THE COST OF CANADIAN CARBON ACCOUNTABILITY

Public Policy Coverage: The Canadian Carbon Tax

Natalie Anderson | Director, Public Policy | natalieg.anderson@mail.utoronto.ca
Audrey Vair | Vice President, Public Policy | audrey.vair@mail.utoronto.ca
Rakib Kibriya | Analyst, Metric & Private Research | rakib.kibriya@mail.utoronto.ca
Bonnie Tang | Analyst, Metric & Private Research | bonnieq.tang@mail.utoronto.ca

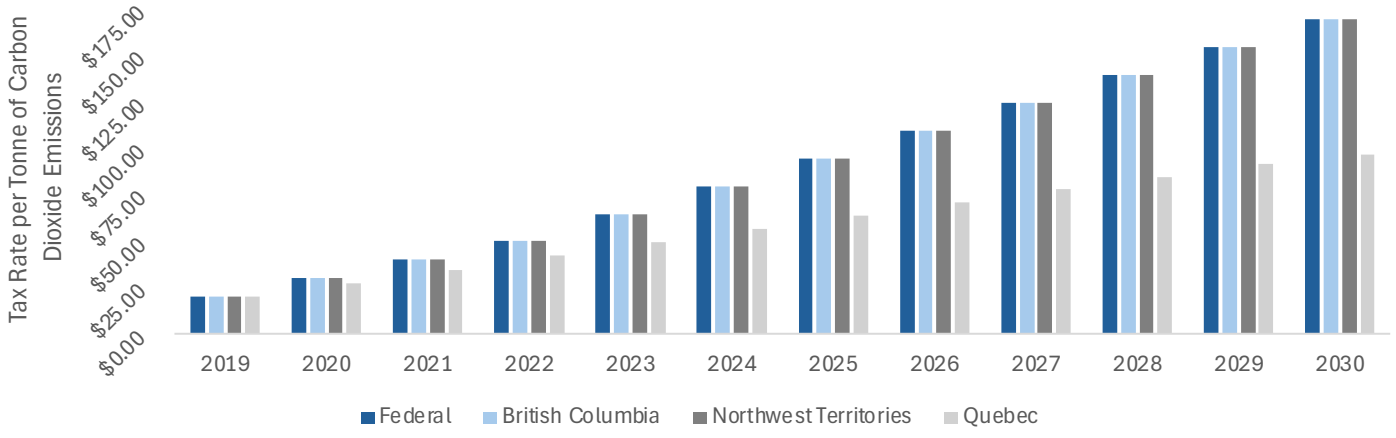
Evaluating Canada's Carbon Tax and Emissions Management

The Government of Canada has implemented carbon pricing as a key strategy to reduce greenhouse gas emissions and mitigate climate change. This effort aligns with the country's commitment to reduce its emissions by 40-45% below 2005 levels by 2030 and achieve net-zero by 2050. Federal and provincial systems to tax carbon emissions per tonne generated were established under the Greenhouse Gas Pollution Pricing Act (GGPPA) of 2019, targeting an 80 million carbon tonne reduction by 2030.[1] We highlight the economic implications on industries directly and indirectly impacted by the carbon tax, as well as on households, emphasizing the importance of revenue recycling mechanisms, such as rebates and tax reductions, to ensure fair cost distribution. The social cost of carbon in estimating economic benefits and the necessity of support measures for industries transitioning to greener technologies contributes significantly to the policy decision. Policy recommendations include revenue recycling, public engagement, and tailored regional approaches. With careful design and implementation, carbon pricing can achieve environmental goals while promoting economic growth and fairness.

