

ENGI 9629: Environmental Policy and Regulation

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# **Executive Summary**

Canada's national carbon pricing system is a central component of its strategy to reduce greenhouse gas (GHG) emissions and combat climate change. This analysis examines the structure, economic impacts, and effectiveness of the carbon tax policy in Canada.

The implementation of a carbon tax in Canada has been a pivotal policy decision aimed at reducing greenhouse gas emissions and combating climate change. This report provides an in-depth analysis of the carbon tax's evolution, its impact on both the environment and the economy, and the challenges it faces. Through a comparative analysis with other countries, the report highlights Canada's position in global carbon taxation and offers recommendations for enhancing the effectiveness of carbon pricing policies.

The paper covers a wide range of issues touching on the carbon tax in Canada and looks into its economic, environmental and socio-political effects. The carbon tax, which was introduced as part of Canada's strategy to fight climate change, has become the subject of intense public scrutiny and debate. In such an analysis, focus is directed towards examining existing systems across different jurisdictions, its effectiveness in reducing emissions and possible ways to improve it. For instance; the impacts on the economy can be realized by considering the carbon tax leading to a 1.8% slump in GDP with likely job losses but where financial burden is expected to be reduced for Canadian households through government rebates. On environmental basis alone will mean that there would be about 25.6% less CO2 emitted by Canada by 2030. The comparative analysis also highlights differences between Sweden, Finland and Switzerland regarding their effectiveness and implementation. Challenges include economic disparities among provinces, sector-specific exemptions, public oppositions well inconsistent and political as implementation. Recommendations focus on more equitable revenue distribution, extending carbon tax to all major polluting sectors, better public communication as well as integrating provincial carbon pricing schemes for greater policy harmonization are provided here. Addressing these issues is crucial for the policy's success and for Canada to meet its climate objectives, emphasizing the need for a balanced approach that combines carbon pricing with other complementary policies.

# **Table of Contents**

E	xecutive Summary	1
	Introduction	
	Literature Review	
3.	Methodology	<i>d</i>
	Results and Discussion	
	4.1 Changes occurred in the Carbon pricing in Canada	4
	4.2 Policies and regulations for carbon tax	7
	4.3 Comparative analysis around the world	
	Recommendations	
6.	Conclusion	14
7.	References	15

# 1. Introduction

Carbon taxation has emerged as a key policy instrument in Canada's efforts to combat climate change and reduce greenhouse gas emissions. As the country strives to meet its international commitments under the Paris Agreement, the implementation and effectiveness of carbon pricing mechanisms have become subjects of intense scrutiny and debate.

Canada's approach to carbon pricing is characterized by a complex patchwork of federal, provincial, and territorial systems, reflecting the country's diverse economic and political landscape. The federal government has established a backstop carbon pricing system, which applies in jurisdictions that do not have their own compliant pricing mechanisms in place. This system aims to ensure a minimum standard of carbon pricing across the country while allowing for regional flexibility.

As Canada moves towards its target of reaching net-zero emissions by 2050, understanding the impacts and effectiveness of carbon taxation is crucial. This research paper aims to provide a comprehensive analysis of carbon tax policies in Canada, examining their economic implications, environmental outcomes, and societal effects. By evaluating the current state of carbon pricing across different jurisdictions, assessing its effectiveness in reducing emissions, and exploring potential improvements, this study seeks to contribute valuable insights to the ongoing discourse on climate policy in Canada. (Canadian Climate Institute, 2023)

The economic effects of the carbon tax are significant. According to research done by the Fraser Institute 2021, a 1.8% decrease in GDP or approximately \$1,540 per employed person, translating and potentially leading to 184,000 job losses across Canada, is anticipated if Canada implemented a carbon tax of \$170/tonne. Each province experiences different economic impacts: Alberta has 2.4% GDP loss, Quebec -1.5%, and British Columbia – 1.6%, respectively. According to forecasts, the carbon tax will reduce national CO2 emissions by 25.6%, with provincial cuts varying between 17.0% and 47.5%. A large decrease in these pollutants indicates the effectiveness of this approach in terms of the environment. The Canadian government insists that most of its citizens will receive rebates larger than their carbon taxes thus reducing the financial load on households (Environment and Climate Change Canada,2023)

