

A Decade Of Comparative Canadian and American Public Opinion on Climate Change

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KEY FINDINGS:

- The public opinion data analyzed in this paper shed light on some of the reasons for recent divergent shifts in policy across the Canada and U.S., including why left-of-center governments have an interest in implementing more aggressive climate and energy policies, and why the U.S. federal government has not seriously engaged with a carbon tax.
- From 2011–2021, American and Canadian public opinion on climate and energy has experienced significant changes, with increased acceptance of the human causes, and moderate increases in support for policy interventions.
- 3. The evolution in opinion has occurred in both countries, but changes are larger in the U.S., where climate change skepticism and aversion to policy actions were more robust at the start of the decade.
- 4. So, while there are still notable differences among Canadians and Americans on climate- related matters, Canadians and Americans are closer in their views on climate change issues than they were a decade ago.
- 5. Overall, we find growing acceptance of climate change and support for climate policy actions among Canadians and Americans.

INTRODUCTION

As people around the world increasingly experience the effects of climate change, governments have been slow to enact policies that are consistent with the target of keeping global warming below 2°C agreed upon at the Paris climate talks in 2015. Since being sworn in as President of the United States in 2021, the Joe Biden administration has taken steps to reengage with international climate policy while attempting to reverse the climate policy rollbacks of the previous Trump administration, which all but obliterated Obama era executive efforts to curb greenhouse gas emissions in the U.S.

his includes several spending initiatives, a domestic commitment of reducing emissions by 50% below 2005 levels by 2030, a commitment to achieving "net zero" greenhouse gas (GHG) emissions by 2050, as well as a number of key decisions on suspending oil and gas leases in the Arctic and revoking permits for the now infamous Keystone XL pipeline. However, the Biden administration has faced important challenges when attempting to pass key climate legislation in Congress, facing opposition from Republican lawmakers as well as from Democrats who perceive themselves as vulnerable in upcoming midterm elections, or hail from fossil-fuel producing states (e.g., West Virginia's Joe Manchin). In Canada, despite announcing a stronger domestic reduction target of at least 40–45% emissions reductions relative to 2005 levels by 2030, the country continues to see emissions rise relative to 1990, reflecting the worst greenhouse gas performance records among G7 countries (Hughes 2021). Like the United States, Canada has also committed to achieving net zero emissions by 2050 and has taken steps to reduce domestic emissions via a slew of spending measures announced in the 2021 budget. However, Canadian climate policy relies

on several measures not seen in the United States, including a national carbon price (rising to \$170 CDN per ton of CO₂ eq by 2030), plans to establish new regulations for reducing methane emissions, as well as the implementation of its promise to plant two billion trees over the next decade. Moreover, in contrast to Biden's approach to the Keystone XL pipeline project, Canada continues to signal a commitment to its oil and gas industry by expanding its pipeline capacity. Similar to what Biden faces in the United States, decision makers in Canada face numerous implementation challenges, including recalcitrant provinces opposing key federal measures, and a minority government that no longer enjoys complete control of the legislative branch of government.

The current climate policy debates in both Canada and the United States come after a decade where much has changed on the energy and climate fronts in these North American nations. Between 2011 and 2021, these countries saw an increase in their fossil fuel production while experiencing significant shifts in national and subnational climate policies as they oscillated between more conservative and more liberal governments. Over the same period, the two countries increasingly experienced the impacts of climate change, with record heat, flooding, wildfires, and drought being experienced across the continent (IPCC 2021). The evolving energy and climate realms in the U.S. and Canada present an opportunity for researchers to examine a number of pressing theoretical and empirical questions. For instance, faced with growing evidence of climate change through lived experience of climate change impacts, how is public opinion in these two countries evolving? Is climate change now a salient political issue, or are the publics in both countries preoccupied with other issues as the world warms at an unprecedented rate? As an oft-discussed policy lever to reduce emissions, why has carbon pricing been relatively more successful in Canada than in the United States? More generally, how has the public's views on these matters evolved, and do the changes in weather patterns, energy production, and climate policy reflect changes in public opinion?

In this study, we compare public opinion regarding climate and energy matters in Canada and the United States over the course of the last decade. This comparison explores fundamental elements of opinion in this realm such as problem acceptance, perceptions of causes and policy preferences, and issue salience. In addition, the piece will explore the role that one of the decade's most defining features, political polarization, has played in terms of public opinion related to climate and energy issues. To accomplish these goals, the paper utilizes directly comparable measures of public opinion among Canadians and Americans derived from the National Surveys on Energy and the Environment (NSEE) and Canadian Surveys on Energy and the Environment (CSEE). These probability-based nationallevel surveys include identically framed items, and were fielded in relatively similar time frames and periods in the respective countries during the last decade. [A more comprehensive overview of the scope and methods of the NSEE and CSEE can be found in Appendix One.]. These common features allow for direct comparisons across the two North American countries.

To preview our results, we find some evidence that public opinion in the United States regarding problem

acceptance might be catching up to levels observed in Canada. We also see similar partisan divides across the two countries, with diverging attitudes between supporters of left and right-wing parties. Despite the fact that Republicans in the United States are increasingly aware of the reality of climate change, there has been less movement on the role of human activity in causing this problem. We also document evolving levels of support levels for a carbon tax, and highlight falling opposition to this policy tool in the United States where such policies remain elusive. Finally, we show the growing salience of climate change as a political problem, especially in Canada and among supporters of left-wing parties in both countries.

