REPORT

Levelling up:

The next phase of youth climate action in Canada

Findings from the Youth Climate Values Survey

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Summary

This report presents the findings of the Youth Climate Values Survey, which provides the most in-depth picture of the beliefs of members of the **Canadian youth climate movement** (CYCM) to date.

Most of the existing research analyzing the youth climate movement focuses on the attributes separating youth that participate in climate strikes and adopt pro-climate behaviours from youth that do not. In this study we take a different tack by focusing on the diversity of attitudes, priorities, and beliefs *within* the movement. Specifically, the study aims to map out areas of solid "common ground," as well as areas of belief divergence within the CYCM to help youth and youth-led organizations collaborate more effectively with one another and with other climate actors to accelerate the **just transition**.

This report shows that the CYCM is in the process of "levelling up"—shifting from strikes and general awareness-raising to more strategic interventions with key climate actors.

Key findings:

A strong majority of Canadian youth engaged in climate action believe it is unlikely Canada will meet its 2030 and 2050 climate targets (81 percent and 77 percent, respectively) and that the world will limit global warming to 1.5 degrees or even 2 degrees (80 percent and 63 percent, respectively).

But they refuse to give up hope. Only a small minority of respondents believe it is "extremely unlikely" that Canada achieves its 2030 and 2050 targets (15 percent and 10 percent, respectively).

Youth consider *supply-side* actions that constrain the production of fossil fuels and increase the production of renewable energy to be the most impactful climate actions.

The three most impactful climate actions according to respondents are:

Preventing the construction of new pipelines and other fossil fuel infrastructure;

Decreasing or eliminating investment in the fossil fuel sector; and

Increasing investment in renewable energy and creating green jobs.

CYCM members widely acknowledge the key role financial actors play in financing the fossil fuel sector—but only some youth link financial actors to investments in renewable energy and other climate solutions.

CYCM members distrust financial actors and see them as inaccessible—and believe governments are responsible for changing their behaviour.

Many youth have complicated beliefs about capitalism and the role of private companies in the just transition.

- 91 percent of respondents believe that we must *significantly transform capitalism as we know it*. But 62 percent of those same respondents also believe we must *unleash the market* to produce climate solutions.
- Some respondents with mixed feelings about capitalism believe that private companies can be a force for good—but only if they are constrained by governments and have strong environmental and social values.

Youth widely support increasing investment in renewable energy—but have mixed feelings about negative-emissions technologies (NETs) like carbon capture and storage.

- Only 36 percent of respondents selected NETs as one of their top-six most impactful climate actions and 10 percent of respondents believe NETs should not be pursued at all.
- Respondents with the strongest anti-capitalist beliefs are suspicious of most new green technologies (with the exception of renewables).

CYCM members strongly share six core beliefs, including that people have a moral responsibility to help others a lot and that large differences in wealth are immoral. They diverge on four core beliefs, including whether people are basically generous or selfish.

- Respondents who believe people are *basically generous* were more likely to agree that we should *only* pursue climate actions that also address various forms of systemic inequality.
- Respondents who believe people are *basically selfish* were more likely to agree that we need to remove barriers to innovation by unleashing the market.

Some youth are wary of "quick fixes" and see a trade-off between equity-promoting climate actions and pragmatism.

Respondents that strongly believe in *only* pursuing climate actions that also address various forms of systemic inequality are less likely to support climate actions that are the easiest to implement.

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1. Introduction

In September 2019 over 6 million people participated in a series of climate strikes in cities around the world,[1] including 500,000 protesters in Montreal alone.[2] Mobilized by youth-led organizations such as Fridays for Future, the message of the protesters—many of whom were under the age of 30—was loud and clear. Young people are tired of talking about climate change—they want action.

But mere months after this unprecedented mobilization of the youth climate movement, attention quickly shifted to infection rates, mask mandates, and school closures. Despite the lack of mainstream media coverage over the last two years, young Canadians have been busy experimenting with digital tactics—including tweetstorms and digital strikes[3]—and are continuing to put pressure on politicians, companies, financial institutions, and other key actors.

Compared to other climate activists, youth have unique capacities and talents to accelerate a *just* net-zero energy transition (hereafter, the **just transition**). For people under the age of 30, the stakes of the climate crisis are personal—and existential. Therefore, youth possess an unrivalled moral authority when it comes to climate change, which they are strategically using to draw attention to government inaction and exert pressure on climate laggards.

Emerging from the COVID-19 pandemic, youth find themselves at a make-or-break moment in history. On the one hand, youth climate activists are experiencing an "unprecedented moment in the spotlight"[4] and there has never been more support for climate action in Canada (although there is evidence that much of this support is deceivingly hollow[i]).[5] On the other hand, Canada is currently not on track to meet its Paris Agreement commitment to decrease its emissions by 40 to 45 percent below 2005 levels by 2030.[6] There is a growing disconnect between the emerging consensus on the urgency of the problem and the urgency and ambition of solutions being proposed to address it.

Responding to this disconnect, youth-led climate organizations are leading a shift from the general awareness-raising tactics exemplified by the 2019 climate strikes towards more strategic interventions with key actors. While continuing to focus on exposing governments and companies that are delaying or undermining the just transition, youth are increasingly focusing on high-leverage actors like banks and insurance companies,[7,8] adopting strategic communication strategies from academia and the private sector,[9] and developing new methods for "radical collaboration" within the movement.[10] Recent research suggests that this strategic shift is being driven, in part, by the guidance and resources of "adult-led" or "youth-*focused*" climate organizations since 2019.[11]

Even with increased support from other parts of the climate movement, youth-led organizations still report significant obstacles translating their efforts into measurable impacts—specifically when it comes to accessing

[i] According to a 2021 study conducted by ClimateAccess and the Climate Narratives Initiative, of the 65 percent of Canadians concerned about climate change, only 25 percent are "alarmed," while 45 percent are "passively concerned." The authors of the study argue that the large number of Canadians that are concerned but disengaged can explain why public support for climate action is often unreliable.

and influencing politicians and the leadership of large financial institutions and companies in the fossil fuel sector. They acknowledge that new strategies and tactics are needed—but the development of such strategies is impeded by the lack of information about the evolving demographics, values, and priorities of their rapidly growing social movement.

For a group that has received so much attention, we know surprisingly little about them. While the outdated view of youth as "passive victims" of climate change has given way to one that is decidedly more engaged, righteous, and action-oriented, [12] scholars and journalists continue to use Greta Thunberg as a stand-in for all youth climate activists.[13] However, the youth climate movement is significantly more heterogeneous—in terms of its members' goals, strategic priorities, and beliefs—than how it is usually portrayed.

Decades of scholarship on social movements and campaign coalitions tells us that political communities are not ideationally or ideologically static—but rather adapt, merge, and sometimes fracture as the result of internal conflict and alliance-building. Most of the existing research analyzing the youth climate movement focuses on the attributes separating youth that participate in climate strikes and adopt pro-climate behaviours from youth that do not.[14,15,16,17]

In this study, we take a different tack by focusing on the **Canadian youth climate movement** (hereafter, the CYCM) and describing the diversity of attitudes, priorities, and beliefs *within* the movement. Specifically, the study aims to map out areas of solid "common ground," as well as areas of worldview heterogeneity within the CYCM in order to help youth and youth-led organizations collaborate more effectively with one another and other climate actors.

This study combines three tools to describe the dominant and divergent beliefs within the Canadian youth climate movement. First, we use an online survey to conduct a broad scan of *topic-specific beliefs*—that is, youth beliefs about climate actors, actions, and tactics. Second, we use the Ideological State-Space (ISS) diagnostic tool to measure the *core beliefs* of youth participating in climate action in Canada. And third, we use a belief system mapping tool called Cognitive Affective Mapping (CAM) to "tunnel" deeper into divergent, contradictory, and surprising beliefs revealed by the first two tools. By analyzing the relationships between topic-specific and core beliefs, this report provides the most in-depth picture of the Canadian youth climate movement to date.

As a resource-based economy and one of the top ten greenhouse gas (GHG) emitters globally, Canada presents one of the most complex and challenging strategic landscapes for youth activists anywhere in the world. This strategic landscape requires that climate activists consider a wide range of groups vulnerable to both climate change and climate policy, including resource-based communities, Indigenous peoples, and poor and marginalized populations. Therefore, many of the findings in this report are generalizable to youth movements in other countries and the global youth climate movement writ large.

Section 2 reviews the existing literature on youth and climate change while Section 3 introduces our theoretical approach to mapping belief systems. Section 4 describes the study's methods for data collection and analysis and Section 5 presents findings from the three components of the study.

2. Background

Key messages:

- Youth (14 to 30 years old) are an emergent, understudied, and uniquely impactful actor in the fight against climate change.
- This study is the first attempt to systematically measure members of the youth climate movement's beliefs about actions, actors, policies, and tactics.
- We hypothesize that CYCM members' beliefs diverge on:
    - the moral acceptability of civil disobedience;
    - the importance of prioritizing equity and racial/social justice concerns in climate action;
    - the role of private companies and green technology in the just transition.

2.1 What is the youth climate movement?

Defining "youth"

There is no universally agreed-upon definition of "youth" or the "youth climate movement." The UN defines the youth age group as people between the ages of 15 and 24,[18] while Statistics Canada uses the range of 15- to 30-years-old.[19] Some Canadian youth-led climate organizations use the term youth to describe people as old as 35,[20] while some youth climate activists report feeling like they are "aging out of the movement" once they graduate from high school.[21] The academic literature on the youth climate movement has also adopted various definitions of the youth cohort including ages 12 to 25,[22] 14 to 25,[14] 15 to 35,[23] and 18 to 35.[24]

The boundary separating individuals and organizations considered to be a part of the youth climate movement versus those that are simply a part of the broader "non-youth" climate movement is somewhat arbitrary. Descriptions of the youth climate movement imply a degree of "innocence" or a lack of complicity in the creation of the climate change problem—hence the inclusion of 25- to 35-year-olds who are disproportionately underemployed, carry large amounts of debt, and generally have not reaped the benefits from the dominant economic and political systems underpinning the climate crisis.[92]

The most common lower bound of the age cohort is 14 or 15, which aligns with the start of high school. This decision almost certainly reflects the prominence of the global school strike movement, which is led largely by high school students. While some studies include people as young as 12, there is evidence that younger children's thinking about climate change is "less reflective of worldview and cultural values" than high school students,[17] suggesting that their attitudes are less stable, principled, and action-oriented than older teenagers.

Even if we could agree upon a precise age range, it is challenging to measure exactly how many people are participating in the youth climate movement because there is no universally agreed upon set of "membership criteria." Studies tend to focus on participants' level of climate change knowledge or whether they identify as "climate strikers."[i,14] However, some youth participating in climate action do not identify with the labels "striker" or "activist."[25]

Therefore, this study adopts a reasonably broad definition of youth as individuals between the ages of 14 and 30—which encapsulates high school students, university/college students, and individuals transitioning into the workforce—and refers to the cohort of youth engaging in various forms of climate action in Canada as the Canadian youth climate movement (CYCM).

Characteristics of youth in the climate movement

Studies indicate that the global youth climate movement is disproportionately female (>60 percent)[14] and (for those out of high school) either college or university educated. According to recent studies, education level is the single strongest predictor of climate change awareness[17] and youth participating in climate action tend to have a higher-than-average level of mechanistic knowledge and quantitative reasoning abilities.[15] Research also shows that youth tend to be more confident than older generations that their actions can influence private and public sector decision makers.[24]

Research on the youth participation in climate action—including this report—is motivated by the fact that youth are an emergent, understudied, and uniquely impactful actor in the fight against climate change. This notion that youth are uniquely impactful hinges on the claim that they possess exceptional persuasive abilities. Lawson et al. (2018) describe youth as the "ideal conduit for climate change communication," particularly when it comes to influencing their parents.[26] The authors argue that youth tend to be more capable than adults at parsing scientific fact from political contexts and their views are resilient to the climate change denial of adults.

Another key component of the movement is the coalition of youth-led and youth-focused climate organizations that coordinate actions, distribute resources, and serve as hubs in the youth climate network. Many of these organizations have been profoundly influenced by various social movements calling for racial and social justice (such as Black Lives Matter and the protests linked to Indigenous rights, decolonization, and new revelations about residential schools) and responded by clarifying their mission around a just transition that simultaneously pursues ambitious climate action and racial/social justice. Surprisingly, a recent US-focused study by Fisher and Nasrin (2021) did not find evidence of "groups that span movement boundaries playing a large role in the coalition"[11]—but this study only includes data through April 2020. The extent to which the youth climate movement has merged with—or been influenced by—the overlapping campaign coalition focused on racial and social justice has still not been fully explored.

[i] One study on Swiss youth (ages 14 to 25) (Brügger et al. 2021) measures the extent to which youth identify as having "a lot in common with young people who take part in climate strikes."

Only a small amount of research has been conducted on the CYCM specifically. Pickering et al. (2020) analyze the beliefs of 17- and 18-year-old Canadians around whether their lifestyle choices can help to address climate change, while MacKay et al. (2020) provide an ethnographic analysis of the experiences of Indigenous youth attending international climate change negotiations. Therefore, this report is the first attempt to comprehensively describe the attitudes, priorities, and beliefs of the CYCM.

2.2 Youth beliefs about climate change and climate action

There is a significant literature on how worldviews and beliefs shape behaviour around climate change—but most of this scholarship does not focus specifically on youth. Many of these studies analyze two broad categories of beliefs: (1) beliefs relating to views on the role of the State in regulating individuals and businesses (i.e., individualism) and (2) beliefs relating to views about social structure (i.e., hierarchicalism).[27] These studies—including one that focuses on high school students[15]—found that individuals opposing government intervention and endorsing hierarchies are more likely to believe that climate action is "unnecessary" or be "unreceptive toward climate change" (most of these studies are narrowly interested in the beliefs of climate change "believers" and "deniers").

When it comes to the worldviews and beliefs of youth, we have a strong understanding of youth views about climate change itself. Youth are generally pessimistic about the prospects of meeting various climate targets and avoiding the worst impacts of climate change—but they tend to be less fatalistic than older age groups.[28] A 2021 study found that 84 percent of youth are worried about climate change and 50 percent reported feeling sad, anxious, angry, powerless, helpless, or guilty about climate change.[29] There is also research about the worldviews of youth that make them more or less likely to care about climate change and participate in climate action. Unsurprisingly, the degree to which someone identifies with others who strike is the strongest indicator of whether they will also participate in climate actions like school strikes.[14] Youth that possess "biospheric" or "pro-environmental" attitudes are also more likely to engage in climate action.

While we have a firm grasp of the high-level differences in worldview and beliefs that tend to distinguish "believers" from "deniers" and "participators" from "non-participators," our understanding of the most committed and active youth is quite shallow. One exception worth noting is a recent study that observed a shift from *inter*generational justice claims (highlighting inequalities between generations) to *intra*generational justice claims (highlighting inequalities between social groups regardless of age) by youth participating in international climate change negotiations,[4] reflecting a shift towards equity concerns. But to date, there has been no systematic attempt to measure members of the youth climate movement's beliefs about actions, actors, policies, and tactics.

2.3 Areas of belief divergence: Three hypotheses

One of the goals of the study is to identify areas of worldview heterogeneity within the CYCM. Based on a review of the social movement literature and consultations with youth-led climate organizations and members of the

CYCM (see Section 4 for a summary of the research methodology), we chose to focus on three potential areas of belief divergence. We tested these three hypotheses with targeted questions in the online survey.

Acceptability of civil disobedience

A common point of contention within social movements is the use of civil disobedience as a tactic to raise public awareness and advance the aims of the movement. The precise definition of civil disobedience is debated but the term is typically used to describe forms of non-violent protest that may violate laws or occupy legal "grey areas," such as blockades, sit-ins, and traffic disruption. One prominent international organization in particular, Extinction Rebellion (that has a large youth membership, despite being neither youth-lead nor youth-focused), is well-known for using tactics like roadblocks.[30] We hypothesize that beliefs within the CYCM diverge around the moral acceptability of civil disobedience, with some youth strongly believing that they are acceptable and necessary and others believing that they are unnecessary, morally complicated, or unacceptable.

