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Assessment of Carbon Tax as a Policy Option in Canada CCTC 2013 Paper Number 1569695585

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Abstract

A carbon tax is a pollution tax that is used to levy fees on the production, distribution or use of fossil fuels based on how much carbon their combustion emits. It can be targeted towards industries and citizens to encourage alternative technologies and energy uses. This study attempted to answer the questions: Why has a carbon tax been able to be implemented in British Columbia but not at a nationwide scale? What have been the social, political and economic factors for this? In trying to answer these questions, this study analyzed the reciprocal influences between the industry, government and public.

Keywords: carbon tax, pollution tax, feed-in tariff, alternative technologies and energy uses, carbon emissions, climate change, climate policy

Résumé

La taxe de carbone est une sorte de taxe sur la pollution et utilisée pour prélever des redevances sur la production, la distribution ou l'utilisation des combustibles fossiles sur la base de la quantité de carbone que leur combustion émet. Cette étude a tenté d'apporter la réponse aux questions suivantes: Pourquoi une taxe de carbone a-t-elle pu être mise en œuvre en Colombie-Britannique, mais non à l'échelle nationale? Quels ont été les facteurs politiques et socio-économiques reliés à cela? En essayant de répondre à ces questions, cette étude a analysé les influences réciproques entre l'industrie, le gouvernement et le public.

Mots clés: taxe de carbone, taxe sur la pollution, tarif de rachat, usage des technologies alternatives et de l'énergie, émissions de carbone, le changement climatique, la politique climatique

1. Introduction

The International Panel on Climate Change (IPCC) has indicated that a 2 °C additional warming after the year 1990 would suffice the world into many risks [1]. The impacts of such climate change are many-fold; and in order to prevent them, governments have been advised to act towards reducing the concentrations of their countries' greenhouse gas (GHG) emissions. Some very prominent economists with political orientations like Nobel winner Joseph Stiglitz and Harvard economics professor Gregory Mankiw have written in favor of carbon taxes to encourage emission reductions [2]. A carbon tax is a pollution tax that is used to levy fees on the production, distribution or use of fossil fuels based on how much carbon their combustion emits [3]. It can be targeted towards industries and citizens to encourage alternative technology and energy uses. The tax imposes costs on industries and citizens which make the acceptance of a carbon tax heavily dependent on economic factors; for industries, a carbon tax concerns their relative performance in a market, and for citizens, a carbon tax concerns their general

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economic welfare. In accordance, this paper seeks to focus on answering the questions: Why has a carbon tax been able to be implemented in British Columbia (B.C.) but not on a nationwide scale? What have been the social, political and economic factors for this? In an attempt to answering these questions, the study focuses on analyzing the reciprocal influences between the industry, public, and government, both within the nationwide and B.C. context.

2. Setting the Context: Background on Canadian Climate Policy

Canada is a country with vast distances and a cold climate that has established an energy-intensive industrial base and high energy consumption rates. GHG emissions have been increasing in Canada; energy consumption has grown about 28% and emissions by 26% since 1990 [4]. It has been a political challenge for Canada to enact effective policies for reducing emissions. Environmental policies at the national level have been heavily based on voluntary measures and information provisions, making them largely ineffective [5, 6]. When Chretien and the Liberals were in power, they ratified the Kyoto Protocol and initiated their “Action Plan 2000” to help reduce GHGs, consisting primarily of information provision through *EnerGuide for Vehicles*, *Energuide for Houses*, and information gathering and benchmarking for industries [6]. Martin and the Liberals were no different. In 2005, they released “Project Green” with policies allowing industries to participate in the government-administered research and development fund instead of reducing their GHGs [6]. Harper and the Conservatives have continued with voluntary measures as well. In 2011, the government pulled out of the Kyoto Protocol [7] and assessments of their “Turning the Corner” policies suggests high similarities to “Project Green” policies. The key component of “Turning the Corner” is capping GHG emissions from industrial plants, but industries are allowed 100% offsets, making it highly unlikely that emissions will decrease [8]. In the midst of such voluntary climate policies, the possibility of a market-based approach like a nationwide carbon tax has been ignored. Dion and the Liberals proposed the idea of a national carbon tax in 2008 [9], which was faced with opposition by the Conservatives who suggested the plan would be harmful to the Canadian economy and families [10].

Canadian provinces have implemented more effective measures for reducing emissions than at the national level [11]. Amongst the provincial initiatives, B.C. for example has been able to implement a carbon tax. This success has its roots in the provinces’ environmental movement that has come to influence the politics of the province greatly. Many B.C. citizens had read popular authors like Rachel Carson and Barry Commoner, making citizens increasingly aware about the environment and determined to protect it [12].

