'Sensemaking' climate change: navigating policy, polarization and the culture wars

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Climate action faces evolving challenges in industrialized, high-income countries, such as increased populist distrust in government institutions, growing polarization, and social contestation regarding types of climate policy. These challenges complexify timely mobilization of climate action, compromising current and future climate investment and policies. Here, we investigate the nuances of 'sensemaking', resistance, and polarization in regard to climate change to better understand climate-action barriers in British Columbia, Canada. Through a series of focus groups, leading climate actors from multiple sectors co-produced knowledge on current psycho-social challenges encountered when engaging publics on climate change. Findings explore how emotions about climate transitions are leveraged by disinformation messaging, obscuring an already complicated sensemaking task regarding climate change and contributing to opposition against climate policies and action. The study's implications are relevant to climate change-related policy creation, communication, and public engagement.

"The debate over climate change… is a debate over culture, worldviews, and ideology" (1 para. 8)[1].

Today, in the current social context of Canada, climate actors have more to contend with than perhaps ever before. Global scientific consensus warns that there is no time for climate-action delays to meet critical greenhouse gas emissions (GHG) targets. Yet, despite the large pro-climate action protests of 2019, the proclamations of a 'climate emergency' at various levels of government, extreme weather events, and other signposts of climate catastrophe, advancing climate action falters on certain socio-political challenges. While 70-80% of Canadians worry about climate change impacts, there is a lack of social agreement about what types of policies and actions are most needed to meaningfully address climate change[2,3]. As recent research suggests—and as our focus group discussions held with climate actors in this study corroborates—these divergent views on climate action may have less to do with scientific facts or economic analyses, and more to do with emotions, identity, and meaning[4,5].

Sensemaking about climate change, and the various types of responses it calls for, is an important aspect of climate action today and one which deserves closer consideration. Sensemaking is "commonly understood as the processes through which people interpret and give meaning to their experiences, [including] physical, emotional, spiritual and intuitional responses"[6]. When people receive information on climate change, on what is driving it, what risks it presents, the types of policy interventions and innovations to mitigate those risks, they make sense of it in regard to the implications it holds for their lives. In this sensemaking on climate, people construct different meanings[7,8], form beliefs and risk perceptions based on their cultural outlook[9], and are guided by affective or emotion-based logics as well as normative or value-based logics, not only—nor even principally—by rational or scientific assessments[10,11]. Furthermore, perspectives on climate are informed by, and integrated into, how people see and enact themselves in the world, from core values that guide daily decisions to which trusted messengers they listen to and what groups they participate in on social media[12,13]. Social media, increasingly relied on by millions of people across Canada for news and other information, can be effectively leveraged to manipulate perceptions on climate, such as those that are oriented to bolster anti-climate views[14–17]. As such, climate actors face a contested social terrain of conflicting opinions and struggle to converge on shared strategies for action.

When it comes to climate action, people tend to shape their views largely absent of a facilitated process to navigate the complexities that intertwine with who we are in the world[18,19]. Seldom do climate communications and engagement hold space for shared discussion and sensemaking amongst publics; instead, sensemaking on climate occurs via popular discourse and increasingly on social media. It is estimated that over 90% of Canadians have at least one social media account, with high levels of active social media usage[20], alongside a declining trend in mass media usage[21]. This is consequential for climate discourse engagement for a few reasons; social media operates via obscured algorithms that drive content

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consumers into echo chambers and towards extreme sides of an issue[22–24]. Social media also provides a manner through which (dis)information can be seeded, spread quickly, and leveraged to push certain political agendas that stoke division and polarization, distrust and disorientation[25]. Disinformation in this media context threatens productive democratic discourse[26] and carries serious implications for climate action[17,27,28]. In Canada, this has fostered a growing political and epistemic polarization, which further erodes a collective sensemaking and social agreement on climate action[29].

Polarization is an important driver of divergent climate views. Political differences, and the freedom to debate and discuss such differences, are a healthy, enduring feature of pluralistic, liberal democracies. However, polarization occurs when oppositions become sharpened; referred to as *affective polarization* when those views become emotional (Jordhus-Lier, 2024, personal communication) or as *techno-affective polarization* when exacerbated with social-media algorithms[10]. In polarized discourse, political debates move beyond the point of healthy or normal exploration of differing perceptions or disagreements into increasingly binary "us" and "them" antagonisms between ideological groups and political deadlock[30]. In their study of Northern populism, Graves and Smith[31] describe this cultural tension as one between an open-progressivism and an ordered-populism. The open-progressive outlook is open to new iterative ways of organizing society, new value systems, global institutions and their influences on national-identity structures, and is progressive in values. The ordered-populist outlook leans toward an anti-elite, conservative viewpoint, one that is often xenophobic, opposing progressive change, and seeking to keep a White, colonial, 'traditional' order in society.

Today, in Canada as well as in other liberal democracies, techno-affective polarization is occurring against a backdrop of *'post-truth' discourse*, "where facts have lost their currency in contemporary political and public debate,"[32]. This does not mean that broadly held truths or rational conclusions no longer exist in society, but rather certain long-held objective truths are no longer primary and universal; and instead, many subjective, relative truths exist alongside each other in an unprioritized heap. In this discursive environment, basic aspects of daily living, such as plastic straws and lanes for bikes, are suddenly controversialized as a growing number of people are exposed to such ideas and their corresponding epistemic communities online[33–35]. In a post-truth context, affective appeals may often be made to publics based on political tribalism, identity, symbolism, and values, which overshadow and crowd out evidence-based policy discussions[36,37]. These appeals are often delivered through emotionally-charged performances which rely on force[38] and repetition[25]. In such a context, mis- and disinformation and conspiracist narratives about climate are readily able to be issued across social media streams[17,39].