TAXATION ON EMISSIONS: A PROVEN POLICY TACTIC

Carbon pricing is a key policy instrument used to reduce greenhouse gas emissions and combat climate change globally. Canada has committed to reducing its carbon footprint, and carbon pricing is a central element of its climate strategy. This report explores carbon pricing mechanisms across Canada. There are five groups of carbon pricing programs: the federal fuel charge (direct pricing) and output-based pricing system (OBPS, charged at the production level); the provincial fuel charge and large emitter program; a hybrid between the two; a carbon tax; and a cap-and-trade system. At the federal level, the price of carbon pollution is set at CA$80 per tonne in 2024, increasing to CA$170 by 2030. This price applies to all provinces using the federal fuel charge system, while British Columbia, Northwest Territories, and Quebec have independent carbon pricing systems. These provinces have opted to utilize their own systems to retain their proceeds rather than leveraging federal proceeds for provincial investments while still meeting federal benchmark stringency requirements.[1] The provinces which elected to have independent carbon pricing systems each adhere to the same annual carbon price increase apart from Quebec due to their implementation of a cap-and-trade system (Exhibit 1).[10]

Exhibit 1: Canadian Carbon Pricing Systems Raise the Cost of Emissions



Source(s): Government of Canada, Provincial Governments of Canada, Vertige Research

The Canadian carbon tax represents a crucial step in aligning with international efforts to limit global temperature rise to 1.5°C, emphasized by the International Paris Climate Agreement.[2] By incentivizing emission reductions and fostering innovation in clean technologies, the tax aims to mitigate climate impacts such as severe droughts, heatwaves, and extreme weather events predicted by the Intergovernmental Panel on Climate Change (IPCC).[3] Reducing emissions will also benefit public health, as emissions contribute to poor air quality.[3] Poor air quality, exacerbated by climate

change, is associated with pollutants like fine particulate matter and ozone, which can lead to respiratory illnesses and premature deaths.[3] As Canada experiences temperature increases at a rate faster than the global average, it faces unique challenges, including Arctic warming and altered precipitation.[4] The global rise in temperature and environmental changes highlight the urgent need for effective carbon pricing mechanisms to reduce emissions and foster a transition towards a sustainable future.[3]

We assess the Canadian carbon tax, a monetary charge designed to incentivize individuals and businesses to reduce their pollution levels in Canada. Our focus is on its impacts in three areas: economic growth and industry competitiveness, income distribution and household welfare, and greenhouse gas emissions. Following this analysis, the paper discusses controversies surrounding the carbon tax and provides policy recommendations based on the findings.

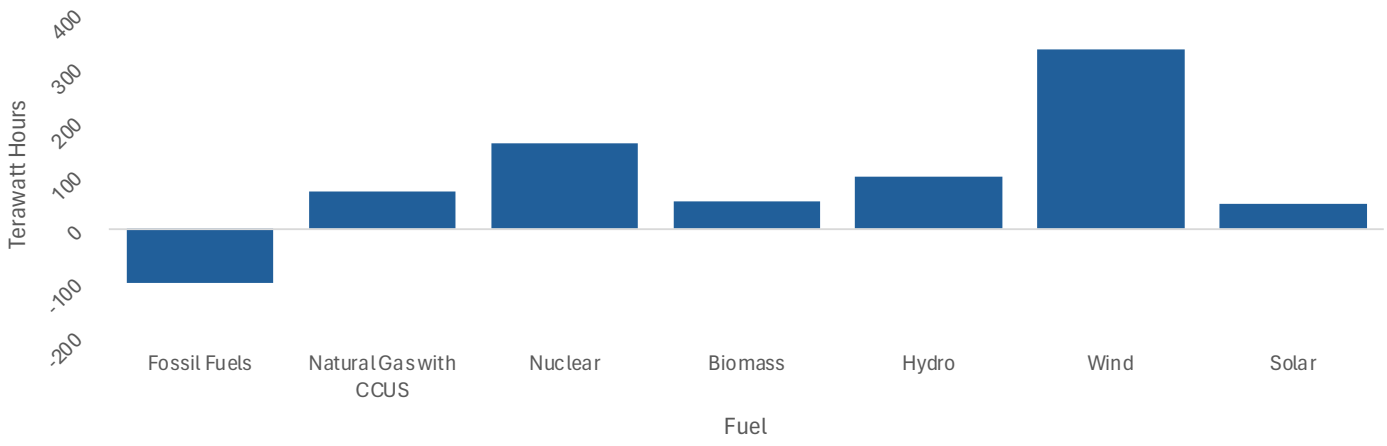
Incentivization for Carbon Footprint Reduction

