Public Opinion on Carbon Pricing: Examination of Frameworks that Shape Opinion

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Abstract

This paper investigates how carbon pricing frameworks impact carbon pricing perceptions by asking York University students to complete an online questionnaire. The questionnaire asked participants to choose between five carbon tax policies with various frameworks. Languages, narratives, and rhetorics were used to create different frameworks and resulted in various perceptions of the similar carbon tax policy. The results showed that participants favored a carbon tax framework that provides a lot of information and includes sustainable or technological solutions. An emphasis on human health was also highly valued by participants. The study found that the majority of the participants in the study self-identify as left-leaning to middle in the political spectrum. The study can ultimately inform how policy is presented to this demographic, since policy makers should consider policy frameworks that include the values of voters. For instance, the findings of this study suggest a correlation between formal education on climate change and support for carbon pricing policy. Thus, policy makers should also consider reliable and accessible educational outlets to generate voter support. This can lead to a better understanding of carbon tax, its strengths, and how it reduces emissions. Ultimately, carbon tax frameworks can be as important as the policy itself; an efficient policy can have minimal support if it is not appealing to voters.

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Chapter One: Introduction

In December 2015, Canada joined the Paris Agreement, making a commitment to reduce greenhouse gas emissions (GHG) to prevent global warming. The Paris Agreement set a goal to keep global emissions from warming up 1.5 °C - 2 °C (Government of Canada, 2016). Canada has made a commitment to participate in the reduction of GHG emissions. The federal government has been making a strong attempt to ensure that Canada meets its commitments to their GHG emission reduction goals. The federal government applied the Greenhouse Gas Pollution Pricing Act, this Act imposes a price on carbon standard to each province. Provinces were given an option to implement their own carbon pricing plan. If the standard is not met, then the federal government imposes a federal backstop on the province (Canadian Press, 2020). The federal backstop is Canada's carbon tax.

In 2016, the liberal provincial government in Ontario created the cap-and-trade system which was an effective carbon pricing plan (Financial Accountability Office of Ontario, 2018, p. 1-3). In 2018, Doug Ford was elected as Premier of Ontario (Fodor, 2018). The Ford administration has been resistant on the implication of a carbon pricing plan, so much so, that the administration cancelled the cap-and-trade system. The cap-and-trade plan was Ontario's previous carbon pricing plan under the previous provincial liberal government. The Ford administration is currently attempting to cancel the federal backstop mandated by the Trudeau government, which is the current carbon tax plan in Ontario, due to the cancellation of the federal backstop in 2018.

This resistance is symbolic of a broader lack of public support for carbon tax in Canada (Carattini et al., 2017, p. 6), despite there being evidence that carbon taxing can

be a simple and cost-effective form of reducing emissions (Carattini et al., 2017, p. 20; Canada's Ecofiscal Commission 2015, p. 27; Leach 2016; Pan-Canadian Framework, 2016; Intergovernmental Panel on Climate Change, 2018, p. 153; Hsu, 2011, p. 115). The main obstacle to implementing a carbon pricing scheme is an apparent inability to gain public support for carbon pricing plans, specifically carbon tax plans.

This paper investigates how carbon pricing frameworks impact carbon pricing perceptions. The study uses framework analysis to examine how complex social and political issues are communicated to audiences (Scheufele & Tewksbury, 2007, p. 10). In the context of this paper, framework analysis refers to analyzing how frameworks create different responses from participants with the goal to understand which framework generates carbon tax support. This is identified through examining language and themes shown by participants.

Human behaviour and perceptions have to be considered when thinking about policy development. This research takes up the challenge to critically analyze the use of words and language when describing policy and participant's interpretations of the wording, within the simulated policy. The analytical issues discussed in this paper are based on findings found through an online questionnaire.

Most of the participants in the study self-identified as middle or left- leaning, and the remainder did not identify with any particular political stance. This is likely due to the fact that all participants were students. Although there were students with various backgrounds, their exposure and/or interest in this area can generate an implicit bias. This paper is therefore predominantly based on a middle – left leaning political perspective, generating limits to the study about polarizing carbon pricing opinions.

1.2 The Importance of Framing and Discourse

"Frames," "framing," or "framing effects," refers to how concepts can be used to influence people's opinions (Druckman, 2001, p. 226). Individuals faced with the same choice can have varying responses dependent on the way a choice is constructed (Tversky & Kahneman, 1981, p. 457). Languages, narratives, discourses, and rhetoric are tools that are used to create a framing effects. The form in which words are used can create completely different understandings of the same situation; for example, language such as "restoring wildlife" vs. "preventing destruction to wildlife," can be used when describing a wildlife preservation scenario like a cleanup after an oil spill. "Restoring wildlife," can generate the perception that wildlife is to be restored through a wildlife cleanup, while "preventing destruction to wildlife," may signal that minimal damage has been done. The same situation can be described with different language, and can paint a completely different picture (Steg et al., 2018).

Decisions are made in response partly to frames, and, partly to norms, habits, and personal characteristics (Tversky & Kahneman, 1981, p. 453). My research is interested in the framing effects on carbon pricing. Barry G. Rabe and Christopher P. Borick (2012) recognize the importance of language when describing carbon pricing. Surprisingly, carbon pricing is not supported worldwide despite the economic and scientific benefits that result from, and support carbon tax (Carattini et al., 2017, p. 20; Canada's Ecofiscal Commission, 2015, p. 27; Leach, 2016; Pan-Canadian Framework, 2016; Intergovernmental Panel on Climate Change, 2018, p. 153; Hsu, 2011, p. 115). Rabe and

Borick suggest that political parties looking for carbon tax support should use language that is positively-oriented to describe carbon tax plans (Rabe & Borick , 2012, p. 360). Framing is used in media effects, political psychology, public opinion, and voting campaigns (Druckman, 2001, p. 226). Framing can be very effective; however, personal principles and values also play a role in the effectiveness of framing. People typically refer back to their core values and principles to make decisions about matters, which can be reinforced or challenged depending on how those matters are framed (Druckman, 2001, p. 244).

Discourses are also important to highlight since discourses give context to information. Dryzek (2005) defines discourses as collective ways of understanding the world. Discourses are formed by language. Discourses allow people to interpret pieces of information and develop narratives originating from the information provided. Discourses give meaning that generate pathways to knowledge and awareness. The basis for discourses is in assumptions, judgments, and contentions, which are what enable analysis, debates, and agreements, making it fundamental to problem solving (Dryzek, 2005, p. 9).

People subscribe to different discourses and this offers a variety of ways to understanding the world. Discourses hold a lot of power; politicians are sometimes able to have others follow the discourses that they subscribe to. The way in which discourses are presented can hold power if they present the discourse in a way that meets the values of the observer. In many ways, certain discourses maintain certain political responsibilities. In Dryzek's book, *The Politics of the Earth,* he states that governments have the obligation to meet certain standards, such as economic growth. If governments do not put policies

in place that promote economic growth, such as an anti-pollution policy, this can make corporate investors unhappy; they have the power to cut investments which could lead to a recession, which then will also result in unhappy voters. A decision by a corporation such as this one can be a response to a subscription to a discourse that views the policy as wrong or right (Dryzek, 2005, p. 10).

Chapter Two: Background on Carbon Pricing in Canada

2.1 Carbon Pricing Political History

During the 2016 United States of America election, Canada had a sideline view of what politics had become. In many ways, it had become a form of entertainment for Canadians. Donald Trump is not the Prime Minister of Canada, but as our neighbour, the U.S. does have a strong influence on Canadian politics. Donald Trump comes from a reality TV background and he utilized those skills in his political campaign. In every story, there is a good guy and a bad guy (Hoggan, 2016, p. 43-46). Hoggan quoted an interview with Dan Kahan a Yale Law professor focusing on risk perception, science communication and the application of decision science law and policymaking: "people will find the person whose values they think are more like theirs to be credible. And that's how they figure out what they believe, because they trust people like them" (Hoggan, 2016, p. 43) therefore, politicians use good guy/bad guy narratives in their campaigns to get audiences to resonate with their stories (Hoggan, 2016, p. 43-46). In the 2016 election we saw the power of narrative, and rhetoric, to characterize a candidate in a completely new manner. President Trump was also one of the few public figures to claim that climate change is a "hoax" (Worland, 2019).

Similarly, in Canada, specifically Ontario, polarizing narratives are also used to win political debates. Doubtlessly, the "show" of U.S. politics and public denial of climate change has had some impact on Canadians. Fortunately, however, there has been substantial supporting scientific evidence that allows the majority of Canadians to believe that climate change is somewhere between a "very big issue," to "moderate issue" (Anderson & Coletto, 2018). The challenge, however, remains to turn that belief into real action on climate change.

Economists worldwide have encouraged carbon taxes, yet it is one of the least popular policies. There have been many failed attempts to put forward a carbon pricing plan in North America. The United States BTU tax is one example; Bill Clinton attempted to put forward a BTU tax in 1993, which was meant to be a tax on all fuels to reduce pollution. The National Association of Manufacturers opposed the tax by instilling the idea that a BTU tax would increase the price of producing goods, hurt the U.S. manufacturing competition, and cost 600,000 jobs. These statements did not have supporting evidence but lost support for the BTU tax (Erlandson, 1994, p. 179). This is an example of how political rhetoric can give a fuel tax a negative reputation regardless of whether there is evidence to support such statements.

In 2008, when Conservative[1] Prime Minister Steven Harper rejected the Liberals[2] policy strategy to implement a carbon tax, a major political polarization began surrounding carbon pricing in Canada (Lockwood, 2018, p. 7). The Liberals proposed a revenue

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[1] Conservative Party of Canada: centre-right to right-wing in the political spectrum
[2] Liberal Party of Canada: centre-left in the political spectrum

neutral carbon tax under the Green Shift 3 , and before the plan was put forward, Conservatives and the NDP criticized the carbon tax, stating that adding a tax is unfair for "working families" (Harrison, 2012, p. 395) and subsidies should be in place rather than a tax to support "everyday Canadians do their part" (Harrison, 2012, p. 395). The revenue neutrality of the tax was also questioned (Harrison, 2012, p. 395) and the Green shift did not have support from most Canadian provinces. Prime Minister Harper stated: "Every politician in history who wants to impose a new tax claims that it's either revenue neutral or it's temporary. It's not true" (Chase & Galloway, 2008) and again stated that a carbon tax would "hurt everybody" (Harrison, 2012, p. 396).

President Trump's 2016 election has magnified this general division (Climate Change vs Economy; Left vs Right; Liberal vs Conservative; Democrat vs Republican) in the media, in which we saw a president that denies climate change and has the power to validify this idea that climate change is a hoax across North America (Foran, 2016). In Canada, this division between the left and right is reflected in recent elections, such as the one between Justin Trudeau and Andrew Sheer.