The contours of this social contestation in Canada fomented alongside resistance to Covid pandemic mandates, culminating in the Freedom Convoy in Ottawa in 2022. Publics became divided on the acceptance of state intervention in private lives, some adamantly rejecting this degree of governmental control and perceived global interference. This tension deepened into what some have referred to as a *'culture war,'* a term that points to deep, ideological, often partisan tensions running in society[40]. Climate issues have been drawn into this culture war, as the public backlash to the pandemic transferred to climate change[41]. As with Covid, climate backlash experiences similar discursive conditions and hallmarks of populist resistance—such as, frustration with government regulations, fears about global, outside entities, and distrust of elites, as well as threatened social identities. For example, public opposition arose against the '15-Minute City' planning tool used in the pandemic to strengthen urban resilience, claiming that 15-Minute Cities were an attempt to introduce 'climate lockdowns' akin to Covid lockdowns[42–44]. In fact, 15-Minute Cities were principally efforts to restructure urban neighbourhoods with amenities close to residential areas; with only secondary by-products being climate-related (i.e. decreased needs for fossil-fuel transportation). Such negative sensemaking makes a collective orientation towards action difficult to cohere, with public opposition to the 15-Minute City rooted in conspiracist misinformation resulting in examples of stalled climate action, like that seen in a British Columbia (BC) city where

a series of open houses regarding a draft climate action plan were cancelled due to safety and intimidation concerns (Carrigg D)[45]. Various other low-carbon, climate policies—such as road-pricing policies[46], restrictions on natural gas in buildings[47] and the carbon tax[48]—have met similar resistance in the years since the pandemic, as reactionary populist arguments against government regulations and policies appear to have gained momentum.

In this context, even when foundational facts appear to be aligned—for example, the notion that climate change is a crisis that needs addressing and that humans are meaningfully contributing to it, specifically by burning fossil fuels—it is found that the potential for polarization to emerge or become exacerbated exists in each and every part of such a statement! *Climate change is a crisis – that needs addressing – humans are meaningfully contributing to it – specifically by burning fossil fuels.* Any one of these four positions (or five, if we include that climate change is happening to begin with), have the potential to become a contested battleground in which identity, beliefs, ideology, and values that can polarize or be leveraged to polarize. It reveals how bad faith actors and those with vested interests in carbon-intensive, industrial production have many entry-points to do just this and undermine progress in the interest of the status quo. A yawning gap exists between the assumed 'we' statements of global climate emissions reductions and the actual fractured, divided publics, who experience tensions along various dividing lines. Jordhus-Lier and Houeland[49] refer to such tensions as *axes of polarization*, such as left/right, city/rural, center/periphery, elite/populist, which below we examine in the case of BC, Canada.
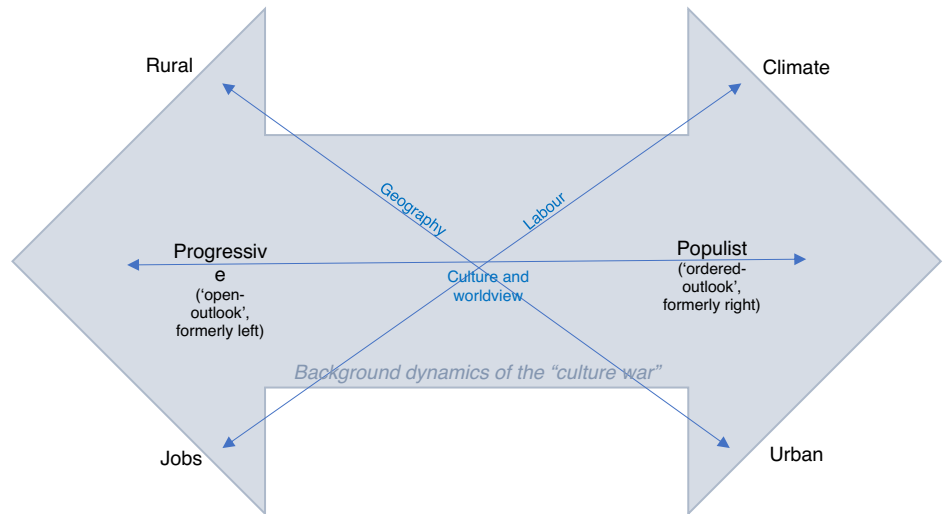
This marked social contestation threatens the speed, scale and viability of climate action implementation at the very time when societies cannot afford climate action to stall or fail. In our case-study site of Vancouver, BC, despite a long history of environmental and climate action leadership, climate-action is disputed. Vancouver's environmental leadership includes the famed 1971 founding of Greenpeace in the city's Kitsilano neighbourhood, successive urban political regimes devoting considerable attention in the 2000s and 2010s to reducing carbon emissions and environmental impact[50–53], and the province of British Columbia also being recognized as a climate-action pioneer through its noteworthy policies, such as North American's first carbon tax[54]. Yet even here—in what many would consider to be one of the most progressive climate policy environments in Canada—the social mandate for climate action remains actively contested and climate policies face opposition from a range of voices. For example, Vancouver City Council scrapped the only recently approved Climate Emergency Parking Program in Fall 2021[55]; reverted or abandoned active transportation lanes to prioritize single vehicle traffic in Spring 2023[56]; then, attempted to repeal a significant climate policy limiting fossil fuel heating in new developments in Summer 2024[47]. These climate policy vacillations make Vancouver, and British Columbia, a particularly useful site through which to explore these tensions.

This study sought to explore what challenges public sensemaking on climate change, how oppositional views arise and become heightened in media contexts and popular discourse, and why understanding and ameliorating polarization matters for advancing collective action on climate. The aim of this research is to examine the nuances of sensemaking, social resistance, and polarization in regard to climate change, bridging questions of theory and practice, in order to support climate actors to better navigate and communicate climate-action implementation in a manner that accounts for such contestations. The qualitative social science research study is informed by a series of focus groups in Vancouver, BC, over the first half of 2024, which brought together leading climate actors across multiple sectors with key-informant guest presenters to explore current, key psychological and social challenges encountered in climate work. Below we present results and discuss findings of this research, followed by a section on methods. This work is relevant to policy creation, communication, and public engagement.

