Promoting Climate Engagement in B.C.: Reactive and Proactive Strategies

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1. Introduction

1.1 Support for Climate Policy is Weakening at a Critical Moment in B.C.

British Columbia (B.C.) positions itself as a world leader in climate action, and in many ways, this ***has*** been the case up to now. Between 2006 and 2009, the Gordon Campbell B.C. Liberal government brought in North America's most substantial carbon tax, alongside other forceful climate policies which have reduced the province's emissions substantially (Rhodes et al., 2014). While the tax was initially set at a revenue-neutral level of $10 per tonne (Rhodes et al., 2014), the B.C. New Democratic Party (NDP) raised it to a far more ambitious $80 per tonne, and had been planning to continue raising the tax until it hit $170 per tonne in 2030 (Bennett, 2024), in line with the carbon price under the Canadian federal backstop. However, the most recent provincial election saw something of a change of fortunes for the B.C. carbon tax. Although the NDP stood firm behind their support for an ***industrial*** carbon tax, they promised to completely remove the consumer carbon tax on individual British Columbians, should the federal carbon pricing backstop ever be lifted (Bennett, 2024). Going further, the Conservative party of B.C. (which only narrowly missed out on a majority in the election, and which was led by John Rustad, a member of the B.C. Liberal government that initially introduced the carbon tax), promised to remove ***all*** carbon taxes in British Columbia, should they be elected.

The fate of the carbon tax in the most recent election is likely symptomatic of a broader decline in climate engagement in B.C., and Canada as a whole. While climate change ranked as a top concern among British Columbian voters in 2007, it has since fallen far down the list, and is ranked as the most important issue by only 4 per cent of respondents (Bennett, 2024). In the rest of Canada, longitudinal surveys report that Canadians' willingness to act on climate change has declined over the past year, as has their belief that their actions could have any impact on climate change (PARCA Canada, 2023c). This precipitous drop in climate engagement, in a province that was once a world leader in climate action, is cause for concern.

The following literature review is intended to inform a series of scoping workshops that will bring together experts on climate engagement and action from across B.C. and Canada, with the goal of developing a research project to help inform the direction of future climate policy in the province. In pursuit of that goal, this review will describe some of the most likely causes and culprits for the reduction of climate engagement in B.C., before suggesting reactive and proactive strategies to address the situation and increase engagement. It will highlight gaps in the literature that offer important directions for future research, as well as opportunities to collaborate with similarly oriented research groups around Canada.

2. Reacting to the Climate Change Counter Movement

2.1 The Climate Change Counter Movement

In direct contravention of the scientific consensus, an organized group of actors have spent the past half a century campaigning, distorting, and minimizing the impacts of climate change, as well as criticizing any domestic or international policies proposed to address it (McKie, 2019). This group of actors, referred to as the Climate Change Counter Movement (Boussalis & Coan, 2016; Brulle, 2014; Dunlap & McCright, 2015; Farrell, 2016a; Farrell, 2016b), is made up of a collection of fossil fuel companies, conservative foundations, think tanks, front groups, and Astroturf organizations (Dunlap & McCright 2010; McKie, 2019), whose aim is to protect the interests of the fossil fuel industry, and to ensure it can continue to accumulate wealth through the extraction and consumption of fossil fuels (Boussalis & Coan, 2016; Dunlap & McCright, 2015; Farrell, 2016b). Since fossil fuel extraction is a major driver of climate change (Lamb et al., 2020; Levy & Egan 2003; IPCC, 2021), the Climate Change Counter Movement represents an organized attempt by the richest industry on earth to protect its source of capital, by slowing or stopping the advancement of climate action (Boussalis & Coan, 2016; Dunlap & McCright 2015; Farrell, 2016b; McKie, 2019).

The Corporate Mapping Project (2024), hosted at the University of Victoria and involving academics from 25 universities, has successfully mapped the work of these organizations, and their relationships to one another, within Canada. Three of the most important member organizations of the Climate Change Counter Movement in B.C., and their actions within the province, are described in detail in section 2.2.7.

The Climate Change Counter Movement employs a number of strategies to achieve its goals, ranging from the outright use of coercive violence (Feng et al., 2020), to less overt tactics such as public relations campaigns (Sassan et al., 2023), and lobbying (Nanko & Coan, 2024). They have also historically denied the reality and human causation of climate change, voiced skepticism of its impacts, and attacked the scientists who study it (Farrell et al., 2019; Harvey et al., 2018; Lamb et al., 2020; Oreskes & Conway, 2011; Painter et al., 2023).

Although flat-out denial of climate change is still common in right-wing media circles (Painter et al., 2023), such tactics seem to be growing outdated, as they become less plausible in the face of increasingly frequent natural disasters and extreme weather events (Shue, 2023). In their place, the Climate Change Counter Movement is adopting a diverse array of newer, more advanced tactics, collectively known as “climate delay discourses” (Lamb et al., 2020).

2.2 Climate Delay Discourses

Rather than targeting the veracity or importance of human-caused climate change, climate delay discourses aim to slow climate action by exploiting legitimate policy discussions about what action should be taken on climate change, who bears responsibility, and where costs and benefits should be allocated, to create political deadlock or a sense that there are intractable obstacles to taking action (Lamb et al., 2020). Climate delay discourses are particularly relevant to the Canadian context, because the federal government's strategy of "strategic ambiguity" on the fate of its fossil fuel industry has encouraged domestic proponents of fossil fuels to favour their use in recent years (Chen, 2023).

In the most influential work on the topic, Lamb et al. (2020) created an extensive (though not exhaustive) typology of climate delay discourses, generated through a three-stage deductive research process. The researchers began by eliciting a group of experts in climate policy to construct a collaborative document listing every climate delay discourse they had encountered in their work, before identifying quotes and statements relating to each discourse in prominent media sources from Germany, the U.K. and the U.S.A. Once these two stages were complete, they conducted a literature review which identified four key questions:

1) Is it our responsibility to take actions?
2) Are transformative changes necessary?
3) Is it desirable to mitigate climate change, given the costs?
4) Is it still possible to mitigate climate change?

Based on their varying answers to these four questions, Lamb et al. (2020) grouped twelve climate delay discourses into four categories. Discourses in each of these categories acted to "redirect responsibility" for climate action, "push non-transformative solutions" to the climate crisis, "emphasize the downsides" of climate policy, or "surrender" to climate change.

Before describing each of these twelve discourses in detail, it is important to note that climate delay discourses are not voiced exclusively by the Climate Change Counter Movement. These discourses can also often contain partial truths, and may even be put forward in good faith (Lamb et al., 2020).

Lamb et al. (2020) emphasize that the categorization of a discourse as encouraging climate delay does not ***necessarily*** attribute any underlying motive or intentionality to its author. The important thing is that a climate delay discourse has the harmful ***effect*** of delaying climate action, regardless of whether it was intended to do so or not.

2.2.1 Discourses that "Redirect Responsibility"

Lamb et al. (2020) argue policy statements become discourses of delay when they redirect the responsibility for mitigating climate change away from governments and corporations.

Discourses that "redirect responsibility" often grapple with ***real*** challenges inherent to any attempt to design fair and comprehensive responses to climate change, but they set unrealistic conditions for taking action, and imply others have to take the lead before we consider taking action ourselves. In doing so, these arguments downplay the escalating costs

of delaying climate action, and the advantages that come from multiple entities collaborating to prevent climate change (Lamb et al., 2020).

2.2.1.1 Individualism

"Individualism" discourses redirect responsibility by emphasizing the importance of individual actions (such as renovating one's home or eating less meat) over systemic solutions to the climate crisis (Lamb et al., 2020). This discourse focuses discussions around the solutions to the climate crisis solely on personal consumption choices, obscuring the role of industry and government in shaping those choices (Maniates, 2001). More productive discourses of individual responsibility could emphasize the potential for collective individual actions to build normative pressure to encourage stronger government regulation, or recognize that systemic changes can actually ***support*** individual behaviour change.

Examples of "individualism" can be explicit, such as in Yale University's statement that its guiding principles **"**are predicated on the idea that consumption of fossil fuels, not production, is the root of the climate change problem", or implicit, as was the case in BP's massively successful social media campaign which emphasized the importance of individuals' "carbon footprints" (Lamb et al., 2020).

2.2.1.2 Whataboutism

"Whataboutism" discourses argue other countries or states should bear the responsibility for taking action, because they produce more greenhouse gas emissions than the home nation (Lamb et al., 2020). Those who use this discourse often employ statistics that demonstrate their own small contribution to global emissions, while pointing to larger emitters such as China as the ones who "really need to change". This discourse ***can*** be used to compare nations, but can also be leveraged at the industry or sector level, with corporations pointing fingers at one another to avoid taking responsibility for climate change themselves.

For example, Haney (2022) found that workers in the oil and gas industry in Alberta often shifted responsibility for climate change onto coal, arguing the coal industry was the real problem both domestically and abroad, and that they should be the target of government regulation, rather than the oil and gas industry.

2.2.1.3 The "Free Rider Excuse"

Discourses that use the "free rider excuse" claim outside parties will actively take advantage of any who take the lead on climate change mitigation (Lamb et al., 2020). Most who use this discourse claim that other countries or organizations will negate any effort to reduce emissions by increasing their own, or that reducing emissions will put countries at an economic disadvantage, which will be taken advantage of by others on the world stage.

Chen (2023) provides a Canadian example of the "free rider excuse" through an

analysis of Toronto media coverage of post-pandemic economic recovery efforts, which found that right-wing media repeatedly argued that greening the Canadian economy would hinder its competitiveness.

2.2.2 Discourses that "Push Non-Transformative Solutions"

Lamb et al. (2020) argue policy statements become discourses of delay when they promote ineffective incremental solutions, drawing attention away from more substantial measures that threaten existing power structures and practices. These discourses might do this by claiming that unrealistic imaginary technologies make other environmental policies unnecessary, by positioning fossil fuels as a necessary part of the solution to climate change, or by setting ambitious climate targets without implementing any of the changes necessary to achieve them.

2.2.2.1 Technological Optimism

Discourses of "technological optimism" argue future technological progress will rapidly bring about emissions reductions, making other changes unnecessary (Lamb et al., 2020). While such optimism may be warranted in some cases, this discourse is often accompanied by empirically unsupported claims, such as: technological progress requires only market-based incentives, rather than regulation; breakthroughs are imminent; or rapid renewable deployment makes stringent policy measures unnecessary (Lamb et al., 2020).

"Technological optimism" can also manifest as the promotion of technologies that fail to manifest within the promised timeframe, and tend to be substituted by new ones (e.g., zero-carbon planes, or fusion power) (Peeters et al., 2016).

2.2.2.2 Fossil Fuel Solutionism

The "fossil fuel solutionism" discourse claims fossil fuels are becoming cleaner and more efficient, and that the fossil fuel industry is thus a necessary part of the ***solution*** to climate change (Lamb et al., 2020). This discourse is integral to the fossil fuel industry's pushback against regulation, and often emphasizes that local fossil fuel production is "cleaner" than fossil fuels produced in other countries, meaning that it is frequently paired with "whataboutism". Of course, this narrative stands in direct contradiction of the established evidence on the changes required to mitigate the impacts of climate change (Lamb et al., 2020).