3. Barriers and Opportunities for a Carbon Tax in Canada

3.1 Carbon tax, Canadian government and industry

A key aspect of a carbon tax is that it targets industrial emissions. Considering the national industrial emissions statistics in Canada, implementing a nationwide carbon tax would create certain problems. National industrial emissions account for 34% of GHG emissions [13], but the amount of emissions contributed by each province is different. While the industrial emission for the province of New Brunswick for example is 17% [14], the industrial emission for the province of Alberta is the highest in the country at around 45% [15]. The carbon tax works to levy from industries based on the amount of GHGs they emit; the higher the amount of GHGs an industry emits, the higher the tax that is levied [3]. Research has shown that a nation-wide carbon tax in Canada would create uneven sharing costs across provinces [16]. Naturally, the provinces with

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the most industrial emissions would be the ones to pay higher prices. In order to avoid such costs, provinces with high industrial emissions like Alberta have opposed a carbon tax. Jim Carter, chair of the Alberta Carbon Capture and Storage Development Council, claimed that imposing a carbon tax would hurt the province's industry [17].

Provinces with prominent oil and gas industries do not want to hurt these industries because of their important economic contributions to Canada. Canada has come to bare one of the largest oil reserves in the world, only second to that of Saudi Arabia's [18]. Oil and gas companies make up around 20-30% of the value of the Toronto Stock Exchange, and they account for about 5% of Canada's GDP [19]. These industries are also the number one suppliers of energy into the U.S., accounting for a total of 22% of its imports, against other suppliers like Saudi Arabia, Mexico, Venezuela, and Nigeria [20]. The oil sands industry in Alberta is an important player amongst these economic contributions. In 2008, Alberta's domestic exports of oil and gas to the U.S. totalled to about 67% [21]. For the province itself, the oil sands industry accounts for around 17% of its GDP [22]. Alone, the oil sands industry of Alberta contributes 6% of Canada's total GHG emissions [23]. If a nationwide carbon tax was to be placed, whereby these oil and gas industries would be subject to it, there is the possibility that the tax would hurt their competitiveness against their international counterparts. Countries like Saudi Arabia, Mexico, Venezuela or Nigeria, who compete with Canadian oil and gas industries, are not amongst the countries with carbon taxes implemented [24]. Even countries that already do have a carbon tax in place show concerns about the competitiveness of their industries [25].

Prominent oil sands associated industries like ExxonMobil, Shell, Suncor and Syncrude have lobbied consistently both internationally and within Canada to ensure that no barriers are put in place that could affect their production and exports. Both ExxonMobil and Shell have lobbied internationally against legislations aimed at combating climate change that would hinder Canada's oil sands industry while doing so. In 2007, the EU members had started to initiate legislations like the Fuel Quality Directive to help reduce their transportation fuel consumptions, and in the 2009 version of the Directive, fuel suppliers to the EU were required to reduce 6% their GHG emissions by the year 2020 [26]. The document has tried to go further by also assigning GHG emission values to different sources of fuel; the concern towards Canada has been that its oil sands have been put in a separate category with a value that is 23% higher than conventional oil [27]. Shell has investments in Alberta's oil sands; reports show that Shell has a 60% stake in the project [28]. John Sauven, the Executive Director of Greenpeace UK explained that the UK's Conservative Party MP Baker was holding secret meetings with Shell about the legislation [29]. Shell's efforts have proven to be partly successful. During the voting session on the legislation, UK remained neutral and abstained from voting [30].

Other industries that are associated with the oil sands of Canada have worked to promote its continued production and tried to prohibit any barriers to its international exports. The oil giant ExxonMobil has been playing its part concerning Section 526 of the Energy Independence and Security Act in the U.S. Passed in 2007, the act limits federal agencies from purchasing petroleum products "derived from unconventional or alternative fuel sources whose life-cycle GHG emissions exceed those from conventional crude oil" [31]. ExxonMobil, like Shell, has investments in Alberta's oil sands, and in order to protect its investment, it has spent nearly \$60 million lobbying the U.S. Government to repeal the act [32]. The efforts of these companies have not stopped with lobbying; they have also been involved with greenwashing.

Greenwashing is used to refer to "misleading claims that are made about the environmental benefits of a product, service, technology, or company practice" [33]. The most prominent place oil and gas industries have been doing greenwashing is on their websites. For example, Shell

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claims that they make sure to consider the environmental, health and social impacts of the projects they are working on [34]. But this runs contrary to the impacts produced by the projects they are involved with. Aboriginal people who live around the Alberta oil sands region have shown the numerous impacts of the project on the surrounding environment and communities. To mention a few of the impacts, the project has been causing the decline of the caribou in the region, which the aboriginals consider to be sacred, and there has been a 30% increase in cancer rates amongst the community [35]. In addition, Shell has started to use carbon capture and storage technologies to trap the GHG emissions from their projects in Alberta. They have been able to secure \$865 million in subsidy from the Canadian government for the implementation of this project [36], but research shows that there are liability concerns with the technology as the technology is still unproven [37, 38]. These kinds of greenwashing efforts show industries as already environmentally conscious and active, working to undermine the need for a climate policy like a carbon tax.