Results

Results include key themes that emerged in the focus group discussions, where real world examples were shared and discussed by presenters and participants. Subsection "Axes of polarization; climate in the 'culture war'",

Fig. 1 | Axes of polarization in BC regarding climate action.

includes findings on the current sensemaking tensions regarding climate change in Canada, examining where and how climate is brought into the 'culture war.' Then, in subsection "Climate communications in times of emotional-facts and spin", findings include the pro- and anti-climate communication styles and content in BC, set in the broader 'post-truth' dynamics at play today. We draw key points into the discussion that follows, situating the findings in this tripartite challenge of a complex sensemaking, heightened polarization, and growing 'post-truth' media influence.

Axes of polarization; climate in the 'culture war'

This subsection examines the dividing tensions—or, what we refer to as axes of polarization—regarding climate action. Guest presenters, David Jordhus-Lier and Hege Knutsen, Department of Sociology and Human Geography at University of Oslo, provided an overview of the concept of 'axes of polarization' providing examples between climate proponents and industrial sectors—specifically environmentalists and oil workers in Norway. As a society with relevant similarities to the Canadian context (i.e. industrialized, liberal democracy with a strong extractive resource sector), this Norwegian case served as an example for how to apply the concept of 'axes of polarization' to understand climate issues and tensions in BC. The discussion that ensued amongst participants then explored the axes of polarization in BC and Canada, based on their own climate action work.

Figure 1 below depicts three main axes of polarization regarding climate in BC at present: geography (rural vs urban; the extractive Western provinces vs the consuming rest of Canada); labour (jobs vs climate), and culture or worldview (progressive vs populist). These elements shape, and are influenced by the broader culture war, depicted as the broad arrow in the background. Participants found that each axis, when brought into focus, presented unique characteristics that warrant different ways to think about, communicate, and engage groups or communities on issues of climate action.

Geography: urban vs rural; the West vs the rest.
A prominent axis of polarization articulated in discussions is geography, both in BC as well as nationally. Two respondents from different municipal governments in BC reflected on this axis, in which climate action often is associated with governmental regulations, something new that comes from urban, outside influences and is displacing the sense of traditional, local ways of life:

"My sense of the big axis in BC, from my [climate engagement] work, is rural - urban… I find that it is a divide that can be used manipulatively to make people be supportive or not supportive of an idea, depending on which camp you assign them to." (Respondent, public sector, 2024)

"In a rural environment… people are here because its remote, there's less government oversight, and they can live off the land. This feeling about greater government oversight—particularly with climate policies that they've never seen before—it's just one more thing that's coming at them to take away their own ability to live their lives without rules, combined with this idea of the urban forcing its ways onto the rural. (Respondent, public sector, 2024)

This urban-rural axis corresponds with a tension between the perception of an 'original people' versus 'outside elites,' where climate action becomes grouped in with other urbanized development, as described by a respondent from a rural municipality. It is also important to note here that the use of 'original people' does not acknowledge Indigenous Peoples as the First Peoples of these lands, and instead issues from a settler-colonial claim to a region or community.

"It becomes the 'original people' versus those 'city slickers' who are coming in and raising our property prices, and [you hear] how it was never like this before… That leads to that inherent 'development versus environment' tension: do you keep your space green or do you develop it? Within climate action, the more densified areas you have, the greater climate solutions, public transit and bike lanes, whereas [in more rural areas], you've got these rural roads with potholes." (Respondent, public sector, 2024)

Nationally, certain provinces in Canada are situated in an axis of polarization with the federal government relating to the regulation of extractive resources and energy; this is specifically the case with the fossil fuel extractive provinces of Alberta, Saskatchewan & Manitoba (dubbed "the West" of Canada versus "the rest"):

"Canada is a Federation and the distribution of power is very large—it is one of the most decentralized Federation's in the world—and, because the Constitution states that [the provincial government] has jurisdiction over natural resources, [provinces] feel like whatever the federal government decides to do related to resource management, it's constantly an overreach. It created a very strong culture of political grievances with regards to natural resource management, which you see the legacies of today; this polarization is super present in Canada." (Respondent, private sector, 2024)

"Regional geographical tensions [exist] in Canada that map onto constitutional battles of the past, going back 50 years, and energy is woven into those battles in a deep, deep way. For example, a proposed National Energy Program in Alberta led to a breakdown in federal-

provincial dialogue surrounding energy policy matters and spurring a form of provincial resource nationalism whose legacy remains. These map onto deep fissures in the Canadian identity." (Respondent, academic, 2024)

These geographically-formed fissures in identity interconnect with concern around labour and livelihood changes that are implicated in energy transitions.

Labour: jobs vs climate. The second axis of polarization relevant in BC is between jobs and climate. Historically, BC and Canadian economies have relied on the extractive resource sector—forestry, oil and gas, fishing, and mining. Given the role of GHG emissions in driving climate change, and the level of GHG emissions connected to many of these extractive sector jobs, climate action efforts are increasingly impacting the job security these sectors once had. The transition to net-zero is gradually but surely shifting the economy from a reliance on extractives towards low-carbon jobs. This creates understandable worry about livelihoods or emotive defensiveness. However, worry, fear, and anger also create opportunity for political advantage, and offer emotional leverage points for actors to advance their own pro-fossil fuel and anti-climate narratives. In other words, both an authentic concern and a malicious opportunism exists in this axis of polarization.

Guest presenter, Professor Shane Gunster, at Simon Fraser University's School of Communications, offered participants insight into 'extractive populism.' The extractive-populist view positions a robust and healthy extractive sector as the core of the Canadian economy, creating high-paying jobs for workers and opportunities for business revenue for governments. They also hold that extractivism is fragile and its 'ways of life' threatened, and suggests "collective political mobilization is necessary to defend extractivism, and the prosperity and well-being that it delivers, from the so-called sinister forces" (Gunster, 2024, personal communication). Affirmed by one respondent within the labour movement in BC, "Workers don't feel like they've seen any 'just transition' and don't trust that the transition will be just" (Respondent, Labour, 2024).