We begin by comparing climate change attitudes and policy preferences in Canada and the United States at the beginning (early 2011) toward the middle (2016/2017) and end (2020/2021) of the decade. This is followed by a more detailed look at how these dynamics vary across partisan groups. A third section examines how opinion on these matters plays out in terms of policy preferences and issue salience. We conclude with some thoughts on the implications of these changing opinion landscapes for climate policy in Canada and the United States.

AGGREGATE CHANGE OVER THE LAST DECADE

Acceptance of climate change

One of the core elements of public opinion regarding climate change is the underlying acceptance of the problem.

o individuals acknowledge that the world is indeed warming, and if so, what do they see as the cause of this phenomenon? As with all policy matters in democratic systems, the public's acceptance of a problem is a key element in the development of public policies. Over the course of the 21st century, scholars and researchers have devoted significant attention to measuring public acceptance of climate change and its causes (Borick and Rabe 2010; Brulee, Carmichael, and Jenkins 2012; Nisbet and Myers 2007). These studies have indicated varied levels of acceptance across countries, and periods of significant fluctuation in acceptance (Arkan and Gunay 2021; Knight 2016; Leserowitz et al. 2021). Both the

cross-national variation and fluctuation in acceptance levels can be observed when comparing American and Canadian public opinion over the last decade. The NSEE and CSEE have regularly measured public acceptance of evidence of global warming and indicate some notable differences across the two publics over the ten years between 2011 and 2020/2021. As can be seen in Table One, Canadians have been consistently more likely than Americans to state that there is solid evidence of global warming, but that the gap has significantly narrowed over the last decade.

As perceptions of rising global temperatures have expanded among the American and Canadian publics during the second decade of the 21st century, so too has the level of confidence that individuals have in their appraisals of the changing climate. Increasingly higher percentages of Americans and Canadians have both said that there is solid evidence that temperatures on

Earth are rising, and that they are very confident in this appraisal. This increase is especially noticeable in the United States, where acceptance of, and confidence in, global warming has increased in somewhat linear fashion over the decade. In 2021, a record majority of Americans (51%) indicated both that there is solid evidence of global warming and that they are very confident of this observation (see Table Two).

Meanwhile, an increase in perceiving rising global temperatures is also found in Canada, although in recent years, perceptions have been more stable. Indeed, there was a jump in the percentage of Canadians indicating belief in solid evidence of rising global temperature at the beginning (80%) and middle (86%) of the decade (see Table One). While this 6-percentage point increase is outside the margin of error (and thus statistically significant), the percentage of Canadians perceiving solid

evidence of rising global temperature was unchanged between 2016 and 2020 at 86%. Similarly, confidence in this assessment also plateaued in Canada over the same time period. While confidence in perceptions of rising temperatures increased in Canada by 12 percentage points between 2011 (38%) and 2016 (50%), the proportion of Canadians indicating they were "very confident" in their assessment of rising global temperatures leveled off between 2016 (50%) and 2020 (51%) (see Table Two).

Thus, American attitudes toward the certainty of global warming have caught up to Canada over the last decade. The confluence of expanded acceptance of global warming, and higher levels of confidence that the temperatures on the planet are increasing, has placed public opinion in Canada and the United States in a notably different position than it was a decade ago.

TABLE ONE: Percent of Canadians and Americans that Indicate There is Solid Evidence of Global Warming

	2011	2016	2020/2021
Canadians	80%	86%	86%
Americans	56%	66%	75%

Question Wording: From what you've read and heard. Is there solid evidence that the average temperature on earth has been getting warmer over the past four decades?

TABLE TWO: Percent of Americans and Canadians that Are Very Confident that Global Warming is Occurring

	2011	2016	2020/2021
Canadians	38%	50%	51%
Americans	30%	46%	51%

Question Wording: How confident are you that the average temperature on earth is increasing? Are you very confident, fairly confident, not too confident or not confident at all that the average temperature on earth is increasing?

The Skeptics

The growth in acceptance of evidence of global warming in the United States and Canada over the last decade has left a dwindling cohort of climate change skeptics in these North American countries.

hile different forms of climate change skepticism exist (we detail this in section 2.1), at the most basic level, climate change skepticism takes the form of outright denial of increasing global average temperature. Such denial has been on the decline, especially in the United States, where at the start of the last decade nearly

1 in 3 Americans did not think there was solid evidence of global warming. As can be seen in Table Three, between 2011 and 2021 the share of climate change deniers has been cut in half in the United States (32% to 16%). In Canada, the group of climate change deniers has generally been smaller, though the proportion has remained stable over time. Indeed, over the last decade, we find no statistically distinguishable difference in the proportion of the population who deny the existence of climate change between 2011 (14%) and 2020 (11%). Thus, as the second decade of the 21st century concluded, climate change denial communities in the United States experienced a meaningful decline, and the once-substantive difference in the percentage of skeptics across Canada and the United States had narrowed.

TABLE THREE: Percent of Canadians and Americans that Indicate There is NOT Solid Evidence of Global Warming

	2011	2016	2020/2021
Canadians	14%	11%	11%
Americans	32%	15%	16%

Question Wording: From what you've read and heard. Is there solid evidence that the average temperature on earth has been getting warmer over the past four decades?