Oil sands associated companies have had high influences on the Canadian government as well. The Canadian Association of Petroleum Producers (CAPP) is an advocacy group that acts as the voice of oil, oil sands and natural gas industries [39]. Critics say that CAPP has been heavily involved in undermining climate change legislation in Canada [40]. Government records show that CAPP has had high access to Canada's federal officials. Between August 2008 and October 2009, the president of CAPP met 95 times with Canada's top civil servants and officials, including Canada's Chief Climate Change Negotiator Michael Martin as well as the nation's top bureaucrat Wayne Wouters on issues regarding energy and climate change [40]. Syncrude Chairman, Marcel Coutu has explained that oil sands producers should be allowed to increase their GHG emissions, and in accordance, their hired lobbyist Bryan Thomas has met with Harper's policy advisors regarding these matters [41]. The oil sands company Suncor has been involved with such lobbying strategies as well, and used lobbyist Ken Boessenkool, who had served as a campaign advisor and senior policy advisor to Harper, to lobby on behalf of the company on issues regarding "climate change policy with respect to developing a carbon market in Canada as this affects the oil and gas operations of Suncor Energy Inc." [40].

In response, the Canadian government has come to be sympathetic to the demands of oil and gas industries. The government has supported these companies with various subsidies and joined alongside them on their international efforts against barriers to oil sands exports. Past records from 2002 show that the Canadian government spent direct expenditures of \$11 million for the oil sands under the Oil Sands Research and Development initiative, and they issued a remission order for Syncrude providing them with a tax expenditure of \$226 million [34]. The government still encourages continued oil sands activities, and it has provided oil and gas companies with the Corporate Mineral Exploration and Development Tax Credit, which is projected to be \$26 million [42]. In regards to supporting these companies with their international efforts, the Canadian Ambassador to the U.S. in 2008 had sent a letter to the U.S. Secretary of Defense stating that Canada would not like to see the implementation of Section 256 in a way that will exclude tar sands oil [26]. Concerning the EU vote on the Fuel Quality Directive, government documents have been obtained showing that the Harper Government has prepared a "Pan-European Oil Sands Advocacy Strategy" that aims to target high level EU politicians to reconsider placing the tar sands in a separate category by arguing that such legislation has the potential of impacting the oil and gas industry globally [43]. With the kinds of initiatives and influence that oil and gas industries have had on the Canadian government, the implementation of a nationwide carbon tax has become difficult. The Harper Government has been making consistent statements against a carbon tax to recent times, on the grounds that it would come with a great cost to the nation's economy [44].

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3.2 Carbon tax, B.C. government and industry

On the contrary, the consideration of a carbon tax in relation to industrial activities in the province of B.C. has proven to be more favorable. Compared to other provinces in Canada, B.C. contributes a small share of national and industrial GHG emissions. The province's total share of national GHG emissions is 8%, and of this percentage, its industrial emissions are 37% [45, 46]. One of the main reasons why the province has relatively lower GHG emissions is because of its industrial infrastructure. The main industries in B.C. have been forestry and fishing [47]. The emissions from these industries are much lower in comparison to the emissions from the province's oil and gas industry [46]. Naturally, the industries that emit the most GHGs would be the ones to pay a higher carbon tax, and in the case of B.C., its dominant industries emit less, making them more conditioned to accept a carbon tax.

The main purpose of a carbon tax is to help reduce GHG emissions that are contributing to the adverse impacts of climate change. B.C.'s forestry and fishing industries have become one of the main targets of these impacts, which have been a major driving force behind the province's carbon tax implementation. It has been reported that B.C. has been experiencing temperature increases over several decades, and the northern regions have experienced the most warming by 2.1 °C [48]. With the northern regions warming, the number of insect infestations from the mountain pine beetle has also increased. In 2006 alone, the cumulative impact of the beetle in B.C. was 130,000 km² and timber losses for the forestry industry were estimated to be more than 435 million m³ [49]. As an important producer and exporter of timber, the B.C. forest industry's logging and manufacturing activities have been declining since 2006 [50]. Climate change has also had adverse impacts on B.C.'s waters. Sea surface temperatures have increased by 0.9 to 1.8 °C, leading to lower water quality [48, 51]. This has played an important role in the death of millions of sockeye salmon in the Fraser River. In 2007 and 2008, the huge shortfall of the sockeye forced the closure of the commercial fisheries along the Fraser, as well as the food fisheries for the First Nations in the area [52]. Estimates made by the National Roundtable on the Environment and Economy show that timber supplies will continue to drop, which could translate to economic losses of up to \$3 billion/year for the province [53]. Officials say that the problems experienced by the sockeye industry will only continue to get worse [52].

