EcoAnalytics

Which Canadians support nature-based solutions to the climate emergency?

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Erick Lachapelle, PhD

Contents

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Summary

Nature-based solutions for the climate emergency (NbS) are gaining traction among political decision-makers worldwide as a potential contribution to solving climate change. While the literature suggests the public is relatively unaware of these solutions, and that important barriers to their implementation remain, we find broad-based support for NbS in Canada.

This analytical brief draws on the 2020 Climate of Change Survey, administered by telephone between October 17th and November 7th 2020 to a random sample of the Canadian population. Highlights include:

1. Two out of five respondents (37%) strongly agree that biodiversity loss is as much a threat to the economy as climate change.
    - This view is especially held among those on the political left, supporters of the federal NDP, those with a university education, youth and visible minorities.
2. Seven out of ten (72%) recognize nature protection as very important for fighting climate change, while one out of four (24%) believe protecting and restoring nature is more important than investing in green technology.
    - Recognition of the importance of NbS for fighting climate change is highest among those on the political left, supporters of the federal NDP, the university educated, women, visible minorities and those living in urban settings.
    - Belief that NbS are more important to fight climate change than investments in green technology is highest among middle-aged respondents, men, those on the political right, as well as among those who support the federal Conservative party.
3. Three out of four (75%) support a proposal for protecting forest, grassland and wetland as a means of addressing climate change.
    - Support is highest among women and those on the political left.
4. Beliefs that systemic racism is a major problem and that institutions and businesses need to change are strongly correlated with NbS support.

Based on these findings we offer the following recommendations:

1. Environmental groups (those focused on conservation and biodiversity, in particular) should test specific frames and messaging about the potential of NbS to:

    - Reinforce beliefs around the virtue of NbS among audiences that have been reluctant to support significant climate action: e.g., middle-aged men, and Canadians who lean to the right and/or vote Conservative.
    - Deepen engagement on climate policy with Canadians who describe themselves as left-leaning, inclined to vote for the federal NDP or Liberals, and university-educated.

2. Work with Indigenous communities, as well as university researchers and other experts to build an integrated agenda combining biodiversity and NbS in climate policies. This might also involve understanding the acceptability of different types of NbS, and research to further develop frames and messaging about NbS that more deeply engage key audiences.

3. Boost advocacy at the federal level, and in cities and urban municipalities, for major investments in urban measures that contribute to NbS for climate change, as well as greater liveability: mental health, nature experiences to foster biocentric values, tree-planting to address heat-island effects in cities, community gardens, day-lighting of urban streams, etc. Test specific frames and messaging for this advocacy among key segments (e.g., women, visible minorities and youth in urban areas).

4. Support for NbS in principle is high, but we know little about specifics. Dig deeper into the public's understanding and support for different types of NbS for climate change. Compare the level of public support for these different solutions with their mitigation and adaptation potential. For instance, is there as much support for stopping deforestation (which has major mitigation potential) relative to afforestation (planting of trees or forests where there was previously no tree cover)? Test frames and messages for specific NbS in forests, grasslands and wetlands to assess how key audiences in different regions respond to calls to protect each of these three types of ecosystems.

5. Test the limits of support for NbS by framing questions around trade-offs in urban spaces (e.g. support protecting and restoring natural environments in urban settings even if it limits the supply of new housing in these areas).

Background

Around the world, nature-based climate solutions (NbS) are gaining political traction (Seddon et al., 2020). A report by the Public Policy Forum, a non-profit think-tank based in Ottawa, identifies a broad consensus among governments, Indigenous peoples, environmental groups, industry and other stakeholders on the importance of nature-based solutions for meeting Canada's climate change commitments (PPF, 2020). In December 2020, the federal government explicitly recognized the importance of protecting nature in its 2020 Climate Plan. It also reaffirmed a commitment to invest in nature-based climate solutions including an initiative to plant two billion trees by 2030.

Defined as "actions to protect, sustainably use, manage and restore natural ecosystems" (IUCN, 2016), nature-based solutions (NbS) that safeguard and promote green spaces have significant potential to reduce both greenhouse gas emissions and the vulnerability of communities to the impacts of climate change (Chausson et al., 2020). In fact, land and ocean surfaces are responsible for sequestering more than half of the carbon pollution released each year (Ballantyne et al., 2012). NbS can also promote biodiversity and human interactions with nature, which studies identify as important for overall human well-being (Nisbet et al., 2010; Russell et al., 2013; White et al., 2020).

Despite this appeal, there are important barriers to the implementation of NbS as an instrument of climate policy. These barriers include a lack of trust, communication deficits, and a lack of appreciation of the effectiveness of NbS. Moreover, the literature also points to more general problems of social learning among policy actors, as well as limited public awareness of NbS (Wamsler et al, 2020; Giordano et al., 2020; Sarabi et al., 2020).