Trudeau has detailed strong climate change commitments, such as commitments to net-zero emissions by 2050 (Smith, 2019). There is debate regarding Trudeau and his support of Trans Mountain pipelines, since the pipeline supports the oil and gas industry that holds Canada back from zero-emissions by 2050. Andrew Scheer has a different agenda, as his choices are less committal. His climate change commitments include the

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3The Green Shift was a plan developed by Liberal Party leader Stéphane Dion to reduce carbon. The Green Shift is a tax plan that would return some of its taxes to taxpayers and businesses through tax cuts. The Green Shift is also a plan to reduce poverty by 30%, and child poverty by 50% in five years by returning 20% of carbon tax money back to poverty programming (MacKinnon, 2008).

Paris Agreement targets and eliminating the price on carbon (Smith, 2019). Andrew Scheer has stated that carbon pricing "has been proven to fail," (Smith, 2019) and Justin Trudeau has put forward a federal carbon pricing plan (Smith, 2019).

These opposing climate change goals generate polarization between left and right-wing populist groups about what Canada's climate change goals should be (Murphy, 2019). Studies show that right- wing party leaders demonstrate more hostility and skepticism towards climate change, which could be linked to skepticism and less inclination to viewing climate change as a serious issue from left-wing populist groups (Lockwood, 2018, p. 5). One's affiliation with political parties will influence the beliefs that individuals attain; this is called the "top-down approach" (Jacquet et al., 2014, p. 3). People highly identify with the ideals of their political party and are likely to reflect their parties' beliefs as their own. There is also the "bottom-up approach" described as individuals defending the ideologies and beliefs that their political party holds, as this provides individuals with a sense of belonging (Jacquet et al., 2014, p. 3).

In 2018, Ford declared that the carbon pricing mechanism "does nothing for the environment" (Beugin et al., 2018). Under the Government of Ontario- Protecting our Environment website, it states: "A carbon tax is not the only way to fight climate change. Ontario has a better way" (Government of Ontario, 2019c). This creates a perception that Ontario's climate change plan is working towards emission reduction, eagerly. The reality is that Ford has weakened the environmental policy that had previously been in place. The Ford administration has taken steps back in the environmental realm by removing the Environmental Commissioner of Ontario, cutting funding to the Ministry of Natural Resources and Forestry, Ministry of the Environment, Conservation and Parks, reduced

flooding management of Ontario, and made alterations to the Endangered Species Act that diminish species protection (Xing, 2019).

In 2019, Andrew Scheer stated that, "At a time when Canadians are working harder than ever and not getting ahead, Trudeau is using their hard-earned tax dollars to support anti-Semitic organizations and prop up foreign dictatorships," where he essentially discredits the carbon tax (Canadian Press, 2019). At the federal and provincial level, there is political rhetoric suggesting that carbon tax is not effective, and yet, there is more evidence to suggest that a carbon tax is effective.

2.2 Carbon Pricing in Canada and Ontario

In 2016, the Pan-Canadian framework was introduced, which included the federal carbon tax. Pricing carbon holds those responsible for emitting carbon, to pay a tax. The goal is to get fossil fuel users to opt for less emission-intensive options (World Bank, n.d.). The low-cost and the high incentives to reduce emission-demanding technologies makes carbon pricing a successful approach that supports a growing economy. Provinces were given the option to build their own carbon pricing plan, or, implement the federal backstop (Dobson et al., 2019, p. 2). The carbon pricing plan has to meet benchmarks set by the federal government. If not, then the government would raise the carbon price of the province (Dobson et al., 2019, p. 2). Some provinces went forward and got their pricing plans approved, such as Ontario, New Brunswick, Manitoba, and Saskatchewan (Trudeau, 2018).

Ontario was under a cap-and-trade system that was designed by the previous liberal administration. The conservative leader, Doug Ford, was elected premier of Ontario on June 7, 2018. Ford won 40% of the popular vote and the liberal party took

19.6% of the popular vote (Fodor, 2018). His campaign relied on promises of tax cuts, including the carbon tax (Draaisma, 2019). The Ford administration cancelled the cap-and-trade system and, in April 2019, the federal backstop took over. The federal backstop is a simple carbon tax; the federal backstop starts at $20/tonne in 2019 and will upsurge to $10/tonne until the carbon tax reaches $50/tonne in 2022. Different fuels rates have been adjusted to meet increased carbon price (Environment and Climate Change Canada, 2017, p. 6). The carbon tax is revenue neutral which is designed to return carbon tax money to taxpayers through tax returns (Macdonald, 2019).

The Ford administration is challenging the federal backstop by appealing to court justices arguing that the Greenhouse Gas Pollution Pricing Act is not constitutional. The federal government, however, argued that the Greenhouse Gas Pollution Pricing Act is an acceptable act. The court rules stating that requiring a carbon pricing plan falls under the federal government's peace, order and good government (POGG) in the Canadian Constitution, declining Ontario's allegation of an unconstitutional act (Vigliotti, 2019).

2.3 Argument for Carbon Pricing in Canada

Carbon pricing has become supported by popular organizations such as the World Bank, the Organisation for Economic Co-operation and Development, the International Monetary Fund, and the Canadian Council of Chief Executives (Canada's Ecofiscal Commission, 2015, p. 14). According to the Pan-Canadian Framework: "Carbon pricing is broadly recognized as one of the most effective, transparent, and efficient policy approaches to reduce GHG emissions" (Pan-Canadian Framework, 2016, p. 7). Carbon tax encourages emission reduction without restructuring current trading systems. This is an attractive approach to governments because it is a simple and inexpensive policy.

There is evidence to supports that carbon pricing reduces emissions, with minimal consequences on the economy (Carattini et al., 2017, p. 20; Canada's Ecofiscal Commission, 2015, p. 27; Leach, 2016; Pan-Canadian Framework, 2016; Intergovernmental Panel on Climate Change, 2018, p. 153; Hsu, 2011, p. 115). Carbon tax is a popular emission reduction policy in many countries due to economists' recommendation of the policy (Climate Alliance Mapping Project, 2018). Economists generally recommend carbon taxes because carbon taxes have shown to be a simple and effective way to address emissions without forcing technologies or alternatives onto citizens in a cost-effective manner (Carattini et al., 2017, p. 6; Sanjur-Bustamante, 2019a). Carbon tax also does not require government funding, making it a simple policy (Carattini et al., 2017, p. 6).

Climate change action is known to be expensive since it commonly demands funding to restructure industries such as transportation, building, automotive, and oil. These methods of addressing climate change not only impact companies, but also people who are living their daily lives. Hight-cost strategies are best to refrain from in order to prevent policies from negatively impacting individuals and their communities (Leach, 2016).

In 2016, Trudeau told provinces that they had to adopt their own carbon pricing plan, otherwise the federal backstop would take effect in 2018 (Government of Canada, 2019b). All revenues collected from the federal government would be returned to the provinces. If provinces develop their own carbon pricing plan, they can use the revenue at their own discretion; for provinces that do not adopt a carbon pricing plan, the federal government returns revenues to individuals and families through the tax-free Climate

Action Incentive payments (Government of Canada, 2019b). Government analyses demonstrate that carbon pricing will reduce emissions and generate GDP improvements (Canada's Ecofiscal Commission, 2015, p. 27). Revenue recycling, economic growth, and minimal government costs are all benefits from a carbon tax (Canada's Ecofiscal Commission, 2015, p. 29; Sanjur-Bustamante, 2019a).

The Intergovernmental Panel on Climate Change (IPCC) also supports carbon pricing mechanisms, whether it is carbon tax or cap-and-trade system. Carbon pricing mechanisms are described as "cost-effective emission reductions strategies." (Intergovernmental Panel on Climate Change, 2018, p.152). The IPCC suggests that carbon tax, with a mix of various policies, can work together to target carbon emissions. This quote by the IPCC states that carbon pricing should be paired with other policies for most effective results, "The literature indicates that explicit carbon pricing is relevant but needs to be complemented with other policies to drive the required changes in line with 1.5°C cost-effective pathways (low to medium evidence, high agreement)"(Intergovernmental Panel on Climate Change, 2018, p. 153). Overall, carbon tax has support from economists worldwide largely due to its simplicity and cost effectiveness, and is viewed as a great strategy to reduce carbon emissions (Carattini et al., 2017, p. 20; Canada's Ecofiscal Commission, 2015, p. 27; Leach, 2016; Pan-Canadian Framework, 2016; Intergovernmental Panel on Climate Change, 2018, p. 153; Hsu, 2011, p. 115; Sanjur-Bustamante, 2019a).

2.4 Role of Education in Carbon Pricing

Climate change education is a catalyst for change. Public education campaigns and formal education systems in collaboration have the potential to teach students about

economies, human activity, and social structures. People without climate change awareness can feel a sense of vulnerability due to the unavailable information about potential solutions, and strategies to address climate change. Climate change education can generate shifts in the way people understand policy and policy frameworks (Anderson, 2016, p. 198). Climate change education has been found to lead to increased personal responsibility in climate change adaption and mitigation behaviours, as well as awareness and confidence of problem-solving options when exposed to climate change issues (Anderson, 2016, p. 198). Consequently, this paper examines the role of climate change education and how essential environmental education is when trying to develop policies that voters will support. Specifically, this research investigates if people value education, and want information about climate change policy in order to make effective policy choices.

2.5 Carbon Pricing Public Opinion

In Canada, 40% of Canadians state that climate change is a "very big" problem, 34% state climate change is a "moderately big" problem, and 19% it is a "small/not a problem" (Anderson & Coletto, 2018). When Canadians were asked: Over time what do you expect the effect of this carbon pricing and rebate approach on each of the following: 1) Carbon pricing impact on "affordability of everyday life," which 5% responded with "good," 47% responded with "neutral," and 48% responded with "bad."

2) Carbon pricing impact on "carbon emissions," which 34% replied "good," 57% replied "neutral," and 9% replied "bad."

3) Carbon pricing impact on "amount of innovation," where 35% stated "good," 58% stated "neutral," and 7% stated "bad."

4) Carbon pricing impact on "healthy economy in future," where 34% agreed was "good," 55% agreed with "neutral," and 11% agreed on it being "bad" (Anderson & Coletto, 2018).

In Ontario, 43% of people stated that climate change is a "very big" problem, 32% stated that it is a "moderately big" problem, and 26% stated that it is a "small/not a problem." When Ontarian's were asked if carbon pricing was a "step in the right direction," 58% replied "step in the right direction," and 42% stated that it was a "step in the wrong direction" (Anderson & Coletto, 2018).

Political parties also play a strong role in people's understanding of carbon pricing. Canadians across Canada were asked how big of a problem climate change was in Canada. Anderson and Colette found that: 46% of those that associate themselves with the Liberal Party of Canada said that climate change was a "very big problem," 36% said it was a "moderately big problem," and, 20% said it was "small/not a problem." Correspondingly, 48% of those that associate themselves with the New Democratic Party (NDP) stated climate change was a "very big problem," 36% stated climate change was a "moderately big problem," and 16% stated that it was "small/not a problem." Interestingly, 21% of those that associate themselves with the Conservative Party of Canada stated that climate change was a "very big problem," 31% stated that it was a "moderately big problem," and 48% stated that it was "small/ not a problem." Left-leaning parties responses show to be more receptive to climate change as a serious reality than conservatives (Anderson & Coletto, 2018).

