



Cost Estimates of the Federal Climate Price

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BACKGROUND

- 40 countries and 23 provinces, states, regions and cities have carbon pricing, including Canada's largest trading partners. Two state-run cap and trade systems are active in the U.S., a national cap and trade system comes into effect this year in China, and carbon pricing is in place in Mexico and throughout the EU. The level of the price varies from between U.S. \$1 and U.S. \$4 per tonne of CO₂ in Mexico to as high as U.S. \$168 per tonne in Sweden.
- This December, the Canadian federal government announced a carbon pricing "benchmark" that will apply in jurisdictions that do not implement their own carbon pricing policy. The benchmark will begin at \$10 a tonne in 2018, rising by \$10 a year to reach \$50 a tonne in 2022. Provinces with cap and trade systems that allow prices to fluctuate must demonstrate that they have reduced emissions equivalent to what would be achieved by a tax. All revenues from the carbon pricing will be returned to their jurisdiction of origin.
- B.C. and Alberta have implemented tax-based systems that will reach \$30 per tonne by 2018. Accordingly, 2020 will be the first year the federal benchmark will apply in these jurisdictions. Three provinces are proceeding with cap and trade systems. Quebec and Ontario will link to their system to California's market, allowing for international trade in emission permits. Nova Scotia will also proceed with a cap and trade system on its power, transport and building sectors, but will not link to other jurisdictions.
- Most other provinces and territories have signaled their intention to put carbon pricing in place, although detailed plans have not been announced. The exception is Premier Wall of Saskatchewan, who indicated he may launch a legal challenge against the federal carbon benchmark.

COSTS OF THE FEDERAL CARBON PRICING BENCHMARK PLAN

- Economists generally agree that carbon pricing reduces GHG emissions at a lower cost to the economy than regulation. The economic costs of carbon pricing can be further reduced by recycling the revenues by funding other tax cuts or providing rebates to households and industry, an option not available with regulation. Nevertheless, carbon pricing will incur a cost to the economy. Below are a few recent estimates of the economic costs of a federal carbon price.

Federal Government Analysis

- A federal/provincial working group was established last year to develop options for a federal carbon pricing plan. [The working group paper](#) was released late 2016. The scenarios included in this analysis included:

- Carbon pricing starting at \$15 in 2018 and rising to \$30 in 2030.
- Carbon pricing starting at \$30 in 2018 and rising to \$40 in 2030.
- Carbon pricing starting at \$30 in 2018 and rising to \$90 in 2030.
- Carbon pricing slowed GDP growth between 2018 and 2030 by 0.02%, 0.03% and 0.08% respectively. Depending on the scenario, this equates to between \$7 and \$24 billion in lost GDP in 2030.
- However, the revenues from carbon pricing can be used to reduce the impact of these measures on GDP. In the \$90 scenario, the report found that if carbon pricing revenues were used to reduce payroll and corporate taxes among other measures, the impact on GDP would fall from \$24 billion to \$17 billion.
- The three scenarios achieved emissions reduction of 5%, 6% and 12% by 2030 respectively. Increasing carbon prices was found to have a diminishing return. While the carbon price is 2.25 times higher in the \$90 price scenario in 2030, emissions reductions are only 1.9 times larger than the \$30 price scenario.
- The report noted that administrative cost of a carbon tax is low if the tax simply applies to fossil fuels at standard emissions factors. Canadian governments have experience in applying this type of mechanism for motive fuels such as gasoline and diesel, but not for other fossil fuels such as natural gas and coal. Other forms carbon of pricing would involve higher administration cost.