As of October 2022, 68 direct carbon pricing initiatives were active in 46 nations globally.[5] Carbon pricing incentivizes businesses and households to reduce their carbon footprint**.** According to Environment and Climate Change Canada, the current Canadian carbon pricing systems in place will contribute to a reduction of approximately 80 million tonnes of greenhouse gas emission by 2030.[6]

FOSSIL FUELS, NATURAL GAS DEPENDENCE PREDICTED TO RECEDE AS RENEWABLE ENERGY INVESTMENT RISES

The Canadian energy industry landscape will be heavily impacted by Canada's carbon tax. Due to direct costs imposed on the fossil fuel industry, sectors reliant on fossil fuels such as petroleum and coal product manufacturing, agriculture, electric power generation, transmission and distribution, and chemical manufacturing, will be negatively impacted. [7; 8] Nevertheless, implementing a carbon tax also spurs indirect progress on innovation and investment in cleaner technologies, which can enhance long-term economic growth.[8] As the cost of carbon increases and clean technologies drop in price, investment in clean energy will only continue to increase.[8] This trend is evident, with over CA$23 tr in clean energy investment opportunities globally from 2016 to 2030, a direct result of markets emerging due to climate-conscious policies such as Carbon Credits.[8] Consequently, the global clean energy marketplace is rapidly growing, with the renewable energy industry being an important topic of conversation and investment in the private sector.[8] The renewable energy industry is projected to create approximately two million new jobs by 2050, compared to the expected decrease of 1.5 million jobs in the fossil fuel industry by the same time.[9] Simultaneously, in a 2050 net zero situation, Canada's fossil fuel industry is expected to halve in value, while the clean energy industry would increase to be six times larger in terawatt hours produced (Exhibit 2).[9] Thus, despite the Canadian carbon tax impacting the fossil fuel industry, the innovation and future investments resulting from the clean energy industry will more than compensate.[9] Despite the future investments, however, support measures for affected industries and investments in green technology are crucial to mitigating short-term negative impacts. The Canadian Government has implemented a rebate for small businesses, defined as those with fewer than 500 employees, to ensure that the carbon pricing system primarily targets larger organizations, which are the main sources of emissions.[10]

Exhibit 2: Global Change in Electricity Generation 2021 to 2050, Forecasted to Global Net-Zero Emissions



Source(s): Canada Energy Regulator, Vertige Research

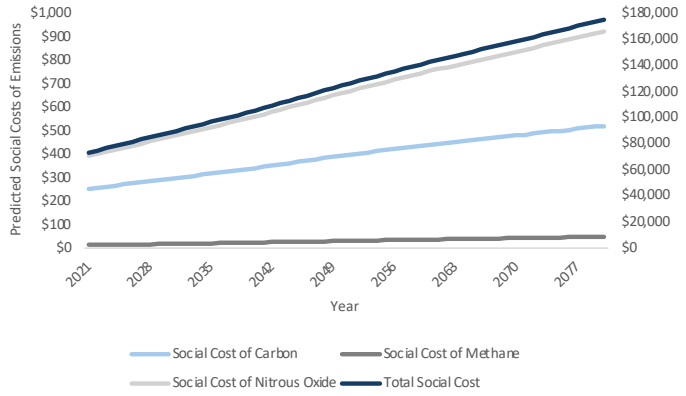
THE SOCIAL COST OF CARBON: ARE CORPORATIONS PAYING THEIR FAIR SHARE?

The impact of carbon pricing on households is greatly influenced by how the carbon tax revenue is utilized. Revenue recycling mechanisms, such as rebates or tax reductions, can mitigate the regressive effects of carbon pricing, ensuring a fair distribution of costs and benefits across different income groups. Canadians are already experiencing the costs of climate change through damages from wildfires and floods. In 2021, extreme

weather disasters cost British Columbia's economy between CA$10.6 bn and CA$17.1 bn.[5] As extreme weather events continue, pressures are mounting regarding the mitigation of greenhouse gas emissions, revealing both the relevance and importance of the Canadian carbon tax.