Compared to B.C.'s important industries like forestry and fishing, the oil and gas industries of the province are not major economic players. They constitute only 10% of the provincial GDP [10]. While they make up a small portion of the province's GDP, the competitiveness of these and other industries has been aimed to be secured through joint political initiatives. B.C. is part of a collaboration known as the Western Climate Initiative (WCI) in which various other Canadian provinces and states in the U.S. work to formulate climate change policies to reduce GHG emissions [54]. One of the core aims of the collaboration is a market-based approach like a carbon tax, known as cap-and-trade. Emitting industries have the choice of either reducing or trading their emissions, so long as overall industrial emissions do not exceed the specified limit/cap [55]. Having other Canadian and U.S. industries subject to similar climate change policies meant that B.C.'s carbon taxed industries would be competing under similar market conditions with the industries subject to a cap-and-trade. With these considerations in place, more than 80 B.C. businesses sent a letter to the Finance Minister to adopt a revenue-neutral tax to help confront climate change. In the letter, businesses stated that the tax would not only provide an incentive for reducing emissions, but it could also be designed to help B.C. industries remain competitive. B.C. oil and gas industries were also part of this support [56].

The concerns and demands of B.C.'s industries were taken into account by the current B.C. Liberal government. They designed a revenue-neutral carbon tax aimed at maintaining the

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competitiveness of provincial industries. The initial carbon tax rate would start off low with \$10/ton of CO₂ equivalent emissions in 2008, increasing to \$30/ton by 2012, and the tax base would not include emissions released elsewhere from burning fuel exported from or imported to B.C. [57]. The revenue-neutrality aspect of the tax came from the fact that all the tax levied from industries would be returned to them through cuts to their corporate taxes. Before the implementation of the tax, general and small business corporate rates were 12% and 4.75%, respectively, and with the implementation, the rates would be lowered to 10% and 2.5%, respectively [58]. The opposition party, the BC NDP, campaigned against such a tax. They argued that it would hurt the B.C. economy and promised to follow through with their own platform [59]. However, the BC NDP had lost their credibility with B.C. industries in the past. During their governing years through the 1990s, their methods for dealing with the provincial deficit hurt businesses. Tax increases initiated partly aimed at large corporations created fierce responses from businesses that perceived the government to be not on their side [60]. And during the B.C. Business Summit in 1999, the BC NDP further downplayed its position when businesses argued that the government was ignoring their recommendations they had provided for reviving the economy [61]. In comparison to the previous relationship the BC NDP had with provincial businesses, the BC Liberals' responsiveness towards their revenue-neutral carbon tax demand and need for it due to climate change impacts, heightened the support for the tax.

3.3 Carbon tax and public support in Canada

Carbon tax also works to levy from citizens based on the amount of energy they consume through public infrastructures like buildings and transportation to encourage shifts towards alternative energy uses. Canada's emissions growth is linked partly to its fast growing population and its public infrastructure design. Between 1990 and 2009, Canada's population increased by 22% [62]. Parallel to this statistic is the increasing non-renewable energy use by citizens through buildings and transportation. Between 1990 and 2009, the total energy use by residential buildings increased by 11%, and of which, natural gas and electricity accounted for 87% of the energy used in 2009 [62]. The number of vehicles in Canada also increased dramatically between these years, making the transportation sector account for 30% of non-renewable energy use [62]. Together, buildings and transportation account for about 33% of the total GHG emissions [63]. It seems reasonable that with such emissions coming from citizen energy use, a carbon tax should be directed towards citizens to initiate behaviour change.

Canadian citizens have not welcomed the idea of a nationwide carbon tax very well. When Dion and the Liberals proposed a nationwide carbon tax during the 2008 federal elections, the majority of Canadians prioritized their economic concerns over environmental ones partly because the country was going through a recession [40]. Angus-Reid polls taken at the time showed that most Canadians believed a carbon tax was not the best way to curb climate change and most were not willing to pay for such a tax even if cuts were made to their income tax [64]. Another study, which analysed human psychology about carbon taxes, also found that people are reluctant about the tax because it is seen to penalize specific groups in society disproportionately [2]. This issue was brought up during Dion's carbon tax discussions. 68% of Canadians believed that the tax would hurt low-income families, singles and seniors [64]. With the majority of citizens wanting economic security and seeing the carbon tax as a threat to it, the tax did not come to be implemented. Harper and the Conservatives who had campaigned against the carbon tax and promised economic recovery won the election [65].

An important aspect of a carbon tax is that it is used to encourage alternative energy consumption, but investments need to be made by the government towards the development of

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alternative energy and technology choices for citizens to shift towards. Currently, the Harper Government is cutting funds from various programs aimed at informing and creating alternative initiatives for citizens. In 2010, Environment Canada had a \$1.07 billion budget, but it has been cut down by 20% to \$854 million for 2011-2012 [66]. Another important agency that has been faced with hardships is the advisory panel, NTREE. The panel was formed to offer policy advice to the government of the day on economic matters and how growth could be achieved through an environmentally sustainable way, but it has recently been forced for closure by the government [38]. This is not to say that the Harper Government has not made any investments for the environment. Under their "Turning the Corner" plan, they have created various ecoAction projects to promote renewable energy [67]. However, these projects are not evenly carried out across the country. For example, of the total number of projects for EcoEnergy Renewable Power, the provinces of B.C. and Ontario have implemented the most, with other provinces lagging behind [68]. The fact that funds are being cut from programs aimed to inform and create alternative choices for citizens, and the uneven adoption of the existing environmental projects have made the adoption of a nationwide carbon tax that much more difficult.