Question and methods

In this analytical brief, we examine the attitudes of Canadians toward NbS. Specifically, we set out to answer the question "Who supports NbS as an instrument of climate policy in Canada?"

We answer this question by looking at three variables in EcoAnalytics 2020 Climate of Change survey.

- Q1: [How strongly do you agree / disagree...] The loss of biodiversity is as much a threat to the economy as climate change.
- Q2: [How important do you think each of the following are in terms of fighting climate change] Protecting and restoring natural areas.
- Q3: [How strongly do you support / oppose...] Protecting and restoring forest, grassland, and wetland to reduce greenhouse gas emissions and increase resilience to climate change.

The analysis focuses on data drawn from the 2020 Climate of Change Survey. This random digit dialing (RDD) telephone survey was conducted with a sample of 1,000 Canadians, 18 years and older. An overlapping dual-frame (landline and cell phone) sample was used. Quotas were set to ensure 400 surveys were completed with respondents via cell phones and 600 with landline. Interviews were conducted from October 17th to November 7th, 2020 and averaged 17 minutes. To ensure that the data collected were representative of the Canadian population, a weighting factor based on region, age, and gender was employed. The AAPOR response rate was 10%. Based on a sample of this size, the results can be considered accurate to within ±3.10%, 19 times out of 20.

Results

1. Agreement with the statement that "The loss of biodiversity is as much a threat to the economy as climate change."

We first examined the demographic profile of respondents who indicate strong agreement with the statement that the loss of biodiversity is as much a threat to the economy as climate change. In aggregate, 37% of respondents expressed strong agreement with this view, 38% somewhat agreed, 11% somewhat disagreed, 4% strongly disagreed and 10% were not sure. We note here that EcoAnalytics does not have a baseline measure of how many Canadians agree that climate change is a threat to the economy; so the implications of agreement with this statement are not entirely clear, beyond a basic recognition among some Canadians that biodiversity loss has a negative impact on the economy. The finding that 10% of respondents were not sure could also indicate that people are less familiar with the argument encapsulated in this statement.

Below, we look more closely at the socio-demographic characteristics associated with strong agreement with the above statement.

Figure 1: Loss of biodiversity as much a threat to the economy as climate change, by socio-demographics