Perceptions of the causes of climate change

While large majorities of both Canadians (86%) and Americans (75%) indicate that there is solid evidence of global warming, perceptions of the causes of the changing climate are more contested.

ver the last decade, the CSEE and NSEE have regularly asked those that think there is solid evidence of global warming if the warming is the product of human activity or natural causes. This distinction among the cohort of those accepting evidence of climate change is quite significant given the potential impact on support for climate intervention options (i.e., mitigation, adaptation). Indeed, if an individual perceives rising global temperature but rejects the role of human activity in causing this warming, then efforts to reduce greenhouse

gas emissions make little sense. Conversely, if one perceives the climate to be changing, then adaptation remains relevant regardless of the perceived cause.

The findings over the last decade indicate that in both Canada and the United States there have been increases in the percentage of residents attributing the warming of the planet to anthropogenic-induced factors. In the United States, the proportion of Americans who attribute rising global temperatures to human causes nearly doubled between 2011 (22%) and 2020 (38%). A similar pattern is found in Canada, where the proportion of Canadians attributing a warming planet primarily to human activity increased from 34% in 2011 to 56% in 2020.

These data were collected via telephone using closedended survey questions, and, in some cases, respondents refused to identify human or natural causes as the primary factor driving global warming, volunteering a "combination of factors" as their response instead.

While the percentage of respondents who gave this response decreased somewhat over time (especially in Canada), the surveys consistently found a considerable proportion of Canadians and Americans who volunteered "a combination of human and natural causes." In more recent iterations of the CSEE and NSEE, a probing question was put to respondents offering "a combination response" to see, if they had to choose, whether they lean more toward thinking climate change is primarily humancaused or due to natural causes. Among those in Canada (15%) and the United States (19%) who volunteered "a combination" in the latest survey wave, very similar proportions landed on human activity (64% in Canada, 63% in the United States) when forced to choose (See Table Five). Proportions for the other response options were also very similar, with 15% in both countries indicating natural patterns when forced to pick one of the two options, while similar proportions in Canada (14%)

and the United States (21%) insisted the two drivers played an equal role. The remaining 7% (1% in the United States) were unsure.

Thus, most people offering "a combination" as their response to the global warming cause question tend to prioritize human activity as the primary culprit. When the "human cause" and "combination" responses are combined, clear majorities in both countries attribute at least some part of global warming to human activity. Moreover, this propensity to attribute global warming mostly or partially to human causes increased, though modestly, in Canada, from 62% a decade ago to 68% in 2020. In the United States, a 12-percentage point increase occurred over the same time period, with 45% of Americans ready to say that humans are at least partially responsible for global warming a decade ago, increasing to 57% in 2021.

TABLE FOUR: Canadian and American Views on the Existence and Causes of Global Warming

	CANADA			UNITED STATES				
	Human Causes	Natural Causes	Combo Human/ Natural	Not Occurring/ Not Sure	Human Causes	Natural Causes	Combo Human/ Natural	Not Occurring/ Not Sure
2011	34%	13%	28%	25%	22%	11%	23%	44%
2016	55%	13%	16%	17%	30%	10%	25%	34%
2020/2021	56%	14%	12%	17%	38%	16%	19%	25%

Note: Total may not equal 100% due to rounding.

TABLE FIVE: Leaning Position on the Primary Cause of Global Warming Among Those Who Indicated Warming was Caused by a Combination of Human and Natural Factors

	HUMAN ACTIVITY	NATURAL CAUSES	COMBINATION	UNSURE
Canada	64%	15%	14%	7%
United States	63%	15%	21%	1%

Question Wording: I know you say it's a combination, but if you had to choose, would you say that temperatures on earth are rising mostly because of human activity or mostly because of natural patterns?

THE PARTISAN DIVIDE

While we have seen some notable changes in public acceptance of global warming and climate science in the U.S. and Canada over the last decade, the aggregate measures only tell part of the story.

ndeed, examining national aggregate data is akin to looking at public opinion from 20,000 feet, allowing one to see the forest while potentially masking important differences at the level of different groups within society (i.e., among the trees). For instance, partisan polarization around climate change is a well-known feature of climate change politics in the United States (Guber 2013). Consistently, studies have found that, relative to Republicans, Democrats are much more likely to believe that human-caused climate change is real, be concerned about its effects, and support various sorts of climate policy (McCright et al. 2016). Moreover, these differences have grown over time, reflected in a widening gap between Democrats and Republicans on the climate change issue (Dunlap, McCright, and Yarosh 2016). While the political divide over climate change is generally seen to be more problematic in the United States relative to other countries (McCright and Dunlap 2011), there is a dearth of comparative data looking at partisan polarization in other contexts using longitudinal data sets. As a result, the extent to which partisan polarization features in other countries, like Canada, remains a more open question.

Recent research has begun to examine the presence of political divides over climate change in other contexts. While identification of political differences is somewhat more complex in multiparty systems, this research has found that citizens on the left are consistently more likely to believe that climate change is happening and to support mitigation action (McCright et al. 2016). With respect to partisan differences specifically, the Pew Research Center examined polling data for 40 countries, finding substantive partisan differences, notably among

the world's leading emitters of greenhouse gases (Stokes 2015). For instance, the Pew study found that supporters of the left-of-center New Democratic Party in Canada (64%), as well as the more centrist Liberal Party of Canada (57%), were about twice as likely as supporters of the right-of-center Conservative Party of Canada (27%) to agree with a statement indicating that "Global climate change is a very serious problem." As in the United States, members of the Canadian public are sensitive to elite partisan cues, and differences in the policy positions of federal party leaders on climate change have been shown to influence the climate change policy preferences of the general public (Guntermann and Lachapelle 2020). However, this research provides only a snapshot in time, and is unable to say much about whether or not partisans are increasingly polarized on climate change over time.