3.4 Carbon tax and public support in B.C.

Public support for a carbon tax in B.C. has been more existent than at the national level. B.C. citizens have a history of being environmentally conscious and active. During the 1980s and 1990s for example, the Carmanah Valley, Walbran Valley, Slocan Valley and Clayoquot Sound became sites of intense logging practices, and in response, citizens protested to protect these areas and later took political action to get parties like the BC NDP to adopt new forest practices code through the creation of a scientific panel [69]. In 2007, two coal-fired power plants that had received approval for construction were cancelled by the government due to heavy criticism from the public and environmental organizations about the government failing to take initiatives regarding climate change [70]. Public opinion polls of the years leading up to the carbon tax proposal showed that citizens' priority for the environment remained high, only second to health [5]. To show their commitment to environmental issues, the BC Liberals committed to the goal of reducing the province's GHG emissions by 33% by the year 2020, and proposed that a revenue-neutral carbon tax would be an essential parameter in achieving the target [71].

Although the public had wanted the government to take climate initiatives, the carbon tax announcement did meet with some resistance. The Northern residents of the province raised several concerns regarding its fairness. They claimed that in comparison to the southern citizens of B.C., the Northerners have to drive longer distances and the rural regions lacked transportation alternatives [72]. The BC NDP supported these arguments and added that even though the tax is labelled as revenue-neutral, it would not prove to be neutral for most B.C. citizens, and under their "axe the tax" campaign, announced they would vote against the tax in the legislature [73]. The BC Liberals highlighted the fairness and need of the tax for the Northern citizens, they showed detailed plans of the revenue-neutral aspect of the tax, and that the tax would work well to compliment other existing policies that were aimed at encouraging alternative energy use. With regards to the Northern citizens, Premier Campbell explained that people in the Lower Mainland for example travelled three times as far for their commute as someone in the North region, like Dawson Creek [74]. He also highlighted the impacts of climate change that the North was facing, like the attacks on trees from the pine beetle, as well as the eight-week ice jam in Prince George [74]. The carbon tax would be essential to deter such impacts while being fair. The revenue-neutral aspect of the tax would encompass the bottom two personal income tax rates being cut by 2% in 2008 and 5% in 2009 on the first \$70,000 in earnings, with further reductions in the following years [58]. Furthermore, the

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government would provide an extra tax credit of \$100 per adult and \$30 per child for low-income families [58]. The tax would also compliment other policies aimed at reducing emissions from transportation and buildings. For example, the BC SCRAP-IT® Program provides an incentive for citizens to replace their older model vehicles with a choice of getting transit passes, car sharing memberships or cash payment because older vehicle models emit more than current vehicles [75]. Also, the new B.C. Building Code requires family and smaller commercial buildings to have more energy efficient insulation, and those who fulfil this are rewarded with rebates [76, 77].

Mobilization of environmental groups in B.C. supported the carbon tax. A coalition of more than 16 environmental groups across B.C. applauded the idea of a carbon tax; some of the groups to mention were the David Suzuki Foundation, Sierra Club BC, and Greenpeace [78]. Like the BC Liberals, environmental groups argued the tax would be good for northern communities and it would provide new economic opportunities [78]. Concerning the NDP's stance on the tax, the Sierra Club of BC spoke on behalf of environmental groups saying that they were disappointed with the NDP's campaign against the tax simply because they were after making "political hay" [79]. With the combination of B.C. citizens' history of environmental consciousness, and having environmental groups' support, the BC liberals carried through and passed the legislation [80].

3.5 Carbon tax and its future in Canada and B.C.

Overall, there have been numerous social, economic, and political factors to consider when thinking about the acceptance of a carbon tax at the national level and the provincial level. These factors will continue to influence the future debates about a carbon tax in Canada, even though it is difficult to predict which direction of influence with full certainty. At the national level for example, the influences of the oil and gas industry and the government concerning the EU Fuel Directive, as well as the Section 526 debate in the U.S. are forecasted to continue. The EU Fuel Directive vote on whether to categorize the Canadian oil sands as dirtier from crude oil has been delayed for a later vote in 2013 [81]. Canada has claimed that if the EU passes the Fuel Directive legislation, Canada will continue to defend its oil sands industry by launching a trade war with the EU and take the issue to the World Trade Organization [81]. Even with the Section 526 debate in the U.S., Canada is still involved with getting it repealed. Republican representatives in the U.S. Congress are being supported to voice support for repealing the section [82]. These same issues that prevailed in the past, concerning barriers to the Canadian oil and gas industry, continue to be important and will perhaps continue to play a role in undermining the implementation of a nationwide carbon tax. In contrast to such industrial and the governmental action, the Canadian public's perceptions of a carbon tax have started to increase. Polls taken by Environics show that 58% of Canadians would like to see a carbon tax like in B.C., in their own provinces [83]. But the future of a nationwide carbon tax depends on how many other social, economic and political considerations will be unveiled over time and influence each another.