Equity focus vs. pragmatism focus

Within the global youth climate movement, there has been a documented shift from justice claims highlighting inequities between generations to justice claims highlighting inequities between social groups regardless of age.[4] We have also seen some youth-led climate organizations expand the just transition "frame" to encompass the concerns emerging from racial and social justice movements. Linking movements with other issues (i.e., "issue linkage") is a well-documented strategy of campaign coalitions to build support, share resources, and reach broader audiences.[31,32,33] We refer to individuals and organizations adopting this expanded agenda for a just transition as proponents of "equity focused" climate action. We hypothesize that this group includes individuals and organizations that believe the CYCM should *only* pursue climate actions that also address racial and social injustice and/or believe that addressing racial and social injustice is a *necessary condition* for addressing climate change.

Meanwhile, there are some organizations that have not expanded or reframed their mission or messaging in light of racial and social justice campaigns (at least not externally) and continue to pursue a narrower, more climate-focused agenda. Drawing from the social movement literature addressing issues like message dilution and "scope creep" (the flipside of issue linkage),[34] we hypothesize that there is a contingent within the CYCM that is wary of expanding its mission to solving both climate change *and* racial and social injustice. Similar concerns have been expressed around the 2011 Occupy Wall Street movement, where protestors were criticized for a lack of clear messaging and solutions.[35]

CYCM members sharing similar concerns about expanding the frame of a just transition may be highly invested in addressing racial and social injustice but believe that it is more effective to pursue these two goals in separate domains rather than pursuing them as a part of a single agenda. We refer to this hypothesized group favouring a narrower, more climate-focused agenda as proponents of "pragmatism focused" climate action. We hypothesize that this group believes that *only* pursuing actions that also address various forms of systemic inequality—many of which face significant political and public resistance—could impede progress on climate-specific interventions that enjoy broader support.

Green capitalism vs. anti-capitalism

Within the broader climate movement, there is also a well-documented schism between individuals who believe that climate change can be effectively solved by markets if they are more effectively regulated by governments (i.e., "green capitalists") and those who believe that climate change can only be solved by fundamentally transforming our economic system (i.e., "anti-capitalists").[36] Anecdotally, we know that some Canadian youth-led climate organizations are explicitly anti-capitalist. For example, CEVES (la Coalition étudiante pour un virage environnemental et social) points to an "outdated economic system" and the urgent need to "profoundly change our society."[37] We expect to see a diversity of beliefs about our ability to pursue transformative change within the existing socioeconomic paradigm and the appropriate role of markets, private companies, and financial actors in the energy transition.

3. Mapping worldviews: core beliefs and topic-specific beliefs

Key messages:

- A *belief* is a sense of the truth or "realness" about *what is* or a sense of *what ought to be* held in the minds of individuals and shared by members of groups.
- *Topic-specific beliefs* are beliefs about a specific topic (e.g., the role of financial actors in the just transition).
- *Core beliefs* (i.e., core ideological commitments) are fundamental beliefs that underpin multiple topic-specific beliefs and are relatively stable over time (e.g., the world is a fundamentally dangerous place).
- *Worldviews* are sets of interconnected topic-specific and core beliefs held in the minds of individuals and shared by members of groups.

The central goal of this study is to provide a detailed "map" of the dominant beliefs and worldviews emerging within the CYCM—and to do that, we need to clarify a few key terms.

A *belief* is a sense of the truth or "realness" about *what is*—or a sense of *what ought to be*—held in the minds of individuals and shared by members of groups. "What is" beliefs are ontological positions about the nature of reality—for example, the belief that anthropogenic climate change exists and poses an existential threat. Meanwhile, "what ought to be" beliefs are often referred to as values or value judgements—for example, the belief that countries and people that have disproportionately benefited from carbon-based economic activities *should* finance a significant portion of global emission reductions.

"What is" beliefs and "what ought to be" beliefs are interconnected. Our understanding of how the world works and the underlying nature of our problems (i.e., our ontologies) shapes our value judgements about how the world should be. For instance, an individual must possess at least a basic understanding of the links between GHG emissions, the climate system, and social and economic impacts in order to also believe that climate change is an emergency that *should* be prioritized over other pressing issues. At the same time, our values influence where we focus our finite attention and cognitive resources, shaping how we perceive the world around us. For example, an individual with strong moral convictions about eliminating inequality may be more attuned to emerging forms of inequality and injustice.

We can also make a further distinction between topic-specific beliefs and core beliefs. *Topic-specific beliefs* are "what is" and "what ought to be" beliefs about a specific topic like climate change—or something even more specific like the role of financial institutions in the just transition. The related term *social norm* (or just "norm") describes a topic-specific "what ought to be" belief tied to a particular social behaviour like whether or not people should use plastic bags.[38] A norm may be a codified rule (e.g., a plastic bag ban), an unwritten rule or social convention (e.g., choosing to bring your own reusable bags), or something in between (e.g., a store choosing to implement a ten cent charge for a plastic bag).

Core beliefs—or what we sometimes refer to as our *core ideological commitments*—are fundamental "what is" and "what ought to be" beliefs that underpin many of our topic-specific beliefs and are relatively stable over time. For example, an individual with the core belief that humans are fundamentally distinct and exceptional from "nature" may be less likely to believe that climate change is caused by humans, that ecosystems should be conserved for purposes other than human recreation or economic activity, or that animal species posing a threat to humans (e.g., sharks) or livestock (e.g., wolves) should be protected.

Core beliefs are the "glue" that holds clusters of interrelated topic-specific beliefs together. Usually, individuals within a social group hold many core and topic-specific beliefs in common. For example, individuals within the climate movement not only believe in the urgency of the climate crisis and the moral imperative of ambitious climate action but they also tend to vote for political parties on the left side of the political spectrum and support government intervention in the economy and progressive taxation.[39] We refer to these clusters of interrelated topic-specific beliefs held together by relatively stable core beliefs as *worldviews*. A worldview is a set of interconnected topic-specific and core beliefs held in the minds of individuals and shared by members of groups. A simplified "climate justice" worldview is represented in Figure 1.[i]

[i] The formal definition of a worldview is: *a complex reflexive system of emotionally charged beliefs, held in the minds of individuals but shared by or attributed to members of groups, that shapes political understanding and outlook and guides behaviour.* (See: Piereder, J., S. Janzwood, T. Homer-Dixon. 2022. "Ideology and climate change: A complex reflexive systems approach to energy transition discourse networks." In: *Routledge Handbook of Ideology and International Politics*. Abingdon, UK: Routledge.)

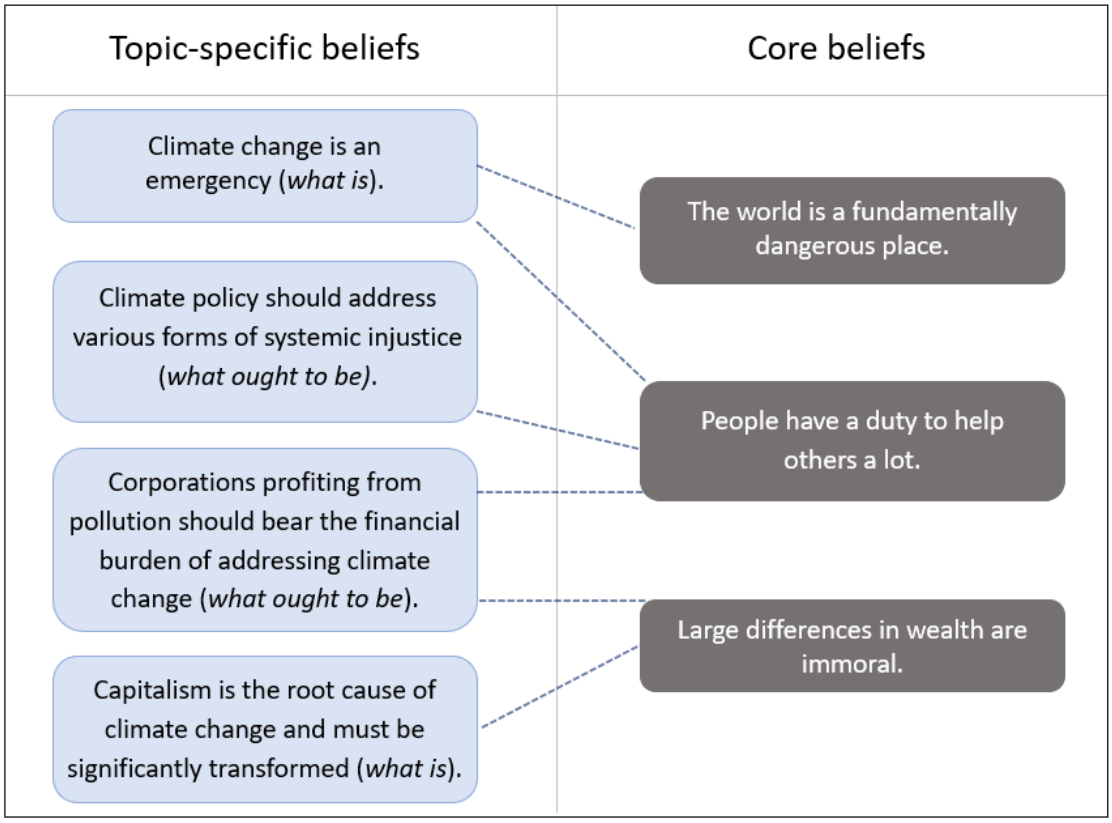

Figure 1. Examples of topic-specific and core beliefs within a "climate justice" worldview

In order to comprehensively map the beliefs of the CYCM, this study seeks to: (1) measure core beliefs, (2) measure topic-specific beliefs on climate action, and (3) examine the interrelationships between core and topic-specific beliefs.

4. Methods for data collection and analysis

Key messages:

- Data on the topic-specific and core beliefs of the CYCM were collected in three phases.[i]
- Pre-survey interviews in Phase 1 shaped the design of the online survey.
- An online survey was conducted in Phase 2.
- Findings from the online survey were then used to develop the audio response survey conducted in Phase 3.
- Our final dataset includes 11 pre-survey interviews, 127 online survey responses, and 11 audio survey responses.

Phase 1: Pre-survey interviews

We conducted 11 semi-structured consultation interviews with young Canadians involved in climate action and affiliated with various youth-led and youth-focused organizations. The purpose of the interviews was to explore and verify our research questions and refine the questions in the online survey. Our interview questions focused on four key themes: (1) basic membership criteria for the CYCM, (2) areas of belief divergence within the CYCM, (3) beliefs around climate actors, actions, and tactics, and (4) general frustrations volunteering or working on climate action. These interviews reinforced our three hypotheses about areas of belief divergence discussed in Section 2.3 and helped us to refine the online survey questions.

Two youth climate activists and seven colleagues provided comments on the online survey to enhance question clarity, produce an accurate estimate of the amount of time required to take the survey, and identify any outstanding issues prior to survey distribution.[ii]

Phase 2: Online survey

In July and August 2021, we conducted an anonymous and bilingual online survey to youth climate activists across Canada (ages 14 to 30). To recruit survey participants, we partnered with several youth-led and youth-focused climate organizations in Canada and invited them to share our survey marketing materials with their networks via email, Twitter, Instagram, and Facebook. Survey partners included: Climate Action Network (CAN-rac), Youth Climate Lab, Future Majority, and Divest Canada. We also requested that these groups send out a reminder message one week before the survey closing date.

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[i] This study was approved by the Research Ethics Board at Royal Roads University.
[ii] A French version of the survey was produced by a translator and reviewed by a Francophone youth climate activist for language consistencies.

The online survey collected three types of data. First, it assessed the topic-specific beliefs of CYCM members around climate actors, actions, and tactics. Second, it investigated the three hypotheses regarding areas of belief divergence described in Section 2.3. And lastly, it measured the core beliefs of CYCM members. See Appendix I for the complete list of survey questions.

Topic-specific beliefs about climate actors, actions, and tactics

To assess CYCM members' beliefs about climate actors, the survey asked respondents to select and rank the five most important actors (e.g., governments, financial institutions, fossil fuel companies, individuals) for addressing climate change from a list of nine. Similarly, the survey asked respondents to select and rank their top-six climate actions from a list of 16 and to indicate whether they believe that any climate actions were *not* worth pursuing at all. We define climate actions as high-level interventions led by or targeting one or more climate actor (e.g., carbon pricing, decreasing or eliminating investment in the fossil fuel sector, phasing out internal combustion engine vehicles). Lastly, the survey asked respondents to select and rank what they believe to be the top-three most impactful climate action *tactics* for the CYCM from a list of eight. Climate action tactics are the specific activities individuals engage in to execute a climate action (e.g., lobbying, pressuring, or persuading key actors; protests; school strikes).

In order to get a general sense of the degree of hope and hopelessness within the CYCM, respondents were also asked to indicate the likelihood (on a scale of 1 to 10) of achieving four climate change targets: (1) Canada's 2030 emission reduction target, (2) Canada's 2050 emission reduction target, (3) limiting global warming to 1.5 degrees, and (4) limiting global warming to 2 degrees.

Areas of belief divergence

To test the three hypothesized areas of belief divergence (Section 2.3), the survey asked respondents to indicate their level of agreement or disagreement with a series of statements on a five-point Likert scale. Paired statements were used to measure the extent to which respondents' beliefs align with the equity focus and/or pragmatism focus perspectives, as well as the anti-capitalist and/or green capitalist perspectives. A single statement was used to assess the extent to which respondents believe that civil disobedience is (un)acceptable.

Core beliefs

The survey measured respondents' core beliefs using the Ideological State-Space (ISS) diagnostic tool: a questionnaire that measures core beliefs across 16 dimensions.[40] Each dimension measures two distinct core beliefs (Appendix II). For example, the ISS dimension of "agency" asks the respondent whether they believe that a person's fate is a result of circumstances or choice. Using a five-point Likert scale, respondents indicate whether they strongly (1) or somewhat (2) believe that a person's fate is the result of circumstances, or whether they strongly (5) or somewhat (4) believe that it is the result of choice. Respondents also have the option of expressing ambivalence or no position (3).

Statistical analysis

We produced descriptive statistics for each survey measure and a series of bivariate analytic tests to identify statistically significant associations between pairs of variables. Due to the "low N" nature of the data, we performed Pearson's Chi-Square Tests of Independence. For each set of variables, we organized actual frequency values and expected values in contingency tables. For contingency tables that contained cells with expected frequency counts of < 5 (a necessary requirement for a Chi-square test), we performed Monte Carlo simulations (B = 2,000) to improve test result reliability.[i,41]

Phase 3: Audio response survey and Cognitive-Affective Mapping

The analysis of the online survey data yielded two ambiguous findings—one related to CYCM members' beliefs about the role of financial actors in the energy transition and the other related to beliefs about green technology and the private sector.

Since both topics are complex and context-specific, we used an additional analytical tool called Cognitive-Affective Mapping (CAM) to "tunnel" deeper into these topic-specific beliefs. CAM is a method for visually depicting belief systems as networks of interacting concepts and emotional valences. A cognitive-affective map represents "an individual's or a group's concepts and beliefs about a particular subject, such as another individual or group or an issue in dispute."[42] To produce data for the CAM analysis, we used an audio survey platform called Phonic to collect audio-recordings of participants reflecting on their beliefs about: (1) financial actors and their role in the just net-zero energy transition, and (2) green technologies and the private sector—and the role that they need to play in the just net-zero energy transition (Appendix III).

Prior to conducting the audio survey, two colleagues provided comments to enhance question clarity. A total of 89 online survey participants consented to follow-up emails about the study's progress. From this pool, 11 participants responded to the email invitation to complete the audio response survey.[ii] Respondents were prompted to provide three- to five-minute reflections on two open-ended questions.

Audio survey responses were automatically transcribed by Phonic and were later verified for transcription accuracy. Minor revisions were made as necessary. Responses were analyzed using CAM.