Partisan Divides on the Reality and Causes of Global Warming

artisan differences on climate change can take different forms, as people's beliefs about climate change and global warming vary in different ways. For instance, the literature has identified different forms of climate change skepticism (Capstick and Pidgeon 2014). One of the most obvious is a rejection of the very idea that the planet is warming, a position consistent with outright denial that has elsewhere been labeled trend skepticism (Capstick and Pidgeon 2014). Other individuals might perceive evidence of climate change, but are not convinced that the planet is warming due to human activity, attributing this warming instead to natural causes, or what this research labels as attribution skepticism. These distinctions help categorize the climate change attitudes of the public. While increasing proportions of partisans in Canada and the United States have come to accept the science of climate change, which identifies a rise in global warming temperature, and attributes this trend primarily to human activities, stark partisan differences remain, and, in some cases, the partisan gap has actually widened over time.

NORTH AMERICAN CLIMATE POLICY

TABLE SIX: Canadian and American Views on the Existence and Causes Of Global Warming By Partisan Affiliation 2011–2021

				CANADA		U	NITED STAT	ES
			NDP	LPC	СРС	DEM.	IND.	REP.
		2011	45%	43%	18%	33%	22%	12%
	Human-caused	2020/1	71%	72%	29%	65%	35%	9%
	Combination of	2011	28%	28%	25%	27%	23%	12%
Perceive solid evidence	Human and Natural	2020/1	13%	10%	13%	15%	23%	15%
of global warming		2011	10%	13%	19%	9%	7%	15%
	Naturally caused	2020/1	10%	8%	21%	9%	14%	20%
		2011	3%	6%	4%	4%	1%	3%
	Not sure of cause	2020/1	3%	3%	4%	2%	2%	5%
			7%	4%	6%	8%	12%	11%
Not sure of evidence of global warming		2020/1	1%	3%	5%	1%	11%	18%
No solid evidence of global warming		2011	9%	7%	27%	19%	34%	47%
		2020/1	2%	4%	28%	7%	14%	34%

Note: Totals may not equal 100% due to rounding.

Table Six unpacks six distinctive climate beliefs across Canada and the United States, measured at two points in time—at the beginning, and at the end, of the last decade. These beliefs range from perceiving solid evidence of global warming and attributing this trend to human activities (the first row) to the perception of no solid evidence of rising global temperature (the bottom row). In between are other beliefs, including attribution of global warming to natural patterns in the environment, as well as respondents who volunteered "a combination of factors" when asked about the causes of a warming planet. Included in Table Six are those who reported not being sure about evidence of global warming (who were subsequently filtered out of the perceived cause question), as well as those who reported perceiving solid evidence of a warming planet, but who were unsure of the cause.

A first thing to note from Table Six is the stark differences in climate beliefs across partisans. In Canada, a majority of voters who support the three largest federal political parties perceive solid evidence of climate change. This can be calculated by adding up the proportion of partisans perceiving global warming to be caused primarily by human activity, a combination of factors, primarily by natural causes, as well as those who perceive solid evidence but who are unsure of the cause. When these cells are added, substantial differences in the proportion of partisans who perceive solid evidence of a warming planet emerge. In 2020, perceptions of solid evidence ranged from a low of 67% among supporters of the Conservative Party of Canada (CPC) to a high of 97% among supporters of the New Democratic Party (NDP) and 93% for supporters of the Liberal Party of Canada.

Thus, trend skepticism is larger among supporters of the CPC relative to supporters of the other two major federal parties in Canada. Larger differences are found when looking at beliefs in the causes of climate change. For instance, in 2020, supporters of the Liberal Party of Canada (72%) and New Democratic Party (71%) were more than twice as likely to attribute global warming primarily to human causes, relative to supporters of the Conservative Party of Canada (29%).

In the United States during early 2021, majorities of both Democrats (80%) and independents (58%) believed there is solid evidence of global warming that is at least partially caused by human activity, but among Republicans the picture is starkly different. While almost half of Republicans (49%) indicated that there is solid evidence of global warming, only about 1 in 4 (24%) Republicans indicated that humans are causing temperatures on the planet to rise. Thus, Democrats in the United States are over three times as likely as Republicans to believe that humans are contributing to the warming of the planet, and independents are over twice as likely as Republicans to maintain this view. Attribution skepticism is thus a key feature of American public opinion on climate change, particularly among Republicans.

A second thing to note from Table Six is the change over time in partisan views of global warming, as well as the size of the partisan gap over the last decade. In Canada, the perceived evidence of global warming is rather stable between 2011 and 2020, with the notable exception of NDP supporters. Among New Democratic Party supporters, the proportion who reported perceiving solid evidence of global warming increased by about 11 percentage points. Beliefs about the causes of climate change changed even more markedly, if unevenly, contributing to growing partisan polarization around climate change. In fact, the proportion of Liberal Party of Canada and New Democratic Party voters attributing rising global temperature primarily to human activity increased by 29 and 26 percentage points, respectively, between 2011 and 2020. Meanwhile, this proportion grew much more modestly among supporters of the Conservative Party of Canada (11 percentage points). As a result, the gap in the proportion of partisans adhering

to well-established climate change science among the two largest political parties in Canada (i.e., LPC and CPC) widened from 25% in 2011 to 43% in 2020.