When Canadians were asked if a national carbon tax was a step in the "right direction" or the "wrong direction", 80% of Liberals stated that national carbon pricing is a step in the "right direction," and 20% stated that it is a step in the "wrong direction." Not

surprisingly, 66% of those that associate with the NDP stated that national carbon pricing is a step in the "right direction," and 34% stated that it is a step in the "wrong direction." Finally, 35% of Conservatives stated that national carbon pricing is a step in the "right direction," and 65% stated that it is a step in the "wrong direction" (Anderson & Coletto, 2018). This survey provides evidence that liberals are more likely to support a carbon tax and conservatives are least likely to support a carbon tax. Political identity can have a large impact on how people view policy therefore, acknowledging that participants in this study identify as left-leaning, middle-left or middle on the political spectrum could mean that they are more likely to support a carbon tax.

Chapter Three: Methods

3.1 Recruitment and Data Collection

The focus group participants were recruited from a pool of students in Professor Traci Warkentin's ENVS 1000 Winter term course. A week before the COVID-19 pandemic interrupted regular life, I made an announcement in Traci Warkentin's course. During my announcement, I explained to the class my intended research, the role the participants would play, and I also passed along a clipboard where I told students to fill out their name, program of study, and preferred email. Attached was a copy of the informed consent sheet. From this, I gathered seventeen emails and I went forward and emailed them with further information about the study. I informed participants that they were able to invite peers to join, in hopes of creating a snowball effect.

Originally, this major paper was meant to be based on a focus group method where I could have groups of four to five participants per focus group. I wanted to go forward with a focus group as it would have provided participants the opportunity to listen to each

other's answers, make comments, and have conversations with others in the group that could serve to disclose relevant information about the topic, providing a deeper analysis of opinions and perceptions. I was hoping to have a minimum of fifteen participants.

In March 2020, however, the COVID-19 pandemic took place and a focus group was no longer possible. I had to quickly reinvent my major paper, with a short time frame of three weeks. I decided that the most accessible and available option for students in such a stressful time was an online questionnaire, which would also allow me to deeply analyze the online content and generate useful findings. Getting engagement from the ENVS 1000 students in the midst of the pandemic was difficult, but because I let students know that their peers were welcome to complete the questionnaire I was successful in creating a snowball effect, which allowed me to collect eleven participants that I would communicate with via email.

I went forward and made alternations to my project and I created a short YouTube instructions video. The YouTube video included step-by-step instructions of how to complete the online questionnaire, I took this step to generate clarity for participants. Participants were sent a Microsoft Word document where they were asked to directly input their responses, and when complete, they were asked to send the Microsoft Word document back through email. Before I went forward with the online questionnaire, I ensured that all participants send me a signed copy of the consent forms.

I sent participants an online questionnaire (please see Appendix B for details) where participants were asked to complete a document divided into four parts. These four parts were:

Part 1) participants completed a short-written survey asking them their age, gender, program of study and political preference;

Part 2) participants were asked to complete an exercise where they rank what policy/legislation framework they are most likely to support – least likely to support;

Part 3) participants were asked questions about where they received their information about carbon pricing, their knowledge about climate change, where they received this knowledge, political preferences, their experiences with climate change, who they believe is responsible to combat climate change, and whether they trust government and;

Part 4) Lastly, students were asked to "Add anything else you would like to mention about climate change policy or carbon pricing policy that you think is important to this discussion." this is where students were able to share any last thoughts to add to the analysis of this paper.

<u>3.2 Policy Options for Participants</u>

Part 2 gave students the option of choosing between similar carbon pricing plans that are framed differently, along with the No Legislation option. Although, not all of the carbon pricing options for participants were titled as policies the intention was to change the frameworks of each option, to observe participants perceptions of the carbon pricing options, therefore, throughout this paper all of the options are referred to as policies, as they are intended to simulate carbon tax policy. The carbon pricing plan options for participants are shown below:

   a) **A Climate Change Prevention Policy**

This policy is meant to target climate change by implementing a charge on greenhouse gas (GHG) emissions to a carbon using corporation. This charge will significantly reduce emissions and aid in the prevention of the increasing temperatures.

b) Human Health Protection Policy

This policy is meant to protect human health from harmful pollutants and diseases that air and water pollution can bring forward. This policy applies a fine to institutions that create pollution and put Canadian citizens at risk of illness and disease.

c) Fossil Fuel Reduction Act

This act is meant to fine Fossil Fuel users. Institutions are the leading GHG producers, companies are responsible for more than 71% of global emissions (Shen, 2017). Due to fossil fuels, global temperatures are rising, which has cost and continues to cost many their lives, their homes, and cause disease and extreme poverty. Institutions have to be held accountable for their actions, therefore, a fossil fuel fine will be implemented: $20 a tonne, or 4.4 cents per litre of gasoline, and it will rise to $50 by 2022. This "price on carbon could cut carbon pollution across Canada by 80 to 90 million tonnes in 2022." This Act is "likely to stimulate innovation, investments in clean technology and benefit long-term growth opportunities" (Environment and Climate Change Canada, 2018, p. 1).

d) Carbon Tax

A carbon price is a fee imposed on each tonne of emissions from fossil fuels, meant to help lower the amount of GHG emissions. Under the federal tax, oil products such as gasoline and diesel, natural gas, and coal-fired electricity are affected. The federal tax prices carbon at $20 a tonne, or 4.4 cents per litre of gasoline, and is scheduled to rise to $50 by 2022 (Wire Services and Globe Staff, 2018).

e) **I'd prefer no legislation**.

Students were given the option to rank no legislation, this provides information on whether these policies were appealing to students and give an explanation to why or why not it is appealing.

The carbon pricing policy options presented here have different titles; this is meant to give participants the impression that the carbon pricing policy options are distinct and have different angles in approaching carbon emission reduction. The carbon pricing policy options also include information leading to a fee, fine, or, charge on carbon emissions. The differences in wording serve to frame each policy so that it appears to be unique, while, in reality, they are very similar in practical terms.

Some of the policy options have more information than others and include different variations of information to further give the illusion of diversity in the carbon pricing policy; how participants respond to these differences will enable this research to identify what kind of information, and how much, is most favored or disliked by participants. The participants were asked why they ranked the carbon pricing policy the way they did, in order to provide data for an analysis of why participants favor that particular policy, and to identify which characteristics make a policy more favorable. When taking the online survey, the participants directly entered the information into the Microsoft document and sent it back through email for my analysis.

3.3 Methods of Analysis

The overall goal was to analyze how language and frames shape carbon tax perception and how personal knowledge, political preference, and social norms come into play when understanding carbon tax to identify key motivators in supporting a carbon tax.

I began the analysis process by calculating the policy rankings by participants by adding the policies' tally scores to determine the most favored to least favored carbon pricing policy by participants. Part 1 of the study provided a quantitative result to generate concrete evidence of how the policy was ranked by participants. The ranked order of carbon policy options is reported below in the Results in Chapter Four, and further discussed in Chapter 5.

Furthermore, I imputed data from the individual questionnaires into a qualitative data analysis software called Nvivo. Nvivo is a qualitative data analysis software that enables organizing written data, coding, and, mind maps. Through the Nvivo software, I coded the interviews and generated themes. Using this software, I coded the data by observing what participants were saying through the language that they chose to describe the policy options in Part 2 of this study, and separately, I coded the questions I posed to participants in Part 3 of this study.

To clarify, the language used by participants were analyzed to examine their point of view to then find themes and patterns in the opinions of all participants to make generalized conclusions about how to generate carbon tax support through frameworks. I also collected other themes relevant to carbon pricing policy and policy support, this data was found in Part 2, 3, and 4 of the study (shared in Chapter Six). These themes were organized into sections that were to be later expanded on. The important themes were determined, and I did research on each theme through books, articles, and online journals, where I was able to expand on each theme. With the research gathered and data collected from the themes, I made conclusions about commonalities that participants shared to identify how to generate carbon pricing support.

Chapter Four: Results

Each of the eleven participants was assigned a letter of the alphabet. Each participant ranked the legislation 1-5, 1 - "being the legislation you are most likely to support" and 5 – "being the legislation you are least likely to support." The chart below demonstrates what number each participant ranked each policy. The **total** column states the total tally of each policy. The lower the total the more supportive participants were of the policy.

Policy Ranking Chart

	Par. A	Par. B	Par. C	Par. D	Par. E	Par. F	Par. G	Par. H	Par. I	Par. J	Par. K	Total
Policy A	2	4	1	1	2	3	2	4	4	2	3	28
Policy B	1	1	4	2	3	2	1	3	2	1	5	25
Policy C	3	2	3	3	1	1	4	1	1	4	1	24
Policy D	4	3	2	4	4	4	3	2	3	5	4	39
Policy E	5	5	5	5	5	5	5	5	5	3	2	50

Table 1
**See Legend 1 for Policy Titles

Ranking between 1-5.
 1 - "being the legislation you are most likely to support" and 5 - being the legislation you are least likely to support".

*Legend 1
A= Climate Change Prevention Policy - Ranked 3rd
B= Human Health Protection Policy – Ranked 2nd
C= Fossil Fuel Reduction Act – Ranked 1st
D= Carbon Tax - Ranked 4th
E= No Legislation – Ranked 5th

The votes were tallied to determine which policies were favoured by the participants. The lowest ranking determines the highest favoured policy as 1 was described as "being the legislation you are most likely to support" and 5 was described as "being the legislation you are least likely to support".

Political Spectrum

	Par. A	Par. B	Par. C	Par. D	Par. E	Par. F	Par. G	Par. H	Par. I	Par. J	Par. K	Total	Percentage
L				x					x			2	18.18%
ML	x					x		x		x		4	36.36%
M		x					x				x	3	27.27%
MR												0	0
R												0	0
N/A			x		x							2	18.18%

Table 2
** See Legend 2 for Political Spectrum Titles

*Legend 2
L – Left
ML – Middle Left
M – Middle
MR – Middle Right
R – Right
N/A – Did not respond

Most respondents identified as middle left on the political spectrum. Thus, this paper provides results on those on the left-leaning to middle on the political spectrum; none of the participants identified as right leaning.

Chapter Five: Analysis of Results by Order of Framework Ranking

5.1 Ranking 1: Policy C) Fossil Fuel Reduction Act

Framework explanation: This option provides more information about the framework. It provides more positive information about how the framework is useful and why it is important. This option provides a little more context than the others. Hsu stated that lack of information about carbon tax and climate change generates an illusion that a carbon tax is just a tax grab (Hsu, 2011, p. 148-151). The information may be useful for

developing an educational option that is attractive to participants due to the knowledge provided in the framework.

The Fossil Fuel Reduction Act was ranked the highest by participants in this study. The popularity of this policy can be linked to the amount of information provided about the policy that states the negative impacts of fossil fuels, as well as providing data about how much a carbon pricing plan will reduce carbon pollution. Many participants expressed their need for more information about climate change policy and the importance of education surrounding information about policy. Therefore, I suggest that this policy was favoured because of the amount of information provided. Participant I expressed that this policy was ranked first solely because of the information the policy provided, as shown in this participant's survey ranking and comments:

> Participant I (Ranked the Fossil Fuel Reduction Act 1st). Reason for Ranking – "provided details on how much carbon would be reduced."