There are many examples of "fossil fuel solutionism" within Canada. In B.C., The Business Council of British Columbia has repeatedly argued the fossil fuels produced in Canada are less carbon-heavy than those produced in the rest of the world, and that Canada would thus be able to "make an outsized reduction in global emissions" by fast-tracking the oil and gas industry (Corporate Mapping Project, 2024). This claim is in direct contradiction of the finding that oil from the Canadian oil sands is

roughly 21 per cent more polluting than conventional crude oil (Cai et al., 2015), and that fracked natural gas may be as emissions intensive as coal, if not more so (Howarth, 2015).

2.2.2.3 All Talk, Little Action

The "all talk, little action" discourse establishes narrow definitions of success, and points to the setting of ambitious climate ***targets***, so a country or industry can declare its leadership in the fight against climate change while taking little actual action (Lamb et al., 2020). This discourse can also highlight recent advances towards ***unambitious*** climate targets, thus downplaying the need for more stringent or new types of additional action (Gillard, 2016). While setting ambitious long-term targets is an important first step towards effective climate action, and can satisfy public demands for climate policy, these targets are not guaranteed to translate into actual climate action unless they are paired with concrete instruments and strong policies (Bache et al., 2015; Lamb et al., 2020).

The Government of Alberta's recently-announced 2050 climate targets offer a good example of "all talk, little action", as they set the ambitious goal of achieving a net-zero carbon neutral economy by 2050, while providing no strong implementation plan. Alberta set these goals even while acknowledging they had yet to undertake the comprehensive research required to understand the technologies and costs it would need to achieve its goal. (Government of Alberta, 2025).

2.2.2.4 No Sticks, Just Carrots

"No sticks, just carrots" discourses argue restrictive measures such as taxes or frequent-flyer levies are too paternalistic and burdensome for citizens, and should be abandoned altogether in favour of voluntary policies that expand consumer choices, such as funding high-speed rail to substitute flights (Lamb et al., 2020).

The Business Council of British Columbia provides another example of "no sticks, just carrots" in B.C., when they argue the province's carbon tax is too high to be effective, and claim it will lead to "carbon leakage" as companies move overseas to avoid carbon costs (Corporate Mapping Project, 2024).

2.2.3 Discourses that "Emphasize the Downsides"

Policy statements become discourses of delay when they emphasize the downsides of climate action, and imply these carry an even greater burden for society than the consequences of inaction (Lamb et al., 2020). This delay discourse is often present in discussions about the potential effects of climate policies on employment, general prosperity, and "way of life", and is particularly common in discussions about the impacts of climate policy on low-income members of society, marginalized communities, and developing nations (Lamb et al., 2020).

2.2.3.1 Appeal to Social Justice

The “appeal to social justice” discourse foregrounds social impacts in policy discussions, framing a climate transition as burdensome and costly, particularly to disadvantaged members of society. Such issues are a legitimate and vital element of climate policy deliberations, but their discussion can become a discourse of delay when it fails to address the impacts of failure to address climate change on these groups, and disregards the potential benefits of a transition, such as improved public health, regional development, and greater community resilience (Lamb et al., 2020).

Examples of the “appeal to social justice” are evident in Toronto media coverage of post-pandemic economic recovery efforts, where newspapers often foregrounded “the suffering of the working class” to undermine the legitimacy of a green transition (Chen, 2023), or in the co-option of well-meaning “just transitions” policy discussions to obstruct climate action (Harry et al., 2024).

2.2.3.2 Appeal to Wellbeing

The “appeal to wellbeing” discourse falsely frames climate policies as regressive, claiming they threaten fundamental quality of living standards. These discourses overstate the disruption that would come with an orderly transition away from fossil fuels, and are linked to ongoing efforts to situate fossil fuels as the irreplaceable foundation of human well-being and poverty reduction (Lamb et al., 2020).

“Appeals to wellbeing” are one of the most common delay discourses espoused by residents of Canada’s oil country. Haney (2022) found that Albertan participants emphasized the ubiquity of oil and gas products in people’s lives, with one gesturing to the interviewer’s sweater, before saying “take everything that has been touched by oil and gas out of your life and what do you have? You are living . . . under a tree naked, basically.” (Haney, 2022, p. 18).

2.2.3.3 Policy Perfectionism

The “policy perfectionism” discourse argues for disproportionate caution in the design of climate policy, supposedly to maintain public support and avoid negatively affecting quality of life. While this might be a sensible claim, it becomes a delay strategy when its advocates ignore the need for outreach and public deliberation work to generate consensus on just policies, and build support towards more ambitious solutions (Lamb et al., 2020).

2.2.4 Discourses that Aim to Make People "Surrender"

According to Lamb et al. (2020), policy statements become discourses of delay when they raise doubt that mitigation is still possible, and make out the political, social and biophysical challenges to the mitigation of climate change are insurmountable.

2.2.4.1 Change is Impossible

The "change is impossible" discourse argues any strong climate policy will inevitably impinge on current ways of life or run against human nature, to the extent that its implementation is doomed to failure (Lamb et al., 2020). This discourse reifies the current state of things, and denies societies have the ability to organize large socio-economic transformations. Rather than searching for a way to overcome these challenges, those who claim "change is impossible" suggest surrendering, or at best adapting, to climate change. This discourse can be paired with those that "push non-transformative solutions" to draw focus away from stringent transformative policies and towards technology or market-based measures with minimal forceful interventions.

2.2.4.2 Doomism

Finally, the "doomism" discourse argues any actions we take are already too little, too late, and catastrophic climate change is already locked in. Whether intentionally or not, such statements evoke fear and can result in a state of paralysis, shock, resignation, or apathy (Hulme, 2020; Lamb et al., 2020).

2.2.5 Academic Research into the Climate Delay Discourses

Several studies have already sought to learn more about the impact of Lamb et al. (2020)'s climate delay discourses across a number of contexts. The most relevant of these are discussed below.

Within Canada, Chen (2023) performed a thematic analysis of texts published by Toronto media sources to determine whether climate delay discourses were being used to push for the prioritization of economic recovery from the COVID-19 pandemic over climate change mitigation. Their analysis identified three competing storylines in the Toronto media sphere, which envisioned different fates for Canada's fossil fuel sector as part of the post-pandemic economic recovery. Two of these storylines, present in the vast majority of articles included in the study (111 of 127 articles), were supportive of climate change mitigation efforts. However, the third storyline (while present in only 16 of the 127 articles) used a number of narratives that could be described as climate delay discourses to advocate for the federal government to provide financial support to strengthen extractive industries in the wake of the pandemic. The first of these was a novel delay discourse which emphasized the importance of post- pandemic economic recovery over climate

change mitigation, despite the potential for strong climate policy to advance both economic recovery ***and*** climate change mitigation simultaneously (Ecker et al., 2020). Since this discourse is contextually-bound to the COVID- 19 pandemic it won't be included in the expanded typology of delay discourses used in this review, but its existence does illustrate the worrisome potential for climate delay discourses to rapidly mutate and evolve in response to current events.

Chen (2023) also identified several narratives which map closely onto established climate delay discourses being used by the Toronto media, including examples which resemble: "the free-rider excuse" (claiming greening the Canadian economy would hinder its competitiveness on the world stage); "fossil fuel solutionism" (calling renewable energy unreliable and expensive, to suggest the fossil fuel sector would play a vital role in Canada's post-pandemic recovery); and the "appeal to social justice" (foregrounding the suffering of the working class to undermine the legitimacy of green transformation). While these narratives were present in only a fraction of the articles included in Chen (2023)'s review, it is important to note Toronto, like other Canadian metropolises, is known for its progressive political leaning. This makes the Toronto media sphere less amenable to the arguments of the Climate Change Counter Movement than more rural or conservative environments might be, suggesting climate delay discourses may be more prevalent in such contexts.

Opportunities for Future Research:

⇒ Investigate the presence and prevalence of climate delay discourses in more rural and conservative media environments in B.C. and Canada.

In an international context, Painter et al. (2023) investigated the presence of climate delay discourses in international television coverage of the Intergovernmental Panel on Climate Change's (IPCC) 2021 Working Group I report on Physical Science. In line with Chen (2023), they found usage of climate delay discourses varied between mainstream and right-wing television media sources. In general, mainstream media channels' reports followed the science of the IPCC report much more accurately than those of right-wing channels, although they did still advance two climate delay discourses by highlighting the economic costs of taking climate action (resembling "appeal to social justice", present in four of 19 programs), and questioning whether climate action would involve too much personal sacrifice (resembling the "appeal to wellbeing", present in four of 19 programs). While right-wing media sources used a wider variety of climate delay discourses, they still displayed a strong preference for narratives resembling the "appeal to social justice" (six of 11 programs) and "whataboutism" discourses (six of 11 programs). While this analysis provides important insights into the presence of climate delay discourses in global media coverage of climate change, Painter et al. (2023) did not include Canadian media sources in their analysis, leaving an opportunity for future research to fill this gap.

Opportunities for Future Research:

⇒ Analyse mainstream and right-wing B.C. and Canadian media or social media coverage of IPCC reports, to better understand the usage of climate delay discourses in B.C. and Canadian media beyond the exceptional circumstances of the COVID-19 pandemic.

Moving away from media analysis, Harry et al. (2024) warn climate delay discourses could be mobilized to co-opt well-meaning "just transitions" policy discussions to obstruct climate action. Just transitions policies are a relatively novel approach to climate policy design, which aim to address the disproportionate impacts of decarbonization on fossil fuel workers and their communities (Carley and Konisky 2020; Evans and Phelan 2016; Marshall and Pearse 2024; Wang and Lo 2021). These policies offer an opportunity to rally labour unions and workers behind ambitious climate action, while insisting efforts towards decarbonisation are not made at the cost of fossil fuel workers and their communities (Harry et al., 2024). Unfortunately, the concept of a just transition is new and still pliable, and Harry et al. (2024) map several ways in which the Climate Change Counter Movement is attempting to shape its development to delay climate action until the fossil fuel industry has manoeuvred itself into a position to control and profit from the global energy transition. These include the explicit use of several of Lamb et al. (2020)'s climate delay discourses, including "fossil fuel solutionism", the argument that "change is impossible", and most explicitly the "appeal to well-being", "appeal to social justice" and "policy perfectionism" discourses. Given the Canadian federal government has recently signed the Sustainable Jobs Act (intended to facilitate a just transition within Canada) into law (Government of Canada, 2024), it is vital to investigate how climate delay discourses might be being used to co-opt such discussions to delay climate action.

Opportunities for Future Research:

- ⇒ Investigate the presence of climate delay discourses in the Canadian federal government's public engagement processes
- ⇒ Model the potential impact of actual and proposed Canadian "sustainable jobs" policies, to identify policies that serve to delay climate action.

Kulin and Rhodes (submitted) conducted the first representative survey of belief in climate delay discourses, to quantify public endorsement of each discourse in the U.S., and its impact on climate policy support. They used a polling company to collect a sample of 1,580 U.S. citizens, which was representative of the U.S. population according to gender, age, education, and regional residency. They measured belief in the climate delay discourses using one survey item taken from the supplemental materials of Lamb et al. (2020)'s original study, as well as three additional survey items which they developed for each discourse. Using only Lamb et al. (2020)'s original items, they found the U.S. public most strongly endorsed "technological optimism" at a rate of 65.4 per cent, followed by "individualism" (53.8per cent), and "policy perfectionism" (52 per cent). When including the additional survey items they had designed, Kulin and Rhodes (submitted) found that "technological optimism" was still the most strongly endorsed discourse (52.1 per cent), followed by "fossil fuel solutionism" (51.8 per cent), "whataboutism" (48.1 per cent) and "appeal to wellbeing" (48.1 per cent).