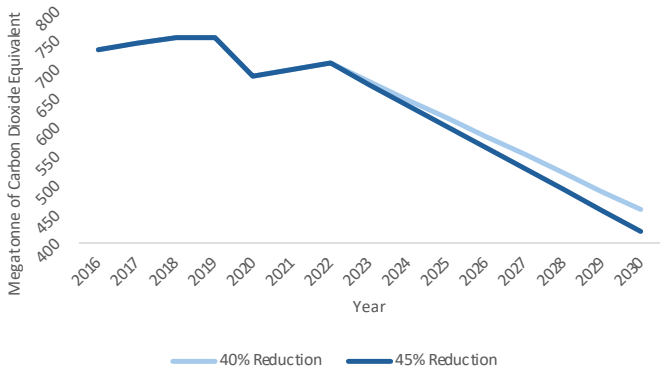
To estimate the economic benefits of emission reductions, the Government of Canada uses the Social Cost of Carbon, valued at CA$294 per tonne of CO_2 by 2030, aligning with the U.S. standard (Exhibit 3).[6] This metric suggests that avoided climate change costs in 2030 due to carbon pricing could be approximately $23.1 bn.[6] This price highlights the societal costs of emissions, such as damages to infrastructure from the increasing frequency and severity of extreme weather events and the impacts of crop failures due to worsened drought, among other effects.[9] These social costs not only impact people's livelihoods but also significantly affect the economy by slowing Canada's economic growth by as much as CA$25 bn annually.[9] However, the people most affected by rising temperature are often not the largest contributors to emissions.[9] Therefore, companies pay a higher carbon price than consumers, ensuring they contribute their fair share. Additionally, much of the revenue generated by the federal carbon tax is returned to families through rebates, with 90% of fuel charge proceeds supporting households directly. Notably, 80% of households receive more in rebates than they spend on the fuel charge, with low-income households seeing the greatest benefits. This demonstrates that companies profiting from emissions are bearing a larger share of the costs, while simultaneously supporting low-income households who are often the most affect by climate change's impacts.

Exhibit 3: Social Costs of Carbon per Tonne of Emissions Predicted to Rise Significantly in Canada…



Source(s): Government of Canada, Vertige Research

Exhibit 4: …Prompting the Implementation of the Canadian Carbon Tax to Meet Reductions Targets



Source(s): Government of Canada, Vertige Research

A LONG-TERM PLAN FOR AN INCREASINGLY IMMINENT CRISIS

Annually, CA$15 bn to CA$25 bn in government and private funds is invested to reduce greenhouse gas emissions through decarbonization projects and projects to reduce emissions and energy usage.[6] Of that number, since 2019, CA$2.5 bn from federal industrial carbon pricing systems has been reinvested in decarbonization projects. These include modernizing electricity delivery in Saskatchewan, improving emission-related infrastructure at Ontario universities, enabling energy-efficient home upgrades in New Brunswick, and switching to electric-powered equipment at the Craig Mine Project, a deep mine project in Northern Ontario. In addition to these efforts, the Canadian Government has created the Adaptation Action Plan (GOCAAP), which is a long-term vision which focuses on climate adaptation.[12] This is in response to human-induced climate change, which has led to worsened floods, wildfires, droughts, and health issues across the country.[12] This project aims to reduce the impacts of inevitable extreme climatic events on people and communities in Canada through initiatives to create stronger infrastructure, healthier people and communities, protecting nature and restoring biodiversity, creating a more climatically resilient economy, and better disaster preparedness.[12] Thus, by acknowledging climate change and its increasing prevalence, the GOCAAP aims to create a more resilient Canada through a number of targeted projects.[12]