While outright climate change denial has waned across Democrats, Republicans, and Independents alike during the past decade, the results in Table Six indicate that reduced trend skepticism has not translated to greater acceptance of anthropogenic-driven warming across partisan cohorts. Among Democrats and Republicans, declines in skepticism between 2011 and 2021 (12 percentage points among Democrats and 20 percentage points among Independents), were paired with gains in acceptance of human-induced warming (30 percentage points among Democrats and 13 percentage points among independents). But for Republicans, a 13-point decline in trend skepticism between 2011 and 2021 (47% to 34%) was accompanied by no change in acceptance of humaninduced global warming (24% in both 2011 and 2021). Instead, the decline in trend skepticism translated to increased acceptance of global warming caused by natural cycles (15% to 20%), and elevated uncertainty about whether there is, or is not, solid evidence of global warming (11% to 18%), or what the cause of global warming is (3% to 5%). In essence, over the last decade many Republicans have moved away from the position that global warming is not happening (trend skepticism), to positions that either question if there is solid evidence it is happening, or that warming is being driven by a natural cycle (attribution skepticism).

Overall, stark partisan differences in the acceptance of global warming is a feature of climate politics in Canada, and especially in the United States. Although outright denial (or trend skepticism) has declined (especially in the United States), partisan differences remain large, and in some cases the partisan gap has widened. Meanwhile, the partisan divide on the existence of climate change is compounded by very large partisan differences in views on the underlying causes of a warming planet. These different attitudes toward the existence and causes of climate change have important consequences for climate change politics, and in particular, policy preferences among members of the American and Canadian publics.

SUPPORT FOR ACTION - CARBON TAXES AND ISSUE SALIENCE

Carbon taxes

Perhaps one of the most controversial climate policies discussed in both Canada and the United States at various levels of government and at different points in time has been the carbon tax.

his policy tool is frequently advocated by a broad coalition of climate policy advocates and has a long history in both Canada and the United States (Rabe 2018). In the early 1990s, the Clinton Administration—motivated more by concerns around government deficits than by climate change—proposed a general tax on all energy forms, including coal, natural gas, and gasoline. However, the proposal faced broad opposition from oil companies and major energy users and was ultimately watered down before becoming law. More recently, two separate carbon tax proposals were defeated in Washington state, joining a string of failed proposals to price carbon in the United States.

In Canada, despite some early success with carbon tax proposals at the provincial level (see the case of the British Columbia carbon tax established in 2008), carbon taxes had for a long time been considered a third rail of Canadian politics. During the Canadian general election

of 2008, former Prime Minister Stephen Harper attacked the revenue-neutral carbon tax proposed by then Liberal Party Leader Stéphane Dion, ultimately winning the election handily on the heels of a successful anti-carbon tax campaign, prompting Dion to equate a carbon tax with "political suicide" (Harrison 2012). Yet, a decade later, it was another Liberal Party of Canada leader (Justin Trudeau), this time in power, who proposed (2016) and ultimately implemented (2019) a national carbon pricing program. The program included a minimum carbon tax benchmark of \$20 CDN per ton of CO₂ eq (rising to \$50 per ton of CO₂ by 2022) that would be applied by the federal government in provinces and territories that did not have a carbon price system deemed equivalent to the federal benchmark, or who chose to have the carbon price set by the federal government. In late 2020, the Trudeau government doubled down on this policy, extending the scheduled increase of the minimum carbon price to reach \$170 per CO₂ eq by 2030. While the policy also included an innovative system of rebates for Canadian taxpayers to offset the costs associated with the policy, the federal carbon tax remains a divisive political issue in the country.

Given the long history of carbon taxes in both Canada and the United States, and the political debates that have ensued, the CSEE, along with the NSEE, have on several occasions polled residents of the two federations on their level of support for a carbon tax, clearly specifying that it would apply to coal, oil, and natural gas.

TABLE SEVEN: Canadian and American Views on Carbon Taxes over the Past Decade

	CANADA			UNITED STATES		
	2011	2017	2020	2011	2017	2021
Strongly support	20%	16%	29%	9%	18%	23%
Somewhat support	30%	37%	25%	18%	26%	17%
Somewhat oppose	20%	21%	14%	17%	15%	9%
Strongly oppose	26%	24%	28%	52%	32%	34%
Not sure/Refused	4%	2%	4%	4%	9%	18%
Total support	50%	53%	54%	27%	44%	40%
Total opposition	46%	45%	42%	69%	47%	43%

Question Wording: Another way to lower greenhouse gas emissions would be to increase taxes on carbon-based fuels such as coal, oil, gasoline and natural gas. Would you strongly support, somewhat support, somewhat oppose or strongly oppose this type of system?

In Canada, division over the carbon tax has been a persistent feature of Canadian public opinion over the last decade. While overall (i.e., total) support and opposition has changed slowly, maintaining a relatively even balance of support and opposition throughout the decade, there has been considerably more movement within the cohorts of Canadians that strongly support and strongly oppose, carbon taxes. In both of these camps, a hardening of opinion can be seen, with respondents more likely to indicate strong support/opposition (as opposed to soft support/opposition) over time. In fact, by 2020, pluralities of support and opposition were found at the extreme ends, with about a third of Canadians either strongly supportive, or in strong opposition. This hardening of opinion on carbon taxes is reflective of carbon taxes being a consistent feature of partisan debate and communication around climate change and climate policy in Canada (Harrison 2012; Lachapelle and Kiss 2018; Raymond 2020). At the same time, majority support for this policy in Canada appears to have created the political space necessary for a democratically elected government to implement a carbon tax in an institutional context (i.e., Parliamentary democracy) that concentrates power at the hands of the executive.