Extractive populist groups at present in Canada include trade association outreach groups, like Canada's Energy Citizens and Oil Respect, which is sponsored by Canadian Association of Petroleum Producers (CAPP) and by the Canadian Association of Energy Contractors respectively, as well as industry supporter groups, such as Canada Action and Oil Sands Strong. It was noted by respondents how these supporter groups infuse substantial financing into public debates on energy transitions. Respondents discussed how these groups are mobilizing sizeable audiences to defend high-greenhouse gas (GHG) industries that they frame as vulnerable and under attack.

These tensions become polarized into opposing camps: frustrated, concerned labour groups against pro-climate actors, be that in government or the environmental movement. Respondents noted the role of disinformation in mobilizing this discord, and they considered how climate actors could lessen polarization by working with the deeper concerns that tend to drive the extractive-populists, namely frustration and fears about disproportionate impacts and loss of livelihoods. Such an approach to diffuse the power of disinformation could help identify and align mutual interests:

"Our [work with labour] seeks in part to unpick some of the interests along those different axes [of polarization], and to try to find ways to come back to positions of alignment." (Respondent, nonprofit, 2023)

Other respondents described how workers are concerned about their families and future, and emphasized the need to address these livelihood and economic concerns before they become full-blown polarized narratives:

"In BC, there are a lot of remote locations where there are very few employment options. What resonated with me was about people's

lack of choice; and in terms of their livelihoods, what was clear is that *given the choice*, no one was wedded to the extractive industries, people would happily have worked in another sector and another job if those employment opportunities were there. They weren't as wedded to the extractive industries or the fossil fuel industry in the way that I had been led to believe. There was a real openness to what their work was, provided that they had work." (Respondent, non-profit/labour, 2024)

Culture: progressive vs populist. The tension between extractive populists versus progressive elites, introduced above, was discussed by respondents as a cultural tension operating at a higher scale and magnitude, than the axes of geography and labour described in the previous subsection:

"Climate change has also become highly implicated in what we often call the culture wars here, where you have a convergence of unlikely allies, in some cases of religious conservatives, anti-immigration people, misogynists, etc., who are keen to lump together a framing that, not only is the sunsetting of oil and gas and managed decline of these industries a bad economic bet, but additionally it's also an emasculating proposition; that this is a latte-drinking liberal, leftist-feminist undertaking that reflects not only a poor understanding of economics but also is reflective of a broader attack on Western civilization. In some cases, it can be quite grandiose." (Respondent, nonprofit, 2023)

Guest speaker Jordhus-Lier (2024, pers. comm.) noted this 'lumping together' is what exacerbates polarization:

"The lumping together of lots of issues, including culture war and identity issues into a full package that is polarized from another established camp—regardless of the actual conflicts of interests that might be more structural—suddenly, you have defined two camps that are not just disagreeing, but they're *emotionally invested* in the polarization. They dislike the other. And they start lumping together lots of other markers or attitudes in that other camp. That's when polarization is really dysfunctional. And I think that all efforts to depolarize need to take into account that there will be no complete agreement on these issues. There are actual conflicts of interest, there will be winners and losers, and there will be really tough choices where you will have polarization on certain issues, but that's part of politics, that's part of society. It's the lumping together that is the very dysfunctional and dangerous form of polarization; *affective polarization*."

This emotional energy shapes what are honest differences in views, common to any society, into an actual *culture war*. Said one respondent with longstanding experience from the non-profit sector, "We need to get very clear that what we're playing is a cultural game."

Guest speaker Gunster described the antecedents for how climate got pulled into the culture war in Canada: "[One can] trace the narrative along emotional and organizational pathways that lead from early efforts in the 2010s to mobilize our pipelines and liquid natural gas (LNG), to the yellow vests protests in 2018, and then, finally, to Canada's Freedom Convoy of 2022." Now, even innocuous climate policies can become emotional flare-points for climate opposition, which at their base have very different epistemological starting-points.

"One of the things that I've been experiencing locally here is this complete and absolute polarization regarding, and opposition to, *climate science*. I've heard almost every single conspiracy theory play out in our local environment in a state of negativity and anger,

Table 1 | Use of the media by different sides of the political spectrum

	Open-outlook, Progressive	Ordered-outlook Populist / Conservative
	Examples: 1) ENGOs and 2) mainstream media.	**Examples:** 1) industry supporter pages, 2) populist outrage machines, 3) far-right media.
Summary	1. Production of longer, fact-checked, carefully constructed, often abstract documents based on climate science; 2. Examined with a lens of diversity, equity, and inclusion protocols which takes longer; 2. Typically, media is shared once, from one's own organization, often to own audiences.	1. Production of simple, catchy, shareable content; 2. Amplifying factoids, memes, messages and talking points through any/all nodes and generating high engagement (i.e. shares and comments), as well as high degrees of feedback on what sticks; 3. Increasingly unified in promoting conservative politicians, sharing videos of parliament, oriented to mobilizing votes.
Approach	-"The NGO movement and charitable sector: we are under-resourced, siloed, fragmented, undisciplined, deeply concerned and idealistic. We have principles and scruples, which do get in the way; it's just a totally different landscape." (Respondent, nonprofit, 2024). -"We're not designed or set up to just be constantly flooding the airwaves with content—it's just not happening—people are trying to just do the good work." (Respondent, nonprofit, 2024). -The left "tends to look down on social media" (Respondent, academic, 2024); "personally, it makes me feel sick—I don't really like it, and I don't really like working in that area." (Respondent, NGO, 2024) -Successes seem to be random and not well-coordinated, such as a "trucker who came up with a really effective, meme-based, two-minute video, taking apart the conservative critique of the carbon tax, that got 2 million views on TikTok!" and yet was not then replicated (Respondent, academic, 2024) -"We need to play a cultural game here. We always respond with facts, we always respond with a political economy [analysis], or we beat up on each other, we get divergent when we really need to *converge*." (Respondent, nonprofit, 2024) -"The left seems to me good at particularizing: taking policies which would benefit vast numbers of people, but instead saying, 'Well, this is really for this particular group' which, in a populist era, does pose constraints." (Gunster, 2024, pers. comm.)	-"The most successful groups are actually *translating*. They're translating 'knowledge,' which is produced in other places, whether it be by journalists, think tanks, in political speeches, and they mine the discourse for things that they can turn into a single argument, the single factoid, and then into a meme. Then, make 100 of those memes based on this particular speech or that particular thing and throw them out there and see what sticks" (Gunster, 2024, pers. comm.). -"Repetition is another thing that these [conservative] networks get. We don't we post one thing once. You need to be doing it again and again." (Gunster, 2024, pers. comm.) -"For conservatives, I found that close to 80% of climate related posts that link to external content involves essentially pushing news, in addition to amplifying simpler, sympathetic frames and narratives. This activity constitutes a form of *connective leadership*. This is a really important idea: they are not just communicating; they're building networks by channeling their audiences into engagement with like-minded organizations." (Gunster, 2024, pers. comm.) -"The right is increasingly unified in promoting conservative politicians, and by implication, mainstream electoral politics are the key to implementing a far-right political program. That's what they're pushing: they're pushing a vote message." (Gunster, 2024, pers. comm.) -"The right's political communication is very effective at universalizing. Taking the stands that are in the specific interests of a very small number, and representing them as if they are in the interests of everyone." (Gunster, 2024, pers. comm.)