Before producing the "CAMs," we coded the audio survey transcriptions to identify key concepts (e.g., nouns) within the belief system. We also coded the emotional valence of each concept based on the context of the participant's response (e.g., by identifying connected adjectives, verbs, and adverbs), as well as their vocal inflections. The coded transcriptions were used to produce a total of 22 CAMs (a CAM for each participant's two responses) using software called Valence.[43] CAMs were analyzed by identifying similarities and differences

[i] A Monte Carlo simulation is a mathematical technique that uses repeated random sampling to obtain the likelihood of a range of results and produces a p-value that can be interpreted in a similar manner to that provided by a Chi-square test.
[ii] The audio response survey was only offered in English.

between participants' belief systems, as well as the presence (or absence) of certain concepts and connections between concepts.

5. Findings and discussion

5.1 Characteristics of the Canadian youth climate movement

Key messages:

- Survey respondents disproportionately identified as female and LGBTQ2S+ and reside in urban/suburban areas.
- 25 percent of respondents engage in climate action as their full-time job (including students in climate-related post-secondary programs).

In this study, we adopt the broad definition of "youth" as individuals between the ages of 14 and 30—which encapsulates high school students, university/college students, and individuals transitioning into the workforce.[i] All respondents self-identified as members of the CYCM.

Consistent with other studies reporting demographic information for youth climate activists,[44,45] survey respondents were disproportionately female-identifying (71 percent) and educated, with 83.5 percent of respondents enrolled in or having completed a post-secondary program. Over one-third of respondents identified as LGBTQ2S+ (37 percent), a significantly higher proportion than the 4 percent of all Canadians ages 15 and older who identify as LGBTQ2S+.[46] 23 percent of respondents identified as visible minorities or racialized persons, matching the proportion of visible minorities in Canada (22.3 percent).[47] Nearly half of respondents engage in climate action as volunteers (46.5 percent) and one quarter (25 percent) of respondents pursue climate action as their full-time job.

Survey respondents also predominantly reside in urban or suburban areas (87 percent). Respondents represented all provinces except Prince Edward Island and there were no respondents from the Yukon, Northwest Territories, or Nunavut despite that we know youth in northern communities participate in school walkouts[48] and protests.[49] 57 percent of respondents live in Ontario (which accounts for 39 percent of the Canadian population[50]). But it is unclear whether Ontario has higher representation in the CYCM or if the sample underrepresents CYCM members from other parts of the country.

[i] In accordance with the Research Ethics Board, individuals younger than 14 (i.e., under "high school age") were not surveyed because they may lack the requisite capacity to understand the significance of the research and the implications of the risk and benefits to themselves.

5.2 Beliefs about climate change outcomes

Key messages:

- 81 percent of respondents believe it is unlikely that Canada meets its 2030 Paris Agreement target, while 77 percent believe it is unlikely that Canada achieves net-zero emissions by 2050.
- But only a small minority of respondents believe it is “extremely unlikely” that Canada achieves its 2030 and 2050 targets (15 percent and 10 percent, respectively).
- A strong majority of respondents believe that we are unlikely to limit global warming to 1.5 degrees (80 percent) or even 2 degrees (63 percent).

The survey asked respondents to rate the likelihood of a series of climate change outcomes on a scale from one to ten, such as Canada meeting its 2030 and 2050 emission reduction targets and whether the world will limit global warming to 1.5 or 2 degrees above preindustrial temperatures. The survey results support the general finding in the literature that youth are pessimistic about climate change and the prospects for climate action.

Only 19 percent of respondents thought it was more likely than not that Canada meets its Paris Agreement target of reducing GHG emissions 40 to 45 percent below 2005 levels by 2030. Meanwhile, just 23 percent of respondents believe it is more likely than not that Canada achieves net-zero emissions by 2050. This pessimism extends to the prospects of meeting global temperature targets. A strong majority of respondents believe that we are unlikely to limit global warming to 1.5 degrees (80 percent) or even 2 degrees (63 percent). However, youth climate leaders refuse to give up hope completely. Only a small minority of respondents believe it is “extremely unlikely” that Canada achieves its 2030 and 2050 targets (15 percent and 10 percent, respectively).

5.3 Beliefs about climate actors, actions, and tactics

Key messages:

- Youth believe that governments, high-emitting industries, and the fossil fuel sector are the three most important climate actors.
- Youth consider "supply-side" actions like "preventing the construction of new pipelines and other fossil fuel infrastructure" and "decreasing or eliminating investment in the fossil fuel sector" the most impactful climate actions.
- CYCM members believe that it is more important for governments to take actions to phase out fossil fuels than set an ambitious carbon price.
- Youth believe that "climate-related education and research" and "lobbying, pressuring, and engaging with key actors" are the two most effective tactics for youth.
- CYCM members acknowledge the role of financial actors in financing fossil fuels—but it is not clear from the survey findings the extent to which CYCM members see financial actors as a key financer of climate solutions (investigated in Section 5.6).

Actors and actions

The online survey examined CYCM members' beliefs about the relative importance of different climate actors by asking them to select and rank the top-five most important climate actors from a list of ten. The results are presented in Figure 2. Respondents overwhelmingly (95 percent) selected governments as a top-five actor. The majority of respondents also ranked "high emitting industries" and the "fossil fuel sector" in their top five. However, respondents were more split on the importance of financial actors like banks, insurance companies, and institutional investors for addressing the climate crisis. Only 55 percent of participants selected financial actors in their top five and just 5 percent ranked it number one.

Respondents were also asked to select and rank their top-six most effective climate actions from a list of 16 (Fig. 3). While actions that address both the supply of and demand for fossil fuels are required to solve the climate crisis,[93] CYCM members appear to be primarily focused on the supply side of the equation. 66 percent of respondents selected "preventing the construction of new pipelines and other fossil fuel infrastructure" as one of their top-five climate actions, while 57 percent selected "decreasing or eliminating investment in the fossil fuel sector."

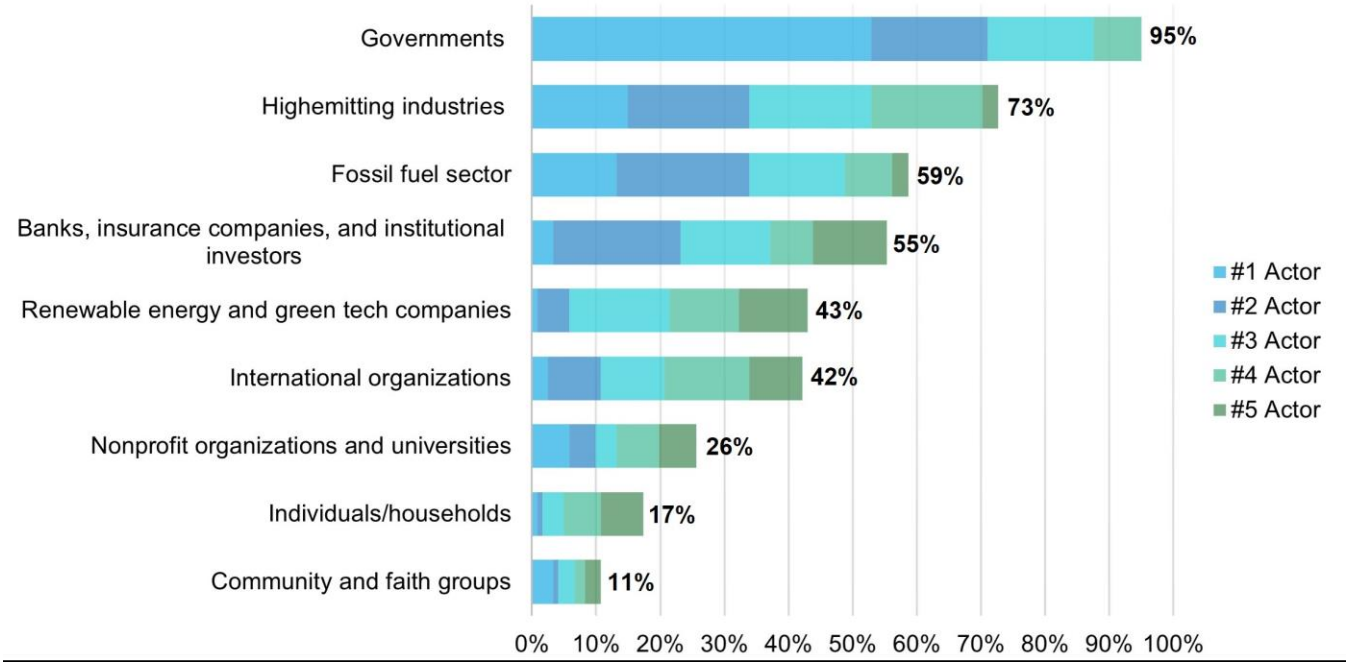

Figure 2. Most important climate actors

All the climate actions listed in Figure 3 are led by, target, or implicate different climate actors—therefore the relationship between beliefs about actors and actions can reveal more specific beliefs about the role each actor should take in the energy transition. Here, we focus on four findings from the survey results on climate actors and actions that provide a clearer picture of the dominant beliefs and priorities within the CYCM.

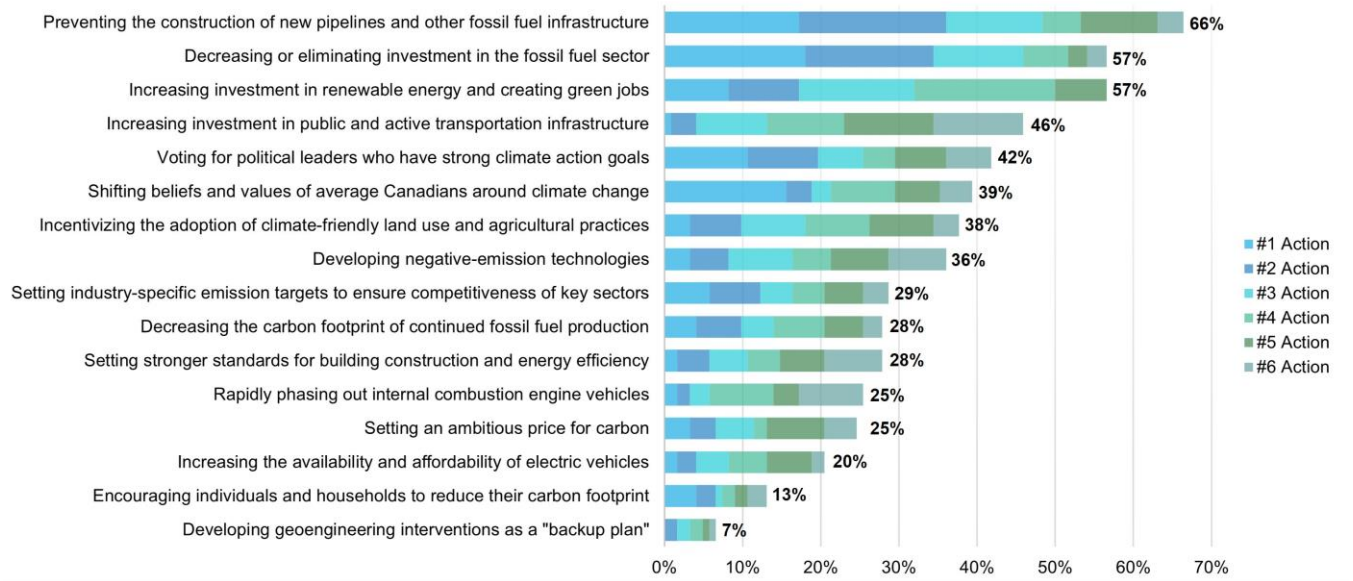

Figure 3. Most impactful climate actions

The role of individuals and households

Just 11 percent of respondents selected individuals and households as a top-five climate actor. Only community and faith groups received fewer top-five votes (7 percent). This belief is consistent with critical scholarship arguing that individual actions or lifestyle changes are insufficient for meeting climate change targets. Focusing on individual actions without considering the broader social, economic, and political context undermines the collective dimensions of pro-environmental behaviours and deflects attention from the systemic nature of the climate problem.[51,52]

Aligning with the belief that individuals and households are one of the least important climate actors (at least relative to other actors), only 13 percent of respondents ranked "encouraging individuals and households to reduce their carbon footprint" as one of the top five most effective climate actions. 16 percent of respondents felt so strongly about this action that they said it is not worth pursuing at all. Several respondents provided comments expressing their belief that individual actions are overemphasized. For example, one respondent wrote:

> At this point, the emphasis on Individual/household action has led to such strong misconceptions around what actual systemic change needs to happen. If we continue to focus on individual/household actions, even with larger change happening, the narrative will still be twisted in favour of less radical, but necessary, change from government and industry.

Despite the widely held belief that changing individual behaviours is among the least effective leverage points for accelerating the energy transition, 39 percent of respondents selected "shifting the beliefs and values of average Canadians around climate change" as one of the top-five most impactful climate actions—and 16 percent of all respondents ranked it number one. This finding seems to indicate that while a significant proportion of CYCM members believe shifting the values of "average Canadians" is a far more effective strategy than shifting individual behaviour, these value shifts are valuable insofar as they might contribute to broader processes of social transformation and collective action.

The role of governments

The CYCM has been extremely vocal about how governments are not doing enough to address the climate crisis. Unsurprisingly, nearly all respondents (95 percent) selected governments as a top-five climate actor with 53 percent believing they are the most important actor for addressing climate change.

Interestingly, less than half (42 percent) of the youth ranked "voting for political leaders who have strong climate action goals" in their top-six climate actions. One might assume that since there is a near-consensus within the CYCM on the importance of governments, youth might also emphasize the importance of electing pro-climate political leaders. But this finding may reflect the belief that political turnover is too slow and youth want current leaders to act now.

Another surprising finding is that despite the emphasis on governments, the action most commonly associated with governments—carbon pricing—was among the least popular climate actions (just 25 percent ranked it in their top six). Perhaps this finding reflects the belief that the Canadian federal government has already taken sufficient action on a carbon price with its recently announced plan to ramp up the national carbon price to $170 per tonne CO2e by 2030.[53] This finding is also consistent with the CYCM's preference for actions that target the supply of fossil fuels and other carbon-intensive products and services rather than actions that target demand, such as carbon pricing, industry-specific emission reduction targets, and electric vehicle incentives.

Supply-side actions

The two most-selected climate actions were "preventing the construction of new pipelines and other fossil fuel infrastructure" (66 percent) and "decreasing or eliminating investment in the fossil fuel sector" (57 percent)—both of which aim to rapidly ramp down the production of fossil fuels in Canada. This finding is not surprising considering that oil and gas is Canada's highest emitting sector, even before you factor in the "downstream" emissions produced when the oil and gas is actually used (primarily in other countries).[54] It also aligns with the strong belief within the CYCM that the fossil fuel sector and high emitting industries are among the most important climate change actors.

The preference for supply-side actions also suggests that CYCM members believe that governments should play a bigger role in ramping down the production of fossil fuels. The provincial governments in Alberta and Saskatchewan continue to support the development of new fossil fuel infrastructure projects and funnel significant public revenues into the sector.[55] Meanwhile, the federal government bought the much-maligned Trans Mountain pipeline project in 2018[56] and continues to provide billions of dollars of subsidies to the oil and gas sector per year.[57] The survey findings indicate that youth clearly want governments to stop supporting fossil fuel production and to exert their influence on both the demand and supply sides of the energy transition.

Investing, divesting, and financial actors

Recent scholarship has called attention to the enormous role financial actors (e.g., banks, institutional investors, and insurance companies) play in bankrolling the production fossil fuels, but also in financing innovation in renewable energy systems and the development of other climate solutions.[58] 55 percent of respondents ranked financial actors as one of the top-five most important climate actors—but just 3 percent ranked them number one. These findings indicate that members of the CYCM see financial actors as somewhat middling—but perhaps emerging—players in the just transition.

Recent divestment and disclosure campaigns (with significant youth participation) like BankSwitch[7] and Stop the Money Pipeline[8] have sought to raise public awareness of the role of financial actors in driving new oil and gas exploration and infrastructure projects. While youth are clearly making the connection between financial actors and fossil fuel production, there is some indication that youth may be starting to connect financial actors with green innovation and the large-scale implementation of renewable energy systems. 57 percent of respondents ranked "increasing investment in renewable energy and creating green jobs" in their top six, making it the third

most-selected climate action. However, it is not clear from the survey findings the extent to which CYCM members see financial actors playing this dual role—a question we explore in more detail in Section 5.6.

