,234	\$1,428
\$20k- \$40k	\$607	\$899	\$1,162	\$1,345
\$40K-\$60k	\$559	\$832	\$1,079	\$1,249
\$60K-\$80k	\$546	\$817	\$1,062	\$1,231
\$80K-\$100K	\$517	\$774	\$1,007	\$1,165
\$100K-\$150K	\$483	\$726	\$947	\$1,095
>150K	\$442	\$667	\$872	\$1,005

We also tried to estimate the impact on other family and income types. The following table looks at different household types (single parent family, retired couple, middle income family and upper income family) with different income levels and transportation use in the three provinces, looking at the years 2020 and 2022.

Figure 11: Net Household Benefit / (Cost): Examples of Different Family Types (\$2017, central value)

Income Group	2020			2022		
	ON	SK	AB	ON	SK	AB
Single parent family, one adult, one child, no car, annual income \$20,000	\$412	\$1,397	\$1,122	\$670	\$2,133	\$1,664
Retired couple, one car, annual income \$30,000	\$318	\$1,281	\$984	\$531	\$1,969	\$1,472
Middle income family, two adults, two children, one car, annual income \$90,000	\$65	\$950	\$697	\$152	\$1,486	\$1,053
Upper income family, two adults, one child, two cars, annual income \$200,000	\$15	\$918	\$667	\$74	\$1,432	\$1,005

Again, we see that the largest benefit goes to the lower income families, and to those in the more emissions intensive provinces of Alberta and Saskatchewan. An upper income family in Ontario would expect to receive only about \$15 more in carbon dividends than they paid in carbon costs in 2020, while a single parent household in Saskatchewan would receive \$1,397 more back than they pay out. So even with an equal per capita payment, the net result of a carbon dividend system would be highly progressive. Almost all family and household types could expect to receive more money in their carbon dividend cheques than they paid out in direct and indirect carbon fees.



## Conclusion

By making it more expensive to pollute, households and businesses become more incentivized to reduce emissions. Changing habits can help reduce carbon output, lessening the impact on the environment.

This study demonstrates that the objection that carbon pricing will cost average households large amounts of money is ill-founded – or at least easily mitigated. By implementing carbon dividends, the federal government can ensure that typical families will receive more money back in their dividend cheques than they will face in additional carbon costs. The study also shows that with carbon dividends, carbon pricing would be highly progressive. While almost all households would be net beneficiaries, by far the biggest benefit will go to lower income households. Finally, the study shows that citizens in the more carbon intensive provinces need not face a greater carbon price burden than citizens in lower emitting provinces. In fact, households in emissions-intensive Alberta and Saskatchewan would have more to gain from carbon dividends than their Ontario counterparts.

Based on these findings, Canadians for Clean Prosperity recommends that the federal government use all revenues collected in provinces subject to the federal carbon pricing backstop to introduce per capita carbon dividends in those provinces.

Mark Cameron  
Executive Director, Canadians for Clean Prosperity  
[info@cleanprosperity.ca](mailto:info@cleanprosperity.ca)