B.C.'s carbon tax is no exception to these considerations. Polls show that provincial support for the tax seems to remain high at 56%, but concerns about it has risen as well [84]. Industries and citizens wanted GHG reductions; but while some statistics show that emissions from all sources subject to the tax have dropped by 9.9% from 2008 to 2012 [74], critics say that the tax rate is too low to reduce emissions and that the reductions are most likely the product of the recession in 2008 [85]. Industries and citizens also wanted economic security with the tax. While the BC Liberals and some economists argue that the provincial economy has grown slightly since the carbon tax and that more revenues have been returned to taxpayers than

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levied [74, 86], others argue that the tax is regressive by placing burdens on those who can least afford to make changes to their fuel consumptions [85]. The B.C. Trucking Association has added to these concerns saying that the government has not created incentive programs for them to help reduce their emissions [87, 88]. Others claimed that the tax was unfair because their competitors outside the province did not pay a carbon tax [88]. No other Canadian province besides Quebec has a carbon tax in place, and in 2011, six of the U.S. states that were subject to the cap-and-trade under the WCI declared their withdrawal [89]. In accordance to these concerns, the BC Liberals have announced that they will begin a comprehensive review of the carbon tax and its impacts on the competitiveness of businesses [85]. Thus, the faith of the tax continues to depend on a combination of social, economic, and political factors.

4. Conclusion

This study attempted to answer the questions: Why has a carbon tax been able to be implemented in British Columbia but not at a nationwide scale? What have been the social, political and economic factors for this? In trying to answer these questions, this paper analyzed the reciprocal influences between the industry, government and public. Thus, a carbon tax has not been able to be implemented on a nationwide scale because of various lobbying and greenwashing efforts of oil and gas industries, as well as the Canadian government's efforts to prevent barriers towards the oil sands production and exports. Alongside this, the majority of Canadian citizens have not favored a carbon tax in the past because their economic concerns were above environmental ones. In B.C. however, environmental consciousness has been high amongst the provinces' citizens, industries and government throughout its recent history with the environmental movement. With the apparent climate change concerns on specific industries that are important for the province, and citizens mobilizing with environmental groups to help protect the environment, the B.C. government took initiatives towards climate change with a well-designed revenue-neutral carbon tax that was able to gain support of both industries and citizens. And the consequence has been the implementation of the tax. Altogether, the lack of an implementation of the carbon tax on a nationwide scale, or the success of its implementation in B.C. has been dependent on many social, economic and political factors. The combination of these factors will continue to affect the future debates about carbon taxes in Canada.

5. References

- [1] David Suzuki Foundation, "History of Climate Negotiations", n.d.
- [2] Hsu S.L., "Carbon Tax Psychology", In *Case for a Carbon Tax: Getting Past Our Hang-Ups to Effective Climate Policy* (147-180), 2011. Washington, DC: Island Press/Centre for Resource Economics
- [3] Climate Lab Beta, "Carbon Tax", n.d.
- [4] David Suzuki Foundation, "Canada's Emissions", n.d.
- [5] Harrison K., "A Tale of Two Taxes: The Fate of Environmental Tax Reform in Canada", *Review of Policy Research*, 29 (3), 2012, pp. 383–407
- [6] Rivers N., Jaccard M., "Talking Without Walking: Canada's Ineffective Climate Effort", In A. Eberlein, B. Doern, G. Bruce. (Eds.), *Governing the Energy Challenge: Canada and Germany in a Multi-Level Regional and Global Context*, University of Toronto Press, 2009, pp. 285-313
- [7] CBC News, "Canada pulls out of Kyoto Protocol", December 12, 2011
- [8] Jaccard M., Rivers N., Peters J., "Assessing Canada's 2008 Climate Policy", September 26, 2008, *desmogblog.com*