Technology and the private sector

Finally, we observed a few surprising—and somewhat contradictory—results around CYCM member beliefs about the role of technology and the private sector in the just transition. Nationally determined contributions under the Paris agreement, including Canada's pledge to reduce emissions 40 to 45 percent below 2005 levels by 2030, not only require rapidly winding down fossil fuel production and accelerating the implementation of renewable energy systems, but also require the widescale deployment of nascent negative emission technologies (NETs) such as carbon capture and storage and soil carbon sequestration.[59,60] Reflecting this reality, almost half (43 percent) of respondents selected renewable energy and green technology companies as a top-five climate actor. One respondent neatly summarized their views about the intersecting roles of technology, high-emitting industries, and governments writing:

> I think, first of all, we need to recognize that high-emitters are the biggest source of pollution, and we need to curb the source, and then we need to replace such high-emitters with renewable energy, and we need to get government support.

However, the survey results indicate that youth do not feel the same way about all types of climate-related technological innovation. While 57 percent of respondents selected increasing investment in renewable energy in their top six, just 36 percent selected the development of NETs (the eighth-most impactful climate action) and only 3 percent selected NETs as their number one pick. 10 percent of respondents believe NETs should not be pursued at all. One respondent commented: "carbon capture and storage is the worst invention ever and does nothing to address the root of the problem. It's a band-aid solution." This comment reflects the belief that NETs are not worth pursuing because they do not directly contribute to the phase-out of fossil fuels. While many CYCM members are less opposed to NETs, the survey results indicate that youth believe in prioritizing actions that address the root causes of climate change.

The lack of support for NETs could also be an indication that these technologies are less well-known in the climate action community than renewables, despite the fact that the widescale implementation of NETs is a necessary (but insufficient) condition for meeting national climate targets. Another possibility is that, in contrast with renewables, youth may also be hesitant to select NETs as a top priority action due to ongoing debates about their effectiveness, readiness, and risks.[61,62,63]

Recent research has also documented resistance to NETs and other technological interventions. Otto et al. (2021) observe that NETs are often framed as a "moral hazard" by environmental organizations in Germany.[64] A different study found that although positive attitudes towards NETs have increased among attendees of international climate change negotiations, environmental organizations continue to have strong negative attitudes towards NETs.[65]

Meanwhile, only 7 percent of respondents selected geoengineering interventions (e.g., solar radiation management) in their top six and no one selected it as their top pick—making it the least popular climate action. In fact, more than one-quarter of respondents (27 percent) believe geoengineering interventions should not be pursued at all—even as a "backup plan" (Fig. 4). One of these respondents described geoengineering as "pointless," asking: "[w]hy would we spend time and money manipulating the entire planetary system when we could just transition away from fossil fuels?"

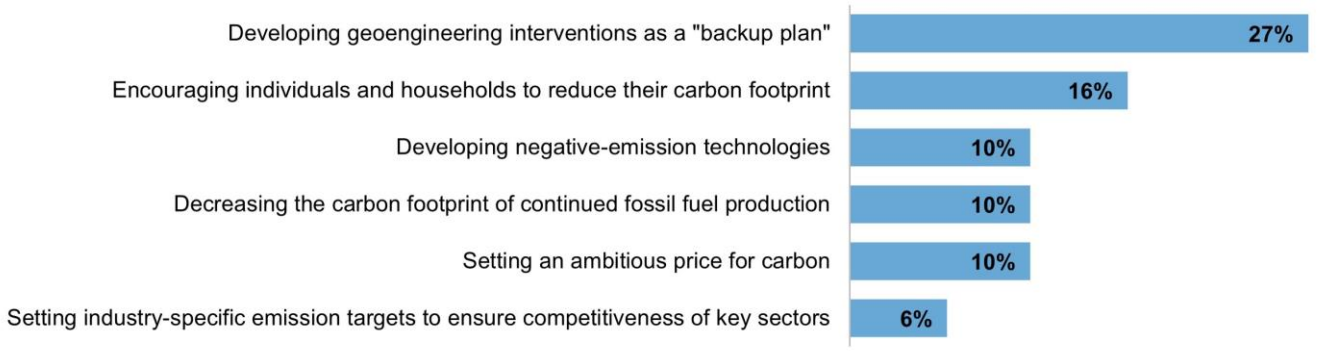

Figure 4. Climate actions that should *not* be pursued

Youth beliefs around geoengineering are consistent with broader public attitudes.[66,67] Geoengineering is often criticized for its many ethical, governance, and technological feasibility concerns.[68,69] But as countries repeatedly fail to meet their emission reduction targets,[70] scientific and policy communities are becoming increasingly willing to consider geoengineering as a "tool in the toolbox" and are calling for urgent research and development to address its various concerns.[71,72,73]

Tactics

The online survey also asked respondents to rank the top-five most impactful climate action *tactics* for youth as shown in Figure 5. Tactics linked to individual behaviour (e.g., reducing your individual carbon footprint; creating climate related art and digital media) were the least popular, which was consistent with beliefs about the impact of individual-level climate actions and the importance of individuals and households as climate actors. In general, members of the CYCM believe youth should not prioritize tactics that encourage behavioural change at the individual or household level.

Given that most respondents were high school or post-secondary students, it is unsurprising that 72 percent selected "pursuing climate-related education or conducting research on climate change solutions" as one of their top-five tactics. This finding may indicate that youth recognize the importance of education and research for improving their understanding of climate change and developing better solutions.

70 percent of respondents selected "lobbying, pressuring, or persuading key actors" as one of their top five tactics, with 55 percent choosing it as their most impactful tactic for youth—more than any other tactic. This

result is consistent with the CYCM's emphasis on governments as the most important climate actor. Youth clearly believe they can leverage their unique moral authority to change the "hearts and minds" of people in government and other positions of power.

There was a notable drop-off between "lobbying, pressuring, or persuading key actors" (70 percent) and "protests and school strikes" (55 percent). We found this result surprising given how much attention school strikes and protests have received in the media. But this finding supports our observation that the movement is increasingly embracing new and more sophisticated strategies.

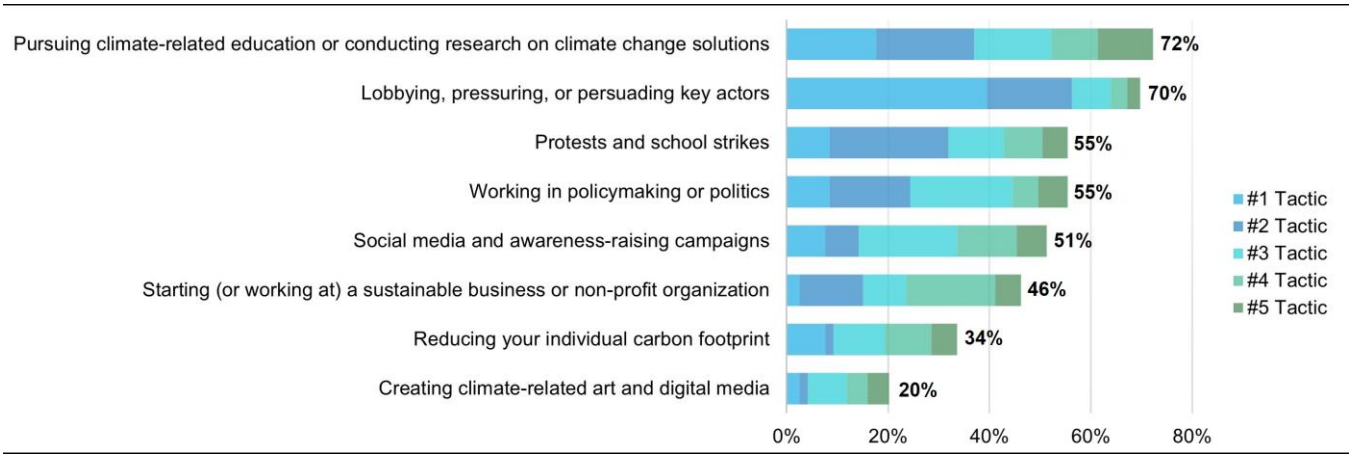

Figure 5. Most impactful tactics for youth

5.4 Testing hypothesized areas of belief divergence

Key messages:

- A strong majority of respondents believe that civil disobedience is acceptable in some situations.
- There is a diversity of beliefs within the CYCM about how to balance equity concerns and pragmatism.
- Most respondents with a strong equity focus do not believe we should prioritize climate actions that are the easiest to implement, suggesting that they see a trade-off between pragmatic and equity-promoting climate actions.
- Youth strongly believe that we must significantly transform capitalism as we know it. But a majority of these same respondents believe that we must also "unleash the market" to produce climate solutions.
- We identify two explanations for why so many respondents hold these two seemingly contradictory beliefs (investigated further in Section 5.6).

Acceptability of civil disobedience

We asked respondents to indicate the extent to which they agreed or disagreed with the statement "acts of non-violent civil disobedience that may violate laws (e.g., blockades, sit-ins, traffic disruption) are acceptable tactics for achieving climate goals in some situations." A strong majority (81 percent) of respondents agreed with the statement—suggesting less belief divergence within the CYCM around civil disobedience than we expected. However, a closer examination of these beliefs in subsequent studies is needed to determine the situations where acts of civil disobedience are deemed more or less acceptable, as well as whether youth find certain kinds of civil disobedience more acceptable than others.

Equity focus vs. pragmatism focus

The survey results support the general hypothesis that there is a diversity of beliefs within the CYCM about how to reconcile climate action with issues around systemic inequality and injustice. But the hypothesis that CYCM members see a direct trade-off between the equity focus and pragmatism focus perspectives was only partially supported.

We measured the extent to which CYCM members fell into the categories "equity focus" and "pragmatism focus" by asking survey respondents to indicate the extent to which they agreed or disagreed with two statements:

1. We should *only* pursue climate actions that also address various forms of systemic inequality.
2. We should prioritize climate actions that are easiest to implement and face the least political and public resistance.

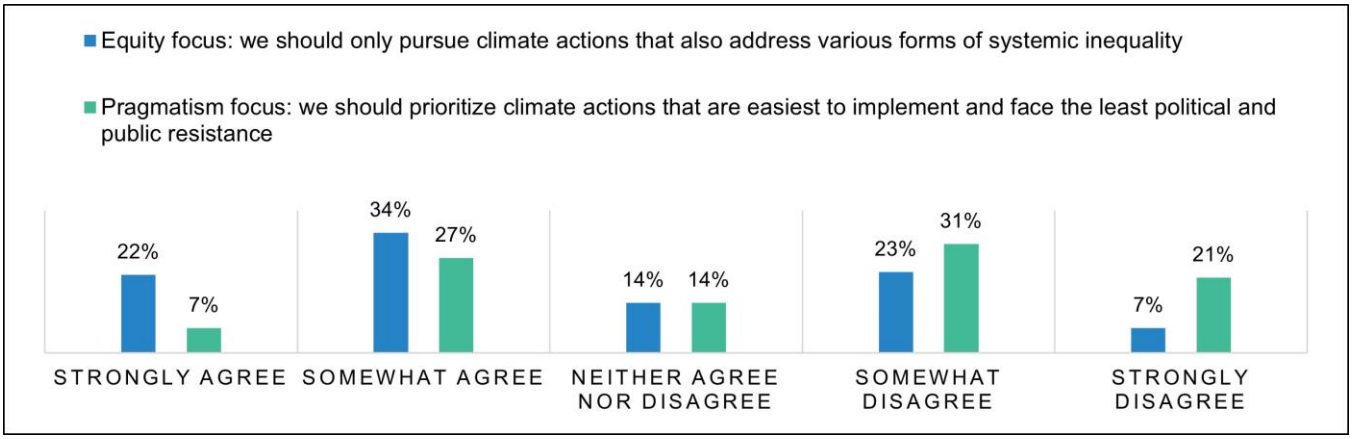

Figure 6. Equity focus vs. pragmatism focus

As shown in Figure 6, 56 percent of respondents disagreed (strongly agree: 22 percent; somewhat agree: 34 percent) with the statement "we should *only* pursue climate actions that also address various forms of systemic

inequality," indicating an equity focus. Meanwhile, nearly the same number of respondents (51 percent) disagreed (strongly disagree: 21 percent; somewhat disagree: 30 percent) with the statement measuring pragmatism focus: "we should prioritize climate actions that are easiest to implement and face the least political and public resistance."

Table 1. Equity focus vs. pragmatism focus

Equity focus	Pragmatism focus: Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree	Total
Strongly agree	1%	2%	1%	9%	9%	**22%**
Somewhat agree	4%	11%	8%	9%	2%	**34%**
Neither agree nor disagree	1%	6%	2%	3%	2%	**14%**
Somewhat disagree	2%	7%	2%	6%	6%	**23%**
Strongly disagree	0%	1%	1%	3%	2%	**7%**
Total	**7%**	**27%**	**14%**	**31%**	**21%**	**100%**

We expected to see an inverse relationship between these two variables (Table 1)—or, in other words, we expected that the same respondents indicating an equity focus would *not* indicate a pragmatism focus (and vice versa). However, we did not find a statistically significant relationship between the two variables. In fact, 32 percent of participants that agreed we should simultaneously address climate action and systemic inequality also agreed we should prioritize climate actions that are the easiest to implement. A few of the comments made by respondents show they do not see a direct tradeoff between the two statements because they do not view climate actions that also address various forms of systemic inequality as "unpragmatic." For example, one respondent that "somewhat agreed" with both statements wrote:

> Although trade-offs between the first and second points above are real, I do think it makes sense to *almost exclusively* pursue climate actions that also address systemic inequity, in addition to the very few actions that don't address inequity but (1) face low resistance, (2) are easy to implement, and (3) are highly effective . . . And nine out of ten times that's also going to address inequity.

However, one group that did appear to see a tradeoff between the equity and pragmatism focus statements was the cohort that "strongly agreed" with the statement that we should only pursue climate actions that also address various forms of systemic inequality. Of this group (n=71), 82 percent disagreed (strongly disagree: 43 percent; somewhat disagree: 39 percent) with the pragmatism focus statement. These data support the hypothesis of a perceived tradeoff between the equity focus and pragmatism focus perspective—but only among the CYCM members with the strongest belief that we should *only* pursue climate actions that also address various forms of systemic inequality.

One interpretation of this finding is that this strong equity focus cohort believes that the climate actions that are easiest to implement and face the least political and public resistance will not address systemic inequality. This interpretation is supported by one respondent who wrote:

> Climate Change feeds off capitalism. The violation of Indigenous rights and systemic racism is what allows oil and gas companies to explore in some of the only natural habitats remaining. And it allows them to put pipelines right through traditional territories and protected land. These systemic issues, such as racism, elitism, and sexism all stem from the same issues causing climate change. There is no climate action without system change. There is no climate action without social justice on all fronts.

We also analyzed the relationship between the equity focus perspective and the 16 dimensions of the ISS diagnostic tool using a chi-square test of independence with a Monte Carlo simulation. The relationship between whether respondents indicate an equity focus and their belief about whether people are basically generous or selfish is statistically significant (X2 (NA, N = 123) = 9.9852, p = .04598). This finding indicates that youth who believe people are basically generous are more likely to agree that we should only pursue climate actions that also address various forms of systemic inequality.

Green capitalism vs. anti-capitalism

We measured the extent to which YCM members fell into the categories “anti-capitalists” and “green capitalists” by asking survey respondents to indicate the extent to which they agreed or disagreed with two statements:

1. To address climate change, we must significantly transform capitalism as we know it.
2. To address climate change, we must remove barriers to innovation and unleash the market to rapidly produce climate solutions.