The table presents the left-wing progressive and right-wing populist/conservative approaches to social-media communications and messaging, with the populist/conservative approach largely explained by Gunster (2024, pers. comm.) based on his research in this area.

[resulting in] me fearing for my safety. I have been searching for answers as to why." (Respondent, public sector, 2024, italics added)

The impact of climate being brought into the culture war has affected the ways that respondents work with climate framing and engagement.

"I think the culture war angle makes [climate engagement] harder, because it's yet another layer of storytelling that you have to punch through before you can actually start to talk about interests and common alignments" (Respondent, nonprofit, 2023).
"We know that there is real potential for incredible polarization right now. And so, we don't talk about climate. We don't talk about solar energy and GHG reductions. Instead, we talk about the workforce transition and how can we develop our economic security. From a communications perspective on climate, we've got to step away from our framing and go back to the things that are going to provide a sense of well-being, health and safety for folks." (Respondent, non-profit, 2024)

This anti-climate narrative weaves a complex tapestry of experiences and perspectives on livelihoods, job security, and affordability. This narrative undermines climate policies and a pathway toward needed collective action, by extending into political mobilizing; it ought not be dismissed:

"A narrative that not only pins the blame for the affordability crisis upon elite institutions and climate policies like the carbon tax but also positions mainstream political engagement and mobilization as an effective way of countering it, *climate actors ignore at their peril.*" (Respondent, academic, 2024, italics added)

Climate communications in times of emotional-facts and spin
How entities across the political spectrum in Canada present (dis)information and use the media ecosystem regarding climate change is a key mechanism for the marshaling of polarized views on the issue. These results delineate two different approaches to media usage (Table 1). The progressive left engages social media in a style that is more stable, rigorous, comprehensive, and takes time and space to explain abstract, complex content. However, it appears slow to shift social-cultural course. Gunster (2024, pers. comm.) refers to this as "a rigid, cautious form of communication," suggesting that left media tends to operate in a more risk-adverse manner, guided so much by scruples it may lose on speed, tempo and opportunity. Left climate organizations in Canada do not use social media to channel their members (and audiences) into alternative left media ecosystems in the same way that right-wing organizations do. Left organizations also appear more committed to a rational, 'enlightenment' model of communication that may be somewhat at odds with the technological (and emotional) affordances of social media platforms.

Populist right-leaning organizations engage social media in a manner that is nimble, fast, meme-based, and is pushed toward civilians to carry out. This approach tends to be full of missing informational pieces, with lines not drawn—or incorrectly drawn—between disparate facts. Gunster (2024, per. comm.) explained, the right-leaning approach employs a connective leadership style that effectively promotes aligned narratives and materials through a wide network of personal channels, prioritizes network-building and connective leadership. Such left-right media discrepancies led to a rich set of discussions between respondents on the messaging and manner of using the media across the political spectrum on climate.

Climate messaging in social media. The different styles of media engagement above lead to different messaging tactics regarding climate.

Progressive media actors tend to proceed from a presumption of a global 'we' behind climate action. In turn, overarching narratives are curated that presume the 'why' is understood and agreed upon, to focus instead on the 'what' and 'how' of advancing climate action. It often employs a complicated frame to do so; understandably so, given the complexity of climate change itself and the desire to be comprehensive. In many cases, left-leaning progressives attempt to give the whole story repeatedly, and appear less willing to parse down to the simple, piecemeal messages that audiences can relate with.

Guided by climate science, the progressive approach is in some ways still informed by the notion of 'information-deficit' approach that assumes a linear transfer of climate science to the people will increase climate concern and changed behaviours. This approach may prematurely assume that a social consensus exists or that scientific consensus is enough. Explained guest presenter and climate change adaptation scholar, Dr. Susanne Moser, climate actors are largely still doing the 'persuasion model:'

"Trying to get the right facts, the right messenger, the right message, the right words, with the intent to either motivate or at least reduce resistance, get buy in and then hopefully, there's individual political behavioral change. This is the persuasion model of the past. What we're in for now is something very different" (Moser, 2024, personal communication).