Perhaps the most significant contribution of this study was its finding that climate delay discourses do indeed significantly undermine public support for climate policy, at least in the United States. Kulin and Rhodes (submitted) included two measures of policy support in their survey: one general measure focusing on demand for more government action on climate change, and one measure that combined support for a range of specific climate policies. They found "whataboutism" had a particularly significant impact on policy support, with U.S. citizens who endorsed this discourse being significantly less likely to support both a general call for more government action on climate change ($\beta = -0.207$, $p < 0.001$), as well as specific climate policies ($\beta = -0.214$, $p < 0.001$). Agreement with the "appeal to social justice" discourse was also

associated with significantly lower support for both general government action ($\beta = -0.143$, $p < 0.01$) and specific climate policy ($\beta = -0.142$, $p < 0.001$), as was "no sticks, just carrots" ($\beta = 0.183$, $p < 0.001$; $\beta = -0.085$, $p < 0.001$). "All talk, little action" negatively predicted support for general government action ($\beta = -0.129$, $p < 0.01$) but not specific policies, and the "free rider excuse" predicted support for specific climate policies ($\beta = -0.085$, $p < 0.01$) but not general government action.

Interestingly, agreement with both "individualism" and "technological optimism" significantly predicted increased support for both measures of climate policy, which is a finding that should be explored further in future research.

This research is the first to provide vital insights into the impact of the climate delay discourses on public support for climate policy, which can help researchers and policymakers to identify the best targets for future efforts to combat the climate delay discourses. However, since Kulin and Rhodes' (submitted) study is correlational in design, it cannot prove that belief in the climate delay discourses causes a reduction in support for climate policy. It is possible instead that participants who oppose climate policy may express support for climate delay discourses having never seen them before, due to a third variable such as disbelief in climate change.

Opportunities for Future Research:

- ⇒ Use an experimental design to determine whether there is a causal relationship between exposure to the climate delay discourses and public climate engagement
- ⇒ Investigate whether "individualism" and "technological optimism" predict increased support for climate policy in Canada, and if so, why

Opportunity for Collaboration:

- ⇒ Collaborate with University of Victoria's Dr. Ekaterina Rhodes, who has applied for funding to conduct a representative survey to quantify belief in climate delay discourses, and their impact on climate policy support in Canada and B.C.

2.2.6 Climate Delay Discourses in the Public

Although climate delay discourses and denialism originate from elite members of the Climate Change Counter Movement, research suggests this elite-led counter movement has successfully become populist, and is now being furthered by unassociated members of the general public (Jacques & Knox, 2016). As such, it is important for researchers to study how these delay discourses are being used by the public, and by whom.

Sylla et al. (2022) conducted research to this effect when they investigated whether Democrats and Republicans favoured different delay discourses in their discussions of climate change. They conducted their research on the social media site Reddit, arguing such websites determine which topics become foci in the contemporary discourse, and gathered their data by using Python to scrape posts and comments from two party-specific subreddits, "r/democrats" and "r/republican". They conducted a deductive content analysis,

sorting all comments and posts into one of Lamb et al. (2020)'s four categories of delay discourses, and found Democrats favoured the "surrender" (33 per cent of posts and comments) and "push non-transformative solutions" discourses (31 per cent), while Republicans favoured "redirect responsibility" (41 per cent) and "emphasize the downsides" (33 per cent). This research suggests there are group differences in the endorsement of climate delay discourses, although this is only a preliminary finding.

Opportunities for Future Research:

- ⇒ Investigate whether support for Canadian or B.C. political parties predicts the use of climate delay discourses, and whether a similar distinction between the political left and right emerges in this context. Such research may be strengthened by considering all 12 of Lamb et al. (2020)'s climate delay discourses, rather than only the four overarching categories.
- ⇒ Identify mechanisms that explain political differences in the use of climate delay discourses, for example: are those on the political left and right being exposed to different delay discourses, or are they interpreting the same information differently?

Research suggests the delay discourses espoused by the general public don't always map neatly onto Lamb et al. (2020)'s typology of the discourses of climate delay. For example, Cherry et al. (2024) investigated how delay discourses manifested within a series of novel public deliberation workshops designed to explore visions of a l.5 Celsius future in the U.K., and identified four categories of climate delay discourses, which they termed: "resisting personal responsibility"; "rejecting the need for urgency"; "believing change is impossible"; and "defending the social contract". Two of these closely mapped onto Lamb et al. (2020)'s existing discourses. "Resisting personal responsibility" resembled "redirecting responsibility", with participants arguing climate action should be delayed until a theoretical time at which everyone acts together, while "believing change is impossible" was similar to "surrender", with participants arguing climate action was impossible on both an individual and societal level. The third, "rejecting the need for urgency", was quite similar to the "push non-transformative solutions" category of delay discourses, as it linked technological optimism and a support for "mostly carrots, gentle sticks" with an additional belief that participants' current ineffective behaviour was "already enough" to prevent climate change. However, Cherry et al. (2024) also identified one entirely novel climate delay discourse, "defending the social contract". This discourse reflected an underlying belief in the importance of freedom of choice within modern society, and a feeling that people are entitled to what social norms define as the "good life" (e.g., a large house, nice car, and holidays abroad). This fourth discourse is somewhat similar to the "appeal to wellbeing", but with a stronger emphasis on freedom of choice drawn from British cultural norms (Cherry et al., 2024). For that reason, it is not included as an additional discourse in this review's typology of climate delay discourses, as it is tied to the British context. However, the implication climate delay discourses may interact with an individual's cultural experiences to produce culturally specific discourses of delay should be explored within the Canadian context. There is precedent for such findings in the psychological literature, as people with different values, ideologies and worldviews have been found to process uncertain or conflicting evidence very differently (Martel-Morin & Lachapelle, 2022).

Opportunities for Future Research:

- ⇒ Investigate how the climate delay discourses are internalized, broken down and then voiced by the public in different contexts and cultures.
- ⇒ Identify climate delay discourses which are specific to the Canadian context.

Qualitative research from Alberta suggests the Climate Change Counter Movement's discourses may sometimes be repeated wholesale by the general public. Haney (2022) conducted a qualitative investigation of climate change beliefs among victims of flooding in Calgary, and reported quotes which bore a striking resemblance to Lamb et al. (2020)'s "appeal to wellbeing". For example, one participant gestured to the interviewer's sweater before saying:

"Take everything that has been touched by oil and gas out of your life and what do you have? You are living . . . under a tree naked, basically." (Haney, 2022, p. 18)

In total, Haney (2022) identified four discursive approaches that Albertans used to explain their views on climate. These were:

1) Expressing disbelief in the scientific consensus on climate change
2) Expressing distrust in scientists (though some did trust scientists to one day prove climate change is not caused by humans)
3) Defending the oil and gas industry while blaming other nations and other fuel sources for climatic changes
4) Suggesting solutions for the climate crisis that were both at odds with scientific positions, and less of a threat to the profitability of Alberta's oil and gas industry.

While the first two discursive strategies reflect climate change denial, the latter two closely resemble two of Lamb et al. (2020)'s discourses of climate delay, namely "whataboutism" and "fossil fuel solutionism". This suggests that the general public may sometimes internalize the narratives spread by the Climate Change Counter Movement and repeat them wholesale, which is a concerning prospect that warrants future research.

Opportunities for Future Research:

- ⇒ Since Haney (2022)'s research reflects an internalization of both older denial and newer delay discourses, an interesting avenue for future research would be to track how the public's use of fossil fuel narratives evolves, as delay discourses become more common.
- ⇒ Investigate which individual factors make some people more susceptible than others to internalizing the Climate Change Counter Movement's narratives. For example, the above qualitative research suggests employment or residence in fossil fuel communities may be a strong predictor, but other explanations could include popular psychological theories such as "system justification" (Jost, 2019), or cognitive dissonance avoidance (Festinger, 1962).

2.2.7 The Use of Climate Delay Discourses by the Climate Change Counter Movement in B.C.

According to the Corporate Mapping Project (2024), the Climate Change Counter Movement in B.C. operates through three main "legitimators". Legitimators are organizations that aim to persuade the public or political elites to delay action on climate change. These can be industry associations, think tanks, lobby groups, business councils, or pro-oil advocacy groups. Within B.C., the three main legitimators are the Business Council of British Columbia (BCBC), Resource Works, and the Fraser Institute.

The BCBC is a prominent industry association with more than 250 member companies and organizations, which promotes policies emphasizing low taxes, deregulation, and support for fossil fuel industries. The BCBC is also a powerful lobbyist against government policies on climate change, and advocates for the construction of new pipelines and fracking operations throughout the province (Corporate Mapping Project, 2024). Their lobbying efforts appear to have been quite successful, as the province signed a memorandum of understanding with the BCBC in 2018 which agreed to develop an "industrial strategy that transitions B.C. into a low-carbon economy leader" (British Columbia Government, 2018). While this seems like a positive step, this memorandum defined a "low-carbon economy" as one which included a dramatic increase in the production and export of fossil fuels (Corporate Mapping Project, 2024).

In pursuit of its goal to support fossil fuel industries, our analysis suggests that the BCBC advances a number of climate delay discourses within B.C. It repeatedly combines "fossil fuel solutionism" and "whataboutism" in its messaging, by arguing fast-tracking the oil and gas industry in Canada will actually ***reduce*** global emissions, because the fossil fuels produced in Canada are ostensibly less carbon-heavy than those produced in the rest of the world (Business Council of British Columbia, 2019). These claims stand in direct opposition to findings that oil extracted from the Canadian oil sands is roughly 21per cent more polluting than conventional crude oil (Cai et al., 2015), and that fracked natural gas may be equally emissions intensive as coal, if not even more so (Howarth, 2015). Concerningly, the Climate Change Counter Movement's repeated emphasis on "fossil fuel solutionism" seems to be having an effect in Canada, as large-scale public opinion surveys have found there is strong support for growing the oil and gas industry in Canada (Re.Climate, 2023; PARCA Canada, 2023b), and the Canadian public has a poorly defined vision of a clean energy future which includes a widespread sense that we can have clean energy and go on burning fossil fuels, too (Re.Climate, 2023). The BCBC also advances the "no sticks, just carrots" discourse by arguing B.C.'s carbon tax is too high compared to other jurisdictions. They argue this might cause "carbon leakage", as companies move overseas to avoid carbon costs, despite the disputed veracity of the concept of "carbon leakage" (Carbon Market Watch, 2015).

Resource Works is a research and advocacy organization launched by the BCBC in 2014, which produces reports, news commentaries, and videos to bolster the fossil fuel industry's reputation as a vital part of B.C.'s economy, while sidelining its impacts on the climate (Corporate Mapping Project, 2024). While the organization is presented as a grassroots

citizens' initiative, it was created and is led by pro-business elites. Similarly to the BCBC, our analysis suggests that Resource Works repeatedly uses "fossil fuel solutionism" to position liquified natural gas (LNG) as a clean fuel that will act as a "bridge" in the transition to non-fossil-fuel energy sources, disregarding evidence the fracked natural gas slated for use in B.C.'s nascent LNG terminals may have a similar climate impact to coal (Corporate Mapping Project, 2024; Howarth, 2015). Resource Works also seems to use the "change is impossible" discourse when it presents a transition away from fossil fuels as an important but very distant goal that will not be seen "any time soon, probably not in our lifetimes, but sometime late this century or early next." (Resource Works, 2017).