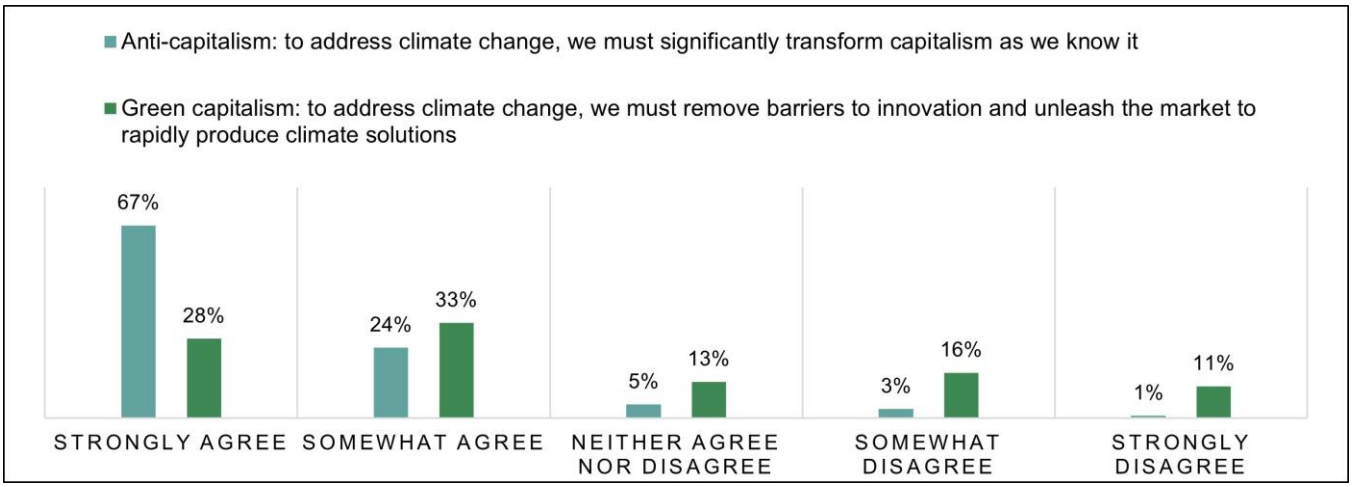

Figure 7. Anti-capitalism vs. green capitalism beliefs

As illustrated in Figure 7, 91 percent of respondents agreed (strongly agree: 67 percent; somewhat agree: 24 percent) that we must significantly transform capitalism as we know it. But surprisingly, 61 percent of respondents agreed (strongly agree: 28 percent; somewhat agree: 33 percent) that we must remove barriers to unleash the market to rapidly produce climate solutions. Of the respondents expressing the belief that we must significantly transform capitalism (N=116), 62 percent also indicated they believe we must unleash the market to produce climate solutions (Table 2). Based on the comments by respondents, we formulated two hypotheses for why so many respondents hold these two seemingly contradictory beliefs.

Table 2. Anti-capitalism vs. green capitalism beliefs

		Green Capitalism					
		Strongly agree	**Somewhat agree**	**Neither agree nor disagree**	**Somewhat disagree**	**Strongly disagree**	**Total**
Anti-Capitalism	**Strongly agree**	23%	17%	8%	13%	6%	**67%**
	Somewhat agree	3%	13%	3%	2%	2%	**24%**
	Neither agree nor disagree	2%	2%	1%	0%	1%	**5%**
	Somewhat disagree	0%	1%	1%	1%	1%	**3%**
	Strongly disagree	0%	0%	0%	0%	1%	**1%**
	Total	**28%**	**33%**	**13%**	**16%**	**11%**	**100%**

First, it is possible that the respondents indicating their belief that we must significantly transform capitalism actually support a relatively shallow or modest socioeconomic transformation where markets still play an important role in allocating resources throughout the economy. In other words, these individuals may, in fact, be particularly "interventionist" green capitalists—not anti-capitalists. For instance, one respondent suggested that: "perhaps we could use the 'good' aspects of capitalism to our advantage when creating solutions to help reduce climate change."

A second explanation is that respondents recognize the contradiction between these two beliefs but find creative ways to reconcile them. For instance, one respondent wrote:

> While I believe that the ultimate solution to climate change must be a move away from the economic scarcity of capitalism, I am loathe to veto any feasible strategies for preserving the long-term viability of the planet.

This viewpoint suggests that while capitalism is the root cause of climate change and needs to be replaced in the long run, the urgency of the climate crisis demands working within this system in the short-term. In other words, CYCM members that believe in both transforming capitalism and unleashing markets may be "reluctant" pragmatists.

Lastly, it is possible that many respondents did not understand the two statements or did not make the connection between "capitalism" in the first statement and "the market" in the second. We tunnel deeper into these ambiguous beliefs about markets, private companies, and technological solutions to climate change in Section 5.6.

5.5 Core beliefs

Key messages:

- CYCM members strongly share six core beliefs, including that people have a moral responsibility to help others a lot and that large differences in wealth are immoral.
- CYCM members diverge on four core beliefs, including whether people are basically generous or selfish and whether they derive their identity primarily from one's self or one's group.
- Youth who believe people are basically generous are more likely to agree that we should only pursue climate actions that also address various forms of systemic inequality.
- Youth who believe people are basically selfish are more likely to agree that we need to remove barriers to innovation by unleashing the market.

Core beliefs influence how we think, feel, and act—and are stronger predictors of climate change attitudes and behaviours than demographic characteristics.[74] Our core beliefs may also underpin our preferences for various climate actions and which tactics should be employed to accomplish those goals.[75] Using the ISS diagnostic tool, we assessed the sixteen dimensions of CYCM members' core beliefs.

Shared core beliefs

A significant majority of respondents shared the following six core beliefs:

1. People should help others *a lot* (91 percent), as opposed to *not much*.
2. Large differences in wealth are *immoral* (89 percent), as opposed to *moral.*
3. Change should generally be *encouraged* (88 percent), not *resisted*.
4. Humans are *"as one" with nature* (62 percent), not *distinct from nature*.
5. The world is a fundamentally *dangerous place* (58 percent), not a *safe place*.
6. The world is created through our beliefs and perceptions (58 percent), as opposed to existing independently of our minds.

Nearly all participants believe people should help others a lot (91 percent), large differences in wealth are immoral (89 percent), and change should generally be encouraged (88 percent) (Fig. 8). These findings are consistent with existing research linking beliefs about change, economic equality, and care for others to individuals who believe in climate change and engage in pro-environmental behaviours.[74]

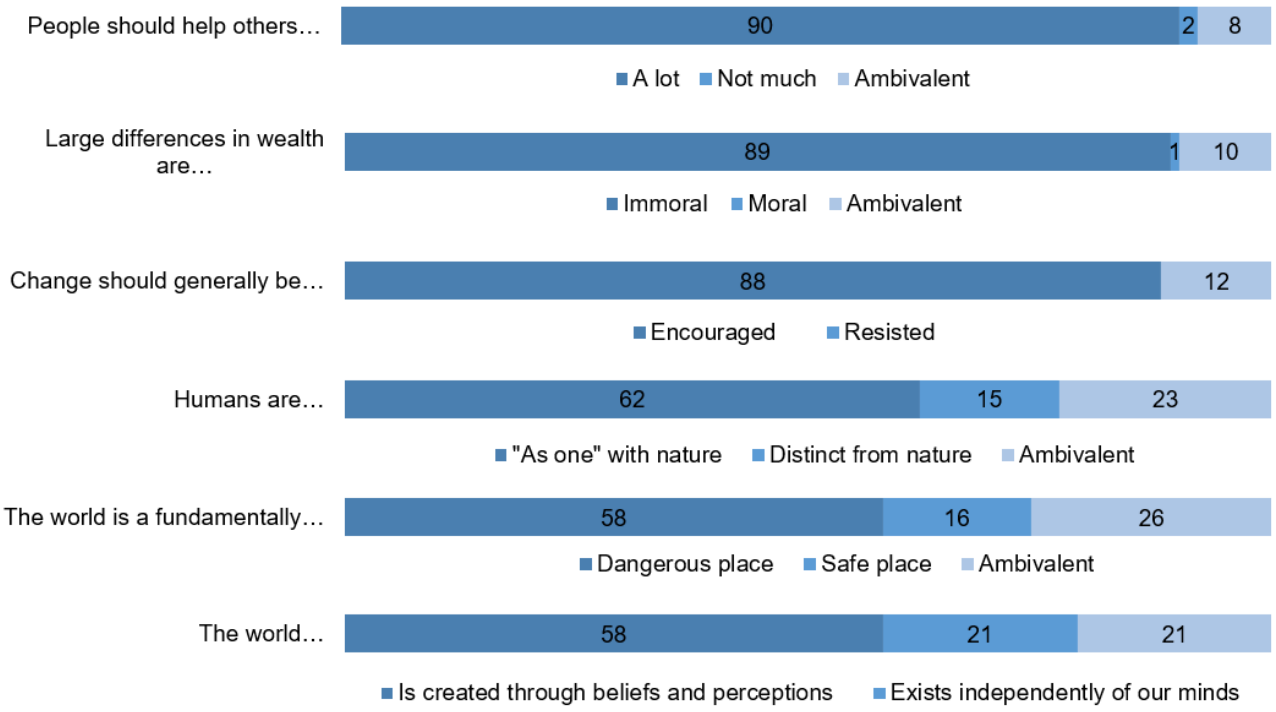

Figure 8. Shared core beliefs (percentage of respondents)

Respondents selected more moderate and ambivalent responses for the other three shared core beliefs. Most notably, only 58 percent of participants expressed the belief that the world is a fundamentally dangerous place, whereas 23 percent were ambivalent, and the remaining 16 percent believed that the world is a fundamentally safe place. We anticipated youth directly involved in climate action would be more likely to believe the world is a dangerous place since several recent studies report that youth experience high levels of negative emotion about climate change. For example, one recent study of youth in ten countries found that 84 percent of youth express moderate or extreme worry about climate change.[76] Another study found exposure to pessimistic climate change scenarios is associated with increased feelings of perceived threat and concern.[77] Figure 9 breaks down the "degree of belief" across the six shared core beliefs.

Most respondents (62 percent) indicated they either moderately or strongly believe humans are "as one" with nature rather than distinct from nature (15 percent). Although dominant Western worldviews have long positioned humans as fundamentally isolated from nature,[78,79] it is not surprising that CYCM members feel

differently. The intersectional climate justice frame has expanded across the climate movement, bringing a variety of epistemological and ontological frameworks to the forefront of activism, some of which reconsider the relations between humans and nature. [80,81] Climate action and pro-environmental behaviours are also associated with nature connectedness.[82,83]

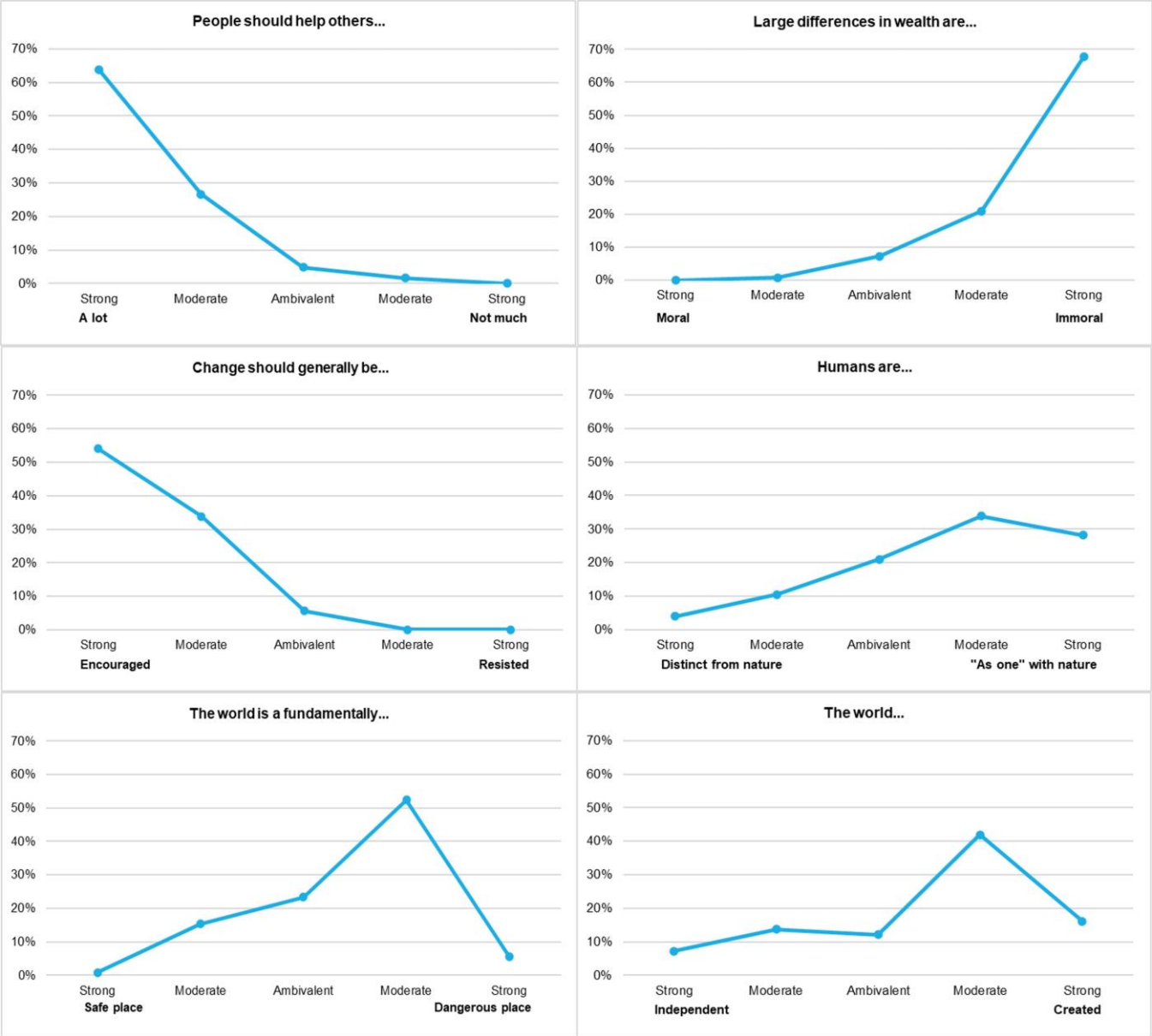

Figure 9. Shared core beliefs: degree of belief

Divergent core beliefs

Responses to the ISS questionnaire also revealed a number of divergent core beliefs in the CYCM (Fig. 10). Respondents were the most split along the following four ISS dimensions:

1. 40 percent of respondents believe the world is best understood through reason, while 40 percent believe it is best understood through *feeling*.
2. 41 percent of respondents believe the world is a *spiritual place*, while 35 percent believe it is a *material* place.
3. 38 percent of respondents believe people are *basically selfish*, while 36 percent believe people are *basically generous*.
4. 43 percent of respondents derive their identity from *one's self*, while 34 percent derive their identity from *one's group*.

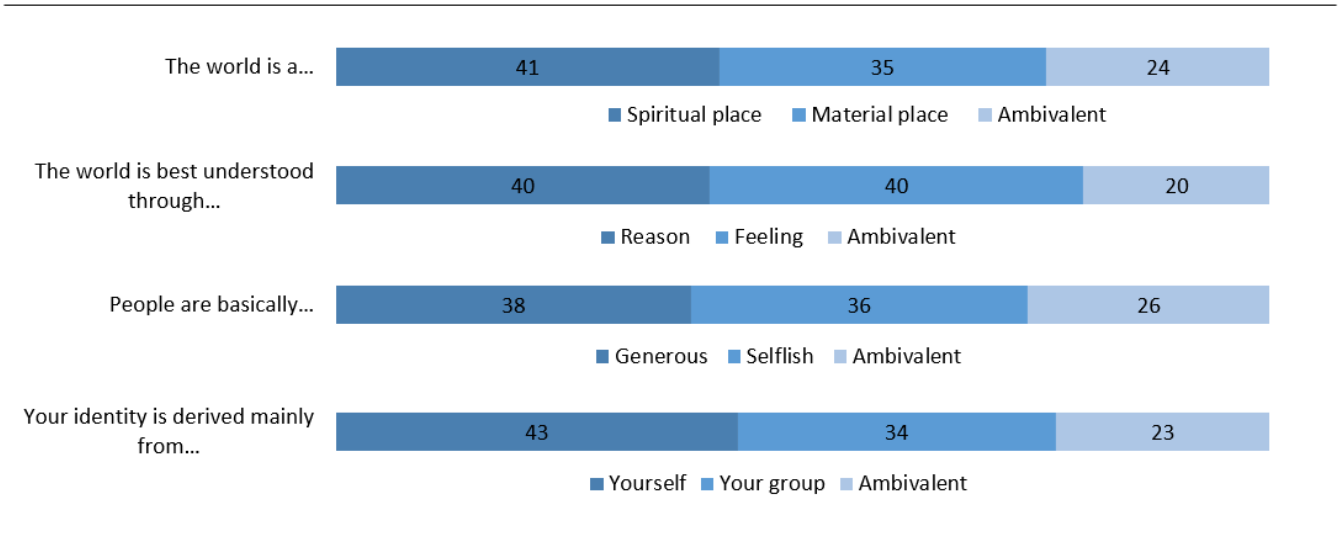

Figure 10. Divergent core beliefs (percentage of respondents)

For all four of the areas of divergent core beliefs, respondents were more likely to rank their belief positions as moderate rather than strong. This trend is illustrated in Figure 11. See Appendix 2 for the results from all 16 questions in the ISS questionnaire.