Other respondents described how the focus for many climate actors isn't even on communications as such; rather it is on:

"Doing all this incredibly good work, like climate electrification and building work; getting the message out is a *teeny tiny or non-existent part* of the scope of their job, their capacity. There are seldom professional campaign or outreach people resourced within climate-action project teams." (Respondent, nonprofit, 2024)

By comparison, the right-leaning populist strategy on climate communications in the media:

"Routinely situates climate change within a kind of right wing-version of the shock doctrine. They frame it as a manufactured crisis that is hyped up by left-wing media to justify and expand eco-authoritarianism. Which, incidentally, is a claim that resonates very well with pandemic conspiracies around Covid." (Gunster, 2024, personal communication)

In a post-pandemic study, from August 2022-2023, Gunster (2024, pers. comm.) found the leading post about climate in a sample of public-facing Canadian groups on Facebook was about how the principal cause of the horrendous wildfires was framed to be arson, not GHG-driven climate change. This messaging claimed mainstream-media and liberal elites were pushing the wildfires connection to climate change to enable government bureaucrats greater control over the public.

Respondents discussed while the pro-climate network was much *bigger* in terms of the number of actors, it was much *thinner and much more fragmented* in terms of its structure and the engagement that it generated; whereas the anti-climate network has *deeper* engagement in terms of shares and comments, and was more *effective and efficient* in terms of using the platform to get its messages up and drive engagement to sites that it thought were relevant.

Towards a new manner of pro-climate media engagement. Session findings suggest that climate proponents could use social media very differently than at present, possibly replicating aspects of amplification used by right-leaning groups. A respondent with ENGO expertise explained:

"We need to look at those [media landscape] maps, to deconstruct or understand how they're working and what's the model here that we can learn from. And then we need to repopulate our side of the maps with nodal points, people, and resources, similar to what the right does, because we've got plenty of creativity, plenty of smart people, and motivations. But it's discipline, frequency, and finance that I think we need here." (Respondent, NGO, 2024)

The comparison in impact between these types of media engagement is stark—with right-populist messaging gaining ten times more posts and interactions on content than that of left-progressives—and there may be real repercussions in political terms.

"On the left, search keyword 'corporate profits' over the last year from Canadian pages, we found [at the most] 1100 posts and 115,000 interactions. Compare that with what we see on the right regarding the Carbon Tax over the same period: 8000 posts and over 2 million interactions with content that is misleading, inaccurate, manipulative, but also compelling and eminently shareable in terms of explaining how and why the carbon tax is driving inflation; explanations that are likely to play an important role in putting conservatives back into power at the federal level in the not-too-distant future." (Gunster, 2024, pers. comm.).

In this regard, the two sides of the climate debate are playing almost entirely different media games, certainly with different rules, and the left is falling short in reaching people with their message.

This calls for the environmental community to rethink its approach to communications, breaking down the organizational silos as well as breaking through moral scruples that exert inertia on messaging. In part, this means being more nimble, creative, willing to take risks in terms of communication approaches and strategies, and perhaps advancing a left-leaning populism. Collaboration and networked-thinking are key parts of today's populist era, and certainly when it comes to social media. Described by Gunster (2024, pers. comm.):

"A very compelling left populist narrative comes to exist as *a story without a public*, or at least in terms of Facebook, *a story without a public network sphere*, where its core elements could be circulated, amplified, intensified, channeled into a coherent political force… There is a need to be more open to *taking risks around collaboration*, risks that may even offend some people. To be nimble in some of these spaces, you need to take the brakes off a little bit… And that is something that's very difficult for an organizational left that is more committed to inclusivity with the DEI principle—which I'm very much in favor of—but sometimes it can lead to a more rigid, cautious form of communication that doesn't nimbly exploit the affordances of any particular platform."

The attitudinal shift here for the progressive left is from taking a cautious, conventional approach to messaging, to one that is more willing to experiment with a guerilla, populist tone that is a better fit for the pace and usage of social media. This could indicate a paradigm change for communications on climate—a shift involving simplifying messages with sharable memes, building connective leadership, and also ensuring messaging proceeds from an empathetic sense of where people are coming from in their daily concerns, stressors, and interests.

Discussion
This study attempted to examine some important yet less-understood aspects of the climate challenge, namely the interplay of sensemaking, resistance, and polarization regarding climate action. Here, we discuss this data, and consider insights for policy creation, communication, and public engagement across different sectors engaged in climate-related work.

This small scale, community focused study found two crucial tensions demarcate the topography of social contestation regarding climate work in BC—namely, geography and labour. In Canada, significant wealth was built on fossil fuels and other extractive industries. Now these same industries face broad labour transitions without a clear sense of what comes next or how to get there. The quotes presented here reflect some of the real-world sentiments and challenges being navigated within communities, some of which could be interpreted by negatively-impacted labour communities through a lens of energy transition 'winners' and 'losers'[57].

A segment of the population who had formerly been winners as part of Canada's fossil-fuel economy now carry disproportionate negative impacts in net-zero futures. Additional socio-political determinants of class, income, education, and geography (rural vs. urban) are also seen as contributing divisive factors of polarization. For example, extractive-resource workers and their communities tend to be more geographically-bound and thus bear the consequences of energy transitions more directly in so far as their livelihoods are tied to the resource economy, compared to climate proponents who tend to be more mobile, urban residents who participate in the informational economy and thus experience fewer direct impacts of net-zero structural change. Although there are calls for a 'just transition'—that is, greening the economy in a fair and inclusive way for everyone concerned, creating decent work opportunities, and leaving no one behind[58]—there are tensions, ambiguity and voids in how we will tangibly assert climate action in ways that do not exacerbate class, income and labour inequities[59]. The quotes above recount how workers do not trust the energy transition will be just. There is resistance to change because there is no clear 'next' to which their livelihoods can orient, nor do they feel included in this process underway to restructure the economy because of GHG emissions-driven climate change.

Climate change is highly abstract, requires systems-thinking, and takes place across large swaths of space and time—it is not easy to wrap one's mind around—and yet emissions-driven climate change is the moral force behind broad, sweeping structural changes to the economy and society as a whole. People are mentally and emotionally strained to make sense of what is happening. Added to that, collective action will require government regulations, global institutions and elite knowledge centers, all of which tend to inflame populist sentiments, further obscuring public sensemaking on climate. Across social media landscapes, anti-climate messaging tends to place fewer cognitive demands on audiences and instead utilize overly simplistic, binary, and emotional language. Such language is written and disseminated in such a way to foster fear, anger, and distrust in governments, policy and systems change, construe global elites in a poor light, and undermine scientific process[60]. This disinformation is amplified and shared with audiences already in search of an outlet for their genuine fear and frustration.