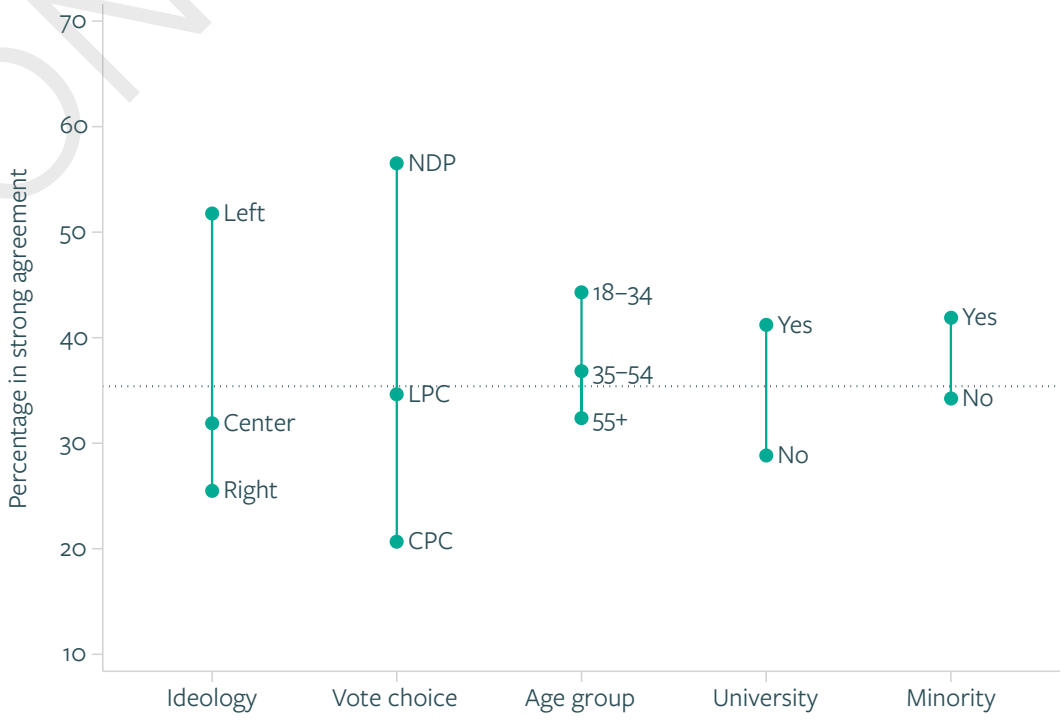
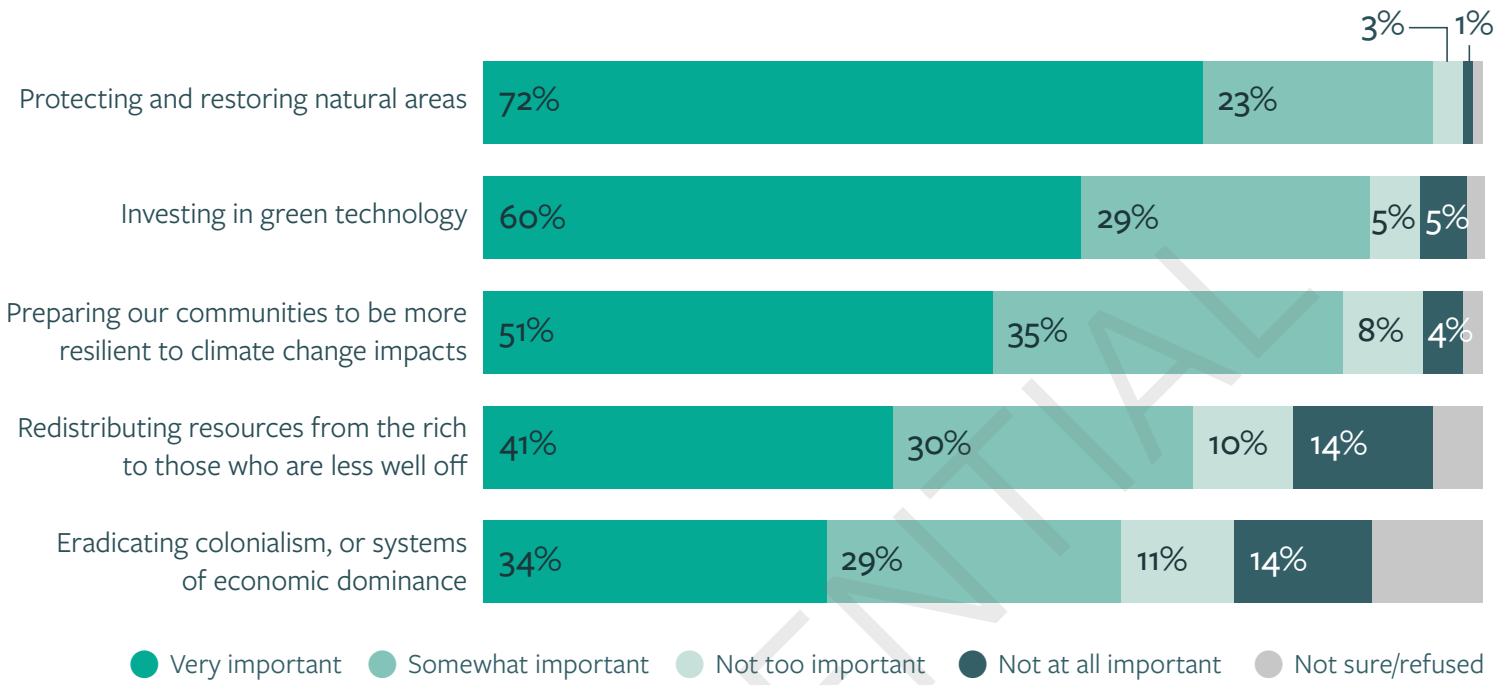


Figure 1, above, plots the percentage of respondents belonging to different socio-demographic groups who believe that biodiversity loss is as much a threat to the Canadian economy as climate change. The average level of strong support for this view in the sample as a whole (37%) is indicated by the dotted line. Figure 1 shows that strong agreement with this view is generally held by a plurality of respondents, achieving majority status only among those on the political left, and supporters of the federal NDP, who are most likely to strongly agree. The largest difference is found between supporters of the federal NDP (57%) relative to supporters of the LPC (38%) and CPC (23%). A similar, though not as pronounced, difference is found comparing across those on the political left (54%) relative to those self-identifying at the centre (35%) or right (28%) of the political spectrum. Smaller differences are found across age categories, levels of education, and self-identification as a visible minority, with university educated (relative to non-university educated) Canadians, youth (relative to older cohorts), and visible minorities more likely to see biodiversity loss as an economic threat. Differences across other socio-demographic categories were less pronounced, so we do not present them here.

2. Perceived importance of "Protecting and restoring natural areas"

Next, we examined Canadians' general view about the importance of NbS as a tool to address climate change. Research on this topic indicates a lack of public awareness of these tools, so it is unclear what respondents have in mind when framing a question around the principle of NbS (which encompasses a broad range of solutions for both mitigation and adaptation). With this caveat in mind, we found a large majority of respondents (72%) report thinking that protecting and restoring natural spaces is a very important means of addressing climate change in Canada. Indeed, of the five items tested in this question matrix, the item measuring the importance of NbS was most popular among respondents, outperforming other more commonly discussed climate policies, such as investing in green technology (Figure 2).