This topic will later be discussed in detail in Chapter Six; section 6.4 Climate Change and Education.

Along with the information provided by this policy, "sustainable solutions" were words that also received a lot of positive feedback. This policy was correspondingly highly favoured because this policy was associated with sustainable solutions.

This policy, overall, did not receive much negative feedback. The Fossil Fuel Reduction Act brought forward the topic of sustainable solutions or technological solutions

for many participants. The following quote is an example of a participant that shared their opinion on the Fossil Fuel Reduction Act:

> Participant B (Ranked the Fossil Fuel Reduction Act 2nd). Reason for ranking - Although it is difficult to completely shift away from fossil fuels there are new technologies that can be viable alternatives and the focus needs to be on shifting to these areas. The issue with this is finding a way to re-educate/re-purpose existing energy products and workers. These people still need jobs so we cannot just take away their livelihood.

As demonstrated in the above quotation from the survey, Participant B shared that there are new technologies that can serve as alternatives to fossil fuels, however, they also understand that it is a complex process as there is a whole group of people that depend on these jobs. In the Canadian transportation industry, there are 17,791 persons employed in refining of natural resources, and 84,704 persons employed by gasoline retail (Canada Fuel Association, 2020). Therefore, it is concerning to this participant and likely many people in Canada that the policy could result in negative consequences for the associated demographic. Considerations for the people who are impacted (or thought to be impacted) negatively by a carbon price need to be addressed when putting forward a carbon price.

The following participant, Participant E, also shared the need for more sustainable solutions. As mentioned, "sustainable solutions" was mentioned most by participants in this framework. The policy itself included the statement: "likely to stimulate innovation, investments in clean investment technology and benefit long term growth opportunities," which turned out to be a factor in how participants ranked this policy higher than other policies, as shown below:

> Participant E (Ranked the Fossil Fuel Reduction Act 1st) Reason for ranking - Majority of the energy source is from fossil fuel and the act enforces changes to

reduce the use of fossil fuels. There are more sustainable ways as a source of energy but this act is an incentive for the public to reduce.

Participant F (Ranked the Fossil Fuel Reduction Act 1st) Reason for ranking - I ranked this number one because I liked how much information it provided and the statement: "Institutions have to be held accountable for their actions therefore a fossil fuel fine will be implemented" resonated with me. These institutions are responsible for a massive percentage of GHG so I think a policy targeting the leading producers makes sense. I also liked this one talked about "long-term growth opportunities". I think in regard to the environments it's not about finding a Band-Aid fix, but we need sustainable solutions.

These participants viewed sustainability as a positive way to reduce emissions through policy. It should be noted that "sustainable solutions" is a general term. Sustainability is commonly used by institutions and politicians. Sustainability can have many definitions and it does not mean the same thing to every person. One definition of sustainability is "humankind avoids the depletion of natural resources (which is influenced by the way societies are organized) to keep an ecological balance so that society's quality of life doesn't decrease" (youmatter, 2020). In relation to climate change and environmental issues the term sustainability provides a sense of hope. It is commonly associated with improved environmental, economic and social circumstances (Farley & Smith, 2020, p. 1). The three passages above demonstrate that Participants B, E, and F suggest that sustainability is associated with productive policy. The nature of "sustainability" as a general term may be why it had such a positive response; participants associated their own understandings of productive GHG reduction methods to the term sustainability. For example, Participant E linked sustainability to "sustainable ways as a source of energy," and Participant F mentions: "institutions responsibility," and "long-term growth opportunities," in their answer. Although these two ideas can be connected, they linked sustainability to two different climate change problems.

Ulrich Beck (2009) describes the changes in perceptions of natural disasters from pre-modern societies to modern societies through risk society. Risk society refers to contemporary society's reaction to potential risks. Pre-modern societies viewed natural disasters as out of their control. As technology has become prominent in today's industrialized Western society, people tend to view natural disasters as risks. Therefore, there was a shift in people's perception of natural disasters from unmanageable circumstances to manageable risks. As Beck asserts, "Every modelling of uncertainty remains under the spell of the tradition of risk analysis and risk management which has its roots in classical security research and is driven by the concern to achieve a socially acceptable and efficient 'managing' of uncertainty" (Beck, 2009, p. 57). Today, due to advances in technology, people may perceive climate change as less of a risk because there is an underlying belief that technology can create solutions to climate change. Participant B shares that new technologies can be viable alternatives, giving a sense of reliability on new technology to reduce emissions. There are technologies such as solar and wind power that can be integrated in a carbon policy and shared within a carbon pricing discourse that could generate a sense of nuance to a carbon pricing policy. In a 2005 study, Thomas Brewer determined that there was more willingness to implement alternative technologies over carbon taxes (Brewer, 2005, p. 360). A study conducted in Vancouver, British Columbia, found that people are more likely to support fuel tax if revenue was earmarked for technological advances that support the reduction of pollution (Hsu et al., 2008, p. 3616). This is an interesting concept that alludes to dominant Western society's expectation that technological advances will solve climate change. There is a trend in modern Western society of wanting a sense of control over climate change. There

is a general belief that technology will be the saving grace to climate change, and even though scientist state that this is not likely, it provides a sense of hope and optimism (Harrabin, 2020).

5.2 Ranking 2: Policy B) Human Health Protection Policy

Framework explanation: Climate change is highly linked to public health. The angle of addressing carbon pricing policy from a health perspective may cause participants to view the carbon pricing framework as a public health or humanitarian issue rather than just a climate change issue, which could attract participants regardless of their political beliefs due to health being a somewhat less polarizing issue in Ontario. Marco Grasso (2012) values the mitigation of climate change as he argues it is a moral issue of preventing harm to others (Grasso, 2012 p. 3). This framework may bring forward a moral reasoning for choosing this framework rather than a political one.

This policy was ranked second by 1 point. Fossil Fuel Reduction Act gathered 24 points and Human Health Protection Policy gathered 25 points. Therefore, this frame shows to be very successful as well. People in this study express that human health is important. The participants reacted positively to human health, because they are also concerned with vulnerable populations.

Those that identified as middle-left ranked human health no lower than 3rd. This policy has shown to be most popular to those that identify as middle-left on the political spectrum. This policy addressed human health in the title and in the description. Promoting the reality of how climate change results in health threatening circumstances

can generate more positive and supportive responses of the carbon tax or other climate change mitigation strategies. Human health in the title of the policy gave participants the perception that this policy was benefiting the health of Canadians, generating positive responses from participants. The quotations below share participants expressing the importance of human health:

> Participant B (Ranked Human Health Protection Policy 1st) Reason for ranking - While climate change is a much larger overall issue, any companies found to be directly affecting the health and well-being of Canadians should have to pay for remedial measures to the affected. These fines/sanctions should also be used as a tool to show other corporations/institutions that Canada will not accept negligent practices putting Canadians in direct harm.

> Participant F (Ranked Human Health Protection Policy 2nd) Reason for ranking - This was an interesting policy. I ultimately ranked it so high because once again it is a fine for institutions and it also is prioritizing the health of Canadians. If people/institutions realize that their health and the health of those around them is directly tied to the health of the planet they might take it more seriously. This policy emphasizes that and forces people to take it seriously. My health is very important to me so that is likely why this policy resonated with me.

> Participant I (Ranked Human Health Protection Policy 2nd) Reason for ranking - reducing pollutants and protecting human and animal health is important

> Participant J (Ranked Human Health Protection Policy 1nd) Reason for ranking - because I believe human health should come first. And if we help humans they are more inclined to help the planet

Recent history has shown many Canadians that climate change and health are directly related. One example is the cessation of coal fired plants in 2014. Ontario ended the use of coal-fired plants to generates energy in 2014 due to the coal-fired plants being linked to air pollution causing smog in the air concerning many Ontarians of how it affected their health. The cessation of coal was successful in reducing air pollution. National Pollutant Release Inventory, Ontario Power Generation specified that the toxic chemicals in the air are harmful to human health (Registered Nurses Association of Ontario, 2015,

p. 2). The Registered Nurses Association of Ontario released data that stated that these toxic chemicals are linked to numerous medical issues that include respiratory effects, which can impact the development of lungs within children, it can cause asthma attacks in children and adults, emissions can also contribute to chronic obstructive pulmonary disease through inflammation that pollutants contribute to (Registered Nurses Association of Ontario, 2015, p. 2). There have also been claims that lung cancer is a result of coal plants, the free radicals that are generated by burning coal can cause oxidative stress that can damage cells and lead to many other diseases. There is also evidence that cardiovascular disease is also a concern because it is linked to inflammation and oxidation stress. The last great concern is the neurological effects; one of them being cerebrovascular disease, that is a result of contaminants in the air (Registered Nurses Association of Ontario, 2015, p. 2). The chemicals in the air also have negative impacts on wildlife, one example being heavy mercury content in shellfish that are also linked to inflammation. The Ontario Power Generation (OPG) reported 20% of Ontario's CO_2 and 17% of Ontario's GHG emissions came from the coal-fired emissions (Registered Nurses Association of Ontario, 2015, p. 2). There was a total of 53 smog days in 2005, the highest smog days recorded in Ontario (Ontario Ministry of Environment, Conservation and Park, 2014). In 2001, the coal phase out began, with the goal to decrease air pollution. (Government of Ontario, 2018b; Sanjur-Bustamante, 2019b).

The cessation of coal use was put in forward in 2007, under the Environmental Protection Act preventing the facilities Atikokan Generating Station, Lambton Generating Station, Nanticoke Generating Station, and Thunder Bay Generating Station, to use coal to generate power (O. Reg. 496/07, 2007). The last coal-fired plant was closed in 2014

(Government of Ontario, 2018b). In the Made-in-Ontario Environment Plan, released in 2018 under the Ford administration, the cessation of coal fired plants is still viewed as a grand achievement in Ontario (Government of Ontario, 2018a; Sanjur-Bustamante, 2019b). Human health is highly valued and policies that concerns itself with human health receive positive feedback. As the cessation of coal was supported due to human health reasons, policy makers should also remind voters the relationship that climate change has to human health issues across Canada to encourage climate change policy support.

Through the cessation of coal, the connection to human health and climate change were made from people across Ontario. This is a real-life example, and a tangible situation, that took place developing a relationship between air pollution and human health. Ontario's history with air pollution can be a reason why the connection to human health is made for participants and why they resonated well with this policy.

Due to the history surrounding climate change and human health, using human health as a strategy to remind voters why a carbon pricing strategy is important may result in positive support. Although pollution is not the only environmental problems that arise with GHG emissions, this is a discourse that has resulted in positive feedback from participants. Perhaps, other human health impacts that hit close to home, such as the Australian wildfire that resulting in 3,000 homes lost and natural habitat destruction, or, increased floods across Ontario, can be mentioned when framing carbon tax in news media to motivate Ontarian's and Canadian's to support a carbon tax (Guy, 2020; Government of Ontario, 2019a). Research suggests that people are motivated by emotional principles integrated within political communication, more so than "rational" or fact-based disputes (Maniates & Meyer, 2010, p. 197; Westen, 2006).