The sentiments and concerns of workers facing the sunset of the fossil fuel sector and changes to other high GHG extractive jobs—such as, fear, anger, anxiety, and sense of being left behind—are understandable. Yet seldom do climate-action plans factor such feelings into energy transitions. Thus, the social contestation surrounding climate action is also understandable and should now be expected when deploying large-scale transitions involving diverse publics. Respondents described how social contestation is arguably always present in society given that humans see things differently and have long forged forward across political differences. However, even more so in a climate context, lobbyists and influencers are using the public's genuine concerns to divide opinions for their own corporate agendas. In August 2023 alone, Canadian Association of Petroleum Producers (CAPP) funded approximately $76,000.00 in pro-oil and gas social media messaging through Canada's Energy Citizens[61], increasing affective polarization on climate transitions. Respondents reflected on how these differences become emotionally-charged, and how people then seek to 'lump together' in increasingly antagonistic 'us' versus 'them' configurations—a detrimental process for social wellbeing in general, and for collective-action planning in specific. It is the lumping together that shapes a culture war.

Leveraging this highly emotional moment are other vested interests who have assembled and mobilized the discord, bringing climate into the culture war. Respondents examined this in the BC and Canadian context of social media, supported by work of guest presenter, Gunster[60,62]. Two different ways of engaging social media were described across the political spectrum: from the progressive, more risk-adverse, fact- and DEI-checked, institutional left, which Gunster[62] describes as *self-referential*, to the populist guerilla-style, meme-based right, which Gunster[62] describes as *network-building and connective*. The right-populist media style works through repetition, forcefulness of performance, affect, scale, network curation, and political mobilization, requiring less complex reasoning and where emotions are galvanized against climate action. For example, the oft-repeated claim by climate doubters that the carbon tax is expensive for Canadians does not hold up when challenged by evidence—looking carefully with a full accounting, it is an overall net-gain for lower income households[63]—yet, thinking through a fairly complex, systemic taxation analysis is not what consumers of this media are interested in. Instead, the populist media approach does not require nuanced cognition or reasoning, nor does it desire people take time to consider evidence. This media approach capitalizes on the intuitive emotions experienced by people who may worry about being left out of, or threatened by, climate action. The use of fast-paced, easily digestible content helps impacted communities feel they belong to something after all, and a platform they can exert power, voice and agency in at a time when they feel helpless against 'job-threatening climate policies.' Pro-climate communications could attempt to compete by evolving their tactics to mirror that of the populist right, and/or they could engage on climate in a different, more relational manner; namely, one that is more empathetic to the range of emotions evoked by energy transitions in sectors disproportionately affected by net-zero transitions.

Graves and Smith[31] assert that the most relevant yet often overlooked tensions in Canada arise between an ordered-outlook and an open-outlook, which we consider here as the key contours of the culture war. The 'ordered outlook'—consisting of extractive populists rooted in resource-dependent industries and communities, and people with more right leaning conservative worldviews—seek a return to or maintenance of a 'traditional,' status-quo Canada (e.g. extractive, fossil-fuel powered economy and society). This contrasts with a progressive 'open outlook' that is open to fostering new systems and norms within Canada, such as a net-zero economy and low-carbon development, and could include proponents of what the conservative groups frame as 'woke' subculture. Woke, originating in Black culture and vernacular, was used to signal the need to be politically conscious and alert to the politics of race, racism, class, gender, inequitable systems and injustice, and has evolved into being associated with progressiveness and left-leaning political ideologies. Today, right-leaning and conservative groups use 'woke' pejoratively as an insult or out of frustration with perceived over-reaches of an identity-focused progressivism[64]. For example, the Conservative Party of Canada's Axe the Tax campaign webpage referred to "Trudeau's woke minister of Environment," in an attempt to associate climate policy in a derogatory framing for their audiences[65]. Graves and Smith[31] emphasize the threat of this cultural divide to collective-action problems like climate change:

"The problem of ordered populism may be the key policy challenge of this era. There is no path to solving the critical challenges such as climate change in a world irreconcilably driven into two incommensurable views of the future."

In light of the findings of this paper—specifically on the role of extractive populism which has expanded from being largely constrained to rural and remote regions to become something larger and national—we wish to briefly revisit the pandemic's impact on climate in the culture war in Canada. The Covid-19 response, another collective-action challenge recently faced by Canadians, carries lessons for climate change response, and their overlap was raised in several of the focus groups as bearing significance for current engagement on climate action.

It is important to recall that, in 2020, the pandemic response from federal government initially saw broad support, including 85% of Canadians supporting stricter physical-distancing measures and fines, 75% supporting limits on personal freedom of movement and 65% in support of use of cellphone data to track movements of those supposed to be quarantining[66]. Over the course of the pandemic, citizens directly experienced the extent to which state-power could extend into private lives in the name of the greater public good—with sustained social-distancing mandates, vaccination passports, business closures, and mandatory vaccinations in some employment sectors. Such exercises of governmental authority revealed the depth of discomfort that some Canadians have towards it and the lengths they are prepared to go to resist it. A striking example of this was the Freedom Convoy, which gathered its numbers as the convoy moved across the country to occupy Ottawa for several weeks in 2022, protesting that governmental pandemic regulations were violations of rights and freedoms[67].