Figure 2: Perceived importance of various climate change solutions



Question wording: How important do you think each of the following are in terms of fighting climate change?

The aggregate 72% figure tells us little about what types of Canadians are most likely to hold this view. Looking more closely, we find a similar demographic profile to that of those who recognize the importance of NbS as a policy tool. As was the case when looking at the question framed around biodiversity loss (Figure 1), we find that those who are university educated, left-leaning or self-identifying as from a visible minority are more likely to see protecting nature as very important in addressing climate change. We also find that, in this case, women and those living in a Census Metropolitan Area (CMAs, as defined by Statistics Canada[1]) were significantly more likely to say that protecting and restoring natural areas is very important. As shown in Figure 3, these differences are substantively important as well. Differences across other socio-demographic categories were less pronounced, so we do not present them here.

1 We use the "Census Metropolitan Area", defined by Statistics Canada, to code respondents as living in an urban centre. Statistics Canada defines a CMA as an area consisting of one or more neighbouring municipalities situated around a developed core. To be classified as a CMA (and thus for our purposes, as urban), an area must have a total population of at least 100,000 of which 50,000 or more live in the core.

Figure 3: Importance of protecting and restoring natural areas, by key socio-demographics

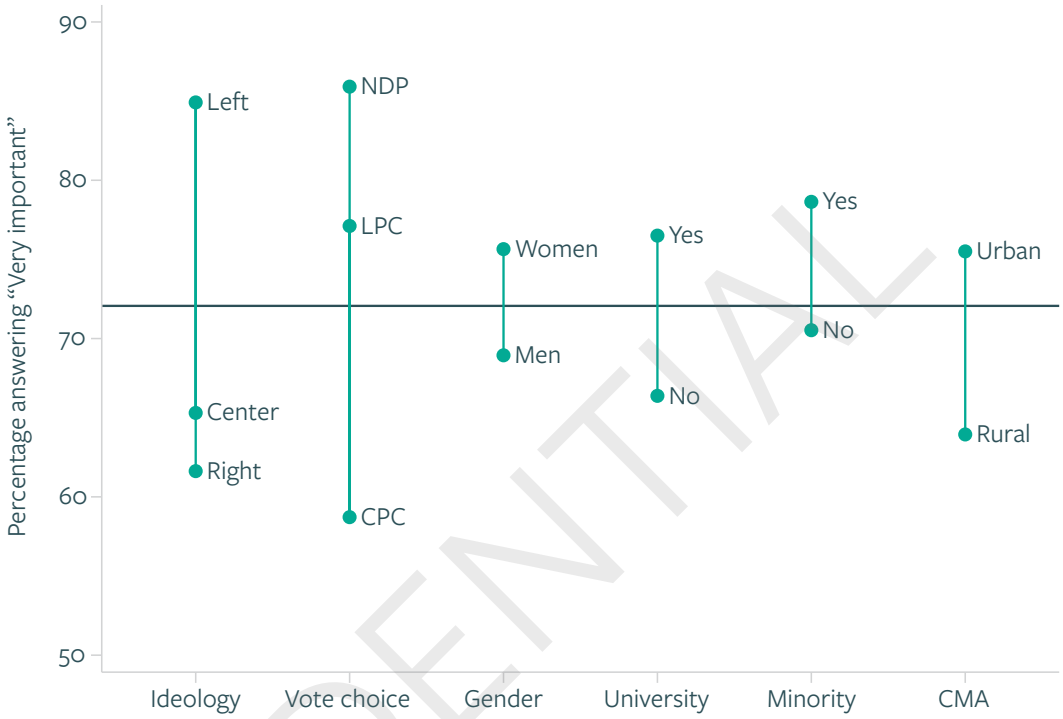


Figure 3 plots the percentage of respondents who believe that protecting and restoring natural areas is very important, by socio-demographic category. As shown, we find majority support (>50%) for the view that NbS are very important for fighting climate change across all demographic categories, including those that are traditionally less enthusiastic about climate change policy.

At the same time, Figure 3 highlights substantial variation across socio-demographic categories, which can be substantially higher or lower than the aggregate average of 72% (indicated by the dotted line). As shown, those on the political left (85%) are 20% more likely than either those on the political right (62%) or at the centre (65%) to say that NbS are very important tools of climate policy. This pattern is replicated when looking at electoral preferences, with a substantively greater proportion of federal NDP supporters (86%) indicating that NbS are very important, relative to supporters of the Liberal Party of Canada (77%) and Conservative Party of Canada (59%), respectively. We also find that Canadians living in large urban areas (or "Census Metropolitan Areas", 76%) are more likely than those who live in smaller communities or rural areas (outside CMAs, 64%) to recognize that NbS are very important for addressing climate change. Finally, we find that the perceived importance of NbS is relatively greater among women (as opposed to men), those who

are university educated (as opposed to those without a university education) and those who identify as a visible minority (as opposed to not identifying as a visible minority). These differences are in the range of 7 percentage points and while not as large, are nevertheless statistically and substantively significant.