In contrast to the Canadian case, public opinion around carbon taxes in the United States has evolved more quickly.

From 2011 to 2021, opposition to a carbon tax declined by 26 percentage points, from majority opposition in 2011 (69%) to plurality opposition in 2021 (43%). On the flip side, total support for a carbon tax in the United States has increased, though not as dramatically, from about a third of Americans in 2011 (27%) to 40% in 2021. Despite this substantial shift, public opinion remains only one factor to consider when looking at the feasibility of policy in the U.S. context. Unlike a Parliamentary democracy that fuses the legislative and executive branches of government, the separation of powers that characterizes the U.S. presidential system substantially weakens the capacity of the American executive to pass such far-reaching carbon pricing policies as those found in Canada. Combined with interest group pressure and the threat of primary challenges by strong conservatives in Republican primaries, it appears unlikely that a U.S. carbon tax will come to pass in the near future, despite the changing public opinion landscape. Such was the case in the fall of 2021, when carbon tax options gained limited traction in the congressional climate policy debates (Everett and Adranga 2021). This raises the possible role for more classic regulations and clean energy standards as climate policy levers to be used in the United States, which coincidentally tend to enjoy relatively more support in American public opinion (Lachapelle, Borick, and Rabe 2014).

TABLE EIGHT: Canadian and American Views on Carbon Taxes by Global Warming Beliefs

	CANAD	A (2020)	UNITED STATES (2021)			
	Support (strongly + somewhat)	Oppose (strongly + somewhat)	Support (strongly + somewhat)	Oppose (strongly + somewhat)		
Solid evidence + primarily human-caused	72%	25%	66%	15%		
Solid evidence + a combination of factors	57%	35%	45%	32%		
Solid evidence + natural causes	36%	58%	14%	71%		
No solid evidence	14%	83%	13%	75%		

Despite the real and enduring differences in carbon tax support among residents of Canada and the United States, attitudes toward carbon taxes in the two countries are similarly shaped by beliefs about global warming. In Canada, the relationship between global warming beliefs and support for carbon taxes is strong. For instance, Canadians who perceive solid evidence of global warming and who attribute the warming primarily to human activity are nearly three times more likely to support (72%) than oppose (25%) a carbon tax. Conversely, Canadians who do not see evidence of global warming are over five times as likely to oppose (83%) a carbon tax as they are to support one (14%). Canadians who attribute at least some of the warming to human activity (i.e., in combination with other factors) are also more likely to support (57%) rather than oppose (35%) a carbon tax, though net support (i.e., total support minus total opposition) is substantively greater among Canadians who attribute climate change primarily to human activity (47%) than it is for those who attribute warming to some combination of human and natural causes (22%). Meanwhile, Canadians who perceive solid evidence of global warming, but attribute this primarily to natural causes (i.e., attribution skeptics), are more similar to Canadians who deny seeing evidence of a warming planet in that they are more likely to oppose (58%) than to support (36%) a carbon tax as a means of addressing climate change. However, carbon tax opposition among these attribution skeptics is softer than it is for trend skeptics in Canada.

A similar pattern is found in the United States, with some interesting nuance. As is the case in Canada, Americans who see solid evidence of global warming, and who attribute this unequivocally to human activity, are more likely to support (66%) than they are to oppose (15%) a carbon tax, for a net support score of (51%). Similarly, Americans who see solid evidence of a warming planet, and that attribute at least some of this warming to human activity, are more likely to support (45%) than they are to oppose (32%) a carbon tax as a means of reducing greenhouse gases. While opposition to carbon taxes is highest among Americans who do not see solid evidence of global warming (75%), the level of opposition among attribution skeptics in the United States (71%) is nearly as high. This contrasts with what is found in Canada, where 36 percent of attribution skeptics nevertheless support a carbon tax. This difference in the level of support for carbon taxes among attribution skeptics across Canada and the United might be explained by the general tendency of Americans to be less supportive of government intervention in the economy in general (Baxter-Moore et al. 2018).

Another important correlate of public opinion on carbon taxes in Canada and the United States is partisanship. As shown in Table Nine, there are stark differences in patterns of carbon tax support and opposition across partisan groups.

TABLE NINE: Canadian and American Views on Carbon Taxes by Partisan Affiliation in 2020/2021

	CANADA			UNITED STATES		
	NDP	LPC	CPC	DEM.	IND.	REP.
Strongly support	43%	50%	7%	32%	21%	6%
Somewhat support	32%	27%	18%	30%	16%	6%
Somewhat oppose	11%	10%	18%	7%	7%	11%
Strongly oppose	13%	11%	54%	11%	35%	63%
Not sure/Refused	1%	2%	3%	19%	21%	14%
Total support	75%	77%	25%	62%	37%	12%
Total opposition	24%	21%	72%	18%	42%	74%

In Canada, where Conservative Party of Canada politicians have historically voiced strong opposition to carbon taxes because of the costs they impose on businesses and households, we find that supporters of this party are much more likely to oppose (72%) than to support (25%) this policy approach to reducing emissions. Moreover, opposition to carbon taxes among this cohort tends to be strong (54%). Meanwhile, large majorities of supporters of the other two largest federal parties support a carbon tax. This support among Liberal Party of Canada (50%) and New Democratic Party (43%) voters tends to be strong, contributing to a polarized environment for carbon taxes in Canada.