5.3 Ranking 3: Policy A) Climate Change Prevention Policy

Framework explanation: Although people have a variety of understandings of the term "climate change," due to their personal experiences, people associate "climate change" to extreme weather conditions that could have negative consequences on humanity. When people hear the term "climate change," they view it as dangerous and they express that it should be prevented (Weingart et al., 2000, p. 266). People with climate change knowledge will typically find the term "climate change" a word that brings forward a higher risk perception (Hidalgo & Pisano, 2010; Milfont, 2012; O'Connor et al., 1999; Sundblad et al., 2007; Shi et al., 2016, as cited in Van Der Linden, 2017, p. 7). The use of the term "climate change" within this carbon pricing framework will reveal if the term itself will cause participants to choose this carbon pricing framework. Due to the perception that this framework will address climate change the most directly over other framework options. Minimal information was given under this policy to providing a stronger focus on the response the terms "climate change".

This policy was ranked 3rd with a total score of 28 points. This policy received a relatively high score. The response to the phrase "climate change prevention" did not receive the response I predicted by participants, since participants responded positively to corporations paying for emissions. The following participants stated that corporations should be responsible for paying taxes:

> Participant A (Ranked Climate Change Prevention Policy 2nd) Reason for ranking - This policy should only be applied to corporations. Corporations are the largest contributors to emissions so they should pay their share of this tax.

Participant E (Ranked Climate Change Prevention Policy 2nd) Reason for ranking - Larger corporation would take responsibilities from GHG emission (which is one of the largest emissions)

Participant F (Ranked Climate Change Prevention Policy 3rd) Reason for ranking - I wasn't really sure between 3 and 4 and I went back and forth. I ended up putting The Climate Change Prevention Policy as number 3 because it says it's a charge for "carbon using corporations". We know companies and corporations are the biggest contributor, so it makes sense to have policies that are holding them accountable.

The policy stated "carbon using corporation" therefore, participants express liking that this policy brought to light that corporations should be accountable for their emission contributions.

Many people know that companies are the highest carbon emission contributors. In 2017, the Carbon Major Database disclosed that 72% of global industrial GHG emissions come from 100 companies worldwide (Griffin, 2017, p. 10). Most of the large emitters come from gas and oil companies (Griffin, 2017, p. 10). The participants express that they think corporations should be responsible for taking accountability for their emissions and pay carbon taxes. This is something to consider with language surrounding carbon pricing policies. According to these findings, policy makers and politicians need to consider that people want firms to take responsibility for their GHG emissions. Although it is true that these companies are to blame for the GHG emissions that they produce, the participants seem to oversimplify the carbon pricing agenda. These companies exist due to supply-and-demand. There is a need for oil in gas to keep our cars running, keep our homes warm, and doing everyday activities. People use oil and gas for everyday necessities which is how these carbon emissions become emitted into the atmosphere, this is also known as "down streaming" (Thomson, 2018). Therefore, as consumers, we

are also responsible for carbon emissions. By stating that corporations should be responsible for carbon emissions, this makes room for people to avoid responsibility for their own actions. This is a form of "cognitive dissonance," which means people's inconsistent thought, attitudes, beliefs, and opinions (Hoggan, 2016, p. 22; Festinger, 1989, p. 205). Typically, people are uncomfortable with cognitive dissonance (Festinger, 1989, p. 205). All the participants stated that climate change is real. The participants with responses above (Participant A, E, and F) believe in climate change, but they are putting majority of the blame on large corporations, and taking responsibility off themselves, low-income groups and average Canadians. Studies in social psychology have found that people favour subsidies over taxes because they do not force any costs onto them (Carattini et al., 2017, p. 8). The reality is that the average citizen has a contribution to carbon emissions. Cognitive dissonance is what creates the blame game when it comes to environmental issues (Hoggan, 2016, p. 22). Humans have a difficult time changing their own habits due to availability, accessibility, and personal comfort. Due to lifestyle and availability, we see how it is impossible to live a carbon free lifestyle. Therefore, we look outside of ourselves to point out who is to blame for carbon emissions. This is where psychology and environmental policy come together – providing information that allows citizens to understand why these policies are important and how they will improve their health, their safety, biodiversity and their children's lives in a way that does not put the blame only on corporation, but, makes everyone responsible for their own communities and future communities. This is how policy makers can really put forward policies that are effective and supported.

5.4 Ranking 4: Policy D) Carbon Tax

Framework explanation: This is the conventional carbon tax framework. The word tax is included which is unpopular to some due to the conservative rhetoric that carbon tax hurts Canadians "Our government is fighting against the carbon tax because it hurts seniors, workers, families and small businesses," quote by Ford (Draaisma, 2019)

This policy was ranked fourth by most of the participants. This policy tallied a total of 38 points adding up to significantly more points than policies A, B, and C. This policy received such a low ranking because the title included "carbon tax," which already has a massive negative rhetoric associated to it.

In the past, carbon pricing has been a difficult political sell, although economists have been recommending carbon pricing policy emissions (Carattini et al., 2017, p. 20; Canada's Ecofiscal Commission 2015, p. 27; Leach 2016; Pan-Canadian Framework, 2016; Intergovernmental Panel on Climate Change, 2018, p. 153; Hsu, 2011, p. 115). In 2015, carbon tax was put forward by Prime Minister Trudeau, nation-wide. Carbon tax has since been applied to provinces who have opposed Ottawa's carbon tax, these provinces include: Ontario, Saskatchewan, Manitoba and New Brunswick (Lambert, 2019). The word "carbon tax" has created political opposition all over the world. Studies have shown that people associate carbon taxes with higher personal costs and do not recognize the benefits of carbon pricing. People also do not approve of taxes that are pushed onto the masses, whereas subsidise are rewards for good environmental behaviour (Carattini, 2017, p. 8).

Participants in this study are concerned that a tax would burden vulnerable and low-income citizens. This was evident, for instance, the following responses from four of the participants:

Participant C (Ranked Carbon Tax 2nd) Reason for ranking - I like that this seeks to mitigate carbon emissions, but from how I understood the description it may have repercussions not just for the fossil fuel companies (who in my opinion ought to be taxed) but also for ordinary people who rely on cars for transportation and have no alternative. Although the tax punishes carbon emissions, it does not actually remove people's reliance on automobile transportation. It does add incentive for companies to develop cleaner transportation technology though, which I think is good. I just think that the penalty for carbon emissions should fall primarily, if not solely, on the companies and not the consumers, since the systems currently in place in society make it difficult for the average person to use non-fossil fuel based transportation.

Participant E (Ranked Carbon Tax 4th) Reason for ranking - It is good that there is a tax on carbon but I also feel that there are people who can't pay for it.

Participant F (Ranked Carbon Tax 4th) Reason for ranking - This seems like it would be efficient and effective, so It took me a long time to place this one. However, ultimately it landed this low because of the expense it would but on people with low incomes. I think it would be great in lowering greenhouse gas emissions but it socially it would affect people with lower incomes the most and that made me place it lower in the rankings.

Participant J (Ranked Carbon Tax 5th) Reason for ranking - d is last in my perspective because I think that there is a better way of going about things then charging Canadians more money- such as single moms. Perhaps lowering the cost on electrical cars something more positive that helps people and the planet.

Participant K (Ranked Carbon Tax 4th) Reason for ranking - I think this is a great idea but I think needs revision since we have to consider those that can't afford that price for gas and other circumstance like that.

Interestingly, this policy was chosen second last five times. Carbon tax is the second lowest ranked policy next to No Legislation. The theme as to why people do not like this policy seems to be that people relate the word "tax," to a high expense that will negatively impact the average Canadian, or, low-income people, due to the cost of carbon

pricing. Although carbon pricing is realistically not likely to debilitate low-income or the average Canadian lifestyle, there seems to be a narrative that this is what a carbon tax does. One, therefore, must ask themselves, where does this narrative come from?

There is a long history of tax and taxation that generates negative association with the word "tax." Paying taxes is a long, expensive, and burdensome process. There is an anxiety associated with remitting payment to the government to run public goods that taxpayers ask for (Ventry, 2011, p. 841). There are many examples in which politicians have used tax cutting as a political sell, this is most commonly seen from right-winged politicians. George Bush Sr. ran a successful U.S campaign in 1988 where he states: "read my lips – no new taxes," citizens don't like to pay taxes, so politicians don't like to impose them (Peters, 1992, p. 1). In 2019, Andrew Scheer stated: "At a time when Canadians are working harder than ever and not getting ahead, Trudeau is using their hard-earned tax dollars to support anti-Semitic organizations and prop up foreign dictatorships," again an example of politicians using tax as a political strategy to suggest that taxes are hurting Canadians, and thus suggesting that tax dollars are being spent for no good use (Canadian Press, 2019). This is partly where the narrative that taxes are a non-efficient solution is presented. Taxes are used to fund public services, and in the case of carbon tax, it is meant to decrease GHG emissions that have harmful short-term and long-term effects to humanity (Registered Nurses Association of Ontario, 2015, p. 2; Ventry, 2011, p. 841).

During the 2018 Ford campaign, the Ford administration ran their campaign promising tax cuts, this included the carbon tax. Ford stated that he would work towards a 20% income tax cut for middle class folks, he promised a corporate tax cut of 10.5% -

11.5%, suggesting that this would make the Ontario market more attractive for business. Ford also promised lowering gas prices by 10 cents by rejecting the previous liberal cap-and-trade system, and the federal carbon tax. Ford stated that he would create a new climate mitigation plan and referred to the carbon tax as a "job-killing tax." Ford expressed his dislike for carbon pricing by stating: "Our government is fighting against the carbon tax because it hurts seniors, workers, families and small businesses" (Draaisma, 2019). When rhetoric such as this is put forward, public opinion about policy such as a carbon tax takes a hit. This narrative amongst politicians over centuries has developed a type of social norm – a communal belief that taxes are expensive and burdensome for average and low-income Canadians. Therefore, if a carbon tax is put forward then it is not likely to be a popular policy as the term "tax" has a burdensome reputation. Participant B provides an example of how people perceive carbon tax:

> Participant B (Ranked Carbon Tax 3rd) Reason for ranking - I think that a Carbon Tax can be beneficial in curbing consumption and may push some to alternative means however I think the gov't needs to be more transparent regarding how this money is utilized to combat the issue. Adding another tax without justification will not likely be supported by the majority.