The analysis will draw upon a range of data sources, economic models, and policy assessments to present a nuanced picture of carbon taxation in the Canadian context. It will consider factors such as emission reductions, economic impacts, competitiveness concerns, and the distribution of costs and benefits across different sectors and demographics. By doing so, this research aims to inform policymakers, researchers, and the public about the challenges and opportunities associated with carbon pricing as a tool for achieving Canada's climate objectives.

# 2. Literature Review

The introduction of a carbon tax in Canada was a strategic move to combat climate change by reducing greenhouse gas emissions. The policy has evolved significantly since its inception, with changes in pricing mechanisms and coverage. The Greenhouse Gas Pollution Pricing Act (GHGPPA) of 2018 requires all provinces and territories to implement carbon pricing systems that meet or exceed federal standards, ensuring a consistent approach across the country (Government of Canada, 2018).

Carbon pricing in Canada is implemented through two primary mechanisms: the Emission Trading System (ETS) and a direct carbon tax. The ETS, also known as a cap-and-trade system, sets a maximum amount for greenhouse gas emissions and allows companies to buy and sell emission credits. The direct carbon tax imposes a predetermined price on carbon emissions. The carbon tax began at \$20 per ton of CO2 equivalent in 2019 and has gradually increased, with plans to reach \$170 per ton by 2030 (CTV News, n.d.).

Studies have shown that the carbon tax in Canada has led to a reduction in greenhouse gas emissions. According to the Government of Canada, carbon pricing would be responsible for reducing one-third of total carbon emission reductions by 2023, potentially reducing about 80 million tons of emissions (Government of Canada, 2018). The tax has encouraged industries to adopt cleaner technologies and practices, with significant investments in energy efficiency and renewable energy observed in sectors such as transportation and electricity production (Beugin et al., 2024).

Canada's carbon tax rates and policies are compared with those of other countries, such as Sweden, Finland, and Switzerland, to provide a global perspective. Sweden's carbon tax, introduced in 1991, has been successful due to long-term emission reduction goals and the use of tax revenue for environmental programs. Switzerland's carbon tax has also shown effectiveness, with adjustments based on current emissions and goals set by the government (Noka et al., 2021).

# 3. Methodology

This report employs a mixed-method approach to assess the implementation, impact, and challenges of the carbon tax in Canada. The methodology includes a literature review, data analysis, and comparative analysis to provide a comprehensive understanding of the carbon tax's effectiveness and the challenges it faces.

# 4. Results and Discussion

# 4.1 Changes occurred in the Carbon pricing in Canada

#### I. Introduction

In this chapter method and changes are highlighted which has occurred over the years and played a significant role in executing carbon pricing technique in Canada including its inducement as well as its effect.

#### II. Method and trends of carbon pricing used in Canada

The main motive behind the implementation of carbon pricing in Canada was to reduce emissions throughout in Canada because of which major changes were made in trends and methods to achieve its designed aim.

#### III. Method of carbon pricing

## a) Emission Trading System (ETS)

ETS is also known as a cap-and-trade system, is a type of carbon pricing that incorporates the concept of supply and demand to attain the aim of an overall reduction in emissions. It sets a maximum amount for greenhouse gas emissions overall and enables low-emitting companies to sell their excess credits to larger emitters. Since ETS follows the principle of cap-and-trade therefore, it is also known as a cap-and-trade system.

#### b) Carbon Tax

Carbon tax is the type of carbon pricing in which the tax on carbon is set directly. Unlike an ETS, the price of carbon is predetermined. However, reduction in the emissions is not fixed.

#### c) The price of carbon

It began at \$20 per ton of carbon dioxide equivalent and increased by \$10 per ton annually until 2022, when a \$50 ceiling was achieved. It started rising by \$15 per year this year and will keep going up until it reaches \$170 per ton in 2030 (*Explainer: What Is Carbon Pricing and What Does It Cost in Canada? | CTV News*, n.d.). The price of carbon is shown graphically through figure 3.1.