Opposition to carbon taxes among Republicans in the United States is even stronger than the level of opposition toward carbon taxes among Canadian conservatives. Despite endorsement by conservative Republicans and former Secretaries of State under Presidents George W. Bush and Ronald Reagan (i.e., James A. Baker III and George P. Schultz), a large majority of Republican party supporters (74%) oppose a carbon tax in the United States. This greater level of opposition toward carbon taxes among U.S. conservatives may help explain why carbon taxes have been politically more difficult for governments to implement in the U.S., relative to the Canadian context. Since the beginning of the decade, Republican opposition to carbon taxes has remained high, suggesting that Republican opposition to carbon taxes is stronger, more salient, and more stubborn relative to opposition among Conservatives in Canada. Moreover, this constellation of political forces may generate different electoral incentives across the two nations, where strong opposition toward carbon taxes among conservative Republicans raises the prospect of crowding out carbon tax support in the GOP given the threat of losing primary challenges in U.S. elections (Skocpol and Hartel-Fernandez 2016).

Issue salience

he evolving public opinion landscape around climate change in Canada and the United States is reflective of the potentially increased political salience of the climate change issue. In Canada, climate change has slowly crept up as an important issue for voters, playing a minor role in the 2015 federal election (which saw a decade of Conservative Party of Canada rule end), but arguably playing a more important role in 2019, with some pundits musing that the carbon tax was the ballot question in that election (Bakx 2018; Ivison 2018). In the United States, issue saliency for climate change has historically lagged behind an array of other concerns, but has recently shown signs of increased importance for Americans. A Pew Research Center study found that climate change had risen from 17th among 18 issues in terms of the priorities that Americans had for the federal government in 2019, to 11th out of 18 issues in 2020 (Pew Research Center 2020).

While climate change has historically been missing in action from federal election campaigns in the United States, it remains an open question as to whether the recent dynamics in public opinion noted earlier in this study—including the growing belief that global warming is real and human-caused—has made climate change an important issue for voters. With major federal elections in Canada and the United States over the past two years. the NSEE and CSEE included questions about the saliency of climate change in terms of voter choices. In the United States, issue importance was measured directly by asking survey respondents if an issue was "...very important, somewhat important, not too important or not important at all in determining your vote in the 2020 presidential election." In Canada, the survey asked respondents to rate the importance of various issues in terms of "how important [they were] in deciding your vote" on a scale from 0 to 10.

As can be seen in Table Ten, over 4 out of 10 Americans (43%) reported that climate change and the environment were "very important" in determining their vote in the 2020 presidential election. While this finding indicates that a substantial cohort of Americans placed a high degree of salience on climate and environmental matters in their electoral choices in 2020, the issue trailed other options included in the study such as the economy, healthcare, and government accountability. These findings largely align with previous studies that have shown climate change to lag behind other concerns in the United States (Pew 2019).

In Canada, a similar pattern emerges with respect to the self-reported importance of issues in deciding vote choice in 2019. Indeed, while a majority indicated that climate change and the environment were very important in deciding their vote, this issue received the lowest rating of the four issues presented in Table Eleven for which comparable data are available in the United States. Healthcare, the economy, and government ethics all garnered larger percentages of voters indicating these issues were very important to them.

TABLE TEN: Issue Salience in 2020 Presidential Election in the United States

	VERY IMPORTANT	SOMEWHAT IMPORTANT	NOT TOO IMPORTANT	NOT IMPORTANT AT ALL	NOT SURE
Jobs and the Economy	76%	17%	6%	2%	<1%
Government Ethics and Accountability	81%	12%	5%	1%	<1%
Healthcare and the COVID-19 Pandemic	64%	21%	10%	5%	<1%
Climate Change and the Environment	43%	26%	15%	15%	0%

Question Wording: Now for each item I mention, please tell me if that issue was very important, somewhat important, not too important or not important at all in determining your vote in the 2020 presidential election.

TABLE ELEVEN: Issue Salience in 2019 Federal Election in Canada

	VERY IMPORTANT (7-10)	SOMEWHAT IMPORTANT (4–6)	NOT TOO IMPORTANT (0-3)
Jobs and the Economy	84%	14%	2%
Government Ethics and Accountability	82%	17%	2%
Healthcare	86%	13%	2%
Climate Change and the Environment	62%	24%	14%

Question wording: How important were the following issues in deciding which party received your vote in the 2019 federal election?

As may be expected, the saliency of climate and environmental matters was dramatically different across individuals based upon their party affiliation. As can be observed in Table Twelve, the saliency gap between Democrats and Republicans was greater on climate and environment matters than among the three other issues tested. In particular, there was a 44-point difference between Democrats (69% very important) and Republicans (25% very important) in terms of the saliency of this issue in the 2020 presidential election. Comparatively, the gaps on economic matters (17 percentage points), government accountability (14 percentage points), and healthcare and the pandemic (39 percentage points) were narrower. This finding aligns with the 2020 Pew study that found a 45-percentage point partisan gap on the priority climate change should play for the Congress and the President in 2021, with 60% of Democrats stating the issue should be a top priority, compared to only 14% of Republicans (Pew 2021).

Only on issues of racial justice was there a greater partisan divide in the 18 issues tested by Pew in 2021. While the salience of climate change and environmental issues varies across partisan lines, it is worth examining how this may change as the impacts of climate change worsen over time.