This participant shares their skepticism about what the governments uses tax money for. Many people do not understand taxes as they are technical and complex (Peters, 1992, p. 4). In the examples above where Andrew Scheer stated that "Trudeau is using their hard-earned tax dollars to support anti-Semitic organizations and prop up foreign dictatorships," we see how taxes are framed to be wasteful and inefficient for Canada. Whether the statement or a statement such as this one is true, it can cause doubt in the Federal system. Vito Tanzi and Howell Zee (2000) are specialists in tax policy - improvement of developing countries. They explain the general view of tax incentives is

that they are useless, and the best incentives are low taxes, and broad base. They also state that if people feel the government is wasting tax dollars the attitudes towards taxes are not good. Tanzi and Zee state "A tax system that is well designed, fairly enforced, and well administered is really the best incentive because investors want certainty; they don't want too many changes" (Tanzi & Zee, 200, p. 218) they suggest certainty and minimal changes are best for tax systems. There is tax corruption that develops negative association with overall taxes (Mohtadi et al., 2016, p. 2). With carbon tax, people commonly are exposed to carbon tax with little information about it, how the tax would work, or what the revenue from the taxes would be used for (Hsu, 2011, p. 148). Therefore, this gives people the illusion that the carbon tax is just a form of increasing taxes. Experiments demonstrate that people favour hidden taxes to straight forward taxes, findings have revealed that when asked, individuals will choose hidden taxes regardless if the outcome costs are the same (Hsu, 2011, p. 151). This policy was ranked fourth by a large portion of participants, although all the policies are similar, it is evident that a policy with the word "tax" is not the best word to use when framing policy.

5.5 Ranking 5: Policy E) No Legislation

Framework explanation: This gives students the options to refrain from choosing any legislations to identify if they prefer to have no form of legislation targeting emission, climate change, or health.

This policy was ranked 5th , with the tallies adding to 50 points. These results show that carbon tax is favoured over No Legislation by participants. People expressed that No

Legislation was irresponsible. Some participants expressed that they felt that a legislation was necessary, and others felt that legislation would hold people accountable for their actions. The following participants share why they ranked No Legislation 5th:

> Participant B (Ranked No Legislation 5th) Reason for ranking - The problem is not going to go away on its own. Doing nothing is not a solution to the issue.
>
> Participant E (Ranked No Legislation 5th) Reason for ranking - I would prefer to have a legislation for the public to follow and understand the consequences of their actions. It enforces strict laws that concerns for the public's safety, economic, environmental and other elated [sic] issues.
>
> Participant F (Ranked No Legislation 5th) Reason for ranking - I think we need some legislation. Legislation will help to inform people and also hold people accountable to their actions and what they are doing to the planet.

This aligns with the left to middle-left politically oriented ideology. One example of this is liberals and NDP supporters are more likely to support carbon tax policy than conservatives (Anderson & Coletto, 2018). Participants are more likely to support a carbon pricing policy than No Legislation, since most participants in this study identify on the left of a political spectrum.

Chapter Six: Discussion of Emerging Themes

Analysis of the responses also generated five emergent themes that are insightful about commonalities among the participants' perspectives on carbon pricing. They are: corporations should pay; trust in government; climate change belief due to scientific evidence; climate change and education; and, belief that a carbon tax is useful. Each is discussed in detail below and in connection to their implications for policy makers.

6.1 Corporations Should Pay

Many participants expressed that corporations should be responsible for paying carbon tax. The following participants state that pollution and poor air quality is predominately coming from corporations, institutions and companies:

> Participant A: Canada and its provinces do not take the effects of pollution of inhabitants seriously. Placed this in first [Human Health Protection Policy] because I think this will discourage all corporations from irresponsible polluting and because this likely already exists in some or all provinces/at the federal level.

> Participant G: Having a carbon Tax may really make large industrial companies think twice about their gas emissions and help keep the air quality clean and safe

> Participant H: A lot of this comes from institutions and factories who pollute tons. All nations should be working together to fight. T [sic] vulnerable are affected the most and countries like US blame those countries and want them to stop polluting when themselves polluted the most and done nothing. It's something everyone should focus on.

Participants share that institutions are large polluters and due to this they have a role in paying for their share of carbon pricing. The blame is put on corporations rather aggressively. A carbon pricing plan that strategically targets corporations and institutions would get a positive response from those that identify as left-leaning, according to this study. The following participants express their mistrust in corporations:

> Participant A: Corporations will almost always attempt to reduce their bottom lines to maximize profit. They have little interest in protecting people, unless they are required to by law.

> Participant I: Corporations can't be trusted. As the documentary series The Corporation demonstrated, Corporations are sociopathic by their structure to only focus on the profit motive.

The perception that corporations have minimal interest in the general well-being of citizens justifies and supports corporations paying a carbon tax for some participants. This is a narrative created around corporation. There are snapshots of concerns towards modern society and corporations not sufficiently supporting the better good of society. Bill

McKibben (2012) highlights the role that corporations have in global pollution through their influence to meet their monetary demands (Mckibben, 2012). Corporations can have a role in manufacturing products that are harmful, supporting climate deniers, using cheap energy sources, using cheap labour, and pushing environmentally harmful regulations as it is integrated in the capitalist structure to maximize profit (Perrow & Pulver, 2015, p. 62). The Carbon Disclosure Project (CDP) is a popular example of how corporations have an enormous role in unethical practices when it comes to environmental welfare. The CDP is a British public domain that gathers climate related information from firms in countries worldwide. Between the years 2003 and 2007, the CDP noticed inconsistencies with the firm's information about their GHG emissions, which led to the CDP asking for the methodologies that the firms were using to calculate their GHG emissions. Interestingly, one-quarter of the firms did not give the CDP the information requested, demonstrating the unethical lengths that firms will go to, to protect their vested interest (Andrew & Cortese, 2011, p. 133). The participants have been exposed to information like this, possibly through their education, or through their own research. Information is readily available to people. Anyone can have access to endless amount of information about corporations, markets and firms, through online sources. The majority of participants have expressed the desire for corporations to do their part in terms of climate change mitigation, and many of express that paying a carbon tax is a step towards corporations doing their part as the participants quoted above said that they would like corporations to pay carbon taxes or fees.

6.2 Trust in Government

Trust in government is important when attempting to generate strong policies. Participants were asked, "Do you trust the government? Why, or, why not?" Five of the eleven participants expressed that they did not trust the government or mostly did not trust government, three of the eleven expressed that they trusted or mostly trusted government, two of the eleven participants expressed that they sometimes trust the government, and one of the eleven expressed that they did not know if they trusted the government. Participant D, Participant E and Participant A share reasons why they do not trust government:

> Participant D: No, I dot [sic] trust the governments, this is because most of us have been blinded by the flawed narrative of GDP growth, development or the capitalist system. Thus, most government find it hard to let go of the orthodoxy of capitalism.

> Participant E: I don't because I see it as a political game. Those who want to be in power may shift their interest from the people to themselves. Although the government may state they care about the environment and the people but make false promises.

> Participant A: I do not trust the federal or Ontario government to protect its people from pollution or penalize corporations for pollution. There are environmental injustices in northern and southwestern Ontario the government prefers to ignore because of the financial and political implications.

The participants quoted above share that their mistrust in government comes from their perceived view of the government's economic and power attachment. They seem to believe that the government has a hidden agenda. A 2019 report revealed that 53% of Canadians stated they trust the federal government, and 61% trusted the local government (Edelman Trust Barometer 2020, 2020, p. 41). People are often suspicious of government intent when it comes to tax money (Carattini, 2017, p. 9). Those in government, co-citizens, and politicians play important roles when it comes to gaining

public support of a carbon tax. Those that trust their politicians are more likely to support an environmental tax (Jagers et al., 2009, p. 9). There are two reasons for this: the first is that people need to believe that their politicians will use the tax money in a sensible manner; and, the second is that people need to trust that the politicians use the tax money gathered the way that it was intended to be used (Jagers et al., 2009, p. 9). People are also more likely to support an environmental tax, such as a carbon tax, if they feel as if their fellow citizens pay their share. Trust in the government can generate more positive attitudes towards carbon pricing policy (Jagers et al., 2009, p. 9). Part of the mistrust in government expressed by participants in this study is tied to a belief that the government has their own agenda. An example of the government providing Canadians with mixed signals that creates mistrust, specifically in the environmental realm, is Trudeau's pipeline project. Trudeau addressed climate change in his campaign, but also supported the Energy East, Northern Gateway, and Keystone XL pipeline projects that put $3.3 billion annual subsidies in the pockets of the fossil fuel industry (Milman, 2016; MacNeil & Paterson, 2015, p. 3). This keeps Canada from moving away from its reliance on the fossil fuel industry. The following quote demonstrates the confusion and mistrust in policy that Trudeau's campaign brought forward:

> The Trudeau government has put those of us deeply concerned about climate change in an awkward position. Placing a price on carbon pollution was a step forward worth protecting. Using it to justify approving more tar-sands pipelines was two unconscionable steps backward. It's hard to imagine anyone rallying to defend a party that would arrange something like that, especially as the Liberals

themselves now take steps to reduce the effectiveness of their own carbon-pricing regulations. (Saad, 2018)

Due to the minimal climate change acknowledgement of Trudeau's opponents, those interested in environmental issues had minimal choice in choosing a leader that would target environmental issues, and those that support the oil industry also had a vested interest in voting Trudeau (Sanjur-Bustamante, 2019a). The polarizing issues combined into one campaign gained Trudeau support from many voters as he gained support from both sides: those concerned with the environment, and those looking to expand the oil industry. This is an example of how people understand politics as a political game, when politicians are saying they support climate change mitigation, but also attempt to place pipeline projects that will increase emissions, and potentially pollute and prevent Canada from moving away from the fossil fuel industry. Seemingly contradictory, political narratives such as this create mistrust in the government's sincerity in mitigating climate change.

Trust in the government is important to generate policies that the public will support. Measures to give people confidence in carbon tax policy should be considered to develop policies people will support and trust. Surveys have shown that individuals support tax revenues that facilitate the burden of tax on low-income households. Liam Beiser-McGrath and Thomas Bernauer (2019) find that revenue recycling can increase support for carbon taxes at a rate that is likely to reduce emissions. There is preference over revenue recycling schemes, but Beiser-McGrath and Bernauer suggest that policy makers should discuss public debates surrounding revenue recycling and what works best for citizens (Beiser-McGrath & Bernauer, 2019, p. 5). Other studies have shown that

individuals also prefer earmarking over general forms of revenue recycling. Voters can be suspicious of governments intentions with long-term revenue recycling. Governments can avoid this issue by sharing detailed plans of revenue recycling redistribution. Providing pay slips or tax statements can offer transparency of government revenue recycling redistributions (Carattini et al., 2017, p. 3). Overall, revenue recycling, along with strategies to increase government trust, seem to be good additions that policy makers can address when attempting to create a good carbon tax policy.

6.3 Climate Change belief due to Scientific Evidence

All participants expressed beliefs in climate change and the most common explanation for why they believe in climate change is because of the scientific evidence that supports that climate change is real, as shown by the quotes below:

Participant A: Most scientists around the world believe climate change is a reality. I believe the scientists. I believe in facts and evidence.

Participant C: I think climate change is real because extensive scientific data supports it and shows how Earth has been heating at an abnormal and alarming rate and how weather phenomena are increasing in intensity.

Participant E: Climate change is real because there are scientific proof and we are experiencing them every day. We see that Climate change has affected our lives directly and indirectly. I personally don't understand why some people think that climate change is a hoax. It can be from many factors but it is clear that we are experiencing the effects of climate change right now and we need to take action before it's too late to turn back.