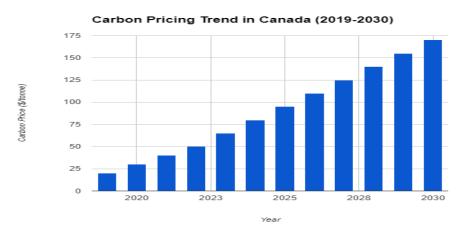
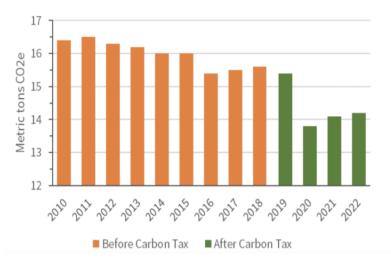


Figure 3.1: Price of carbon (Explainer: What Is Carbon Pricing and What Does It Cost in Canada? | CTV News, n.d.)

#### IV. Impact of carbon pricing on carbon emissions

The implementation of carbon pricing system in Canada has shown positive results in terms of environmental impact by reducing greenhouse gases which is shown graphically through figure 3.2. The use of carbon pricing technique has encouraged industries to use more environmentally friendly technology and innovative practices. These carbon pricing policies have discouraged the use of fossil fuel and go for those sources and technologies which give green and sustainable energy. This transition has been observed in diverse industries like transportation, electricity production etc where investments in energy efficiency and renewable energy have increased rapidly.

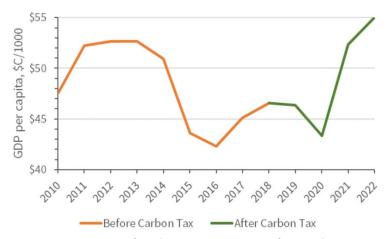


**Figure 3.2:** Carbon emission after and before implementation of carbon tax (Perception Gap Plagues Canada's Carbon Price | Citizens' Climate Lobby, *n.d.*).

According to federal government carbon pricing would be responsible for reducing one third of total carbon emission reduction by 2023 (*How Pollution Pricing Reduces Emissions - Canada.Ca*, n.d.). This would result in reducing about 80 million tons of emissions when compared with the actual scenario without establishment of carbon pricing. These findings are backed up by the fact that in the year 2022 the carbon pricing system intercepted releasing 19 megatons higher. That nearly equals the emissions for Manitoba in 2022 (*How Carbon Pricing Works - Canada.Ca*, n.d.).

## V. Impact on carbon pricing on economy

The main motive behind establishing carbon pricing is to decrease the greenhouse gas emissions however it causes no damage on economy of Canada however it can be said that the effect of carbon pricing system on the economy of Canada is complex exhibiting positive as well as negative impacts. The revenue earned from carbon pricing has been reinvested to introduce new green energy projects and provide funds to citizens which will assist them to reduce financial load on citizens. However, carbon pricing has negatively affected the industries that are carbon intensive oriented but in compensation government give back those money to Canadians. Almost 90% of the money is returned to Canadians through Canada Carbon rebate (How Carbon Pricing Works - Canada.Ca, n.d.). The impact of implementation of carbon pricing is illustrated through figure 3.3.



**Figure 3.3:** Impact of carbon tax on GDP of Canada (Perception Gap Plagues Canada's Carbon Price | Citizens' Climate Lobby, *n.d.*).

## 4.2 Policies and regulations for carbon tax

To reduce greenhouse gas emissions, Canada has adopted a comprehensive carbon pricing scheme at the federal, provincial, and territorial levels. Here are the main policies and regulations governing the carbon price in Canada.

#### I. Federal Framework:

The Greenhouse Gas Pollution Pricing Act (GHGPPA) of 2018 requires all provinces and territories to implement carbon pricing systems that meet or exceed federal standards. The federal system consists of two components:

- Fuel Charge: Applied to 21 different fuels, including gasoline and propane.
- Output-Based Pricing System (OBPS): Targets large industrial emitters.