Finally, the Fraser Institute is a right-wing free-market think tank which advocates for neoliberal economic policies through its in-house research and media commentary activities (Corporate Mapping Project, 2024). Through its proclaimed mission of "advancing the wellbeing of all Canadians", the Fraser Institute could be said to advance the "appeal to wellbeing" and "no sticks, just carrots" discourses, given its prioritization of the free market as the solution to social and economic problems, and its vocal opposition to government regulation.

Opportunities for Future Research:

⇒ Conduct a qualitative content analysis of the campaign media produced by each of the political parties in the most recent B.C. provincial election, to identify which delay discourses are in use, by whom, and how often. There are many benefits to the use of qualitative research methods, which are outlined in Lloyd and Gifford (2024).

Opportunity for Collaboration:

⇒ Collaborate with the Corporate Mapping Project to conduct a qualitative content analysis to identify climate delay discourses in the content produced by these three legitimators in B.C.

Table 1. Summary of the Most Relevant Climate Delay Discourses in B.C. and Canada.

Delay discourses	Source	Evident in B.C.?	Evident in Canada?	Relevant to "Sustainable Jobs"?	Negative Impact on (US) climate policy preferences?	Endorsed by the majority of US citizens?	Present in global media coverage of IPCC reports?
INDIVIDUALISM	Lam et al. (2020)					✓	
WHATABOUTISM	Lam et al. (2020)	✓	✓✓		✓		✓
THE 'FREE RIDER' EXCUSE	Lam et al. (2020)		✓		✓		
TECHNOLOGICAL OPTIMISM	Lam et al. (2020)					✓	
FOSSIL FUEL SOLUTIONISM	Lam et al. (2020)	✓✓	✓✓✓	✓		✓	
ALL TALK, LITTLE ACTION	Lam et al. (2020)				✓		
NO STICKS, JUST CARROTS	Lam et al. (2020)	✓✓			✓		
APPEAL TO SOCIAL JUSTICE	Lam et al. (2020)		✓	✓	✓		✓
APPEAL TO WELLBEING	Lam et al. (2020)	✓	✓✓	✓			✓
POLICY PERFECTIONISM	Lam et al. (2020)			✓		✓	
CHANGE IS IMPOSSIBLE	Lam et al. (2020)	✓		✓			
DOOMISM	Lam et al. (2020)						

2.3 Reactive Strategies to Combat Climate Denial and Delay Discourses

As evidenced by the current state of climate policy and public opinion around the globe, pro-climate communication research is currently lagging significantly behind the Climate Change Counter Movement. While the work of Lamb et al. (2020) and others in cataloguing discourses of climate delay and denial is an important first step in reacting to the Climate Change Counter Movement, research has yet to progress beyond this stage, and thus there are no empirically proven strategies for defending against discourses of climate delay.

Opportunities for Future Research:

⇒ Research that devises and tests strategies to defend against climate delay discourses will be of vital importance to future global climate action

However, while there is no research into defenses against the climate delay discourses, there is some fledgling research into strategies that can be used to defend against climate change denial. This research may be able to inform future delay-focused research efforts, and so is discussed below.

One strategy which has received considerable attention in the psychological literature is an approach known as "inoculation". Inoculation theory conceptualizes the process through which misinformation spreads as similar to a metaphorical "contagion", and argues the rate at which misinformation spreads can be slowed through a process known as "attitudinal inoculation" (Papageorgis & McGuire, 1961). Much as how resistance to a real virus can be conferred by exposing someone to a weakened version of said virus, attitudinal inoculation works by warning people they may be exposed to information that challenges their existing beliefs or behaviors, presenting them with weakened examples of that misinformation, and then explaining why said information is false (also known as "pre-bunking"; van der Linden et al., 2017). The efficacy of inoculation in countering general misinformation has been demonstrated across a variety of applied contexts, including in public health (Maibach & Parrott, 1995) and political campaigning (Pfau & Burgoon, 1988). Van der Linden et al. (2017) extended this research to demonstrate that inoculation can also protect people against the effects of misinformation about the scientific consensus on climate change. Importantly, they found inoculation proved equally effective across the political spectrum, suggesting it could be a promising approach to combat climate change denial. Lamb et al. (2020) extended this claim, positing that inoculation could be an effective way to counter climate delay discourses. As such, it seems a potentially useful direction for future research would be to test whether inoculation can protect the public against discourses of climate delay.

However, there are some important caveats to consider before investing in such a research project. The first comes from Spampatti et al. (2024), who tested the efficacy of six different inoculation strategies at combatting 20 real climate disinformation messages spread by members of the Climate Change Counter Movement on Twitter (now X). Across twelve countries, they found no evidence inoculation had any protective effect against climate disinformation. Based on these findings, they concluded inoculation may have no (or very limited) capacity to protect against climate change disinformation, and suggested systemic interventions such as content moderation, virality circuit breakers, de-platforming, or changing online engagement metrics towards the accuracy of information, may be better at curbing climate disinformation.

Opportunities for Future Research:

⇒ Given the Canadian federal government's Online News Act (Government of Canada, 2024) has recently caused the social media platform Meta to ban the sharing of news articles on its site, future research could investigate the impact this real-world example of a systemic intervention has had on belief in climate change misinformation in Canada versus, for example, the U.S.

Another important caveat about the potential for inoculation to combat climate delay discourses comes from Cherry et al. (2024), who point out inoculation can only be effective against arguments to which the public has not already been exposed. As such, we will need to find other strategies to address discourses of delay that are already entrenched within societal discourses. Cherry et al. (2024) further argue that due to the emotional content of many of the climate delay discourses, an approach based on information provision is unlikely to be effective. As such, they believe tackling climate delay discourses will require "a new approach to public engagement that supports the promotion of more positive and hopeful responses to debate surrounding climate action, and alters existing power dynamics to increase public agency" (Cherry et al., 2024, p. 9).

"Deliberative workshops" provide a promising mechanism to achieve this goal. Building on established techniques for engaging the public with climate and energy topics (Cherry et al., 2018; Cherry et al., 2022; Cherry et al., 2023; Corner et al., 2013; Demski et al., 2015; Macnaghten, 2010; Macnaghten, 2021), deliberative workshops bring members of the public together to learn about, discuss and then identify potential solutions to issues such as climate change. Lamb et al. (2020) support the idea of using deliberative workshops to overcome climate delay discourses, reasoning that "given the complex normative grounds on which they are founded, overcoming discourses of climate delay will require strengthened public deliberation processes that highlight responsibility, identify appropriate solutions, address social justice and ultimately show that it is both possible and desirable to mitigate dangerous climate change" (p. 5). There are already strong foundations in place to explore the impact of deliberative workshops on delay discourses in Canada, as the first ever citizens' assembly took place in B.C. between 2003 and 2004, on the topic of electoral reform. As part of this citizens' assembly, 160 British Columbians were randomly selected to come up with a new system for elections, and were promised their recommendation would be put to a referendum with the provincial government. Although the assembly's recommendation fell just short of achieving the 60 per cent support which would have seen it signed into law, B.C.'s pioneering vision was credited with starting a "deliberative wave" in governance throughout the world (OECD, 2020).

Climate assemblies offer a climate-change specific variation of deliberative workshops. Like citizens' assemblies, they gather a representative slice of a population through a lottery, to study, deliberate, and make recommendations about a specific climate-related topic. This approach to public deliberation offers many advantages to policymakers, which may make it an attractive proposition for future research. For example, because of their lottery selection approach to recruitment, participants are less likely to represent political interests, or those of the Climate Change Counter Movement, enabling them to be more impartial and adopt a longer-term perspective that takes future generations into account (Pek & Busaan, 2023). Climate assemblies are also perceived as being among the most trustworthy institutions to make decisions about highly charged topics (Pek & Busaan, 2023; Setälä et al., 2023), to the extent that public engagement with their outputs can even boost trust in other political institutions. When climate assemblies are used to help design policies, people see those processes as fairer, and are more inclined to accept outcomes that are undesirable to them (Germann et al., 2024; Pek & Busaan, 2023). Even more promisingly from the perspective of climate delay discourses, climate assemblies can help break political deadlocks on climate action by showing citizens are actually ahead of politicians and will support more radical action, can

reduce polarization around climate action, and can promote a more climate aware and politically confident citizenry (Smith, 2023). While there are some challenges inherent to running climate assemblies, including the need to moderate a highly diverse group of people discussing a politically charged topic, there are clear benefits to adopting this approach. Climate assemblies could be used to advise on the development and implementation of municipal climate strategies, or to reduce the ***effects*** of climate delay discourses by holding policymakers and politicians to account when they miss climate targets, and critically appraising proposed remedial actions (Pek & Busaan, 2023). Alternatively, Cherry et al. (2024) argue deliberative workshops could be used to build hopeful, co-produced visions of the future, and this could provide a pathway to dispelling discourses of climate delay by providing a positive view of the future to work towards (Sahakian et al., 2023). This argument aligns with recent theoretical perspectives emerging out of psychology, which claim "utopian thinking" (imagining an ideal future, and then contrasting that to the actual present) can increase public openness to radical systemic change, and motivate collective action to achieve it (Badaan et al., 2020).

Opportunities for Future Research:

⇒ Conduct climate assemblies in B.C., either for the purpose of increasing trust in/support for climate policy, holding politicians to account when they miss climate targets, or building hopeful co-produced visions of the future to help combat climate delay discourses

Opportunities for Collaboration:

⇒ Work with the University of Victoria's Dr. Simon Pek, who studies climate assemblies and "deliberative mini-publics"

Given the Canadian federal government's Online News Act (Government of Canada, 2024) has recently caused the social media platform Meta to ban the sharing of news articles on its site, future research could investigate the impact this real-world example of a systemic intervention has had on belief in climate change misinformation in Canada versus, for example, the U.S. Finally, Farrell et al. (2019) provide a list of four strategies that can be used to combat general scientific misinformation, which could serve as inspiration for future research into the mitigation of climate delay discourses. The first of these strategies, "inoculation", has already been discussed at length above, but Farrell et al. (2019) also suggest scientific misinformation can be combatted through the use of "legal strategies" (targeting industry actors' profits by holding them legally accountable for intentionally spreading harmful misinformation), "political mechanisms" (identifying when and how the political process is being manipulated, and making this information salient to the public), and "financial transparency" (increasing transparency about how fossil fuel funds are allocated, and to whom).

Opportunities for Collaboration:

⇒ Collaborate with the Corporate Mapping Project to bring the influence of the Climate Change Counter Movement in Canada into public view, so governments can hold them accountable through legal strategies, political mechanisms and forced financial transparency

3. How to Proactively Increase Climate Engagement

3.1 Build Passive Support

Before discussing strategies to increase public awareness of (and support for) climate policies, it is important to make the caveat such engagement is not always desirable. Guided by the assumption that conflicts over climate policy are caused by a gap between citizen and expert knowledge, many policymakers, scientists, and science communicators believe the best way to increase support for climate policy is to educate citizens about climate change, or about specific climate policies (Lorenzoni et al., 2007). However, when Rhodes et al. (2014) investigated whether this assumption was true in B.C., they found the relationship between climate policy support and climate-related knowledge was not quite so simple. Using a web-based survey of B.C. citizens, they investigated knowledge of and support for B.C.'s five main climate policies: the carbon tax, the carbon neutral government policy (requiring all ministries, agencies, and corporations of the provincial government to purchase carbon offsets for all emissions), energy efficiency regulations for buildings, the Low Carbon Fuel Standard (requiring a reduction of the average carbon intensity of transportation fuels), and the Clean Electricity Standard (requiring at the time that at least 93 per cent of new electricity be supplied from zero-emission sources).