We also examined whether there are different socio-demographic profiles for those who demonstrate a net relative preference for NbS over the more commonly discussed green technology investments. Studies suggest that one of the reasons people do not engage in serious discussion or action on climate change is their dislike of commonly discussed climate policy solutions, referred to in the literature as solution aversion (Campbell and Kay, 2014). In our study, there may then be instances of respondents who are averse to particular types of climate policy (e.g., green technology) yet more open to protecting and restoring nature. Examining the data, however, we find that for a majority of respondents (65%), protecting and restoring nature and investing in green technology are considered equally important in the fight against climate change. That is, people tend to offer the same response (very important, somewhat important, not too important, or not important at all) when asked to evaluate the importance of various climate policy measures. We note that relatively few (about 1 in 10) demonstrate a net preference for green technology investments over NbS. However, we find that nearly one in four Canadians (24%) report a greater level of perceived importance for restoring natural areas over investing in green technology.

Figure 4: Net importance of protecting and restoring nature over investing in green technology, by key socio-demographics

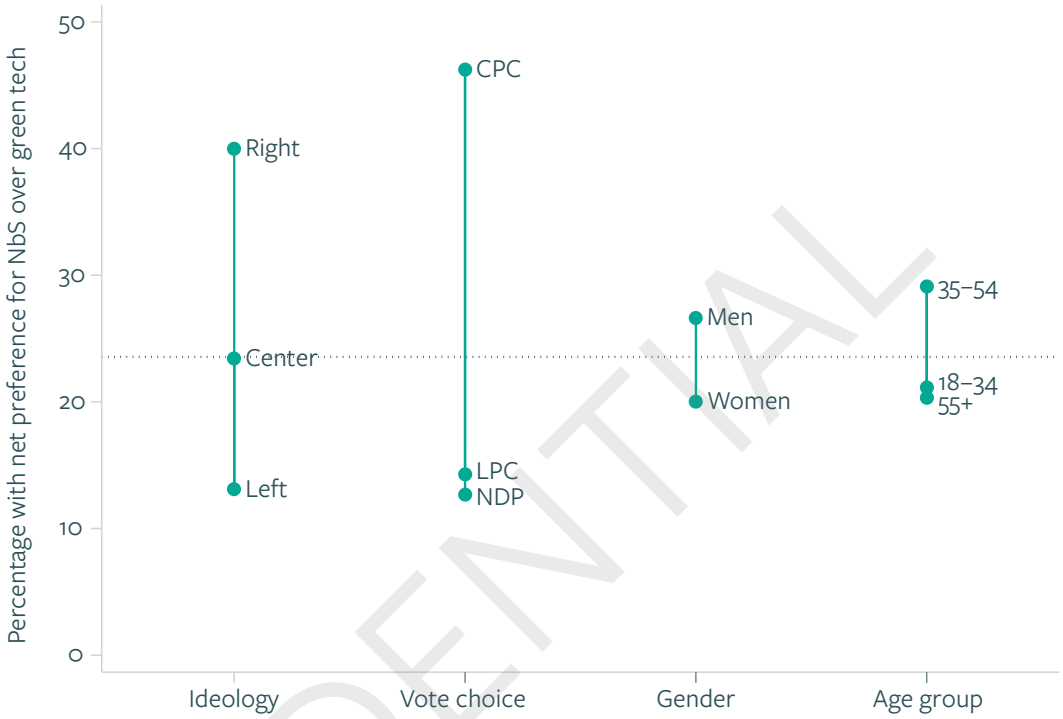


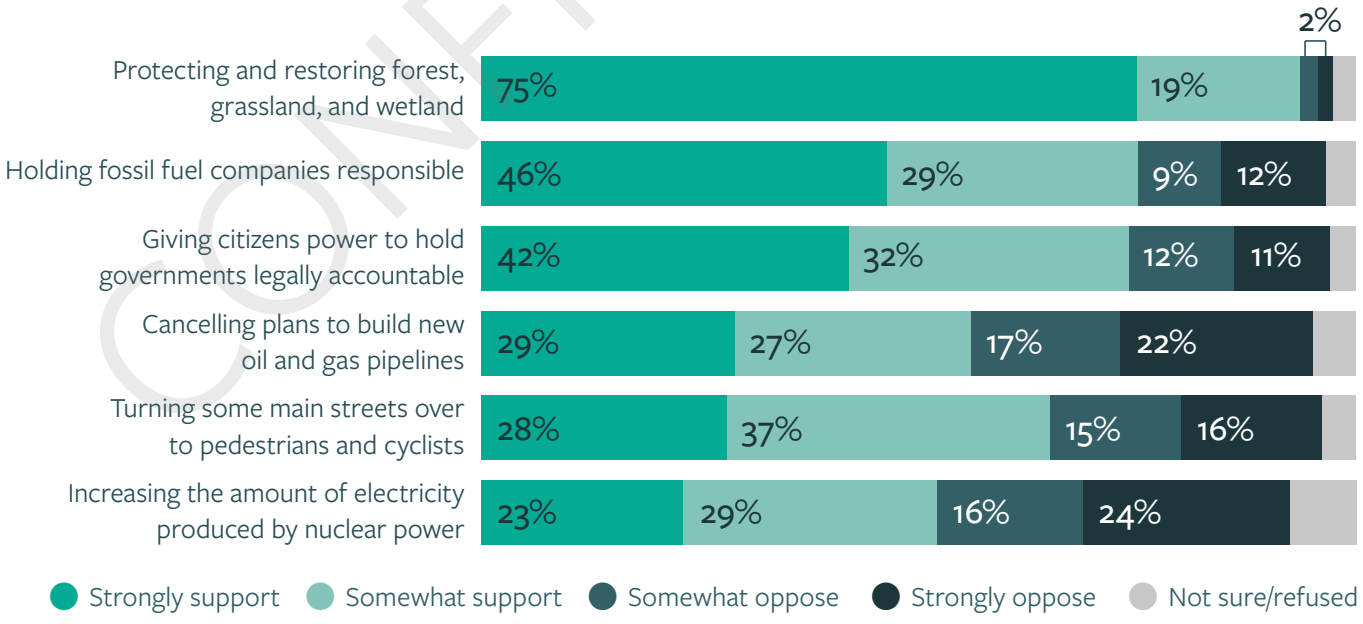
Figure 4 plots the percentage of respondents who assign a higher level of importance to protecting nature than investing in green tech as a means of dealing with climate change, across key socio-demographic groups. Again, we show only those categories where large differences are found. This particular analysis is especially revealing, as it does not produce a list of the usual suspects. Rather, looked at in this way, it is middle-aged Canadians, men in particular, and those with conservative values, or who vote for the CPC, who stand out. Figure 4 shows