#### **II. Provincial and Territorial Systems:**

Provinces and territories can design their own carbon pricing systems as long as they meet federal benchmarks. This has resulted in various approaches:

- British Columbia: Implemented a carbon tax in 2008, with plans to transition to a provincial OBPS in 2024.
- Quebec: Operates a cap-and-trade system.
- Ontario, Saskatchewan, and Alberta: Use a combination of federal fuel charges and provincial OBPS.

#### **III.** Carbon Tax Rates:

As of April 2023, the federal minimum tax is set at CA\$65 per tonne of CO2 equivalent, scheduled to increase to CA\$170 by 2030. In British Columbia, for example, the carbon tax rate increased from \$65 to \$80 per tonne of CO2 equivalent on April 1, 2024.

#### IV. Coverage:

The carbon tax typically covers about 80% of provincial greenhouse gas emissions, applying to the purchase and use of fossil fuels.

## **V. Revenue Recycling:**

Proceeds from carbon pricing are returned to the jurisdictions where they were collected. In provinces using the federal system, approximately 90% of the proceeds go back to individuals through the Canada Carbon Rebate.

## **VI.** Exemptions and Support:

Some systems offer exemptions or support for certain sectors. For instance, British Columbia offers carbon tax programs for businesses and local governments.

## VII. Reporting and Compliance:

Large emitters are typically required to report their emissions and comply with specific regulations. For example, Alberta implemented a mandatory reporting program for large emitters.

#### VIII. Flexibility Mechanisms:

Some systems, like British Columbia's upcoming OBPS, provide flexible options such as earned units and carbon offsets to meet compliance obligations.

## IX. Regular Reviews and Updates:

The federal government periodically reviews and updates the carbon pricing system. For example, changes to the application of the federal system for 2023 to 2030 were announced in November 2022.

These policies and regulations aim to create a comprehensive and effective carbon pricing system across Canada, balancing emissions reduction goals with economic considerations and regional differences.

# 4.3 Comparative analysis around the world

Up until this year (2024), approximately forty-six countries use carbon taxes (More Countries Are Pricing Carbon, but Emissions Are Still Too Cheap, 2022). Some examples of such countries that use carbon pricing are Argentina, Canada, the European Union, and Japan (Lai, 2024). As part of a comparative analysis, this report will attempt to conduct a comparative analysis within the scope and limitations of the study. This study will look at countries such as Sweden, Finland, Switzerland. The purpose of choosing these countries is to give a well-rounded view where Canada stands among some of the top nations that implement carbon tax. The scope of the study includes understanding how effective carbon tax is in Canada and relating all the aspects to the course "Environmental Policy and Regulations", and the limitations are that there are constraints in time, manpower and resources.

The figure below shows some of the countries which has implemented carbon tax and their rates in 2024. According to Statista (2024), Uruguay, with the highest in the graph, has a carbon tax rate of \$167.17 for every ton of carbon dioxide emitted, Liechtenstein, a close second, with a rate of \$132.12, and the least in the graph is South Africa with \$10.08 for every ton of carbon dioxide released. In this array of data, Canada lies in the middle with about \$58.94 for every ton of carbon dioxide emitted.

# Carbon tax rates (2024)

Uruguay Liechtenstein Switzerland Sweden Norway Finland Netherlands Irelands Canada Luxembourg France Iceland Denmark United Kingdom Slovenia Singapore Spain South Africa

0.00

50.00 100.00 150.00 200.00

U.S. dollars per metric ton of CO<sub>2</sub> equivalent

**Figure:** Carbon tax rates (Statista, 2024)

The carbon tax was introduced in 1991 in Sweden (Åkerfeldt & Hammar, 2015). The initial rate corresponds to twenty-four € per ton of carbon dioxide and has gradually increased. Currently, it is 115 €. However, the country faced little opposition and retaliation towards the implementation of carbon tax. The reason for this is well understood when looking into the background of the country (Criqui et al., 2019). Sweden, to begin with, always had extremely high taxes in place which was about 90% of the income. In this tax reform stage, the government reduced the income tax but broadened the tax bases where they increased indirect tax, and carbon taxation was part of it. Therefore, it was part of a solution rather than a problem for the people. Other reasons why it had such success is because of the long-term aim of no net emissions of greenhouse gases by 2045 as it helps the country reach the goal (Ministry of the Environment, 2020).