Climate change acceptance tends to be associated with left-leaning ideology. A survey done by Jeffery Jones (2010), that included 1,014 adults in the United States was put forward to examine liberal and conservative ideologies. The results shared that 74% of liberals agree that "effects of global warming are already occurring," and 30% of conservatives agreed that "effects of global warming are already occurring" (Jones, 2010).

Canadian studies examining political ideology and public opinion, find that conservative leaning citizens are more skeptical of climate change than left leaning citizens, such as those that identify with the NDP (Lachapelle et al., 2014, p. 4). When one identifies with a political party, it influences one's values. Evidence indicates that ideological self-labelling is related to political attitudes and values (Malka & Lelkes, 2010, p. 159). The belief in climate change demonstrated by the participants in this study, therefore, could be a reflection of political identification. It is likely that, because participants were recruited from an environmental studies course, participants have been exposed to high-level climate change information and education.

All participants stated that they believe in climate change because there is evidence that states that climate change is real. Dryzek describes this discourse as administrative rationalism; when people rely on expert recommendation to problem solve (Dryzek, 2005, p. 79). Administrative rationalism discourse was expressed by participants frequently throughout this study. Participants strongly attributed scientific evidence and weather patterns to climate change realism.

Along with scientific evidence, participants made personal associations to climate change being a reality in their lifetime:

> Participant F: …As a young kid we use to have so much snow on our block we would build gigantic forts and now on that same block the snow never seems to pile as high.

> Participant I: I remember more snow and longer winters as a kid. As someone who loves the winter I miss not [sic] having snow most of the winter.

Personal connection to nature also tends to generate more support for climate change policy. Having a personal connection to an environmental issue, such as

experiencing flooding, or having pollution related health problems, increases likelihood of

believing in climate change and are more likely to consider climate change to be, "very

important" (Whitmarsh, 2008, p. 12-15). Participants made connections to childhood

memories of having more snow than in recent years, which they related to being a reason

for climate change belief, and potentially indicated that they are more likely to support

climate change policy as perceptions of temperature rises and risk perception play a role

in environmental policy response (Brody et al., 2008, p. 73).

<u>6.4 Climate Change and Education</u>

The participants expressed education as being part of the missing piece of the

puzzle. The following participants shared a desire for institutions and government

agencies to be more direct and transparent about climate change information:

> Participant B: I think that a big issue with the climate change initiative is that the universities and other educational institutes are not in touch with the industry. In order to fight this it will need to take a collaborative effort across multiple fields of studies to create innovative solutions. This also means that we need to be in touch with the industries we are trying to change. Speaking about ideal situations in a classroom do not represent realities of day to day work. We need practical solutions.

> Participant C: I think institutions like the education system have a responsibility to inform and educate people about the threat of climate change, governments have a responsibility to enact policies that address the issue so that it doesn't worsen, corporations have a responsibility to utilize resources in a way that doesn't threaten short-term or long-term health of humans and the environment, and nations have a responsibility to band together to address the issue on a global scale.

> Participant B: I don't think that there is enough education to the general public about how exactly gov't and world leaders actually plan on combatting climate change. For example, telling people they are going to enforce a "carbon tax" doesn't give me any information on what your plan is. It is easy to see why people disapprove of it as they don't understand. There will always be people who disapprove but I think the conversation would go a lot better if people were more informed.

As climate change has become a prominent environmental issue in Canada, the participants, who are also students, state that they do not believe that there is enough education around environmental issues. Six of the eleven participants stated that they do not know much, very little, or nothing, about climate change, and climate change issues, yet, all participants believe climate change is real. This is important to acknowledge as education is an instrument that can be used to develop societal shift and support for environmental policy. Education can also have the ability to shift environmental issues to non-partisan issues. It is important that education on environmental issues are not taught to groups with biases from political influence. Berger et al. (2015) states that, in Ontario, there are challenges that teachers face when it comes to teaching students about climate change. Berger et al. explain that there are different forms of teaching about climate change issues, which include a scientific approach that highlights climate change as a socially important issue, a personal change approach relating to the changes that individuals can make to reduce the impacts of climate change, and a transformative approach which takes a social justice method, empowering students to make individual and corporate shifts (Berger et al., 2015, p.156).

Science is the only subject in the formal educational curriculum that touches on climate change in Ontario. Studies state that climate change should be taught across various disciplines to showcase that it is relevant to all social issues and many other disciplines (Berger et al., 2015, p. 156). Teaching climate change amongst various disciplines, such as economic, social sciences, geography, English, etc., would present realistic reflections of the world we live in today. Teachers have reported feeling uncomfortable about teaching environmental issues due to the dominance of Western

capitalist society reinforcing consumerism that go against climate change principles that students understand about the world they live in. Teachers also state that they do not know enough about climate change to teach students about climate change. This fear results in teachers avoiding teaching about environmental issues, which creates a gap in climate change knowledge for students (Berger et al., 2015, p. 167). This can lead to students who grow up with minimal exposure to the realities of climate change. This, in turn, can impact their personal ideologies, their political views and their ways of understanding climate change issues including policy. Knowledge and education play an important role in developing environmental ideologies, which is important to dissect.

Education in a classroom is not the only place that environmental education can take place. It can also take place through news, media, and information provided by government. In 2012, a study was conducted that examined 2,064 print media articles released in Brazil, China, France, India, U.K., and the U.S. from November 2009 to February 2010. This study discovered that the U.S. print media articles had the highest rates of climate change skepticism of all six countries (one-third of U.S. articles shared climate change skepticism) (Bailey et al., 2014). The influence of the U.S. print media reflects climate change denial in the U.S., this type of information had influence on their citizens, which is one example of why reliable information and education are essential. Although Canada may not have as much climate change denial in local new channels, people have access to news media in the U.S., politicians commonly downplay the effects of carbon pricing, specifically on the right. These messages create rhetoric that environmental policies are not a priority. Messages in media give carbon tax a bad reputation. Andrew Sheer's statement, "More and more Canadians are starting to realize

that paying a tax isn't going to help the environment," is an example of how politics create negative rhetoric surrounding carbon tax (Scherer, 2019). The complexity of carbon pricing leads to lack of information. Politicians state information about carbon pricing that may not be true, but people believe it because they don't understand all aspects of a carbon pricing plan, making it easy for politicians to mislead citizens regarding carbon pricing issues. People do not like policies that they do not have information about, and they do not like making decisions that will hurt others (Hsu, 2011, p. 148). With minimal information about carbon pricing, people could misunderstand carbon pricing as a tax increase scheme. This is why transparency and information are essential to carbon tax support (Hsu, 2011, p. 148).

Perhaps politicians and policy makers that support carbon pricing, and other climate change policies, need to focus on educating people, especially on social media platforms which everyone has access to. Education is important in carbon tax acceptance (Alberini et al., 2016, p. 16). As participants in this study state that they want more education, providing easy access to information may be a form of providing those who are looking for information ways to access it. This is also a method that can debunk misleading information about carbon pricing by those that oppose a carbon price.

6.5 Participants Believe a Carbon Tax is Useful

Seven of the eleven participants stated that they believe that carbon tax is effective, yet the carbon tax policy was ranked second last by participants, which is a big portion of participants. This demonstrates the importance of language and the narratives that are built around carbon tax.

This follows the administrative rationalism discourse described in Dryzek's, *The politics of the Earth*. Administrative Rationalism discourse is focused on solving problems through expert guidance, especially scientific guidance. Dryzek states that the most prevalent policy option for pollution control is regulation. Regulations should be created by experts such as scientists and legislators, as they generate quality standards for pollution control. Those that do not comply should be punished, usually with fines (Dryzek, 2005, p. 79). The participants value expert opinions, and expert opinions reiterate that climate change will lead to damaging natural disaster if not addressed rapidly (Intergovernmental Panel on Climate Change, 2018, p. 68). Therefore, the participants of this study believe in climate change, (as demonstrated in Chapter Six; section 6.3 Climate Change belief due to Scientific Evidence) and they also believe that a carbon tax would be effective, but through this response it is clear that the term "carbon tax" is least attractive to participants.

Chapter Seven: Conclusion

Ultimately, carbon tax has a lot of support as a climate change mitigation strategy by the participants of this study. This study revealed many important themes to consider when developing carbon tax policy framing from a socio-political perspective. As this paper has demonstrated, variations in language, political rhetoric, and information, creates different perspectives about similar or identical policy. The different policies presented in this study initiated different ideas, concerns, and interests from participants.

Participants ultimately favored the Fossil Fuel Reduction Act as it was ranked first. Participants expressed that they favoured the Fossil Fuel Reduction Act because it provided a lot of details, and it included a sustainable solution in the description of the

policy. Participants responded very positively to the Human Health Protection Policy due to participants strong value in human health. The Carbon Tax framework, however, did not get a positive response relative to the other policies. Although the Carbon Tax was ranked much higher than No Legislation, Carbon tax does seem to get less support (by participants) due to the long history and current politics that have misleadingly framed carbon tax as a tax grabbing scheme or framed as ineffective. For instance, many participants stated that they believe that corporations should pay and take responsibilities for their emissions, yet, Carbon Tax was believed to have a negative impact on average Canadian citizens or vulnerable Canadians.

Trust in the government is critical when creating policies that people will support. Strategies such as, revenue recycling have shown to gather carbon tax support, pay slips from the government, where people are able to investigate for themselves where tax money is going, are examples of ways the government can gain trust.

The participants voiced that there needs to be more education around climate change. With education, people are able to have a stronger understanding of climate change and, therefore, a stronger understanding in how to address climate change mitigation. Those that understand climate change are more likely to support and understand policies that will reduce emissions. Education in the formal education system is an important way to address climate change, however, as social media has become a primary way to get information, policy makers should consider accessible and easy to understand informative tools that people can use to educate themselves on climate change mitigation, and carbon tax.

This paper provides many examples of tools policy makers can use to improve carbon tax, and perhaps other climate change mitigation frameworks that generate support. The structure of policies is essential to good emission reduction results, but the framework of a policy is imperative to get enough support to keep policy in place long enough to generate results. Framework can be equally as important as the policy in some cases, such as the case for carbon tax.

Chapter Eight: Limitations and Further Research

8.1 Limitations

There are limitations to this study. As mentioned earlier in the paper, the participants were initially recruited from an Environmental Studies course. This means that many participants already had an understanding and interest in environmental issues. All participants in this study are in the process of completing their education leading to students that may have a biased opinion based on their education. Addressing a potential bias permits for a better examination of the data, as it does recognize that this data is not an exemplification of a whole population but rather a small sample. This study reveals the results of the students who participated in this study, and it is not meant to suggest that the exploration of the data collected is "generalizable." Instead, it is meant to take a socio-political analysis of data.

This study was originally meant to be a focus group but to everyone's surprise a pandemic took over, making a focus group impossible. Luckily, before the pandemic I gathered enough potential participants for this study and acted fast to create an online survey that participants were able to respond to on their own time. As many people were impacted by the pandemic differently; this was the best option. An online survey limits the

amount of probing that an in-person focus group would allow, and it also limits discussion amongst participants that would disclose a whole new set of data.