Conservatives (46%) are about four times more likely than supporters of the federal NDP (12%) and LPC (14%) to express a net preference for NbS. Similarly, those on the right (40%) are nearly four times more likely than those self-identifying as being on the left (13%) to say NbS are more important than green technology investments in the fight against climate change. Differences across gender and age are smaller (in the range of 7% to 10 %) though they remain substantive and statistically significant. Multivariate regression analysis (not shown here) further reveals that such a net preference for nature-based solutions is tightly correlated with specific attitudes, including a belief that government redistribution programs make people lazy.

3. Support for a proposal for "Protecting and restoring forest, grassland, and wetland"

Finally, we examine levels of public support for specific policies presented in the survey (Figure 5, below). Of six policy proposals mentioned, we find strong support for a proposal to protect and restore forest, grassland and wetland—an approach that three out of four Canadians (75%) strongly support. No other policy proposal tested comes close. (Note: Again, caution is warranted here, as the question matrix compares a diverse mix of items ranging from nuclear power to citizen empowerment. Moreover, the NbS item here specifically mentioned mitigation and adaptation (i.e. resilience) objectives, which should be unpacked to fully understand what Canadians mean when they express support for such protection and restoration.)

We further analyzed the questions at hand using exploratory factor analysis. This was done to check the similarity of responses across the different policy options. Most of the policies tested are strongly correlated, with little indication that support for nature protection is distinct. However, we do find evidence of a two-factor solution better explaining variation on the nuclear power item, suggesting that this particular proposal taps into a distinct dimension of public support for different types of climate policy.