Even though the high carbon tax rates in Norway were only second to Sweden in 1997 among Denmark, Norway, and Finland, it has not achieved the goal of minimizing the growth of CO<sub>2</sub> emissions per capita. As expected, different countries have various levels of the mitigation effect due to the implementation of carbon tax with Finland making both a negative and significant impact on CO<sub>2</sub> emissions. As shown in the table below, the negative coefficient of the interaction term (dBdT), as shown in the table above, is 0.0169, which meant that when the carbon tax came into action, the growth of co<sub>2</sub> released in the environment is reduced up to 1.69% compared to the scenario where no carbon tax is present in Finland. On the other hand, the coefficients of the interaction terms for the other countries such as Denmark, Sweden and Netherlands are also negative, but none of them passes the significance test, showing limited mitigation effects of carbon tax in these countries. To understand why the countries have different effects of carbon tax, it is essential to understand that the context of each carbon pricing scheme is different. In this case, Lin & Li (2011) states that the rates of carbon taxes are different as well as what the country does

with the carbon tax revenue. Finally, the countries have varying scopes of tax exemption which means various aspects of why an entity could be exempted from carbon tax.

Table 1: Results of Re-estimation (Lin & Li, 2011)

	Denmark	Finland	Netherlands	Norway	Sweden
E <sub>it-1</sub>	-0.0381	-0.0373	-0.0348	-0.0341	-0.0344
In pgdp	0.0490	0.0489	0.0492	0.0492	0.0482
In s	-0.0571	-0.0553	-0.0570	-0.0580	-0.0562
In p	-0.0197	-0.0224	-0.0224	-0.0214	-0.0212
R&D	-0.0233	-0.0223	-0.0233	-0.0233	-0.0229
dB	0.0145*	0.0352	0.0136*	-0.0211	-0.0138
dT	0.0137	0.0135	0.0136	0.0132	0.0130
dBdT	-0.0046*	-0.0169	-0.0052*	0.0012*	-0.0116*
Value P of AR(1) test	0.04	0.02	0.01	0.01	0.01
Value P of AR(2) test	0.76	0.65	0.85	0.93	0.86
Value P of Sargan test	0.87	0.81	0.25	0.44	0.35

Switzerland introduced a carbon tax in 2008 (Swiss Carbon Tax – Policies - IEA, 2023). The country used the carbon tax revenue in many useful ways for example according to Metcalf (2019), a third of the revenue collected (up to CHF 450) is allocated to building efficiency and renewable energy programs, and about CHF 25 million is kept for funding modern and cutting-edge technologies, finally the rest is given back to the general people through rebates. Compared to Canada where ninety percent of the revenue from carbon taxes are given back to the houses in provinces including Newfoundland and Labrador, New Brunswick, Nova Scotia and Prince Edward Island, Ontario, Manitoba, Saskatchewan, Alberta, Yukon and Nunavut through the rebate program, and the rest is used to provide grants to businesses and schools in order to aid them in lowering their fossil fuel usage (Shingler, 2024). One key concept of the carbon tax in Switzerland was to revise their carbon tax rate if they failed to meet the emissions target which was added in 2011. The table below summarize how the concept worked and it can be seen that carbon tax would rise to CHF 60 from 36, approximately 167% increase, if the carbon emission target was not met. The country did fail to meet their own Carbon emissions target and the tax rate was increased (Metcalf, G. E., 2019).