8.2 Further Research

This paper addresses how perceptions based on frameworks can generate carbon tax support, but it would be useful to examine how rebates also impact carbon tax support amongst students. Specifically, research to identify how education about different rebate formulas might create different perceptions about carbon pricing plans from respondents is desirable. Rebates are important components to carbon tax support. Understanding how education plays a role in the support of carbon tax policy (specifically examining rebates) is important to study because it also gives a better indication of how and what to educate people, to develop more accurate understandings of policies, so that people can make informative decisions.

This paper was not able to address politically right-leaning audiences. Further research should address right-leaning groups. It is crucial that diverse political groups are studied in order to gather accurate data about how different political groups view varying frameworks. I believe a study that looks at right-leaning and left-leaning groups and how both groups respond to different frameworks would bring great value to this area.

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APPENDICES

Appendix A:

Policy Ranking Chart

	Par. A	Par. B	Par. C	Par. D	Par. E	Par. F	Par. G	Par. H	Par. I	Par. J	Par. K	Total
A	2	4	1	1	2	3	2	4	4	2	3	28
B	1	1	4	2	3	2	1	3	2	1	5	25
C	3	2	3	3	1	1	4	1	1	4	1	24
D	4	3	2	4	4	4	3	2	3	5	4	39
E	5	5	5	5	5	5	5	5	5	3	2	50

Table 1. Rankings of Each Policy by All Participants

Political Spectrum

	Par. A	Par. B	Par. C	Par. D	Par. E	Par. F	Par. G	Par. H	Par. I	Par. J	Par. K	Total	Percentage
L				x					x			2	18.18%
ML	x					x		x		x		4	36.36%
M		x					x				x	3	27.27%
MR												0	0
R												0	0
N/A			x		x							2	18.18%

Table 2. Political Spectrum Identified by Each Participant

Ages

	Par. A	Par. B	Par. C	Par. D	Par. E	Par. F	Par. G	Par. H	Par. I	Par. J	Par. K	Total
18-20			x					x			x	3
21-30		x		x	x	x	x			x		6
31-49	x								x			2
50+												0

Table 3. Ages of Each Participant

Gender

	Par. A	Par. B	Par. C	Par. D	Par. E	Par. F	Par. G	Par. H	Par. I	Par. J	Par. K	Total
Male	x	x		x					x			4
Female			x		x			X		x	x	5
N/A						x	x					2

Table 4. Gender of Each Participant

<u>**Appendix B:**</u>
Sample of the Online Questionnaire

Public Opinion on Carbon Pricing: Examination of Frameworks that Shape Opinion

Instructions link: https://www.youtube.com/watch?v=LvEEtFlK3BA

Name of participant:

PART 1.

Please answer the following –

Age Range (highlight your answer in yellow):

18-21
21-30
31-49
50+

Gender:

Program of Study:

Where would you consider yourself in the political spectrum (highlight your answer in yellow):

(Left Leaning) (Moderate Left) (Middle) (Moderate Right) (Right Leaning)

Unknown Or Other: _____

Optional What political Party Do you affiliate yourself with?

PART 2.

1. Out of the following legislation, please rank the legislation from 1-5. 1 being the legislation you are most likely to support and 5 being the legislation you are least likely to support.

<u>Frameworks to choose from:</u>

    a) A Climate Change Prevention Policy

This Policy is meant to target climate change by implementing a charge on GHG emissions to carbon using corporation. This charge will significantly reduce emissions and aid to prevent the increasing temperatures.

Rating:

    b) Human Health Protection Policy
This policy is meant to protect human health from harmful pollutants and diseases that air and water pollution can bring forward. This policy requires a fine to institutions that create pollution and put Canadian citizens at risk of illness and disease.

Rating:

    c) Fossil Fuel Reduction Act
This act is mean to fine Fossil Fuel users. Institutions are the leading GHG producers, Companies are responsible for more than 71% of global emissions (Shen 2017). Due to fossil fuels global temperatures rising which has cost and continues to cost many their lives, their homes, disease and extreme poverty. Institution have to be held accountable for their actions therefore a fossil fuel fine will be implemented. $20 a tonne, or 4.4 cents per litre of gasoline, and rise to $50 by 2022. This "price on carbon could cut carbon pollution across Canada by 80 to 90 million tonnes in 2022" this Act is "likely to stimulate innovation, investments in clean technology and benefit long-term growth opportunities" (Environment and Climate Change Canada 1:2018).

Rating:

    d) Carbon Tax
A carbon price is a fee imposed on each tonne of emissions from fossil fuels, meant to help lower the amount of greenhouse-gas emissions. Under the federal tax, oil products such as gasoline and diesel, natural gas and coal-fired electricity are affected. The federal tax prices carbon at $20 a tonne, or 4.4 cents per litre of gasoline, and rise to $50 by 2022 (Wire Services and Globe Staff 2018).

Rating:

    e) I'd prefer no legislation.

Rating:

2. Please explain why you ranked the legislation in the order that you did. You can include what you liked and what you disliked about each legislation.

Legislation ranking:
1.

2.
3.
4.
5.

1. Do you think climate change is real? Why or why not?

2. What do you know about climate change/climate change policy?

3. Where do you receive your climate change information from?

4. Do you think carbon pricing/carbon tax is effective?

5. What personal experiences come to mind when I say, 'climate change', this could be anything from a childhood experience you had learning about climate change or something you herd on the news.

6. Do you think that nations are responsible from protecting the human race from climate change or do you think this is better off in the hands of corporate and institutional governance?

7. Do you trust government? Why or why not?

PART 4.

Add anything else you would like to mention about climate change policy or carbon pricing policy that you think is important to this discussion? This can be from personal experience or observations you have had on media outlets. This is where you can freely include what you think is important when talking about climate change policy, there is no discussion to big or small for this portion of the study.

Thank you for your participation!

Appendix C:
Online Informed Consent Form

Date: December 16, 2019

Study Name:

Public Opinion on Carbon Pricing: Examination of Frameworks that Shape Opinion

Researcher name:

Nataly Sanjur-Bustamante – Principal Investigator
Masters of Environmental Studies, York University
nattsb27@my.yorku.ca

Purpose of the Research:

As my MES Major Research final paper, I would like to investigate how carbon pricing framework impacts carbon pricing acceptance.

I would like to understand how youth perceives carbon pricing today. I will analyze participants knowledge in climate change, their political preference and their perception about climate change. I will also be analyzing how policy frameworks generate shifts in policy understandings. This will ultimately serve as a guide to generate an understanding of how ideologies, political preference, social norms and knowledge in climate change can shift support in climate change policy and what is necessary when developing climate change policy that people will support. This research will include focus groups to analyze participants perceptions, ideologies, climate change knowledge and carbon pricing understandings as well as the examination of carbon pricing framework impacts on participants. The completed research will be presented in a thesis form.

What You Will Be Asked to Do in the Research:

As focus group participants your role is to honestly answer the questions you feel comfortable answering. As a participant you will be asked about climate change, your political views and personal experiences. The focus group is meant to be collaborative and engaging with other participants. It is encouraged that you engage and discuss the questions asked with other focus group participants. The focus group is divided into four segments; 1) introductory form 2) choose your preferred climate change legislation from five options 3) answer seven group questions and 4) have an educational and respectful discussion about climate change and climate change policy. The questionnaire will take approximately 45 minutes of you time, and when completed you will be included in a draw to win a $5 gift card.

Risks and Discomforts:

There may be conversations of politics that come up. If at any point you do not want to answer a question you can simply move on to the next question, or you can simply refuse to complete the study. All participants have the right to refuse to do anything that they are not comfortable with. Politics can be a sensitive topic to some people, if at any point you feel discomfort please let the principal instructor know that you would no longer like to participate at any given point. If you do decide you would no longer like to participate there will be no penalty and no consequence for your decision to refrain from participating. During this focus group you are **NOT** waiving any legal rights. Information about researcher and REB is on the following page and you are welcome to email both the researcher and the REB for any further information.

If you would like to receive counselling after attending the focus group you have access to York University's student counseling and development: https://counselling.students.yorku.ca/

York University also provides other mental health and wellness services which you can find at: https://mhw.info.yorku.ca/resources/resources-at-york/students/

Benefits of the Research and Benefits to You:

The focus group may be educational to participants. Participants may leave the focus group learning about carbon pricing, what it means in Ontario, and how others understand climate change policy. You will be encouraged to discuss any opinions about climate change policy and climate change. This is meant to be a positive educational environment in which participants are meant to share diverse opinions.

Voluntary Participation and Withdrawal:

Your participation in the study is completely voluntary and you may choose to stop participating at any time. Your decision not to volunteer, to stop participating, or to refuse to answer particular questions will not influence the nature of the ongoing relationship you may have with the researchers, study staff, or the nature of your relationship with York University either now, or in the future.

If you decide to stop participating, you may withdraw without penalty, financial or otherwise.

In the event you withdraw from the study, all associated data collected will be immediately destroyed wherever possible. Should you wish to withdraw after the study, you will have the option to also withdraw your data up until the analysis is complete.

Confidentiality:

Data will be saved electronically on a personal laptop that only the principal instructor (Nataly) has access to. This laptop is in the hands of the principal instructor only and will be locked with a password. The file with the confidential data on it will also be locked in a file with a password. Data will be stored for maximum six months then destroyed once analysis and thesis are completed. Data will be stored from February 2020-October 2020 maximum.

Confidentiality will be provided to the fullest extent possible by law.

Questions About the Research?
If you have questions about the research in general or about your role in the study, please feel free to contact me at nattsb27@my.yorku.ca or my supervisor, Traci Warkentin at traciw@yorku.ca. You may also contact the Graduate Program Environmental Studies at fesinfo@yorku.ca and/or (416) 736-5252.

This research has received ethics review and approval by the Delegated Ethics Review Committee, which is delegated authority to review research ethics protocols by the Human Participants Review Sub-Committee, York University's Ethics Review Board, and conforms to the standards of the Canadian Tri-Council Research Ethics guidelines. If you have any questions about this process, or about your rights as a participant in the study, please contact the Sr. Manager & Policy Advisor for the Office of Research Ethics, 5th Floor, Kaneff Tower, York University (telephone 416-736-5914 or e-mail ore@yorku.ca.

Legal Rights and Signatures:

I_____consent to participate in Public Opinion on Carbon Pricing: Examination of Frameworks that Shape Opinion conducted by Nataly Sanjur-Bustamante. I have understood the nature of

this project and wish to participate. I am not waiving any of my legal rights by signing this form. My signature below indicates my consent.

Signature   **Date**
Participant

Signature   **Date**
Principal Investigator

I _____ consent to completing an online questionnaire to be used to be analyzed to generate findings for the thesis Public Opinion on Carbon Pricing: Examination of Frameworks that Shape Opinion by Nataly Sanjur-Bustamante.

Signature: Date:

_____   _____
       Participant: (name)