EIC Climate Change Technology Conference 2013

- [9] Tu T. H., "Carbon Taxes: How Dion's Plan Compares". *The Globe and Mail*, 2008,
- [10] Olewiler N., "PM: Dion's carbon tax would "screw everybody", *CBC News*, June 20, 2008
- [11] David Suzuki Foundation, "Report shows provinces taking lead on climate change", 2012
- [12] Zelko F., "Making Greenpeace: The development of direct action environmentalism in British Columbia", *BC Studies*, (142), 2004, pp. 197-239
- [13] Natural Resource Canada, "Industrial Energy Use and GHG Emissions", In *Energy Efficiency Trends in Canada: 1990 to 2007*, September 2010, pp. 26-32
- [14] New Brunswick Department of Environment, "New Brunswick Climate Change Action Plan 2007 - 2012", pp.3-32
- [15] Government of Alberta, "Regulating Greenhouse Gas Emissions", 2012
- [16] Snoddon T., "Federal and Climate Change Policy After Copenhagen", 2010, *Policy Options*, February 2010, IRPP, pp.1-3
- [17] Adamski P., "Alberta needs a carbon tax", *Edmonton Journal*, 2012
- [18] Government of Alberta, "Alberta's Oil Sands: Resourceful. Responsible", September 2008, JWP Publishing, ISBN 978-07785-7348-7, pp.1-7
- [19] Natural Resources Canada, "The Importance of Crude Oil", October 2010
- [20] Canadian Association of Petroleum Producers, "Report of the Dialogues on the Oil Sands: Engaging Canadians and Americans", *Dialogues*, April 2011, pp. 1-52
- [21] Government of Alberta, "U.S. - Alberta Relations", December 2011, pp. 1-3
- [22] Timilsina G.R., LeBlanc N, Walden T., "Economic Impacts of Alberta's Oil Sands", Canadian Energy Research Institute, Vol. 1, Study No.110, Oct. 2005, ISBN 1-896091-47-4, pp.1-99
- [23] Government of Alberta, "Alberta's Oil Sands: Greenhouse Gas Emissions and the Oil Sands", *Facts About*, July 2011
- [24] World News Australia, "Carbon taxes around the world", *Factbox*, August 21, 2012
- [25] Gosden E., "UK carbon tax will leave British companies uncompetitive, warns Energy Select Committee chairman Tim Yeo", *The Telegraph*, March 18, 2012
- [26] Climate Action Network Canada, "Tar Sands Long Shadow: Canada's Campaign to Kill Climate Policies Outside Our Borders", 2010
- [27] The Huffington Post, "EU Oil Sands Fight: Stalemate In 'Dirty Oil' Vote A Temporary Reprieve For Canada's Oil Exporters", February 23, 2012
- [28] McCarthy S., "Royal Dutch Shell defends Alberta oil sands investment", *The Globe and Mail*, March 19, 2010
- [29] Carrington D., "UK secretly helping Canada push its oil sands project", *The Guardian*, November 27, 2011
- [30] CBC News, "EU at stalemate on Canada's oilsands ranking", February 23, 2012
- [31] Canes M.E. and Jonassen R., "EISA Section 526: Impacts on DESC Supply", Report DES86T1, March 2009, LMI Government Consulting
- [32] Dembicki G., " 'We Got that Deleted': Canada's Oil Sands Lobby Twisting Washington's Arm", *The Tyee*, June 28, 2010
- [33] Techtarget, *Greenwashing*, September 2007
- [34] Taylor M., Bramley M., Winfield M., "Government Spending on Canada's Oil and Gas Industry: Undermining Canada's Kyoto Commitment", The Pembina Institute Report, January 31, 2005, pp. 3-57
- [35] Droitsch D. and Simieritsch T., "Canadian Aboriginal Concerns With Oil Sands: A compilation of key issues, resolutions and legal activities", The Pembina Institute, *September 2010 Briefing Note*, pp. 1-10