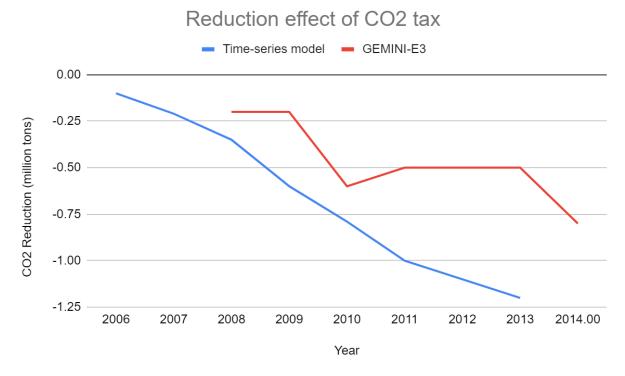
Table: Swiss Carbon Tax

Tax Rate (CHF)	<b>Enactment Date</b>	Trigger for Tax Rate Increase
12	2008	Not applicable
36	2010	Not applicable
60	2014	• Tax rises to 60 CHF if emissions exceed 79 percent of 1990 emissions in 2012
84	2016	<ul> <li>Tax rises to 72 CHF if emissions exceed 76 percent of 1990 emissions in 2014</li> <li>Tax rises to 84 CHF if emissions exceed 78 percent of 1990 emissions in 2014</li> </ul>
96	2018	<ul> <li>Tax rises to 96 CHF if emissions exceed 73 percent of 1990 emissions in 2016</li> <li>Tax rises to 120 CHF if emissions exceed 78 percent of 1990 emissions in 2016</li> </ul>

All tax rate changes go into effect at beginning of year

Source: Noka et al., (2021)

The CO<sub>2</sub> tax in Switzerland is considered a success (Noka et al., 2021). According to a model-based analysis by Ecoplan et al (2015, 2017), a cumulative total impact for the period 2005-2015 of 4.1 to 8.6 million tons of CO<sub>2</sub> reductions. This corresponds to a 0.7-1.5% reduction of emissions in relation to the total cumulative GHG emissions (excluding aviation) in Switzerland between 2005-2015. The lower limit is calculated using a general-equilibrium model which considers the short-term effects of the tax, while the upper limit also takes longer-term impacts into account in a time-series approach. This explains the relatively large bandwidth suggested by the studies. The CO<sub>2</sub> tax has reduced CO<sub>2</sub> emissions, as seen in the figure below, which separates the time-series model (blue) from the general-equilibrium model (dotted-purple). These decreases are attributable to the CO<sub>2</sub> tax paid by individuals and businesses that are not exempt from paying the tax or participating in the CH ETS.



**Figure**: Reduction effect of CO<sub>2</sub> in Switzerland (Noka et al., 2021)

Three reasons why Switzerland had an effective carbon pricing scheme are because tax is reevaluated and adjusted based on current CO2 emissions and goals set by the government (dynamic pricing) means that the tax can be easily adjusted when it becomes clear that Switzerland is not on track to meet its emission targets, comprehensive legal framework, and general approval for the tax from both households and companies (Noka et al., 2021).

In summary, while Canada's consumer carbon tax is effective, it cannot be the only tool in place to decarbonize. For more effective solutions, Thurton (2024) suggests industrial carbon pricing could be a potential opportunity. A study done by Beugin et al. (2024) found that large carbon dioxide emitters such as industries will be the key for furthering the reduction of carbon emissions between 20 and 48 percent in 2030.

# 5. Recommendations

Introduced to reduce greenhouse gas emissions and combat climate change, Canada's carbon tax policy has run into several issues that call for major legislative and structural changes. These obstacles include public and political opposition, sector-specific exemptions, economic inequities, and inconsistent implementation, all of which make it more difficult for the policy to be effective and widely accepted.

## I. Economic Disparities

The disparate economic effects of Canada's carbon price on various provinces are one of its greatest challenges. Compared to provinces with more diversified economies or less reliance on fossil fuels, those like Alberta and Saskatchewan, which are largely dependent on carbon-intensive industries like oil and gas, have heavier financial burdens. Significant political opposition and public unhappiness have resulted from this discrepancy in these areas. Alberta, for example, has been adamantly against the federal carbon pricing mechanism, claiming that it unfairly penalizes their economy and puts employment at risk. (Harrison, 2020).