Trevor Tombe

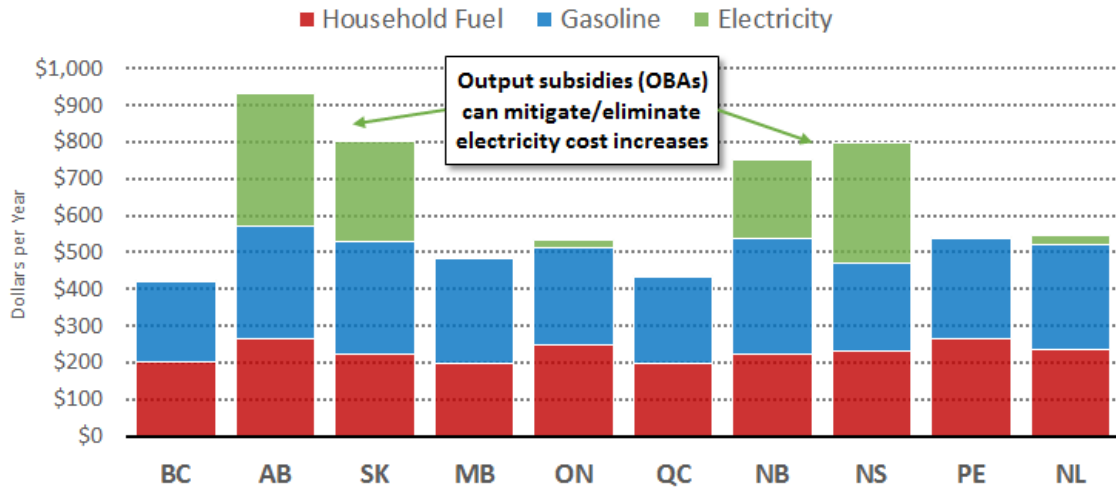
- University of Calgary Economist Trevor Tombe provided an estimate of the costs of a \$50 per tonne carbon in Maclean's Magazine. He estimated that total costs for the average Canadian household is just below \$1,100 per year. This includes \$600 in direct costs from higher heating, electricity and gasoline costs. Households will pay an average of \$500 more a year in indirect costs as prices of other goods and services increase. The specific cost varies greatly by province (see Appendix 1).
- The amount of revenues will vary greatly by province (Appendix 2). Provinces can 'recycle' the revenues from carbon pricing to reduce their economic impact. For example, a subsidy based on output could reduce costs to households from \$400 to \$600 depending on the province.

Other estimates

- The Canadian Taxpayers Federation [estimates](#) that the carbon price will cost households \$524 in 2018 and \$2,569 in 2022. Other economist have called this figure into question, as it assumes that 100% of greenhouse gas emissions will be taxed, rather than the 70% figure which is typically used.
- [Premier Wall](#) has stated that the federal carbon plan will cost household \$1,250 a year and "siphon" \$2.5 billion out of the province once it's fully implemented.

APPENDIX 1

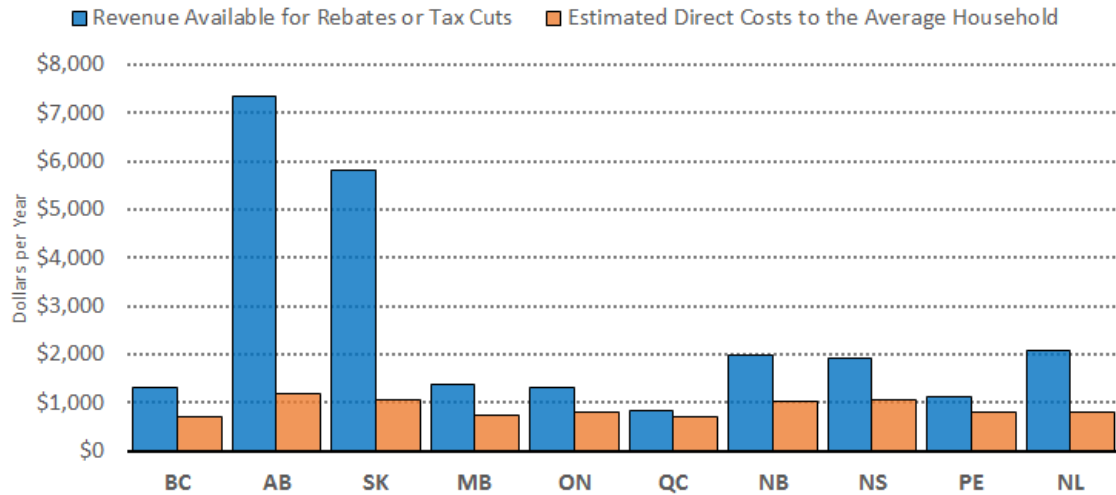
Direct Costs of a \$50/t Carbon Tax for an Avg. Household



Source: Trevor Tombe, [MacLeans Magazine](#)

APPENDIX 2

Per Household Costs and Potential Rebates of \$50/t Carbon Tax



Source: Trevor Tombe, [MacLeans Magazine](#)