Rhodes et al. (2014) found that despite the B.C. government's substantial effort to inform citizens about the development and implementation of all of its climate policies, participant knowledge of climate policies was very low. In an open-ended question with no prompts, the vast majority of respondents (73 per cent) could not name any climate policies. Even after receiving a list of policies with definitions, the majority of respondents (from 57 to 78 per cent) still could not correctly identify any of B.C.'s current key climate policies, other than the carbon tax, which was the most frequently named climate policy in the open-ended (26 per cent) and closed-ended (69 per cent) questions. Additionally, knowledge about how effective each of these policies were at reducing greenhouse gas emissions was very poor, with the majority of respondents (from 57 to 91per cent) providing policy effectiveness ratings that were not consistent with those of experts. Further supporting the theory that public engagement of climate policies is not related to public knowledge of them, Rhodes et al. (2014) found their participants' awareness of policy existence was not a statistically significant predictor of their support for any of the five climate policies, and participant knowledge of policy effectiveness only predicted support for building energy efficiency regulations. Most damningly, Rhodes et al. (2014) found that providing participants with information about the actual effectiveness of each of the five climate policies at reducing greenhouse gas emissions had either no effect on policy support, or actively decreased support in the case of the carbon neutral government policy and the Low Carbon Fuel Standard, which experienced a 10 per cent and 7 per cent decrease in support, respectively. In line with these results, a recent study by the World Bank found greater knowledge about the impact of climate disasters actually reduced respondents' readiness to finance activities that would offset the anthropogenic impact on nature and climate (Lokshin et al., 2024). In light of these findings, Rhodes et al. (2014) argued governments should focus on advancing climate policies that have high passive support, rather than trying to increase public engagement with unpopular climate policies.

In their study, Rhodes et al. (2014) found regulatory climate policies had the highest passive support, including the Low Carbon Fuel Standard (90 per cent), energy efficiency regulations for buildings and their contents (89 per cent), and the Clean Electricity Standard (89 per cent). In contrast, B.C.'s carbon tax achieved the lowest level of support of all the climate policies (56 per cent), and the highest level of opposition by far (44 per cent). Research consistently finds regulatory policies receive higher support than carbon taxation, while voluntary policies often receive the highest support (Dechezleprêtre et al., 2022; Rhodes et al., 2017; Odland et al., 2023; Kitt et al., 2021; Long et al., 2020). This preference is partly explained by the fact that regulatory policies are perceived as highly effective by the public. Rhodes et al. (2014) found the three regulatory policies included in their study were seen as the most effective by participants (although these beliefs did not align with expert judgments), and that respondent belief in climate policy effectiveness was one of the strongest predictors of support for all five of the tested climate policies. These findings align with results from the most recent wave of the PARCA, which is a multi-year Canadian research program led in partnership by the Privy Council Office's Impact and Innovation Unit, Environment and Climate Change Canada (ECCC), and Natural Resources Canada (NRCan). Reinforcing Rhodes et al. (2014)'s conclusions on a national scale, results from the eighth wave of the PARCA demonstrated not only that respondents were more willing to engage in home energy saving measures that they saw as more effective, but also that their perceptions of effectiveness differed notably from expert judgments (PARCA Canada, 2023c).

Another reason why regulations receive relatively higher passive support than taxation is that taxes are highly salient to the public, leading them to attract negative media attention which generates public outcry, while regulations typically fly under the radar and thus don't pick up the same negative associations (Chetty et al. 2009; Bell et al., 2025). Psychological factors such as loss aversion, which describes the tendency for individuals to value losses greater than otherwise-equivalent gains (Kahneman & Tversky, 1979), can also offer an explanation for the public's preference for regulations over taxes (Bell et al., 2025). The carbon tax is likely very vulnerable to loss aversion, because it combines highly visible losses with poorly visible gains. All of these factors may explain why more than half of British Columbians polled reported they wanted the tax to be scrapped in the run-up to the most recent election (Research Co., 2024), and strengthens Rhodes et al. (2014)'s argument that governments should focus on climate policies that have greater passive public support, such as regulations and voluntary policies. Re.Climate's "Five Canadas" project also supports the potential efficacy of focusing on regulatory climate policies, as it found the most effective climate message across five segments of Canadian political beliefs was to "hold polluters accountable through regulation" (Comeau, 2024).

Opportunities for Future Research:

- ⇒ Conduct climate assemblies in B.C., either for the purpose of increasing trust in/support for climate policy, holding politicians to account when they miss climate targets, or building hopeful co-produced visions of the future to help combat climate delay discourses

Although it is clear carbon taxation can be a deeply unattractive approach to climate policy, there is some preliminary research suggesting that there are versions of a carbon tax which may be better received by the public. For example, Dechezleprêtre et al. (2022) conducted a survey of 40,000 respondents across twenty countries, which found the use of the revenue generated by the carbon tax mattered substantially. Although they found carbon taxes were among the least popular climate policies tested in their study (generating only 37 per cent support in high-income countries, and 59 per cent support in middle-income ones), they found that carbon taxes that used revenues to fund environmental infrastructures, subsidize low-carbon technologies, or reduce income taxes received ~70 per cent higher support in high-income countries (for a total level of support of ~60 per cent) and 27 per cent higher support in middle-income countries (~75 per cent), than versions of a carbon tax that offered equivalent cash transfers to the public (which is the current system under the federal backstop in Canada). Wave 8 of the PARCA found strikingly similar results, with Canadians expressing greater support for a carbon pricing system that used revenues to fund environmental projects, rather than making payments to their household (PARCA Canada, 2023c). While these findings suggest some versions of the carbon tax could receive greater passive support, it is important to note that the consumer carbon tax is still highly unpopular in B.C. (Rhodes et al., 2014), despite the fact the B.C. government uses carbon tax revenues to fund a wide range of environmental projects, including climate preparedness and adaptation, green transit, industry, and building projects (CleanBC, 2023). This suggests even the most popular versions of the consumer carbon taxation may be untenable in the Canadian context, although the potential for upstream carbon taxation is yet to be determined.

Opportunities for Future Research:

- ⇒ Investigate Canadian public support for different approaches to carbon pricing, and different uses of the revenue it generates. For example, are upstream carbon taxes, which are less salient to the public, more popular?
- ⇒ More broadly, investigate how policy design affects passive public policy support

3.2 Governable Acceptability Factors

Although focusing on policies with high passive support is a good strategy to avoid backlash against climate policy, preventing further climate change will undoubtedly require stringent policy mixes, which will not always be popular with the public (Heyen & Wicki, 2024). As such, it is still vitally important for researchers to learn how to increase public acceptance of policies which are unpopular yet effective. In conducting such research, Heyen and Wicki (2024) argue researchers should focus their efforts on "governable acceptability factors", which they define as factors determining the public acceptability of climate policy, "that can be directly influenced by (climate) policymakers in a relatively short term, i.e. without changing the larger political system" (p. 787). In support of this claim, they conducted a survey of academic policy experts, who concurred that a great deal of current climate policy research focuses too heavily on relatively stable individual and contextual predictors of climate policy support, which are not directly influenceable by governments. In an attempt to solve this shortcoming, Heyen and Wicki (2024) identify four sub-categories of governable acceptability factors, each with multiple questions that offer an important guide for **future research**:

1) Instrument [policy] characteristics: How do different instrument types affect acceptability? How do different instrument design features affect acceptability? How does combining policies into a broader policy package affect acceptability?
2) Temporal aspects: Does it matter for acceptability at what time a policy proposal is introduced? (Thus, is it worthwhile for governments to wait for favourable windows of opportunity?) Does policy sequencing (increasing the stringency of a policy over time) affect acceptability in the short and long term? How do 'trial runs' (policy experiments for a limited time) affect acceptability?
3) Actor involvement: How and under what conditions does the participation of citizens in political decision-making affect the acceptability of policy instruments (and goals) among participating citizens and the general public? How and under what conditions does the inclusion of experts, stakeholders (professional and grassroot), and/or opposition parties in policy formulation affect an instrument's public acceptability?
4) Communication: How do different frames of a policy instrument influence their acceptability? Are particular frames more effective than others? Do different frames convince different groups of people? How do frames manage in a competitive information environment with counterarguments, misinformation or conflicting frames?

In the following sections we expand on this final sub-category, communication, which is likely to be particularly important in the case of climate change due to its complexity, and its invisibility to much of the general public (Schäfer & O'Neill, 2017).

3.3 Communicating Climate Policy

Climate change communication has received a great deal of attention in recent years, both within the academic literature, and from organizations. Within Canada, Re.Climate is one organization at the forefront of climate change communication and public engagement. Based on years of experience communicating climate change to Canadians, they offer a number of broad recommendations for those looking to increase public climate engagement.

One such recommendation is that communicators should use a "message triangle" to guide them in designing climate change communication efforts (Re.Climate, 2023). The message triangle is a heuristic used to help craft engaging narratives by framing communications around three points: the "challenge", the "pathway", and the "benefits" of climate action. The challenge represents a problem to solve, or an aspiration to achieve; the pathway a choice that must be made; and the benefits represent the advantages that come from the audience making the right choice (Re.Climate, 2023).

Another of its most relevant outputs for Canadian communicators is the identification of five key climate policy audiences (or "segments") within Canada, which they referred to as the "Five Canadas" (Comeau, 2024). This research project will be described in greater detail in section 3.3.2, "Tailoring Message Frames", but one of the broader recommendations that came out of the research was that Canadians believed several common myths about Canada's relationship to climate change and climate action. Based on this discovery, Re.Climate recommend communicators should aim to highlight three key facts when communicating climate change

within Canada: the oil and gas sector generates more than a third of Canada's GHG emissions; Canada is a top global emitter both in absolute (11th) and per capita (4th) terms; and Canada is not investing in green energy transitions as fast as countries like China (Comeau, 2024).

In the next section, Re.Climate's work will be used to reinforce a discussion of one of the academic literature's most important contributions to climate change communication efforts, the study of "message framing".

3.3.1 Message Framing

Within the field of climate communications, message framing is a longstanding research tradition that aims to increase public climate engagement by reframing climate change: remaining true to the underlying science while tailoring messages to an audience's existing attitudes, values, and beliefs, to make complex climate policy debates feel more understandable, relevant, and personally important (Nisbet, 2009). Message framing research has deep and diverse roots, spanning several social science disciplines and reaching all the way back to the late 19th and early 20th centuries (Schäfer & O'Neill, 2017). Thanks to this diverse research tradition, consisting of psychologists, sociologists, political scientists, and most recently media and communications scientists (Schäfer & O'Neill, 2017), message framing has been defined in a variety of ways. By the most general definition, framing refers to a communicative process which emphasizes some aspects of reality while de-emphasizing others, to influence individuals to focus on those particular considerations in the decision-making process (Nisbet, 2009; Scheufele & Tewksbury, 2007). A frame will often link two concepts, with the intent that exposure to this linkage will cause audiences to accept the concepts' connection from that point on (Nisbet, 2009). Nisbet (2009) emphasizes that framing is not synonymous with placing a false spin on an issue. Rather, they argue that frames should remain true to the science of an issue, while paring down less-relevant information to give greater weight to some considerations and elements over others. It is also important to highlight there is no such thing as unframed information (Nisbet, 2009). As such, some argue communicators have a moral responsibility to frame information in such a way as to nudge the public towards making the choices that will be best for them in the long run (Barton & Grüne-Yanoff, 2015).