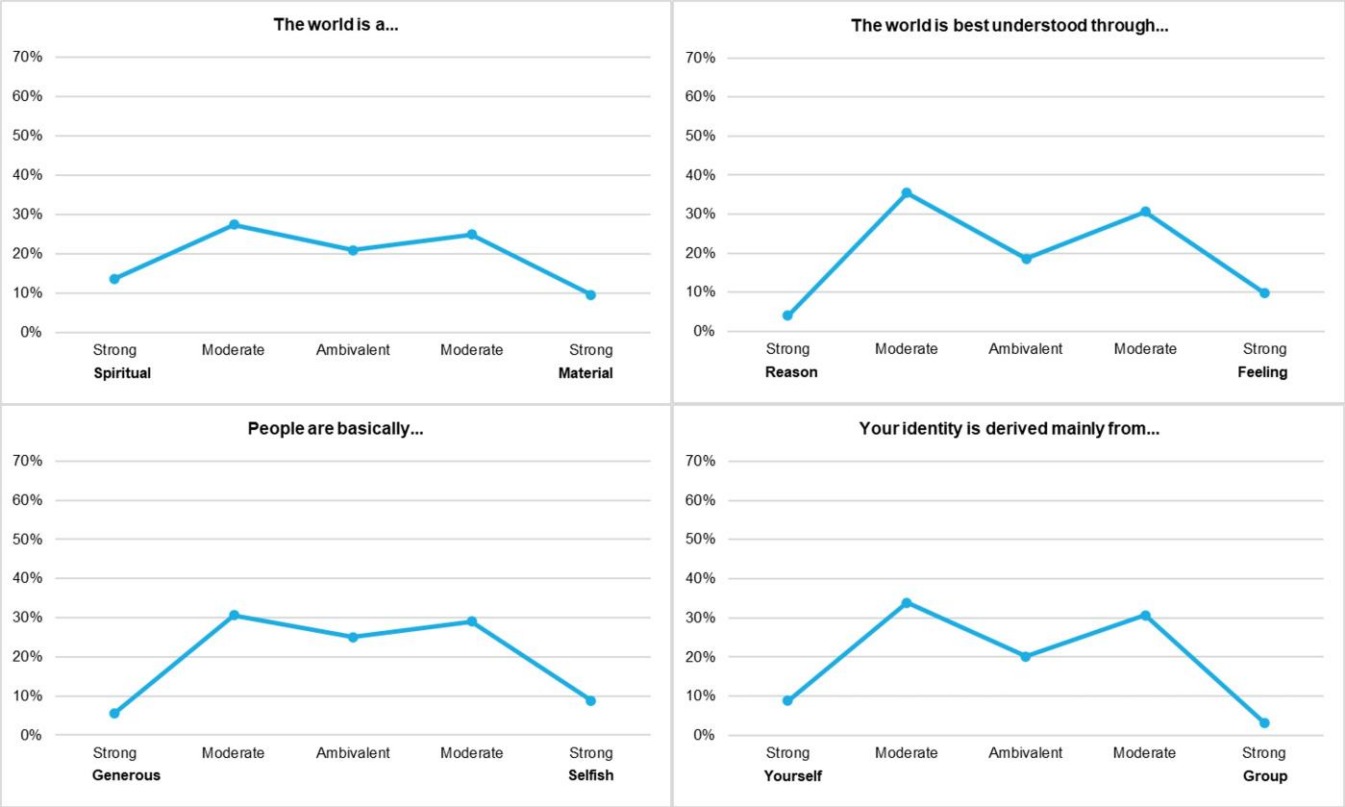

Figure 11. Divergent core beliefs: degree of belief

The most interesting area of divergent core beliefs was the split between respondents believing that people are "basically generous" (36 percent) and "basically selfish" (38 percent).[i] One implication of this core belief divergence within the CYCM is that youth may disagree about the relative effectiveness of various strategies for changing people's behaviours around climate change. For example, youth that believe most people act largely in their own self-interest, may prefer more coercive or forceful strategies such as laws constraining environmentally harmful behaviour or "naming and shaming" campaigns, while youth that believe people are fundamentally generous may prefer softer incentives that give more people latitude to "choose" pro-environmental behaviours. Youth that believe people are generous are also likely to consider *themselves* generous and believe that other people *should* be generous. Therefore, one might expect the core belief that people are basically generous to be correlated with beliefs about addressing systemic inequality and injustice.

To investigate this dynamic, we performed a chi-square test of independence with a Monte Carlo simulation to examine the relationship between beliefs about whether or not "we should *only* pursuing climate actions that also address various forms of systemic inequality" and beliefs about whether people are basically generous or selfish. The relationship between these variables was significant (X^2 (NA, N = 123) = 9.9852, p = .04598). Respondents who believe people are basically generous were more likely to agree that we should only pursue

[i] The remaining 26 percent of respondents were ambivalent—the highest of the four divergent core beliefs.

climate actions that also address various forms of systemic inequality—perhaps implying that humanity's inherently generous spirit should lead us to reallocate resources and power in the pursuit of equity and social justice.

We also found a significant relationship (X^2 (NA, N = 123) = 21.683, p = .0004998) between beliefs about "removing barriers to innovation and unleashing the market to find climate solutions" and beliefs about whether people are basically generous or selfish. Youth who believe people are basically selfish were more likely to agree that we need to remove barriers to innovation by unleashing the market. One interpretation of this finding is that youth who believe people are basically selfish might also believe that we are more or less "stuck" in a hyper-competitive market-based system and therefore our goal should be to maximize its innovation potential and minimize its harmful externalities.

Limitations

This study is the first implementation of the ISS diagnostic tool in an experimental setting, and thus provides an opportunity to not only learn about the core beliefs of CYCM members but also about the tool itself. The questionnaire asked participants to give their immediate or "gut" responses to the 16 questions—a strategy to prevent respondents from spending extra time trying to pick the "best" or most socially acceptable answer. However, the survey had no mechanism to "enforce" these instinctual responses. Such a mechanism would likely require a more controlled experimental procedure.

Respondent comments indicated frustration with the context-dependent nature of the questions—for example, for the question "should people generally resist authority or defer to it?" a respondent might resist authority in one situation but not in another. This frustration may have led respondents to default to an ambivalent response. Thomas Homer-Dixon, the creator of the ISS diagnostic tool notes that "the [ISS] questions are in many ways unanswerable in any absolute sense."[84] However, he also notes that these 16 dimensions are essentially inescapable, implying that a key measure of the tool's validity is receiving as few ambivalent responses as possible:

> [A]ny group of people needs to answer most of them, at least in a rudimentary way, to develop a shared understanding of the nature of the surrounding world and of what counts as morally good or bad behaviour in that world – both of which are central to a group's understanding of its identity and purpose.[85]

One avenue to improve the validity (and reliability) of the tool is to expand the questionnaire to include multiple questions for each dimension with context-specific examples to make these core beliefs less abstract.

Another limitation of the ISS component of the study is the fact that the questionnaire was located near the end of the 15-minute online survey, potentially leading to survey fatigue and increasing susceptibly to the central tendency bias—a well-known bias in Likert-style scales that makes participants unwilling to select extreme responses. Further research is needed to validate the results found in this study and explore the ISS tool across other population groups.

5.6 CAM analysis: "Tunneling" into beliefs about financial actors, green technology, and the private sector

Key messages:

- Respondents distrust financial actors and primarily associate them with financing the fossil fuel sector.
- Only some respondents link financial actors to investments in renewable energy and other climate solutions.
- CYCM members believe that financial actors are inaccessible and difficult to influence—and see governments as key interlocutors in changing their behaviour.
- Youth have varied and mixed feelings about the private sector and their role in producing green technology.
- CYCM members with strong anti-capitalist beliefs are suspicious of most new green technologies but tend to have positive feelings about renewables.
- CYCM members with green capitalist beliefs believe that private companies can be a force for good—but only if they are constrained by governments and have strong environmental and social values.

Two ambiguous findings about the beliefs of CYCM members emerged from our analysis of the online survey results. First, youth appear to have mixed or conflicting views about the importance of financial actors in the energy transition—and their relationship to green innovation and renewable energy systems in particular. Second, a majority of online survey respondents hold two (seemingly contradictory) beliefs about the role of markets and the private sector: capitalism must be significantly transformed *and* we must "unleash the market" to produce green technologies.

We collected additional data on these two topics from the same pool of respondents using an audio response survey (see Section 4). Then, we graphically depicted and analyzed respondents' topic-specific beliefs using a method called Cognitive-Affective Mapping (CAM). While all 11 responses to the audio survey inform our analysis, we focus this discussion on the five most logically consistent and detailed responses to unpack these two ambiguous findings using CAM.

Financial actors and the just transition

We provided respondents with the following "prompt questions" to guide their unstructured three-to five-minute audio responses on the role of financial actors (e.g., banks, pension funds, insurance companies) in the energy transition:

1. What has the role of financial actors been in the climate crisis and the energy transition so far?

2. What should their role be going forward?
3. How has your own personal experience as a member of the youth climate movement intersected with different financial actors?

All respondents agreed that financial actors play an important role in the energy transition. However, respondents also consistently expressed an emotional ambivalence towards financial actors (meaning their feelings about financial actors are mixed or context-dependent). These ambivalent feelings are illustrated by the purple hexagonal nodes in Figures 12, 13, and 14. By mapping the related concepts that respondents connect with financial actors, the emotional valence of each concept, and the nature of the links between concepts, CAM allows us to investigate the nuances of ambivalent or confusing topic-specific beliefs.

Financial actors and trust

Multiple respondents indicated that they distrust financial actors—despite noting that banks and institutional investors "obviously" play an important role in the energy transition. This distrust largely stems from financial actors' ongoing financial support of the fossil fuel industry. All respondents linked "Financial actors" to "Fossil fuels." Feelings towards the fossil fuel sector were uniformly negative, illustrated by the red hexagons in Figures 12, 13, and 14. Respondent 1 (Fig. 12) noted their disapproval of "Canadian banks" funding the "Fossil fuel industry," while another Respondent 3 (Fig. 14) expressed the belief that financial actors "uphold the status quo of fossil fuel use and extractive capitalism" through their financial support of "Corporations" (which they also view negatively). The CAM analysis confirms that youth believe financial actors are strongly tied to the fossil fuel sector.

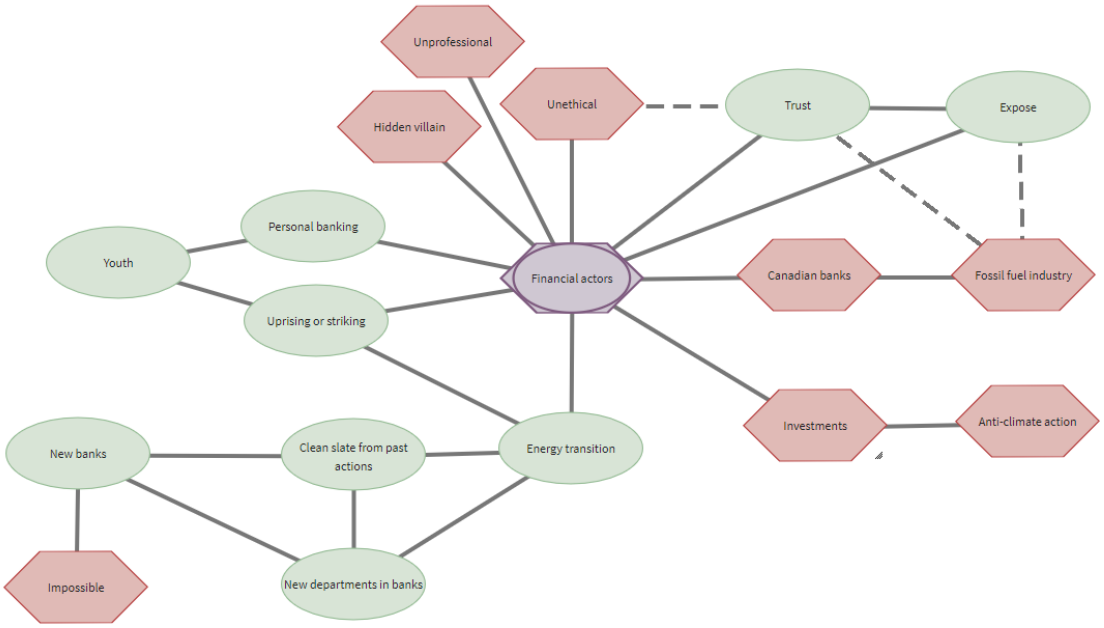

Figure 12. Beliefs about the financial actors (Respondent 1)

Respondent 1 (Fig. 12) attributed their distrust of financial actors, in part, to a lack of transparency and their use of greenwashing tactics. Depicted by red oval nodes at the top of the CAM, Respondent 1 connects "Financial actors" with emotionally charged (negative) concepts such as "Hidden villain," "Unethical," and "Unprofessional." A common refrain from respondents was that financial actors are dishonest, unethical, and wealthy—which puts them at odds with two near-consensus core beliefs held by CYCM members: large differences in wealth are immoral and people should help others "a lot" (Section 5.5).

> *But I don't trust what [financial actors] do in the background, I guess you could say. I've heard so many banks, especially Canadian ones, being top contributors to oil companies*. (Respondent 1; Fig. 12)

Financial actors and investment in climate solutions

While all respondents connected financial actors with the fossil fuel sector, respondent beliefs about the relationship between financial actors and investments in renewable energy and other climate solutions were more varied. For example, Respondent 2 (Fig. 13) connects the "Investment" of financial actors both to "Fossil fuel companies" (negative) and "Renewable energy" (positive). Similarly, Respondent 3 (Fig. 14; right-side of the CAM) also differentiates between helpful and unhelpful climate-related investments. This respondent connects "Investment" to positive concepts like "Climate positive," "Financially responsible," and "Divestment," which indicates the belief that green investments are less risky and higher performing than investments in fossil fuels. The tension created by trying to reconcile the fact that financial actors are (unethically) impeding the energy transition by supporting fossil fuels while also investing in much-needed renewables can perhaps help explain respondents' ambiguous and inconsistent responses in the online survey towards financial actors.