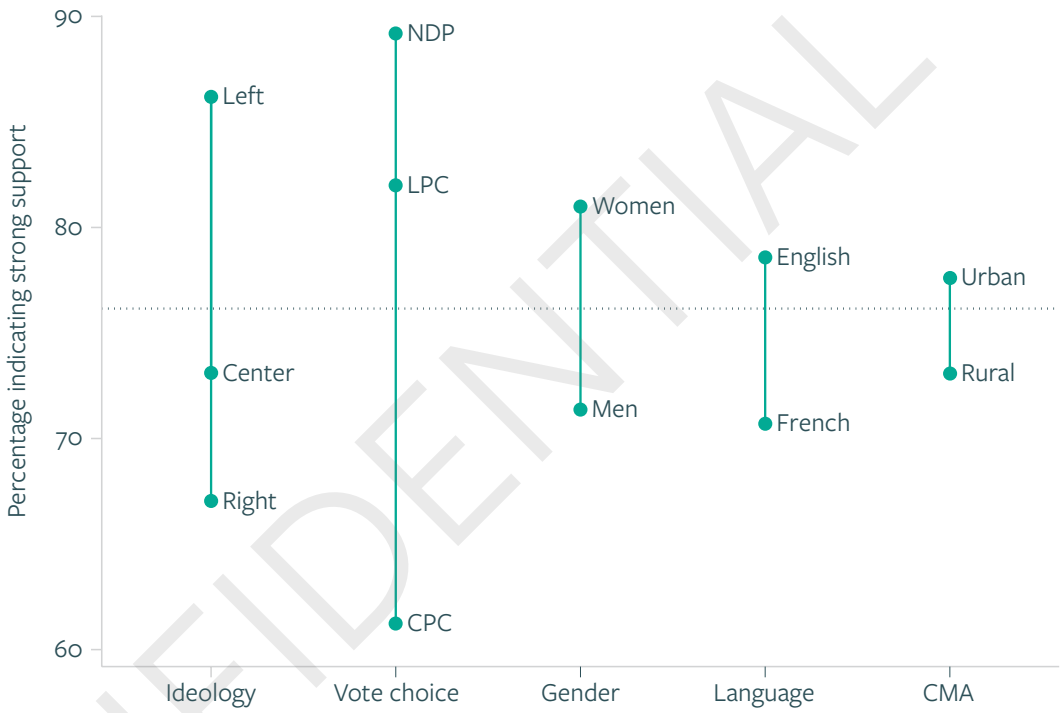
Figure 5: Support for various policy proposals to address climate change



Question wording: A number of proposals have been made regarding how governments might address climate change. For each proposal that I mention, please indicate whether you strongly / somewhat support, somewhat / strongly oppose each of the following...

Digging deeper into the 75% support statistic, we find relatively more support for nature protection as a means of addressing climate change among a number of key demographics. The differences here, however, are not as pronounced (see Figure 6).

Figure 6: Support for protecting and restoring forest, grassland, and wetland, by key socio-demographics



Again, Figure 6 shows strong evidence of broad support for NbS in Canada. And, despite some important differences across demographic categories, it also shows a majority in each sub-group strongly supports protecting and restoring nature as a means of addressing climate change. As was the case earlier, we find that left-leaning individuals (86%) are more likely that those self-identifying as being on the right (67%) or the political centre (73%) to strongly support NbS. The difference is larger between supporters of the federal NDP (89%) and LPC (82%) and supporters of the federal Conservatives (61%). We find smaller but significant and meaningful differences between women (81%) and men (71%), and those who speak English (79%) as opposed to French (70%). We also find a smaller difference between those living in and around large cities (CMA, 78%) and those in more rural areas (outside CMAs, 71%). These differences help identify who is most likely to support NbS in Canada, but we note that these are all differences *of degree*, or intensity of, support, rather than differences in general attitude about the value of NbS among these demographic groups. Additional multivariate analysis (not shown here) further reveals

that strong support for NbS is tightly correlated with other beliefs: e.g., in one's own efficacy (personal ability to effect positive change), that systemic racism is a major problem in Canada, and that institutions and businesses need to change if we are going to tackle climate change.

Discussion, limitations and main findings

Nature-based climate solutions are becoming an integral part of the fight against climate change, in Canada and abroad. Our analysis of EcoAnalytics Climate of Change survey, fall 2020, provides evidence that most Canadians highly favour NbS, though we cannot be sure that the Canadian public is well informed about what these solutions entail (i.e. the devil may be in the details). Nevertheless, the data examined here do suggest that a focus on NbS may allow environmental advocates to engage demographic segments that have not in the past been in favour of significant climate action or responded to widely used narrative framing of solutions focused on phasing out the use of fossil fuels. To be sure, we find that the usual suspects—those who lean left, support the NDP and/or are university educated, as well as visible minorities and youth—are generally more worried about the loss of biodiversity. As well, those on the left, supporters of the NDP, women and English speakers are more likely to support the idea of NbS in principle. We also find, however, that NbS seem to be politically more palatable to those on the right of the political spectrum, and thus may help bridge the political divide that has undermined discussions of climate action in Canada for decades.

Many Canadians on the political right distrust climate policies, owing to what the scholarly literature calls "solution aversion"—a dislike of the implication of policies such as carbon taxes (personal costs) and investments in green technology (phasing out of fossil fuels, economic transformation). In this context, Canada's conservation groups could offer a fresh new voice for climate policies that do not trigger this aversion by focusing on what may be a politically more palatable solution: NbS.