Before discussing which frames are likely to be most effective for increasing public climate engagement in B.C. and Canada, it is important to provide a few caveats. First, academic research into efficacy of message framing provides somewhat inconsistent results. It is not uncommon to find message frames which have a significant effect on climate engagement in one study have no effect in the next. More concerningly, meta-analyses suggest some highly popular message frames (such as "geographic identity", discussed below) have no significant effect when considered in the aggregate (Li and Su, 2018). One explanation for these inconsistent findings is that the lack of conceptual coherence within message framing research, caused by its diverse roots and wide use, has meant framing studies often use vastly different methods, study frames in different countries as well as in different forms of media, consider different analytical foci, and even use different definitions of "framing" (Schäfer & O'Neill, 2017).

As such, meta-analyses of "message framing" may in fact be comparing vastly different research traditions when they identify inconsistent results in the literature. An analogy might be comparing an apple (fruit) to an Apple (computer), simply because they share the same name.

Another possible explanation for these issues is that there is not currently any unified framework for the design and creation of message frames. As such, two studies that claim to test the same message frame may do so using totally different texts, crafted with different underlying logics, and different levels of skill. This makes it virtually impossible to determine whether a type of message frame failed to have an impact because that type doesn't work, or because that specific example of a message frame was poorly crafted by the researcher. The lack of a unified approach to frame design also means message frames are often "fat handed", meaning that they change many variables at once, such that it is impossible to know which word choice or sentence was actually responsible for any causal effect a study might observe (Eronen, 2020).

One final caveat about message frames is that meta-analyses suggest even when certain message frames do demonstrate a consistent impact on public climate engagement and policy support, their effect size is small or medium at best (Li & Su, 2018). These reported effect sizes also fail to take into account the impact of the "file drawer effect" (which states studies that find no significant results are less likely to be published, being relegated instead to the "file drawer"), suggesting even these effect sizes may be exaggerated (Rosenthal, 1979).

However, with the caveat that the efficacy of message framing may be small, inconsistent, and reliant upon the strength and skill of its execution, research into message framing still has the potential to be highly valuable. This is because framing is unavoidable in climate communication, cheap to implement, and still potentially effective. As such, the following section will identify and describe a selection of message frames which offer the most promising pathways to motivating public climate engagement in B.C. and Canada.

3.3.1.1 "Economic Benefit" Framings

One of the Climate Change Counter Movement's most frequent and powerful arguments against climate action is its use of the "economic consequence" frame, which argues climate action is simply ***too economically costly*** to be tenable (Bidwell, 2016; Li & Su, 2018). Indeed, this frame could be said to lie at the heart of the "free rider excuse" delay discourse (Lamb et al., 2020). However, scholars and advocates have suggested this frame could be flipped on its head, to recast climate action as an opportunity to ***grow*** the economy, emphasizing the job opportunities created by renewable energy and the economic benefits of increased energy productivity (Dernbach, 2017; Li & Su, 2018; Nisbet, 2009). As Nisbet (2009) points out, this frame has already been tested in politics, with both 2008 U.S. presidential candidates choosing to emphasize the "economic benefits" frame to push climate solutions.

Indeed, the Obama administration continued to use this frame throughout his presidency by using the sound bite "creating green jobs and fueling economic recovery". There is some evidence this approach can generate bi-partisan support for climate policies, as research suggests climate policies which have demonstrable economic co- benefits, such as the U.S. ***Inflation Reduction Act***, can garner majority support from Democrats and moderate, if not conservative, Republicans in the U.S. (Ballew et al., 2023). Within academia, meta-analyses suggest "economic benefits" frames have a small-to-medium sized effect (SMD = .291, ***p*** = .024) on public climate engagement (Li & Su, 2018). Perhaps more promisingly, recent research has also found optimism about future economic growth and emissions reductions is associated with support for both voluntary ***and*** (typically less popular) compulsory climate policies (Bell et al., 2025).

"Economic benefits" frames are also likely to be highly relevant to the B.C. context, as polls suggest 18 per cent of B.C. residents ranked the economy as the most important factor influencing their vote in the most recent B.C. election (Research Co., 2024). Within Canada more broadly, Re.Climate's "Five Canadas" research suggests "economic benefits" frames may be an effective way to motivate Civic Nationals (who make up 21 per cent of Canadians) to take action on climate change (Comeau, 2024). However, there is also some reason to be cautious when using an "economic benefits" frame in B.C., as recent research conducted in the province found such frames have the potential to backfire and ***reduce*** public support for climate policy (Hoyle & Rhodes, in prep). As such, attempts to use this frame should do so with great care.

Opportunities for Future Research:

⇒ Investigate whether "economic benefits" frames can be used to public climate engagement in B.C. and Canada, or whether they are too likely to backfire.

3.3.1.2 Public Health Framings

The public health implications of climate change have also been suggested as a potentially powerful lever for climate change communication (Nisbet, 2009). "Public health" frames emphasize the potential for climate change to increase the incidence of infectious diseases, asthma, allergies, heat stroke, and other salient health problems, especially among the most vulnerable populations: the elderly, those who lack access to affordable health care, and children (Li & Su, 2018; Myers et al., 2012). Given that fear-based imagery seems to be less effective than non-threatening message frames that connect to people's everyday emotions and concerns (O'Neill & Nicholson-Cole, 2009), "public health" frames are likely to be most effective when they focus on the potential for climate change mitigation efforts to avoid these negative outcomes. These frames connect climate change to health problems that re already familiar to and perceived as important by the public, thus making climate change more personally relevant and temporally immediate to a wide array of new audiences (Nisbet, 2009). "Public health" frames also shift the geographic location of the impacts of climate change to be closer to home, replacing visuals of remote

regions, animals, and peoples with more socially proximate places and communities (Nisbet, 2009). Perhaps the biggest potential advantage of framing climate change as a human health issue is that people across the political spectrum generally care about their health and that of their loved ones, suggesting "public health" frames might have the potential to reduce polarization on climate change by bringing the issue out of the contentious and ideologically driven contexts (Rossa-Roccor et al., 2021).

Evidence for the impact of "public health" frames is somewhat mixed. In support of their efficacy, a nationally representative sample of 1,127 U.S. residents compared six frames including "environment", "public health", and "national security", and found "public health" was the most likely to elicit emotional reactions consistent with support for climate change mitigation and adaptation (Myers et al., 2012). However, as Li and Su (2018) point out, this study did not include a control condition that received no message framing, which makes it hard to determine how much of an impact the "public health" frame really had. Li and Su (2018)'s meta-analysis of climate change message framing included only studies in which the effect of message framing was compared against a non-framing contrast group, and found "public health" frames did not have a significant impact (SMD = .035, $p = .660$) on a combined measure of public climate change engagement. However, they noted that thanks to this constraint there was only one study testing the effect of the
"public health" frame in their meta-analysis, and suggested additional experimental studies were needed before making a final judgement on the efficacy of "public health" frames. One such study recently surveyed over 14,000 respondents across seven countries (the U.K., Brazil, China, India, Indonesia, Poland, and the U.S.) to test the efficacy of a "public health" frame against a control condition, and found exposure to the "public health" frame resulted in a very small but significant increase in support for government-led action, and a 2.3 per cent increase in support for tree-planting policies specifically (Buchanan et al., 2022). While these effect sizes are undeniably small, they do suggest on balance that "public health" frames at least have the potential to be an effective pathway towards increased public climate engagement.

"Public health" frames are also likely to be especially relevant to the B.C. context, as 19 per cent of B.C. residents ranked the public health as the most important factor influencing their vote in the most recent B.C. election (Research Co., 2024). In the broader Canadian context, Re.Climate also argues health framings might be an effective way to motivate the "Disengaged Middle", who make up 30 per cent of the Canadian population (Comeau, 2024). Re.Climate also recommend that attempts to leverage "public health" frames in Canada should consider using doctors to amplify the message, as doctors are some of the most trusted messengers among Canadians (Comeau, 2024).

Opportunities for Future Research:

- ⇒ Test whether "public health" frames increase public climate engagement in B.C. and Canada.
- ⇒ Test whether "public health" frames are more effective when doctors are used as messengers.

3.3.1.3 "Environment and Biodiversity" Frames

"Environment and biodiversity" frames emphasize the impact climate change will have on plants, animals, and other aspects of nature to harness biospheric to drive public climate engagement (Li & Su, 2018; Severson & Coleman, 2015). These frames typically depict the real or potential impacts of climate change on species that are particularly vulnerable to its effects (Li & Su, 2018), with famous examples including polar bears stuck on shrinking ice caps, or the Amazon rainforest in flames. Supporting the frequent usage of such images to increase public climate engagement, "environment and biodiversity" frames were identified as one of the most impactful frames in Li and Su (2018)'s meta-analysis, although still displaying only a small-to- medium sized effect on public climate engagement (SMD = .280, $p < .001$).

Given B.C.'s cultural identity as a province rich in natural beauty, "environment and biodiversity" frames are likely to be especially impactful in this context. This is also true of the rest of Canada, as longitudinal research suggests the vast majority of Canadians feel highly connected to nature, and enjoy spending time in it (PARCA Canada, 2023c). Indeed, "environment and biodiversity" frames could offer one way to activate the feelings of connection, caring, empathy, wonder, love of nature, gratitude, and respect for nature that Re.Climate argues will be key for increasing climate engagement among "Centrist Liberals" and the "Disengaged Middle", two segments that make up a cumulative 50 per cent of the Canadian public (Comeau, 2024).

Opportunities for Future Research:

- ⇒ Test whether "environment and biodiversity" frames increase public climate engagement in B.C. and Canada.

Chen (2023) offers another promising direction for future research related to this frame. Based on their analysis of the Toronto media discourse surrounding Canada's recovery from COVID-19, Chen argues the pandemic offers a unique opportunity to combine "public health" and "environment and biodiversity" frames into a single "ecosystem health" frame. This frame would emphasize that COVID-19 and climate change are parallel crises requiring coordinated solutions, and link the distress people experienced during the pandemic to the effects of an unhealthy environment caused by climate change. Given the efficacy of both the "public health" and "environment and biodiversity frames", and their respective relevance to the

Canadian context, this suggestion offers an interesting proposition for future research.

Opportunities for Future Research:

⇒ Test whether an "ecosystem health" frame increases public climate engagement in B.C. and Canada

Another frame closely related to "environment and biodiversity" frames is the highly popular "geographical identity" frame (Li & Su, 2018). This frame focuses on an audience's sense of attachment to a particular geographical region, such as a country, state, or city.

Similarly to "environment and biodiversity" frames, this approach emphasizes the impacts of climate change on land and nature, but it differs in its specific focus on local environmental impacts, in the attachment of environmental protection to the protection of the audience's geographical identity, and in the attachment of cultural value to the natural environment (Sapiains et al., 2016). This framing is of particular interest because it has the potential to increase climate engagement even among those who reject the notion of human-caused climate change. For example, research found Australian climate skeptics were more willing to "do something for the environment" when environmental conservation was associated with their identity, rather than with climate change or biodiversity (Li & Su, 2018; Sapiains et al., 2016).