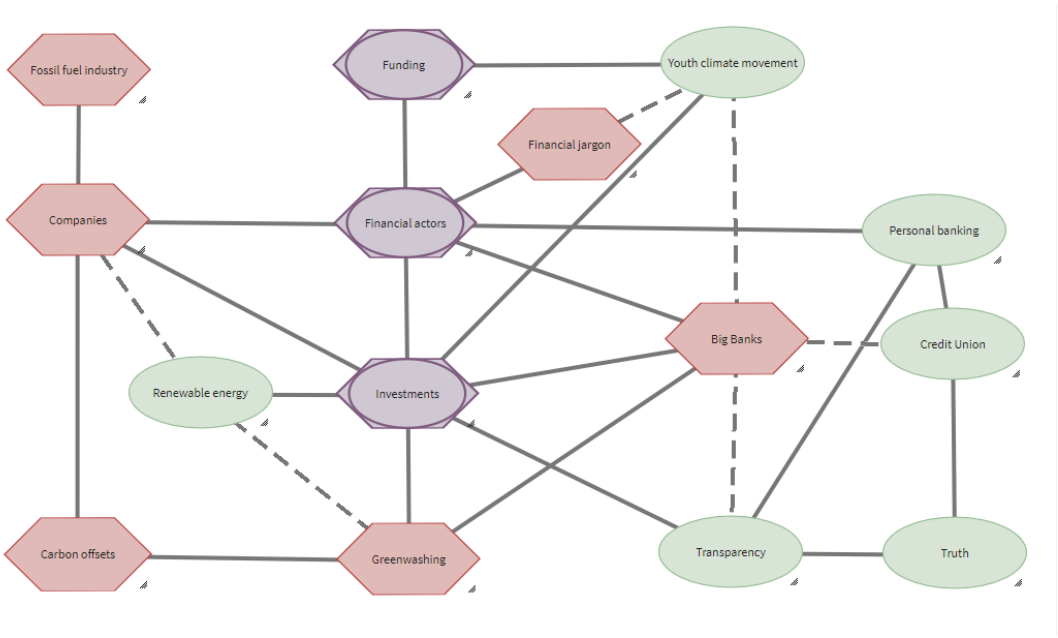

Figure 13. Beliefs about financial actors (Respondent 2)

Meanwhile, Respondent 1 (Fig. 12), only links the investments of financial actors to negative concepts like "Anti-climate action." Not only did this respondent not make any connection between financial actors and investments in climate solutions, but they also expressed the belief that financial actors—and the economic system in which they are embedded—require a "completely clean start." This finding indicates that not all CYCM members acknowledge or accept this dual role of financial actors as both a "climate action impeder" *and* a potential "climate action accelerator."

Financial actors are inaccessible

The online survey results indicate that CYCM members believe "lobbying, pressuring, or persuading key actors" is the most impactful tactic for youth to accelerate the energy transition. However, the results from the audio response survey indicate that youth find financial actors particularly inaccessible and difficult to engage. One impediment to engaging with financial actors is the way that financial actors mask their involvement in the fossil fuel sector. For example, one respondent (Fig. 13) links "Financial actors" (ambiguous) to "Jargon" (negative)—which is at odds with "Transparency" (positive).

Another way that respondents expressed the belief that financial actors are inaccessible was by noting the major differences in financial power between youth and financial actors. For example, Respondent 3 (Fig. 14; top left corner) connected "Youth" to limited "Involvement in the workforce." Meanwhile, Respondent 2 (Fig. 13; bottom right corner) highlights their own connection to "Financial actors" through "Personal banking." These connections reflect the broader belief expressed by several respondents that personal financial power is necessary to access and influence financial actors.

> *I talked to a lot of young people who feel like these choices aren't in our hands because we are not necessarily part of the economy yet. We might just be entering the workforce. We don't necessarily have, you know, stakes in these large pension funds*. (Respondent 3; Fig. 14)

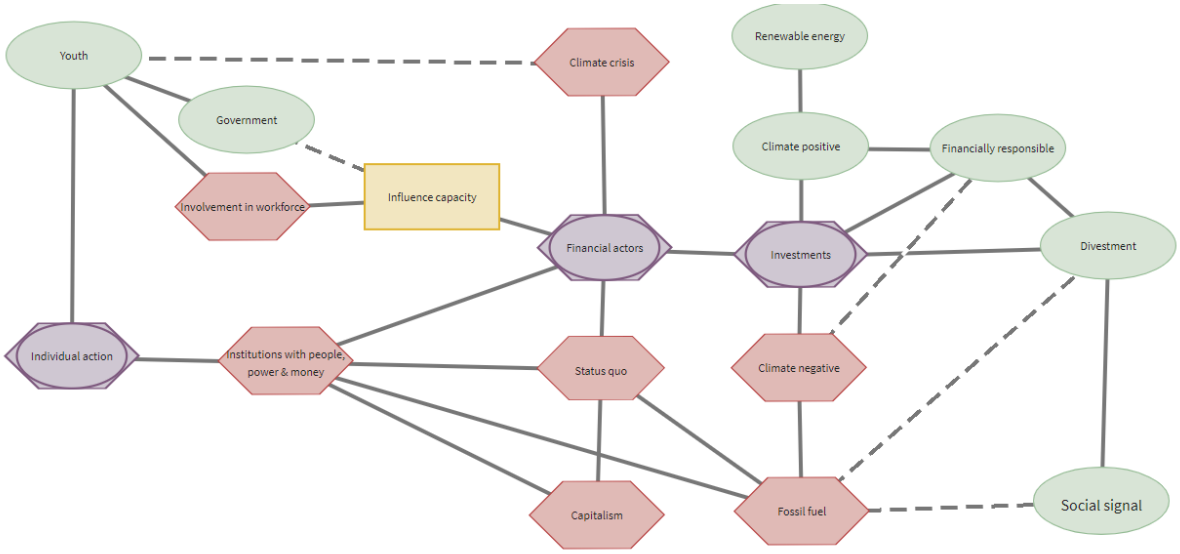

Figure 14 Beliefs about financial actors (Respondent 3)

Finally, half of the audio survey respondents expressed frustration about their lack of knowledge about financial actors. Two respondents noted they were trying to learn about the financial system through podcasts and other online resources. A general lack of knowledge about financial actors within the CYCM may help account for the ambiguous beliefs around financial actors expressed in the online survey.

Tactics for engaging with financial actors

Given the inaccessible nature of financial actors, youth have mixed beliefs about how best to persuade or pressure financial actors. None of the respondents reported working directly with financial actors. The most common tactic proposed by respondents was influencing financial actors through governments. For example, Respondent 3 (Fig. 14) does not directly link "Youth" and "Financial actors" but rather places "Government" in-between, suggesting that youth can pressure governments to influence financial actors on their behalf. Meanwhile, Respondent 1 (Fig. 12) suggested a more direct and ambitious approach to get the attention of banks and investors:

> I feel like it will definitely take the younger generation [organizing] a mini-uprising to address these issues. I really feel like it's going to have to be the youth climate movement that strikes at these financial actors. I don't know if the youth Climate movement can take on such big companies, but I do think they can kind of get it going. (Respondent 1; Figure 12)

Green technology, the private sector, and the just transition

Nearly all online survey respondents (91 percent) agreed that we must significantly transform capitalism as we know it, while a strong majority (62 percent) of those same respondents also indicated they believe we must unleash the market to produce green technologies and other climate solutions. In Section 5.4, we develop two hypotheses for why so many respondents hold these two seemingly contradictory beliefs.

First, we hypothesized that some respondents agreeing with both statements are not "anti-capitalists" (who favour some sort of post-capitalist economic system with little or no role for markets) but rather are particularly "interventionist" green capitalists (who favour a highly regulated market-based economic system). Second, we hypothesized that many of these respondents are "reluctant" pragmatists that see markets playing a critical problem-solving role in the short-term (given the urgency of climate change) but ultimately believe that a market-based economic system is incompatible with planetary and human well-being.

Another important finding from the online survey connected to youth beliefs about capitalism is the varying levels of support within the CYCM for different green technologies (Section 5.3). While most respondents (57 percent) selected increasing investment in renewable energy as one of their top-six climate actions, just 36 percent selected the development of NETs—and just 7 percent selected geoengineering interventions, with some respondents describing geoengineering as "pointless," "risky," and "dangerous."

Together, these results from the online survey show that youth have complicated and nuanced beliefs about markets, private companies, and the development of various green technologies. To tunnel further into these beliefs, we provided audio survey respondents with the following "prompt questions":

1. What role does new green technology need to play in the energy transition?
2. What role should the private sector play in reducing emissions and developing green technology?

Audio responses revealed a wide range of beliefs about the role of the private sector and green technology in the energy transition. However, none of the audio survey respondents exemplified the "reluctant pragmatist" belief system. Owing to the small number of audio survey participants, we were unable to properly test this hypothesis. Meanwhile, one response in particular (Fig. 15) reflected strong anti-capitalist beliefs, seeing little to no role for markets, the private sector, and most new green technology. Meanwhile, multiple responses demonstrated "green capitalist" beliefs, including the response illustrated in Figure 16.[i]

Anti-capitalist beliefs

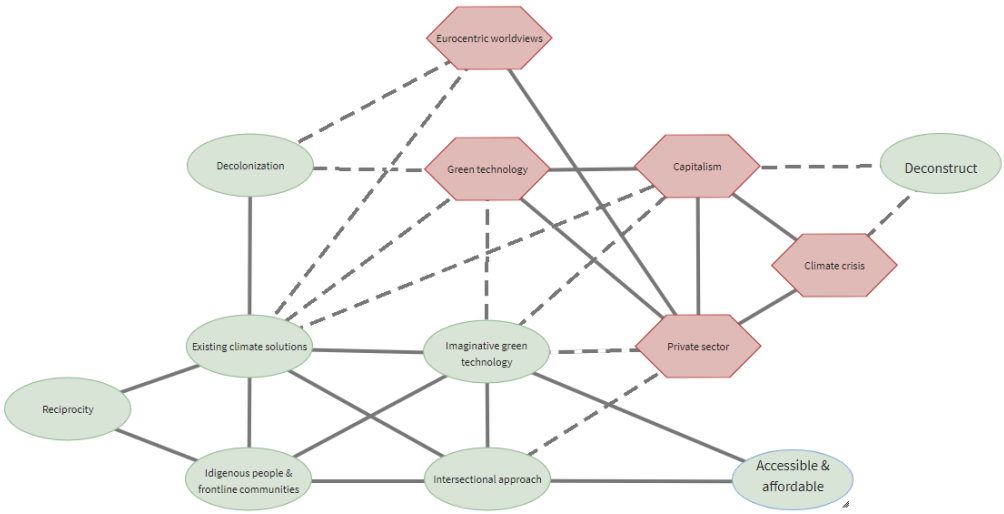

Figure 15. Anti-capitalist beliefs about the role of the private sector and green technology in the just transition (Respondent 4)

The CAM in Figure 15 illustrates an anti-capitalist belief system. The concepts "Private sector," "Capitalism," and "Eurocentric worldviews" are all strongly negative and interconnected—whereas concepts like "Decolonization," "Accessible/affordable," and "Indigenous people and frontline communities" are all strongly positive. Interestingly, the respondent views "Green technology" negatively but views similar concepts like "Existing climate solutions" and "Imaginative green technology" positively.

[i] The two respondents analyzed here are different from the three respondents analyzed in the previous section.

Within Respondent 4's belief system, the main difference between harmful new green technologies and existing or imaginative green technologies is their relationship to "Capitalism," the "Private sector," and "Eurocentric worldviews." According to the respondent, harmful green technologies (e.g., geoengineering) are tightly coupled with these negative concepts while beneficial green technologies are linked to positive concepts like "Decolonization," "Reciprocity," and taking an "Intersectional approach," all of which they believe would emerge from a transformed economic system with a lesser role for markets and private companies.

The anti-capitalist belief system illustrated in Figure 15 echoes the varying levels of support for different green technologies in the online survey. Many CYCM members endorse renewables but are more hesitant towards NETs and oppose geoengineering outright. This belief system also suggests that some members of the CYCM believe that (if widely deployed in conjunction with various non-technological interventions), existing green technologies are "enough" to address both climate change and climate-related equity issues—a belief that is not widely shared within the scientific community (Section 5.3). Technologies like NETs and geoengineering interventions that are believed to harm more than they help may run up against the CYCM's strong core belief that people should help others a lot (Section 5.5).

Green capitalist beliefs

Figure 16. Green capitalist beliefs about the role of the private sector and green technology in the just transition (Respondent 5)

The CAM in Figure 16 illustrates a green capitalist belief system—that is, someone who thinks well-regulated markets can empower the private sector to rapidly produce beneficial and necessary green technologies. While Respondent 5 has ambiguous feelings about "Capitalism," they feel positively towards the concepts "Private Sector" and "Social and environmental values"—indicating that private companies are necessary players in the

energy transition but only if they prioritize environmental and social impacts—which can be encouraged through close “Collaboration” with both “Government” and “Non-profit” organizations.

As illustrated by the links between the cluster of positive concepts in the middle of Figure 16, the respondent believes that if private sector companies have strong social and environmental values, they should have “No limits” in their quest to develop innovative green technologies that lead to emission reductions and other environmentally and socially beneficial outcomes. In their response, Respondent 5 warned that relying entirely on technological solutions like capture carbon and storage is irresponsible, but they believe the climate sector can play a large and positive role in the just transition.

Final remarks

When looking at the audio survey responses collectively, CYCM members clearly acknowledge that financial actors and (some) green technologies are important. But they also express very mixed feelings about their roles in the transition. These mixed feelings might explain why youth have trouble prioritizing technological interventions over various supply-side climate actions. Respondents also appear to possess—or believe they possess—divergent core beliefs from financial actors and private companies, which they believe to be a barrier to engaging effectively with those actors. CYCM members have strong commitments to environmental stewardship, equity, and social justice—values they believe to be lacking in these other actors.

Within the CYCM movement, members disagree about whether carefully regulated and constrained markets are an important (or simply inescapable) mechanism for producing climate solutions or a system destined to make the climate problem worse, not better. This schism is not unique to the CYCM and has been playing out in the broad climate movement for decades.[36] In the following section, we explore the implications of various shared and divergent beliefs for the CYCM and discuss strategies for the CYCM to improve collaboration both within the movement and with other key actors.

6. Conclusion

This report maps the beliefs, attitudes, and priorities of the CYCM, revealing it to be a diverse and ideologically heterogeneous social movement that is grappling with how to maximize its impact to accelerate the just transition. The findings from the Youth Climate Values Survey challenge the one-dimensional portrayal of youth climate activists in the academic literature and provide empirical evidence that the movement is levelling up—strategically shifting from strikes and general awareness-raising to more sophisticated interventions with key climate actors.

Youth engaged in climate action in Canada are united in their belief that governments must lead the charge in accelerating the just transition, but believe they should be playing a more interventionist role in rapidly ramping down the supply of fossil fuels and ramping up the supply of renewable energy. Several widely shared core beliefs underpin these topic-specific beliefs, including the belief that people have a strong moral responsibility to

help others and that large differences in wealth are immoral. These commitments to generosity and equity are reflected in the beliefs of CYCM members about the importance of pursuing climate actions that also address various forms of systematic inequality.

However, like any rapidly growing social movement, CYCM members also hold diverging and inconsistent beliefs. For example, youth are split on the importance of financial actors and the role that new green technologies, such as carbon capture and storage, can and should play in the just transition. Meanwhile, a strong majority of survey respondents believe that we need to significantly transform capitalism as we know it—but most respondents also believe that we must unleash the markets to produce climate solutions. A closer exploration of these seemingly contradictory beliefs reveals that CYCM members are conflicted with how to reconcile transformative change with urgency and pragmatism.

The findings in this report have practical implications for both youth working within the Canadian climate movement, as well as other groups working with youth climate activists, such as research organizations, non-profits, and governments. For members of the CYCM, this report is a useful resource to better "know thyself." Emerging methodologies for "radical collaboration" require that individuals acknowledge differences in experience, values, and beliefs. While this study did not ask youth about their perceptions of the beliefs of the CYCM as a whole, anecdotally, many youth activists we talk to see the CYCM as fairly homogenous—both demographically and ideologically. We hope this report challenges this view and increases awareness of the growing diversity of beliefs and priorities within the movement.

The most valuable insights from this study for CYCM members will likely emerge once similar studies are conducted focusing on the various climate actors that youth activists are most keen to lobby, pressure, and persuade more effectively. Comparative analyses identifying similarities and differences between the beliefs of youth and those of policy makers, private sector leaders, and key decision makers at financial institutions may reveal "normative pressure points"—areas where youth activists can push to stimulate rapid shifts in beliefs.

For example, previous Cascade Institute research shows that pension fund leaders are in the process of grappling with how to interpret their fiduciary duty alongside their evolving understanding of climate risk.[86] Youth are already exerting pressure on Canadian pension funds to divest from fossil fuels.[87] But a more targeted approach that leverages the sympathies, hopes, and fears of pension fund leaders (derived from an empirical study of their topic-specific and core beliefs around climate action) could provide youth with a decisive strategic advantage.