Our analysis, of course, is limited in several important respects. First, all questions examined here involved split samples. This limits the types of analyses we were able to conduct. Future research should seek to replicate and build on the main findings below. Second, we relied on a relatively crude measure of urban and rural populations. Further research might seek to identify a better measure to see how attitudes

toward NbS may be shaped by geography (across rural, small town, suburban and urban categories). Third, the research here was largely exploratory. Future research should go further, digging deeper into the mental associations called to mind when thinking about NbS vs. green technology. This may involve more attention to specific types of NbS in rural or urban settings, or for different (mitigation or adaptation) ends. Further work might also test specific hypotheses and communications strategies for Canadian campaigns in support of NbS (see Recommendations, below). Fourth, to some extent, it's easy for respondents to agree with the idea of protecting and restoring nature in the abstract. Probing more deeply into the limits of this support—by, for instance, framing a question around what nature protection means for residential development in a context of rising concern about affordability, or limiting property rights to fight climate change—may paint a different picture than the one described here. Finally, it would be useful to probe Canadians' baseline level of belief that climate change is harmful for the economy, to provide some comparative perspective on the question posed in the 2020 Climate of Change survey that measured agreement with the idea that biodiversity loss is as much a threat to the economy as climate change.

To summarize, the main findings of this analysis include:

1. Nature-based climate solutions appear to be popular across a broad cross-section of socio-demographic groups. For instance, they are seen as being more important than investments in green technology among a sizeable chunk of the population (24%). NbS provide an opportunity to grow the constituency for climate action across a large cross-section of Canadians who are not necessarily motivated by traditional climate policies such as the phasing out of fossil fuels. It follows that conservation and nature groups should seize the opportunity by stepping up efforts to communicate and mobilize their constituents around NbS in communities everywhere in Canada.

2. More research is required to assess the depth of public support for NbS. In particular, we need to probe deeper to understand the levels of knowledge, support for different types of NbS, and how Canadians react when they learn details about what NbS entail for their communities. This could help identify the limits of support for NbS, and the extent to which such support is conditional upon other considerations, such as potential tradeoffs between protecting and restoring nature, on the one hand, and developmental interests (e.g., new housing construction in the context of an affordability crisis), on the other. It is telling that 75% of respondents say they strongly support efforts to protect nature as a way of addressing climate change, yet less than 37% recognize the economic value of protecting biodiversity and ecosystems.

3. There appears to be considerable scope to open up conversations and inform Canadians about NbS as a means of addressing climate change. Further testing is required here. If replicated with a broader set of questions, we could identify the most receptive audiences, with different messaging tailored for different groups of supporters. For example, communications could aim to mobilize support among core groups of university-educated and left-leaning individuals, and further build support among conservative-leaning, middle-aged men with very specific strategies and campaigns.

4. More research is required to test the types of ecological services people value from NbS, the limits of support across different types, and different ways of communicating and tailoring communications to different supportive audiences. For instance, more research might be done to dig deeper into what Canadians have in mind when thinking about NbS, what they want out of them (adaptation, mitigation, conservation) and whether appealing to conservative values (e.g., stability, conservation, resilience, family) actually reinforces support for climate action among Canadians on the centre-right.

5. We found some evidence that Canadians living in urban centres may be more aware of the importance of protecting nature as a means of addressing climate change. Given the role nature plays in making cities more resilient and liveable, and the federal government's commitment to planting trees, environmental groups and agencies should seek to address barriers to local action with communications that leverage the support of urban citizens who express support for nature-based solutions. Mobilizing support in cities may also help galvanize municipalities to further protect green spaces for the climate benefits these provide (as well as other public benefits).

Recommendations

Based on these findings we offer the following recommendations:

1. Environmental groups (those focused on conservation and biodiversity, in particular) should test specific frames and messaging about the potential of NbS to:
    - Reinforce beliefs around the virtue of NbS among audiences that have been reluctant to support significant climate action: e.g., middle-aged men, and Canadians who lean to the right and/or vote Conservative.
    - Deepen engagement on climate policy with Canadians who describe themselves as left-leaning, inclined to vote for the federal NDP or Liberals, and university-educated.
2. Work with Indigenous communities, as well as university researchers and other experts to build an integrated agenda combining biodiversity and NbS in climate policies. This might also involve understanding the acceptability of different types of NbS, and research to further develop frames and messaging about NbS that more deeply engage key audiences.
3. Boost advocacy at the federal level, and in cities and urban municipalities, for major investments in urban measures that contribute to NbS for climate change, as well as greater liveability: mental health, nature experiences to foster biocentric values, tree-planting to address heat-island effects in cities, community gardens, day-lighting of urban streams, etc. Test specific frames and messaging for this advocacy among key segments (e.g., women, visible minorities and youth in urban areas).
4. Support for NbS in principle is high, but we know little about specifics. Dig deeper into the public's understanding and support for different types of NbS for climate change. Compare the level of public support for these different solutions with their mitigation and adaptation potential. For instance, is there as much support for stopping deforestation (which has major mitigation potential) relative to afforestation (planting of trees or forests where there was previously no tree cover)? Test frames and messages for specific NbS in forests, grasslands and wetlands to assess how key audiences in different regions respond to calls to protect each of these three types of ecosystems.
5. Test the limits of support for NbS by framing questions around trade-offs in urban spaces (e.g. support protecting and restoring natural environments in urban settings even if it limits the supply of new housing in these areas).

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