Supporting the notion "geographical identity" frames may offer an advantage over broader "environment and biodiversity" frames, Scannell and Gifford (2013) found participants were more likely to shift their opinions on climate change when they were exposed to a message emphasizing the negative impact of climate change on their local environment, than when they read a message emphasizing the global impact of climate change. However, in spite of these promising findings, recent meta-analyses found "geographical identity" frames had no significant impact on combined measures of climate change engagement (SMD = .122, p = .344), calling the efficacy of this popular framing device into question (Li & Su, 2018).

Opportunities for Future Research:

⇒ Test whether "geographic identity" frames increase support for climate policy in B.C. and Canada.

3.3.1.4 "Social Norms" Frames

"Social norms" frames emphasize existing or future majority support for climate policies, in an attempt to harness the well documented effects of social norms on human behaviour and climate engagement (Goldberg et al., 2019; Schultz et al., 2007; Schwartz, 1977; van der Linden et al., 2015). Social norms are most commonly leveraged when the majority of a population is already in favour of a desired

outcome, but emerging research suggests “dynamic social norms” can be used to effectively promote sustainable consumption behaviour even when people performing said behaviour are currently in the minority (Sparkman and Walton, 2017). Dynamic social norms work by providing people with information about how others’ behaviour is changing over time, and implying they should “join the movement now, or risk being left behind” (Sparkman and Walton, 2017). Despite the significant body of research demonstrating the impact of social norms on environmental behaviours and attitudes, evidence on the efficacy of “social norms” frames is mixed. Li and Su (2018)’s meta-analysis found a broadly defined frame which combined both morality and social norms frames had a significant (small-to-medium sized) effect on public climate engagement (SMD = .168, $p < .001$), but Buchanan et al. (2022)’s international survey experiment found exposure to a “social norms” frame had no discernible effect in climate policy support among their participants ($p = 0.181$).

Despite these mixed findings, results from the PARCA suggest an experimental assessment of “social norms” frames may still be a worthwhile direction for future research in Canada. Wave 8 of the PARCA found evidence suggesting there is already an established norm for pro-environmental action in Canada, with 55 per cent of respondents reporting they thought people close to them expected them to act (PARCA Canada, 2023c). More promisingly, Wave 6 of the PARCA found a persistent disparity between Canadians' high willingness to take pro-climate action and their lower perceptions of social norms for the same actions, suggesting even the existing norm identified in wave 8 may be understating the actual majority opinion in Canada (PARCA Canada, 2023a). Research conducted by Re.Climate also suggests social norms offer an effective climate communication strategy within Canada, and they advise in doing so, communicators should speak in “millions” rather than percentages, as Re.Climate has found such terms are more impactful with the Canadian public (Comeau, 2024).

Opportunities for Future Research:

⇒ Test whether “social norms” frames offer an effective strategy to increase public climate engagement in B.C. and Canada

Opportunities for Collaboration:

⇒ Collaborate with either the PARCA or Re.Climate in this research endeavour

3.3.1.5 “Extreme Weather” Frames

One message frame that has not yet seen any attention in the literature is an “extreme weather” frame, which emphasizes the potential for climate action to avert or reduce the impact of future extreme weather events or natural disasters. Although this frame is currently untested, there is reason to believe such an approach might be effective within Canada, as research suggests Canadian

experiences of extreme weather are becoming increasingly frequent. Wave 8 of the PARCA found two-thirds of Canadians report having experienced more extreme weather than usual in the past two years (with higher levels among respondents living in B.C. and the Atlantic provinces), and over 40 per cent have experienced first or second-hand wildfire impacts in the same time period (PARCA Canada, 2023c). Similarly, Re.Climate find 75 per cent of their participants reported having experienced extreme weather-related events even in only the past year (Re.Climate, 2023). Despite the increasing frequency of extreme-weather experiences in Canada, wave 6 of the PARCA found only one third of respondents believed they "have already, or will experience the effects of climate change" (PARCA Canada, 2023a). Likewise, Haney (2022) found that even after experiencing flooding in Calgary, Albertans expressed disbelief in climate change and its impacts. This disconnect between the increasing frequency of extreme weather experiences in Canada and perceived experiences of climate change might be explained by the fact media coverage of these events rarely connects the two (Re.Climate, 2024). For example, only 13 per cent of wildfire stories, and only 25 per cent of heatwave stories in Canadian national media make an explicit connection to climate change. These findings suggest an "extreme weather" frame that connects Canadian extreme weather experiences with climate change, and suggests climate policy as a solution, may be an effective strategy to increase climate engagement within Canada.

Opportunities for Future Research:

⇒ Test whether "extreme weather" frames offer an effective strategy to increase public climate engagement in B.C. and Canada

Opportunities for Collaboration:

⇒ Collaborate with either the PARCA or Re.Climate in this research

3.3.2 Tailoring Message Frames

People with different values, ideologies and worldviews process uncertain or conflicting evidence very differently (Martel-Morin & Lachapelle, 2022), thanks to an array of psychological biases such as "biased assimilation" (preferentially internalizing information that is consistent with one's pre-existing attitudes and beliefs; Kahan, 2013), and cognitive dissonance avoidance (avoiding information that conflicts with one's existing beliefs; Festinger, 1962). Because these psychological biases are so powerful, "one-size-fits-all" approaches to climate change communication are unlikely to be effective (Markowitz & Guckian, 2018; Martel-Morin & Lachapelle, 2022). Therefore, many scholars argue that messages need to be tailored to fit the pre-existing needs and dispositions of specific audiences, if we are to break through the communication barriers of human nature, partisan identity, and media fragmentation (Markowitz & Guckian, 2018; Martel-Morin & Lachapelle, 2022; Maxwell, 2019; Nisbet, 2009; Scheufele, 2018).

One of the most common ways to tailor climate communication is to identify specific

targets within a population via “audience segmentation”, and then design targeted message frames for each segment. Audience segmentation is a technique which aims to statistically identify subgroups of a population that share similar values, motivations, beliefs, or behaviours (Hine et al., 2014; Hine et al., 2016; Martel-Morin & Lachapelle, 2022). Within climate communication, this approach was pioneered by the Yale/George Mason University Program on Climate Communication, which influentially split the U.S. population into the “Six Americas of Climate Change” (Maibach et al., 2011), and the use of audience segmentation has been increasing ever since (Hine et al., 2017; Maibach et al., 2011; Metag et al., 2017). While many research projects have now extended the “Six Americas” model to other nations (Martel-Morin & Lachapelle, 2022), including India (Leiserowitz et al., 2013), Australia (Hine et al., 2016; Morrison et al., 2013; Hine et al., 2013), Germany (Metag et al., 2017), Singapore (Detenber et al., 2016), the Netherlands (Wonneberger et al., 2019) and New Zealand (Thaker, 2021), relatively fewer studies have actually used these segments to test the impact of tailoring on the efficacy of message frames. Among those that have, Myers et al. (2012) tested the effect of tailoring on the Six Americas model, and found while a “public health” frame elicited positive emotional reactions across a wide range of segments, a “national security” frame actually had an unanticipated boomerang effect on relatively less engaged audiences (i.e., the Doubtful and Dismissive segments of the Six Americas). In Australia, Hine et al. (2016) also found messages can have divergent effects on different segments of a population, as their results showed that messages focusing on local impacts were only effective at increasing engagement among “Dismissive” audiences, and had no impact on those who were “Uncertain” or “Alarmed”. Although research into the effects of tailoring is still in its relative infancy, these early findings suggest tailoring messages can at least increase the cost efficiency of climate change communication campaigns (by ensuring messages aren’t wasted on audiences who won’t be moved by them), and at best avoid dangerous backfire effects which would otherwise undermine public support for climate policies.

Martel-Morin and Lachapelle (2022) were the first to study the impact of tailoring message frames to audience segments in Canada. To conduct this segmentation analysis, the researchers recruited a random probability sample of Canadian residents (N = 1207), and asked 13 survey questions to measure climate change motivations, behaviours, and preferred societal responses, then conducted a latent class analysis. They found the Canadian population can be divided into five distinct segments, which they called the “Five Canadas of Climate Change”. The segments ranged along a continuum of knowledge, attitudes and behaviours, with the “Alarmed” segment (who accepted climate change as a serious problem and took personal and political action to counter it) at one end, and the “Dismissive” segment (who rejected the reality of climate change and oppose action) at the other. The “Alarmed” segment made up 25 per cent of the study sample, the “Concerned” segment 45 per cent, the “Disengaged” five per cent, the “Doubtful” 17 per cent, and finally, the “Dismissive” made up only 8 per cent. Martel-Morin & Lachapelle (2022) also embedded an experiment in their survey to test the impact of tailored message frames on support for carbon pricing policies in Canada. They used a 2x4 factorial design, in which the first factor manipulated the price level of the carbon pricing policy (two cents versus 11 cents per litre), while the second manipulated different options for revenue use and message framing. The two message frames tested in this study were an “equal dividend” framing (which

emphasized the fairness of carbon pricing by highlighting the atmosphere belongs to everyone, and a carbon price targets everyone equally), and a "relative price" frame (which argued even though the carbon price makes polluting more expensive, it also makes clean energy and electric vehicles more affordable, somewhat similar to an "economic benefits" frame). The researchers found that when carbon pricing was set to 11 cents per litre, the "relative price" frame increased support for a higher carbon price among the population as a whole by 11 per cent. However, when carbon pricing was set to 2 cents per litre, this same frame actually decreased support for carbon pricing among more engaged audiences (the "Alarmed" segment), possibly because these more informed citizens felt such a cheap carbon pricing policy would be an ineffective measure to combat climate change. They also found the "relative price" framing was the only message that increased policy support among the less engaged "Concerned" and "Doubtful" segments. Martel-Morin and Lachapelle (2022)'s study emphasises the importance of tailoring in the Canadian context, but future work should build on these findings by testing the impact of the potentially impactful message frames outlined above on these audience segments. Additionally, it is important to note that the "Five Canadas of Climate Change" were not drawn from a nationally representative Canadian sample, which limits their utility as an audience segmentation framework.

Opportunities for Future Research:

⇒ Test the impact of "economic benefit", "public health", "environment and biodiversity" and "social norms" frames across the Five Canadas of Climate Change

In 2024, Re.Climate and EcoAnalytics partnered to conduct a representative large-sample survey that would build on this limitation. They combined their survey with focus groups to perform an audience segmentation that would help researchers and communicators understand the values, beliefs, norms, and behaviours that distinguish Canadian audiences (Comeau, 2024). Based on a regionally representative sample of 6,142 Canadians, the researchers identified five segments, which they named "Progressive Activists", "Civic Nationals", "Centrist Liberals", "Disengaged Middle", and "Fossil Fuel Conservatives", respectively. Once they had identified these segments, the researchers drew participants from their initial sample to conduct focus groups with each segment (except "Fossil fuel conservatives"), to learn about each segment in more detail, and to test the impact of a number of narratives on their climate engagement. Based on these focus groups, the researchers recommend climate change communicators target messages to each of the five segments, rather than trying to move individuals between segments (for example, trying to make someone from the "Disengaged Middle" become a "Progressive Activist"). Given the relevance of this research to the topic of this literature review, each of these five segments are described below, along with strategies for their engagement.

The "Progressive Activists" segment made up 15 per cent of the initial sample in Canada, and 24 per cent of the sample in B.C. (Lachapelle & Martel-Morin, 2024). This group were the most concerned about climate change, with 92 per cent reporting they were "very concerned". Participants in this segment were more likely to be younger, female, upper middle class, university educated, higher income, and urban – and many lived in British

Columbia. To engage this segment, the researchers recommended speaking to egalitarian values by emphasizing that climate change is exacerbating inequality, and focusing on the need for big corporations to pay their fair share.