Policy Commentary

CARBON TAX ALONE CANNOT RESOLVE CANADA'S CARBON EMISSIONS ISSUES

Applying carbon pricing to industrial polluters is expected to cut emissions by 53 to 90 million tonnes by 2030, while consumer pricing is projected to reduce emissions by 19 to 22 million tonnes.[14] Industrial and consumer carbon pricing follow two different pricing schemes: the consumer pricing scheme, paid by most households and small businesses, and the industrial pricing system, which targets industrial carbon emissions through large-emitter trading systems (LETS).[15] Based on the anticipated reduction in emissions by 2030, the industrial carbon tax will play the largest role in Canada's commitment to the Emissions Reductions Plan, contributing anywhere from 20% to 48% in emission reductions by 2030.[11] Relying exclusively on carbon pricing will not be sufficient to meet the Paris Agreement targets of limiting global temperature rise to 1.5 to 2°C by 2100.[16] However, higher carbon prices are linked to sharper emissions reductions while not significantly contributing to economic pressures felt by Canadians.[17] Studies indicate that carbon pricing is not a major factor in rising living costs and is among the most cost-effective tools for

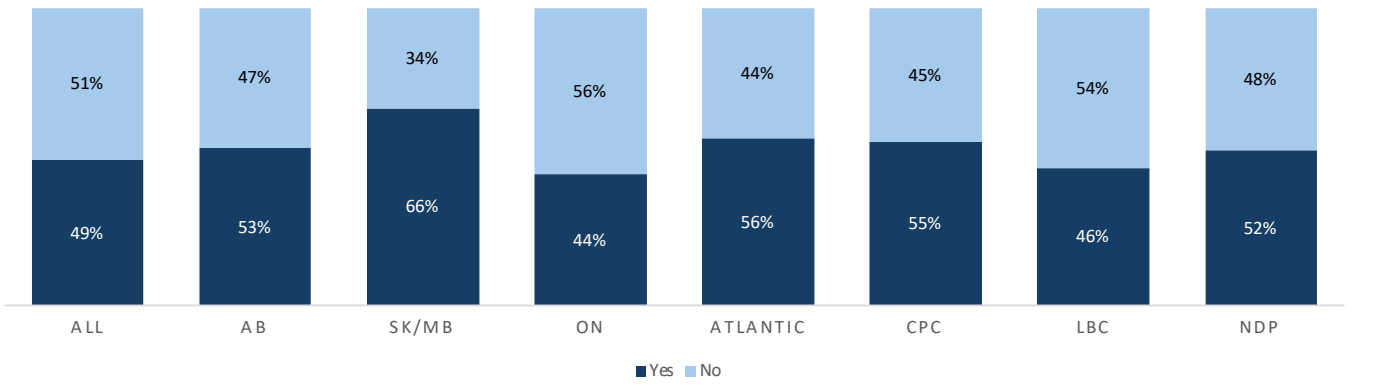
decarbonizing economies.[18] Since 2019, Canada's greenhouse gas emissions have decreased by nearly 8%, with 94% of households earning below CA$50,000 receiving rebates exceeding their carbon tax costs in 2023.[12; 19]

RISING TEMPERATURES, RISING TENSIONS REGARDING THE CARBON TAX

Despite its intended environmental benefits, the Canadian carbon tax faces significant opposition. The Conservative leader, Pierre Poilievre, and seven premiers advocate for freezing or eliminating the federal carbon tax, citing concerns about affordability and effectiveness.[20] A National Post public survey found that two-thirds of Canadians oppose further tax increases, with many questioning the impact of fuel taxes on climate change mitigation.[21] Franco Terrazzano of the Canadian Taxpayers Federation criticizes the tax as a burden on Canadians, arguing against its escalation.[22] This burden, it is argued, is due to the negative economic impacts on industries that affect Canadians second-hand.[25] First-hand personal financial burdens are alleviated through rebate payments. University of Calgary Economics Professor Trevor Tombe underscores regional disparities, expressing apprehension about selective policies that disproportionately affect industries like oil and gas in provinces such as Alberta.[15] This apprehension is not unwarranted, given the oil and natural gas industry contributed CA$71.4 bn (3.2%) to Canada's GDP in 2022, and the carbon tax will likely decrease the revenue in the future.[23; 24]

Furthermore, many Canadians are unaware or confused by the Canadian carbon rebate payments, with notable regional disparity in perception of their ability to receive rebates when surveyed by Abacus Data on their sentiments toward the program (Exhibit 5). Media coverage, political discourse, and provincial government engagement may influence individual understanding of the carbon rebate program. Without payments being recognized by citizens, the social impact of these rebates cannot be fully felt, damaging the political appeal of such a policy.