EIC Climate Change Technology Conference 2013

- [36] ICO₂N, “Shell, governments agree funding for Canadian CO₂ storage project”, June 24, 2011
- [37] Greenpeace International, “Who’s Holding Us Back? How carbon intensive industry is preventing effective climate legislation”, November 2011, pp. 9-58
- [38] Dillon J., “The Costs and Risks of Carbon Capture and Storage”, 2009, *Kairos Policy Briefing Paper*, No 21, November 2009, pp. 1-4
- [39] Canadian Association of Petroleum Producers, *About Us*, 2012
- [40] Polaris Institute. “Big Oil’s Relentless Lobby”, n.d.
- [41] Dembicki G., “Syn crude chairman denies lobbying Harper advisors”, *The Tyee*, September 9, 2010
- [42] Department of Finance Canada, “Tax Expenditures and Evaluations 2011”
- [43] Gupta K., “Pan-European Oil Sands Advocacy Strategy”, 2011
- [44] Wherry A., “Stephen Harper’s risky, job-killing carbon tax”, *Macleans*, March 27, 2012
- [45] Environment Canada, “Greenhouse Gas Emissions by Province and Territory”, 2012
- [46] B.C. Ministry of Environment, “B.C.’s Greenhouse Gas Emission 2010”
- [47] Government of British Columbia, “A Guide to the BC Economy and Labour Market”, 2012
- [48] B.C. Ministry of Environment, “Climate Change: Provincial Impacts”, n.d.
- [49] Jay P., “The Beetle and the Damage Done”, *CBC News*, April 23, 2008
- [50] B.C. Forest Innovation Investment, “Forestry and the British Columbia Economy”, n.d.
- [51] Gayton D.V., “Impacts of Climate Change on British Columbia’s Biodiversity: A Literature Review”, *FORREX Series*, 23, 2008, ISBN 978-1-894822-49-7, Forrex Forest Research Extension Society, Kamloops, British Columbia
- [52] CBC News, “Sockeye decline linked to climate change”, December 9, 2009
- [53] NRTEE, “Climate change could have significant economic impacts on BC”, Sept. 29, 2011
- [54] Western Climate Initiative, *About the WCI*, 2012
- [55] Western Climate Initiative, “Design for the WCI Regional Program”, July 2010
- [56] Vancouver Sun, “B.C. businesses call for a revenue-neutral carbon tax”, January 14, 2008
- [57] Duff D.G., “Carbon Taxation in British Columbia”, In *The Reality of Carbon Taxes in the 21st Century*, pp. 85-105, Vermont Law School
- [58] B.C. Ministry of Finance, “B.C.’s Revenue-Neutral Carbon Tax”, In *Balanced Budget 2008*, pp. 1-2
- [59] The Vancouver Province, “NDP Leader renews call to axe the tax”, November 19, 2008
- [60] Cohen M.G., “British Columbia: Playing Safe is a Dangerous Game”, *Studies in Political Economy* 43, Spring 1994, pp. 149-159
- [61] Merti S., “Business group slams BC government on economy”, *Canadian Press*, 1999
- [62] Natural Resources Canada, *Energy Efficiency Trends in Canada: 1990 to 2009*, December 2011, pp. 1-61
- [63] Government of Canada, “Canada’s Greenhouse Gas Target and Emissions Projections”, 2011
- [64] Angus-Reid Strategies, “The Green-Shift”, 2008
- [65] The Globe and Mail, “Harper bets the House, wins another minority”, October 15, 2008
- [66] Leahy S., “Canada Cuts Environmental Spending”, *The Guardian*, November 9, 2011,
- [67] Government of Canada, *EcoAction*, July 6, 2012
- [68] Government of Canada, *EcoEnergy for Renewable Power*, August 23, 2012

EIC Climate Change Technology Conference 2013

- [69] Stoddart M.C.J., Tindall D.B., "Feminism and Environmentalism: Perspectives on gender in the BC environmental movement during the 1990s", *BC Studies*, Vol. 165, Iss. Spring 2010, pp. 75-100
- [70] Bruce I., "Backgrounder: B.C. Carbon Tax", *David Suzuki Foundation*, Briefing Note, October 30, 2011, pp. 1-5
- [71] Sustainable Prosperity, "British Columbia's Carbon Tax Shift: the First Four Years", *Research Report*, June 2012, University of Ottawa, pp. 3-17
- [72] Bailey I., "Northern towns gang up on carbon tax", *The Globe and Mail*, May 9, 2008
- [73] Hunter J., "NDP vote against carbon tax", *The Globe and Mail*, 2008
- [74] The Vancouver Province, "Premier Defends Carbon Tax as Fair", August 29, 2008
- [75] The BC SCRAP-IT® Program, n.d
- [76] Vancouver Economic Development Commission, "Green Buildings in Vancouver" Report, September 2009, pp. 3-15
- [77] B.C. Ministry of Environment, "Making Progress on B.C.'s Climate Action Plan", 2012
- [78] David Suzuki Foundation, "BC Environmental Groups Applaud Carbon Tax Legislation", April 28, 2008
- [79] Nagel J., "NDP lashes 'gas tax' ", *Sierra Club BC*, June 23, 2008
- [80] B.C. Legislative Assembly, "Official Report of Debates of the Legislative Assembly", Fourth Session, 38th Parliament", May 29, 2008, ISSN 0709-1281
- [81] Fekete J., "Vote on EU Fuel Directive Delayed Until 2013", *Postmedia News*, April 20, 2012
- [82] Fang S., "API: repeal of Section 526 of Energy Independence and Security Act could boost national security", *Newsroom*, American Petroleum Institute, May 12, 2011.
- [83] Environics Research Group, "Canadians continue to voice strong support for actions to address climate change, including an international treaty and carbon taxes", *Media Release*, November 30, 2011, pp. 1-3
- [84] McCarthy S., "Support for climate action still strong in Canada, poll finds", *The Globe and Mail*, November 30, 2011
- [85] Bains M., "Carbon tax increases gas prices... again", *Alaska Highway News*, July 5, 2012
- [86] Pollon C., "Has BC's Carbon Tax Worked?" *The Tyee*, November 23, 2011
- [87] Fowlie J., "B.C.'s final carbon tax lift brings questions over tax's future", *The Vancouver Sun*, June 29, 2012
- [88] Meissner D., "B.C.'s pollution-fighting carbon tax to increase 1 cent on Canada Day", *Global News*, The Canadian Press, June 30, 2012
- [89] Environmental Leader, "States abandon carbon market", November 22, 2011

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7. Biography

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