Meanwhile, groups collaborating with the CYCM can draw important lessons from the study's findings about the ambiguous, confused, or inconsistent attitudes that youth hold around climate finance and green technology. First, the technological skepticism within the CYCM (underpinned by deeper concerns about capitalism and private sector greed) presents an opportunity for increasing youth awareness about the necessity of the widescale deployment of NETs like carbon capture and storage for achieving national and global emissions reductions targets—while acknowledging youth concerns about quick fixes distracting from efforts to ramp down the production of fossil fuels. While a minority of experts propose that the energy transition can be addressed solely with solar and wind energy (and the creative use of existing battery technology),[88,89] the

majority of energy system experts disagree.[90] The Canadian Institute for Climate Choices estimates that existing technologies and policies can, at best, deliver two thirds of needed emission reductions by 2050.[91] Without significant advances in technologies like carbon capture and storage, high-capacity batteries, and hard-rock drills for deep geothermal systems, a just transition that prevents the worst impacts of climate change while decreasing systemic inequality is exceedingly unlikely.

Second, Canadian youth participating in the climate movement have begun to recognize the importance of climate finance as a crucial linchpin in the supply of fossil fuels, exemplified by the university-focused divestment movement. However, the survey shows that the divestment emphasis is not mirrored by a recognition of the role financial actors like banks and pension funds also need to play in financing renewable energy and other green technological innovations and climate solutions. A more balanced approach to climate finance campaigns focused equally on divestment *and* investment could help youth access and engage with financial actors more easily.

This report aims to hold up a mirror in front of the CYCM (and the global youth climate movement writ large). Further work is necessary to translate the findings of this study into practical tools for youth climate activists and youth-led climate organizations. Ultimately, the findings presented in this study must be integrated with similar empirical research on the beliefs of other key climate actors like governments and financial actors to provide youth activists with strategies for persuading, pressuring, and collaborating with other climate actors more effectively.

Appendix I: Online survey

Section 1: Screening Questions

How old are you? (dropdown selection from 14 to 30)

How strongly do you identify as being part of the climate action movement in Canada? (Scale 1 to 10; Not at all to Moderately to Strongly)

Section 2: Topic specific beliefs about climate actors, actions, and tactics

1. What do you **believe** is the likelihood of the following outcomes? (Scale 1 to 10; Extremely unlikely to Extremely likely)
    I. Canada meets its Paris Agreement target of reducing GHG emissions 40-45% below 2005 levels by 2030.
    II. Canada achieves net-zero emissions by 2050.
    III. The world limits global warming to 1.5 degrees Celsius (or less) above pre-industrial levels this century.
    IV. The world limits global warming to 2.0 degrees Celsius (or less) above pre-industrial levels this century.

2. To what extent do you agree or disagree with the following statements? (5-point Likert scale; Strongly disagree to Strongly agree)
    I. We should *only* pursue climate actions that also address various forms of systemic inequality.
    II. We should prioritize climate actions that are easiest to implement and face the least political and public resistance.
    III. To address climate change, we must significantly transform capitalism as we know it.
    IV. To address climate change, we must remove barriers to innovation and unleash the market to rapidly produce climate solutions.

<u>(Optional) Explain any of your selections above.</u>

3. Which actors are most important when it comes to addressing climate change? (Select 3 to 5).
    I. International organizations
    II. Governments (national, provincial, municipal)
    III. Fossil fuel sector
    IV. High-emitting industries (e.g. food production, transportation, construction, cement)
    V. Renewable energy and green tech companies
    VI. Banks, insurance companies, and institutional investors (e.g. pension funds)
    VII. Non-profit organizations and universities
    VIII. Community and faith groups

IX. Individual/households
X. Other: ____

(Optional) Explain any of your selections above.

4. Drag and **rank** the actors you selected from most important to least important in terms of their role in addressing climate change.

(Optional) Explain how you ranked your selections.

5. What climate actions are the highest priority? (Select 3 to 5)
   I. Encouraging individuals and households to reduce their carbon footprint
   II. Shifting beliefs and values of average Canadians around climate change
   III. Voting for political leaders who have strong climate action goals
   IV. Decreasing or eliminating investment in the fossil fuel sector
   V. Increasing investment in renewable energy and creating green jobs
   VI. Developing negative-emission technologies (e.g. carbon capture and storage, soil carbon sequestration)
   VII. Developing geoengineering interventions as a "backup plan"
   VIII. Setting industry-specific emission targets to ensure competitiveness of key sectors
   IX. Setting an ambitious price for carbon
   X. Incentivizing the adopting of climate-friendly land use and agricultural practices
   XI. Setting stronger standards for building construction and energy efficiency
   XII. Preventing the construction of new pipelines and other fossil fuel infrastructure
   XIII. Decreasing the carbon footprint of continued fossil fuel production
   XIV. Increasing the availability and affordability of electric vehicles
   XV. Increasing investment in public and active transportation infrastructure (e.g. trains, e-buses, bike lanes)
   XVI. Rapidly phasing out internal combustion engine vehicles

6. Drag and **rank** the actions you selected from highest to lowest priority.

(Optional) Explain how you ranked your selections.

7. Are any of the climate actions you didn't select **NOT** worth pursuing? (Select all that apply).

8. What are the most impactful climate action tactics for youth (age 14-30)? (Select up to 3).
   I. Protests and school strikes
   II. Social media and awareness-raising campaigns
   III. Reducing your individual carbon footprint
   IV. Lobbying, pressuring, or persuading key actors
   V. Starting (or working at) a sustainable business or non-profit organization

VI. Creating climate-related art and digital media (e.g., performance art, documentaries, podcasts)
VII. Pursuing climate-related education or conducting research on climate change solutions
VIII. Working in policymaking or politics
IX. Other: _____

(Optional) Feel free to explain any of your selections above.

9. Drag and **rank** the tactics you selected from most to least impactful.
10. To what extent do you agree or disagree with the following statements? (5-point Likert scale; Strongly disagree to Strongly agree)
    I. Acts of non-violent civil disobedience that may violate laws (e.g. blockades, sit-ins, traffic disruption) are acceptable tactics for achieving climate goals in some situations.
    II. It is acceptable to partner with (or accept money from) fossil fuel companies and other "climate laggards" in order to further the goals of the climate movement.
    III. The youth climate movement is diverse and inclusive
    IV. The youth climate movement provides space for a wide range of ideas, knowledge systems, and lived experiences.
    V. The youth climate movement should focus more of its attention on developing employment opportunities for youth.

11. How should important decisions be made within youth climate organizations and groups? (Select up to 2)
    - By consensus
    - By majority vote
    - By the most informed leaders within the group
    - Only with reasonable consultation with individuals representing specific underrepresented groups

(Optional) Feel free to explain any of your selections above.

Section 3: Core Beliefs (Ideological State-Space)

1. Is the world a fundamentally safe or fundamentally dangerous place?						
SAFE	Strong	Moderate	Ambivalent, no position	Moderate	Strong	**DANGEROUS**
2. Is the world best understood through reason or feeling?						
REASON	Strong	Moderate	Ambivalent, no position	Moderate	Strong	**FEELING**
3. Is the world a spiritual place (some elements are not observable or understandable) or is it a material place (all elements are theoretically observable or understandable)?						

MATERIAL	Strong	Moderate	Ambivalent, no position	Moderate	Strong	**SPIRITUAL**
4. Are moral principles subjective and context-dependent or objective and permanent?						
SUBJECTIVE	Strong	Moderate	Ambivalent, no position	Moderate	Strong	**OBJECTIVE**
5. Is a person's fate a result of circumstances or choice?						
CIRCUMSTANCES	Strong	Moderate	Ambivalent, no position	Moderate	Strong	**CHOICE**
6. Is human nature basically generous or selfish?						
GENEROUS	Strong	Moderate	Ambivalent, no position	Moderate	Strong	**SELFISH**
7. Are humans intrinsically unique and distinct from nature or "as one" with nature?						
AS ONE WITH NATURE	Strong	Moderate	Ambivalent, no position	Moderate	Strong	**UNIQUE AND DISTINCT**
8. Are the differences between groups (e.g. sex, gender, race, ethnicity, religion) marginal and unimportant or fundamental and important?						
MARGINAL AND UNIMPORTANT	Strong	Moderate	Ambivalent, no position	Moderate	Strong	**FUNDAMENTAL AND IMPORTANT**
9. Does one's identity derive mainly from yourself or from your group?						
FROM ONESELF	Strong	Moderate	Ambivalent, no position	Moderate	Strong	**FROM ONE'S GROUP**
10. For inspiration, should we look to the past or to the future?						
TO THE PAST	Strong	Moderate	Ambivalent, no position	Moderate	Strong	**TO THE FUTURE**
11. Should change generally be encouraged or resisted?						
ENCOURAGED	Strong	Moderate	Ambivalent, no position	Moderate	Strong	**RESISTED**
12. Should we help others a lot or not much?						
A LOT	Strong	Moderate	Ambivalent, no position	Moderate	Strong	**NOT MUCH**
13. Should we generally resist authority or defer to it?						
RESIST	Strong	Moderate	Ambivalent, no position	Moderate	Strong	**DEFER**

14. Is the use of power over others usually wrong or often right?						
USUALLY WRONG	Strong	Moderate	Ambivalent, no position	Moderate	Strong	**OFTEN RIGHT**
15. Are large differences in wealth moral or immoral?						
MORAL	Strong	Moderate	Ambivalent, no position	Moderate	Strong	**IMMORAL**
16. Does the world exist independently of our minds, or do we create it through our beliefs and perceptions?						
EXISTS INDEPENDENTLY OF OUR MINDS	Strong	Moderate	Ambivalent, no position	Moderate	Strong	**CREATED THROUGH BELIEFS AND PERCEPTIONS**

(Optional) Explain any of your responses from the last set of 15 questions.

Section 4: Demographics

1. What is your primary province or territory?

2. What best describes your region?
    a. Rural area
    b. Remote area
    c. Urban area
    d. Township or Suburban area
    e. Another not listed (please specify):
    f. Prefer not to say

3. What is your highest level of formal education (completed or in progress)?
    a. High school
    b. College program
    c. Undergraduate program
    d. Masters program
    e. Doctoral program
    f. Other: _____
    g. Prefer not to say

4. What is your preferred gender identity? We recognize that gender identity questions are imperfect. Please select the option that fits best at this time. The options are listed in alphabetical order.
    a. Agender

b. Genderfluid
c. Genderqueer
d. Man
e. Non-binary
f. Trans man
g. Trans woman
h. Woman
i. I prefer to use another term (please specify):
j. Prefer not to say

5. Do you identify as any of the following? Check all that apply.
    a. Indigenous person (Indigenous to North America including First Nations, Métis, and Inuit)
    b. Visible minority or racialized person (persons, other than Indigenous persons, who are non-Caucasian in race or non-white in colour, regardless of birthplace)
    c. LGBTQ2S+ person
    d. Person with a disability
    e. New immigrant to Canada
    f. White
    g. Another not listed (please specify):
    h. Prefer not to say

6. To what extent are you paid for the work you do on climate action?
    a. Volunteer only
    b. Mostly volunteer but some small payment/stipend
    c. Part-time (plus volunteer)
    d. Full-time (plus volunteer)
    e. Other
    f. Prefer not to say

7. What climate action organizations do you consider to be a part of **your** network? (List as many as you want).

Appendix II: Ideological State-Space (ISS) results

Note: Due to blank responses, percentages do not add up to 100%.

QUESTION	BELIEF STRENGTH						
Is the world a fundamentally safe or fundamentally dangerous place?	**SAFE**	**Strong**	**Moderate**	**Ambivalent**	**Moderate**	**Strong**	**DANGEROUS**
		1%	15%	23%	52%	6%	
Is the world best understood through reason or feeling (i.e. emotion and/or intuition)?	**REASON**	**Strong**	**Moderate**	**Ambivalent**	**Moderate**	**Strong**	**FEELING**
		4%	35%	19%	31%	10%	
Is the world a spiritual place (with a larger moral order or purpose beyond everyday experience that provides meaning to life) or is it a material place (without such characteristics)?	**SPIRITUAL**	**Strong**	**Moderate**	**Ambivalent**	**Moderate**	**Strong**	**MATERIAL**
		14%	27%	21%	25%	10%	
Are moral principles about what's right and wrong subjective and context-dependent or objective and universally true?	**SUBJECTIVE**	**Strong**	**Moderate**	**Ambivalent**	**Moderate**	**Strong**	**OBJECTIVE**
		23%	36%	12%	22%	2%	
Is a person's fate a result of circumstances or choice?	**CIRCUMSTANCE**	**Strong**	**Moderate**	**Ambivalent**	**Moderate**	**Strong**	**CHOICE**
		13%	36%	29%	16%	4%	
Are people basically generous or selfish?	**GENEROUS**	**Strong**	**Moderate**	**Ambivalent**	**Moderate**	**Strong**	**SELFISH**
		6%	31%	25%	29%	9%	
Are humans intrinsically unique and distinct from nature or "as one" with nature?	**DISTINCT FROM NATURE**	**Strong**	**Moderate**	**Ambivalent**	**Moderate**	**Strong**	**ONE WITH NATURE**
		4%	10%	21%	34%	28%	
Are differences between groups (e.g. gender, race, class, religion) superficial or fundamental?	**SUPERFICIAL**	**Strong**	**Moderate**	**Ambivalent**	**Moderate**	**Strong**	**FUNDAMENTAL**
		19%	40%	14%	15%	2%	
Does your identity derive mainly from yourself or from your group?	**YOURSELF**	**Strong**	**Moderate**	**Ambivalent**	**Moderate**	**Strong**	**GROUP**
		9%	34%	20%	31%	3%	
For inspiration, should people look to the past or to the future?	**PAST**	**Strong**	**Moderate**	**Ambivalent**	**Moderate**	**Strong**	**FUTURE**
		6%	12%	35%	28%	17%	
Should change generally be encouraged or resisted?	**ENCOURAGED**	**Strong**	**Moderate**	**Ambivalent**	**Moderate**	**Strong**	**RESISTED**
		54%	34%	6%	0%	0%	
Should people help others a lot or not much?	**A LOT**	**Strong**	**Moderate**	**Ambivalent**	**Moderate**	**Strong**	**NOT MUCH**
		64%	27%	5%	2%	0%	
Should people generally resist authority or defer to it?	**RESIST AUTHORITY**	**Strong**	**Moderate**	**Ambivalent**	**Moderate**	**Strong**	**DEFER TO AUTHORITY**
		9%	30%	48%	10%	1%	

Is the use of power over others usually wrong or often right?	**WRONG**	**Strong**	**Moderate**	**Ambivalent**	**Moderate**	**Strong**	**RIGHT**
		16%	40%	33%	5%	1%	
Are large differences in wealth moral or immoral?	**MORAL**	**Strong**	**Moderate**	**Ambivalent**	**Moderate**	**Strong**	**IMMORAL**
		0%	1%	7%	21%	68%	
Does the world exist independently of our minds, or do we create it through our beliefs and perceptions?	**EXIST INDEPENDENTLY OF OUR MINDS**	**Strong**	**Moderate**	**Ambivalent**	**Moderate**	**Strong**	**CREATED THROUGH BELIEFS AND PERCEPTIONS**
		7%	14%	12%	42%	16%	

Appendix III: Audio response survey

1. We would like you to spend no less than 3 minutes and no more than 5 minutes reflecting on Financial Actors and their role in the Just Net-Zero Energy Transition. It is completely open-ended. But here are a few helpful questions to guide your reflection:

    I. What has the role of financial actors been in the climate crisis and the energy transition so far?
    II. What should their role be going forward?
    III. How has your own personal experience as a member of the youth climate movement intersected with different financial actors?

2. We would like you to spend no less than 3 minutes and no more than 5 minutes reflecting on Green Technology and the Private Sector -- and their role in the Just Net-Zero Energy Transition. It is completely open-ended. But here are a few helpful questions to guide your reflection:

    I. What role does new green technology need to play in the energy transition?
    II. What role should the private sector play in reducing emissions and developing green technology?

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