Similar to the United States, there are marked partisan differences on the importance of climate change and the environment as an important determinant of the vote in Canada. As shown in Table Thir, the gap in issue salience on energy and the environment was greater than for any other issue, pitting voters of the Conservative Party of Canada (37%) against supporters of the Liberal Party of Canada (76%) and New Democratic Party (75%). This 38-percentage point gap in the proportion of partisans reporting that climate change and the environment played an important role in deciding their vote dwarfs the salience gap for any other issue across partisans. In fact, on other issues, the partisan gap is comparatively non-existent. This suggests that while climate change and the environment might not first appear as the most salient issues in an election, such issues can play a role in mobilizing particular types of voters. That climate change has emerged as an important issue in recent Canadian elections despite the partisan gap in salience further suggests that climate change could play a role in U.S. elections in the not-so-distant future.

TABLE TWELVE: Issue Salience in 2020 Presidential Election in the United States by Partisan Affiliation (Percent Indicating the Issue is Very Important)

	OVERALL	DEM.	IND.	REP.
Jobs and the Economy	76%	71%	69%	87%
Government Ethics and Accountability	81%	89%	81%	75%
Healthcare and the COVID-19 Pandemic	64%	84%	60%	45%
Climate Change and the Environment	43%	69%	39%	25%

TABLE THIRTEEN: Issue Salience in 2019 General Canadian Election by Partisan Affiliation (Percent Indicating the Issue is Very Important)

	OVERALL	NDP	LPC	СРС
Jobs and the Economy	84%	78%	83%	91%
Government Ethics and Accountability	82%	83%	75%	86%
Healthcare and the COVID-19 Pandemic	86%	89%	90%	81%
Climate Change and the Environment	62%	75%	76%	37%

CONCLUSION

Over the last decade, much has changed in the United States and Canada in terms of climate and energy matters. Both countries have experienced exceptional growth in their fossil fuel sectors, and have increasingly felt the impacts of climate change in the form of excessive heat, intensified droughts, and extreme weather events like more intense wildfires and floods.

rom a climate policy perspective, the last decade has included moderate national and subnational engagement, including both federations joining the Paris Agreement, the Obama administration's Clean Power Plan, and the Trudeau administration's actions on carbon pricing, clean fuel standards, and methane leaks. These policies have also evolved considerably, reflecting changes in government, and successive attempts to rollback and reverse key policy decisions with each shift in government. As a result, climate policy retreat and inaction has been a major characteristic of climate policy in these countries.

These shifts in government have created more policy divergence than convergence across Canada and the United States in recent years. While the Trudeau administration has attempted to advance climate policy following the near absence of its development during the decade-long tenure of his Conservative predecessor Stephen Harper, his counterpart in the United States was busy reversing Obama-era policies, including the substantial weakening of the Clean Power Plan and repudiation of the Paris Agreement. Since being elected as President, Joe Biden has spent considerable effort reengaging with climate diplomacy while tweaking pandemic-era government spending in an effort to support a green economic recovery. The data analyzed in this paper help shed light on some of the reasons for these shifts, including why left-of-center governments have an interest in implementing more aggressive climate and energy policies, and why the U.S. federal government has not seriously engaged with a carbon tax.

Throughout this pivotal decade, American and Canadian public opinion on climate and energy matters has experienced significant changes, with increased acceptance of the underlying problem, and moderate increases in support for policy interventions. The evolution in opinion has occurred in both countries, but the changes are larger in the United States, where climate change skepticism and aversion to policy actions were more robust at the start of the decade. So, while there are still notable differences among Canadians and Americans on climate-related matters as the countries move deeper into the 2020s, the publics in these North American countries are closer in their views on climate change issues than they were a decade ago.

Overall, we find growing acceptance of climate change and support for climate policy actions among the Canadian and American publics. However, whether or not this is enough to finally move the countries to more significant actions in line with the Paris Agreement remains to be seen. To be sure, Trudeau and Biden have not wasted much time in making climate change a priority for their administrations, and this reflects growing public support for climate action among their respective bases. However, partisan divides continue to be a major limiting factor, and even those policies implemented by more recent climate-friendly governments in Canada and the United States are not enough to meet Paris objectives (Climate Action Tracker 2020). Thus, the changing public opinion landscape we paint here raises several important questions moving forward. Will the narrowed gap in opinion across the 49th parallel create opportunities for more coordinated, and stringent, climate policies? Or will partisan polarization and the oscillation between more and less climate-friendly governments prove fatal for policy stability over time? Will conservatives on either side of the border warm up to climate policy? And what about the role of other levels of government, as well as private initiatives, in a polycentric governance type of approach to climate policy on multiple fronts? While these questions remain unanswered, it is clear that climate change is an issue that will not go away, and publics in both countries are increasingly taking notice. Will politicians of different stripes, and at different levels, do so as well?

APPENDIX ONE

National Survey on Energy and The Environment (NSEE)

United States

Methodological Overview

	Fielding Dates	Sample Size	Margin of Error	Method of Collection
2011	18 March, to 5 April	709	+/- 4%	Telephone (35% Cell, 75% Landline)
2016	5-26 April	768	+/- 4%	Telephone (72% Cell, 28% Landline)
2021	4-20 February	614	+/- 4.5%	Telephone (82% Cell, 18% Landline)

Canadian Survey on Energy and The Environment (NSEE)

Canada

Methodological Overview

	Fielding Dates	Sample Size	Margin of Error	Method of Collection
2011	12 January to 4 February	1214	±2.8%	Telephone (100% Landline)
2016	5 to 8 October	1200	±2.8%	Telephone (40% Cell, 60% Landline)
2019	11 to 31 December	3004	N/A	Online sample with Léger
2020	17 October to 7 November	1000	±3.1%	Telephone (40% Cell, 60% Landline)

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