Exhibit 5: Canadians Report Uncertainty When Asked if They Believed They Received Carbon Rebates, Highlighting Regional Differences



Source(s): Abacus Data, Vertige Research

While certain industries will be negatively affected by the carbon tax, the potential innovation and economic progress clean energy can bring cannot be excluded from the conversation. Not to mention the beneficial environmental effects the carbon tax has on our environment. The debate typically centers on whether the carbon tax effectively achieves positive environment outcomes compared to its potential economic drawbacks. Despite understandable concerns, much of the concerns about the carbon tax's impact on Canadians is inaccurate. In reality, most Canadians benefit from the tax while enjoying a healthier environment. This emphasizes the need for enhanced education and public awareness about the Canadian carbon tax and its impact on individuals, industries, and the Canadian economy.

REGIONAL CONSIDERATIONS, INDUSTRY SPECIFICATION SHOULD BE ACCOUNTED FOR BY CANADA'S CARBON PRICING

Based on the potential of carbon tax rebate programs addressing social and environmental issues, several key recommendations can be made. Federal, provincial, and territorial governments should collaborate on a unified emissions coverage standard for carbon pricing, incorporating the following best practices across jurisdictions.[24] Regional considerations should be addressed by developing a standard across all provinces with federal assistance and tailoring carbon pricing mechanisms to reflect regional economic conditions and energy mixes. Non-renewable industries, such as the oil and natural gas sector, must prioritize transitioning to clean energy and technological advances remain economically competitive. Support should be offered to industries heavily affected by carbon pricing through transition programs, including funding for research and development in green technologies, recognizing that costs vary across industries and business sizes. Point-of-sale rebates should be replaced with more effective revenue recycling methods, such as direct rebates, income tax deductions, or subsidies for abatement technologies.[16] Revenue recycling should be employed, using carbon pricing revenue to reduce other taxes. This approach will keep the policy progressive while ensuring that the generated revenue can contribute to environmental protection and preservation, with a fair and equitable contribution from both industries and Canadians. Maintaining transparency in the use of carbon pricing revenue and engaging the public in the policy design process is crucial for building and sustaining support and to ensure that the funds are used in ways that will continue to benefit Canada's economy and

environment. Lastly, there is a need for more effective communication to Canadians about the tax and rebate mechanisms to ensure correct information is spread about the positive and equitable impacts of the carbon tax, easing concerns that may be based on misinformation.

Conclusion

Carbon pricing is a powerful tool to reduce greenhouse gas emissions and promote sustainable economic growth. The findings illustrate that, while carbon pricing presents challenges for certain fuel intensive industries including non-renewable energy, it also drives innovation and investment in cleaner technologies, promoting long-term economic growth. Support measures for industries and effective revenue recycling strategies are essential to mitigate short-term negative impacts and ensure equitable outcomes. Moreover, the Social Cost of Carbon underscores the economic benefits of emission reductions, reinforcing the necessity of robust carbon pricing policies.

Despite opposition and concerns regarding affordability and regional disparities, the evidence suggests that with careful design and implementation, carbon pricing can achieve significant environmental goals while fostering economic resilience and fairness. Policy recommendations, including enhanced transparency, public engagement, and tailored regional approaches, are vital for the continued success and acceptance of carbon pricing in Canada. Carbon pricing is a crucial tool in Canada's climate strategy, offering a path towards reducing emissions, stimulating economic growth, and ensuring a sustainable future. By addressing both environmental and economic considerations, Canada can lead by example in the global effort to combat climate change.

Appendix

Auxiliary Item I: Footnote Sources

Footnote	Source
1	Update to the Pan-Canadian Approach to Carbon Pollution Pricing 2023-2030. (2021, August 5). Government of Canada.
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22	Naef, A. (2024). The Impossible Love of Fossil Fuel Companies for Carbon Taxes. Ecological Economics, 217.
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25	Goldstein, L. (2024, July 18). Carbon pricing to cost workers $6,700 annually. Toronto Sun.

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