"Civic Nationals" made up 21 per cent of the initial Canadian sample, and 15 per cent of the B.C. sample (Lachapelle & Martel-Morin, 2024). This group were the second most engaged segment on climate change. They differ from "Progressive Activists" in their more conservative social and political values, as they held a mix of egalitarian (everyone is equal) and nativist values (preference for established Canadians), were community-focused, and nature-connected (in that they liked to hike, hunt and fish). "Civic Nationals" were concentrated in Alberta, Ontario, Quebec and the Atlantic provinces, with fewer appearing in British Columbia. To motivate "Civic Nationals", the researchers recommended focusing on national pride, emphasizing fairness and the preservation of traditional Canadian values, protecting jobs, and ensuring economic stability.

"Centrist Liberals" made up only 20 per cent of the initial sample in Canada, but 32 per cent of the sample in B.C. (Lachapelle & Martel-Morin, 2024). This segment held strong equality-oriented values, but were less concerned about climate change, and were less likely than "Progressive activists" to want to disrupt the economic system. To motivate "Centrist Liberals", the researchers recommended using an "economic benefits" frame that speaks to the benefits of climate action for technology, growth, and innovation.

The "Disengaged Middle" was the largest segment in the Canadian sample (at 30 per cent of the initial sample), but was much smaller in B.C., making up only 14 per cent of the sample (Lachapelle & Martel-Morin, 2024). They were also the least concerned about climate change, and only 50 per cent reported they would "definitely" vote if a federal election were held tomorrow. People in this segment were more likely to identify as working or middle class, to be religious, and to be non-white. To engage this segment on climate change, the researchers recommended using message frames that emphasize our moral responsibility for climate action, benefits to public health, and the future of our children.

Finally, "Fossil Fuel Conservatives" made up 14 per cent of the Canadian sample, and 15 per cent of the B.C. sample (Lachapelle & Martel-Morin, 2024). They were more likely than any other to identify as white (83 per cent) and male (61 per cent), and were the most religious. This segment was the most car dependent, staunchly conservative, and unsympathetic or actively opposed to the environmental movement. The researchers recommended climate communicators avoid investing in this segment, but that message frames emphasizing affordability, housing and preparing for extreme weather might be effective, if one were determined to try.

Opportunities for Future Research:

- ⇒ Test the impact of "economic benefit", "public health", "environment and biodiversity" and "social norms" frames across the Five Canadas.
- ⇒ Conduct a segmentation analysis of the Canadian population representative of more than just region. For example, a sample that is representative of region, income,

education, gender, and political affiliation.

3.3.3 Message Framing Medium

There are many mediums through which message frames can be imparted. They can take the form of catchphrases, metaphors, entire paragraphs, sound bites, photographs, videos, pictures and other visual aids (Li & Su, 2018; Nisbet & Scheufele, 2009). The evidence for the impact of message framing medium on efficacy is somewhat mixed. Although previous research has shown the potential power of visual framing for increasing public climate engagement (Schäfer & O'Neill, 2017), Li and Su (2018) compared the efficacy visual and textual message frames, and found only text-based framings had a significant impact on climate engagement (SMD = .273, p = .004). However, Li and Su (2018) acknowledge that this result is confounded, because all of the visual frames included in their meta-analysis were attributed to a specific news organization, meaning this result should be interpreted with caution. As such, one important direction for future research is to determine which mediums are the most effective way to communicate with the Canadian public.

Opportunities for Future Research:

⇒ Compare the impact of visual and textual message frames on public climate engagement in Canada

If researchers do wish to use visual media to impart their message frames, Climate Outreach's Climate Visuals project (an evidence-based and impact focused climate photography initiative) provides seven recommendations that should guide design (Climate Outreach, 2024). These are:

1) Show real people.
2) Tell new stories.
3) Show climate change causes at scale.
4) Show emotionally powerful impacts.
5) Understand your audience.
6) Show local (but serious) impacts.
7) Be careful with protest imagery.

Opportunities for Collaboration:

⇒ Work with Climate Outreach to test the impact of visual versus textual message frames on public climate engagement in Canada

4. Conclusion

Although public climate engagement in B.C. may be low at the present moment, this literature review identifies several promising strategies that could help to address this situation, and a wide variety of interesting research projects that would support these strategies. Researchers could choose to focus on the actions of the Climate Change Counter Movement, mapping its use of delay discourses and testing potential strategies for protecting B.C. and Canadian citizens from the effects of propaganda, such as climate assemblies. Researchers might choose instead to focus on supporting climate policies that have high passive support among the B.C. population, perhaps by tracking passive support for climate policy in B.C., or by conducting research into governable acceptability factors. Finally, researchers could aim to proactively increase public climate engagement by tailoring message frames to segments of the Canadian population. In each of these endeavours, this review identifies promising potential collaborators, including the Corporate Mapping Project, the PARCA, Re.Climate, EcoAnalytics, and local B.C. and Canadian academics in related fields.

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6. Appendix

6.1 List of all Opportunities for Collaboration and Future Research

» *Understanding Climate Delay Discourses*

- Investigate the presence and prevalence of climate delay discourses in rural and conservative media environments in Canada.
- Analyse mainstream and right-wing Canadian media or social media coverage of IPCC reports, to better understand the usage of climate delay discourses in Canadian media beyond the exceptional circumstances of the COVID-19 pandemic.
- Investigate the presence of climate delay discourses in the Canadian federal government's public engagement processes.
- Model the potential impact of actual and proposed Canadian "sustainable jobs" policies, to identify policies that serve to delay climate action.
- Use an experimental design to determine whether there is a causal relationship between exposure to climate delay discourses and public climate engagement.
- Investigate whether "individualism" and "technological optimism" predict increased support for climate policy in Canada, and if so, why.
- Investigate whether support for Canadian or B.C. political parties predicts the use of climate delay discourses, and whether a similar distinction between the political left and right emerges in this context. Such research may be strengthened by considering all 12 of Lamb et al. (2020)'s climate delay discourses, rather than only the four overarching categories.
- Identify mechanisms that explain political differences in the use of climate delay discourses, for example: are those on the political left and right being exposed to different delay discourses, or are they interpreting the same information differently?
- Investigate how the climate delay discourses are internalized, broken down and then voiced by the public in different contexts and cultures.
- Identify climate delay discourses which are specific to the Canadian context.
- Since Haney (2022)'s research reflects an internalization of both older denial and newer delay discourses, an interesting avenue for future research would be to track how the public's use of fossil fuel narratives evolves, as delay discourses become more common.
- Investigate which individual factors make some people more susceptible than others to internalizing the Climate Change Counter Movement's narratives. For example, qualitative research suggests employment or residence in fossil fuel communities may be a strong predictor, but other explanations could include popular psychological theories such as "system justification" (Jost, 2019), or cognitive dissonance avoidance (Festinger, 1962).
- Conduct a qualitative content analysis of the campaign media produced by each of the political parties in the most recent B.C. provincial election, to identify which delay discourses are use, by whom, and how often.

» *Reacting to Climate Delay Discourses*

- Research that devises and tests strategies to defend against climate delay discourses will be of ***vital*** importance to future global climate action.
- Given the Canadian federal government's ***Online News Act*** (Government of Canada, 2024) has recently caused the social media platform Meta to ban the sharing of news articles on its site in Canada, future research could investigate the impact this real-world example of a systemic intervention has had on belief in climate change misinformation in Canada versus, for example, the U.S.
- Conduct climate assemblies in B.C., either for the purpose of increasing trust in/support for climate policy, holding politicians to account when they miss climate targets, or building hopeful co-produced visions of the future to help combat climate delay discourses.

» *Governable Acceptability Factors*

- Investigate the impact of instrument [policy] characteristics: How do different instrument types affect acceptability? How do different instrument design features affect acceptability? How does combining policies into a broader policy package affect acceptability?
- Investigate the impact of temporal aspects: Does it matter for acceptability at what time a policy proposal is introduced? (Thus, is it worthwhile for governments to wait for favourable windows of opportunity?) Does policy sequencing (increasing the stringency of a policy over time) affect acceptability in the short and long term? How do 'trial runs' (policy experiments for a limited time) affect acceptability?
- Investigate the impact of actor involvement: How and under what conditions does the participation of citizens in political decision-making affect the acceptability of policy instruments (and goals) among participating citizens and the general public? How and under what conditions does the inclusion of experts, stakeholders (professional and grassroot) and/or opposition parties in policy formulation affect an instrument's public acceptability?
- Investigate the impact of communication: How do different frames of a policy instrument influence their acceptability? Are particular frames more effective than others? Do different frames convince different groups of people? How do frames manage in a competitive information environment with counterarguments, misinformation or conflicting frames.

» *Message Frames*

- Investigate whether "economic benefits" frames can be used to public climate engagement in B.C. and Canada, or whether they are too likely to backfire.
- Test whether "public health" frames increase public climate engagement in B.C. and Canada.
- Test whether "public health" frames are more effective when doctors are used as messengers.
- Test whether "environment and biodiversity" frames increase public climate engagement in B.C. and Canada.

- Test whether an “ecosystem health” frame increases public climate engagement in B.C. and Canada.
- Test whether “geographic identity” frames increase support for climate policy in B.C. and Canada.
- Test whether “social norms” frames offer an effective strategy to increase public climate engagement in B.C. and Canada.
- Test whether “extreme weather” frames offer an effective strategy to increase public climate engagement in B.C. and Canada.
- Test the impact of “economic benefit”, “public health”, “environment and biodiversity” and “social norms” frames across the Five Canadas of Climate Change.
- Test the impact of “economic benefit”, “public health”, “environment and biodiversity” and “social norms” frames across the Five Canadas.
- Conduct a segmentation analysis of the Canadian population representative for more than just region. For example, a sample representative of region, income, education, gender, and political affiliation.
- Compare the impact of visual and textual message frames on public climate engagement in Canada.

Opportunities for Collaboration:

Understanding Climate Delay Discourses

- Collaborate with University of Victoria’s Dr. Ekaterina Rhodes, who has just applied for funding to conduct a representative survey to quantify belief in climate delay discourses, and their impact on climate policy support in Canada and B.C.
- Collaborate with the Corporate Mapping Project to conduct a qualitative content analysis to identify climate delay discourses in the content produced by the three key legitimators in B.C.

Reacting to Climate Delay Discourses

- Work with the University of Victoria’s Dr. Simon Pek, who studies climate assemblies and “deliberative mini-publics”, to conduct climate assemblies in B.C., either for the purpose of increasing trust in/support for climate policy, holding politicians to account when they miss climate targets, or building hopeful co-produced visions of the future to help combat climate delay discourses.
- Collaborate with the Corporate Mapping Project to bring the influence of the Climate Change Counter Movement in Canada into public view, so governments can hold them accountable through legal strategies, political mechanisms and forced financial transparency.

Message Frames

- Collaborate with either the PARCA or Re.Climate to test whether “social norms” frames offer an effective strategy to increase public climate engagement in B.C. and Canada.
- Collaborate with the PARCA or Re.Climate in this research to test whether “extreme

weather" frames offer an effective strategy to increase public climate engagement in B.C. and Canada.

- Work with Climate Outreach to test the impact of visual versus textual message frames on public climate engagement in Canada.