The federal government might think about putting in place a more equitable revenue distribution plan as a solution to this problem. This might entail investing more in regional environmentally friendly businesses and technologies or directing a larger share of the carbon tax income back to the areas most impacted. By taking such steps, the policy would be more widely accepted and the economic impact on these provinces would be lessened.

#### **II.** Sector-Specific Exemptions

There are significant discrepancies in the regulation of emissions since the existing carbon pricing mechanism does not cover all sectors equally. Interestingly, exemptions or laxer laws are frequently granted to agricultural and aviation, despite their significant contributions to Canada's overall emissions. This calls into question the carbon tax's overall ability to lower national greenhouse gas emissions (Environment and Climate Change Canada, 2021).

An all-encompassing and efficient climate policy must include the key polluting sectors in the carbon tax's expansion. Alongside this expansion, sector-specific plans that take into consideration the possibilities and problems faced by each business should be implemented. In the agricultural sector, for instance, encouraging environmentally friendly farming methods and funding carbon capture technologies could supplement increased carbon prices.

## III. Public and Political Opposition

A significant obstacle still standing in the way of carbon pricing is public and political opposition. Opponents contend that the tax unfairly affects low- and middle-income households by driving up the cost of fuel and other carbon-intensive items. Political narratives that portray carbon tax as an economic hardship rather than an environmental imperative frequently increase this criticism (Rivers & Schaufele, 2015).

To counteract this opposition, the government needs to enhance public communication and transparency regarding the benefits of the carbon tax. Clearly articulating how the revenues are being utilized to support clean energy projects, improve public infrastructure, and provide rebates to households can help build public trust and acceptance. Additionally, implementing measures to offset the regressive impacts of the tax, such as direct financial support to low-income households, can help alleviate public concerns about affordability.

#### **IV.** Implementation Inconsistencies

Another significant challenge lies in the inconsistent implementation of the carbon tax across different provinces. Although the federal government has set a benchmark price for carbon emissions, provinces are free to create their own carbon pricing schemes as long as they either match or surpass the federal requirement. As a result, there are now a variety of policies with differing degrees of effectiveness and stringency (Bataille et al., 2018).

The federal government should seek to further integrate carbon pricing schemes among provinces to increase policy consistency. This can entail establishing more precise regulations and aiding the provinces in order to assist them in creating efficient carbon pricing schemes that complement federal objectives. Furthermore, putting in place a strong structure for monitoring and assessment helps guarantee that provincial systems are accomplishing their goals and allow for necessary modifications.

## V. Enhancing Complementary Measures

Although carbon pricing is an essential instrument for cutting emissions, to optimize its effects, it should be combined with several other policies. Stricter rules on industry emissions, more financing for renewable energy initiatives, and incentives for enhancing building and transportation energy efficiency are a few examples of these complimentary policies.

# 6. Conclusion

When it comes to combating climate change through cutbacks on greenhouse gas emissions having a carbon dioxide tax enacted in Canada is one of the most important tactics that should be employed. In this paper we have analyzed the intricate details about Canada's carbon pricing mechanism including its ecological achievements, economic implications as well as its sociopolitical aspects among others. On an environmental front, the policy's capabilities have been demonstrated with predictions of a drastic cut down in CO2 gas emissions by year 2030. The design and implementation of this policy are indicators showing that it can tackle climate change's pressing challenge. Availing itself of complexity is what characterizes the economic side of things. The carbon tax has acted as a catalyst for investment in cleaner technologies and renewable energy; however, there are concerns regarding job losses that accompany economic inequalities between provinces, especially those whose economies depend on fossil fuel industries. For equitable treatment of those affected, constant revision and adjustment must be made on how these policies are made, including how revenues are allocated and backstop systems put in place. The analysis has also highlighted the need for customized carbon pricing systems. Current exemptions and inconsistencies among several sectors and localities indicate that beyond a uniform approach might be needed. Sector-wise uniqueness demands such a delicate and careful approach which takes into account the following variable topics separately for each sector; this holds true even among nations.

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