The Freedom Convoy's occupation of Ottawa offers several key lessons for climate mobilization. Convoy organizers managed to tap into a prevailing sense of frustration and despair in the Canadian public, that was ripe and ready for channeling into action. Gillies[68] frames this event as the materialization of connective political action which is more individualized, technologically organized, and rooted in personal hopes, lifestyles and grievances, rather than a cohesive collective action or collective sense of identity. Beer[69] also describes how there were multiple occupations occurring within the Freedom Convoy as a whole. One that was influenced by disinformation and infused with aggression. Another included grassroot-participants with their families and children, who felt their concerns about negative impacts on their lives and livelihoods had been structurally ignored over the two-year pandemic. In other words, amongst the strident, dangerous voices, were valid, genuine worries of regular people; the latter may need to be better heard and included through cross-issue solidarity-building for effective climate engagement. In fact, Beer[69] chides pro-climate actors who dismissed those grassroots concerns and instead stayed within their own climate discourse (or "bubble"), and questions whether those grassroot-participants may have found other support when left in such a vacuum:

> "Could it be that the price of constantly talking to ourselves inside the 'bubble,' of allowing ourselves to be seen as just shouting at anyone outside, left a big chunk of the Canadian population outside the climate conversation and ready to be welcomed elsewhere?"[69]

Heightened emotions and sensitivities to perceived government overreach, both during and after the pandemic, were tapped into and redirected to oppose climate action policies. Frustration with Covid lockdowns shifted to frustrations with low-carbon urban planning, provoked by even modest impediments to single-occupant fossil fuel vehicles or investments in low-carbon alternatives such as active transportation, as seen in Oxford UK[70] or Edmonton, Canada[71]. Other climate policies have also received similar opposition in Vancouver in recent years since the pandemic[46,47]. While it might be tempting to attribute these challenges as isolated, disconnected occurrences of policy opposition, to overlook the overarching dimension of polarization that is driving this backlash puts collective climate action at peril. Atkins[40] compiles some of the climate-related interventions that have been dragged into the climate culture wars, including:

"1) **The internal combustion engine**: …government regulation and taxation of fuel use and emissions [that threaten] entrenched ways of life, primary means of transport, and form of identity and status for many.

2) **Low-traffic neighbourhoods**: …the pedestrianization of space or implementation of new traffic measures; [such as] the '15 min City' concept has become a key focus of protests and climate backlash.

3) **Carbon-heavy work**: …climate action requiring the closure of fossil fuel infrastructure will bring major changes in employment; …

[leading to] prompted vocal concerns about its impacts on workers and how policy is being enacted in a top-down manner.

4) **Objects made using plastics derived from fossil fuels**: …these include clothing, electronics, and cosmetics [including frustrations with bans on plastic bags and straws]."

Each one of these interventions have become sites of social contestation and face pushback to some extent in Canada. Amid and beyond these examples are many climate policies that were well-designed, evidence based, and defensible, but never got sufficient social and political support to be implemented.

Climate denial and pushback are not new. However, the pandemic provoked something noteworthy in the climate action arena in Canada when the backlash to the government's pandemic response carried over to the climate change response and polarized the social discourse on climate. While details differ, this overall trend is seen in many other parts of the world as well, such as, the UK[40], Nordic countries like Denmark, Finland, and Sweden[72], USA, Philippines and Brazil[73], and so forth. Resistance to climate action is now perhaps entering a new iteration, reinvigorated as part of the broader polarization and 'culture war' dynamics, where even the most measured and incremental forms of climate action are now reframed and resisted as affronts to human liberty and threats to perceived national 'tradition' and interest. The word 'climate change' and also references to 'carbon' have been symbolically loaded and weaponized in the public discourse. Respondents in our study describe a changed panorama of climate communications and engagement, where climate messaging can no longer stay inside a 'bubble', but must seek to find alignments and meaningful solidarities beyond the tensions of a culture war, and are considerate of and tailored to the sensemaking that was apparent in their audiences. These climate actors advise evolving beyond information-deficit and persuasion models of climate communication to acknowledge the extent to which climate action involves deep cultural change. Therefore, climate actors may be well advised to address climate action and communication as a cultural process, to meet people where they are at in their daily realities, and to provide an overall sense of inclusion, care, well-being, health and safety for folks, and in some contexts—interestingly—without even using the word 'climate.'

Bringing together climate actors and partitioners in the Vancouver and BC region, along with key-informant guest presenters, this study co-produced knowledge on 1) the axes of polarization in society at the present time, 2) the broader culture war that envelopes and informs those tensions, and 3) the role of social media with its disinformation and post-truth tendencies. We find a new terrain in which climate policies and climate action are occurring, one in which the emotional and sensemaking challenges regarding climate, new labour identities and broad economic changes, and the usage of media ought to be carefully and consciously factored into climate-action efforts.

Our findings have several implications for policymakers, practitioners, and actors that seek to engage the public on climate, namely the need for an approach that recognizes the extent to which climate exists within a broader culture war. This includes the toolkits and competencies to engage on climate effectively within that socio-psychological-political frame. Such an approach would bring greater nuanced care to climate policy-design and communications, specifically in regard to sensemaking, mis/disinformation in social media, as well as to the livelihood shifts and emotions involved in the material aspects of energy transitions. This paper has sought to provide insight and food for thought into the reasons why this is needed and hopefully provide some preliminary scaffolding on how this might be carried out.

Methods
Research design

In the first half of 2024, using a co-production approach with practitioners and key-informants working in climate action related fields, we convened an intersubjective process to examine the sensemaking challenges of climate action (e.g. just energy, economic, and ecological transitions). This was part

Table 2 | Sensemaking Climate focus-group themes

Session 1: Key sense-making challenges What are the relevant psychosocial complexities pertaining to sense-making about climate change by publics that would be helpful for participants in this CoP? The group brainstormed the key issues in public engagement on climate.
Session 2: Building Skills on the Psychological and Social Dimensions of Climate Action. What are key lessons learned over 20 years of climate change communication and what is needed now if climate engagement is framed as part of a transformation to sustainability? This covered material on psychosocial transformation and the qualities and processes of transformational engagement[75].
Session 3: Climate, energy and populism in Canada. What is the role of mis/disinformation, social media infrastructure, and polarization in a post-truth narrative context? Discussion about extractive populism in Canada, its use of the national identity and the 'outrage machine' on social media to amplify the uptake of beliefs.
Session 4: Axes of polarization regarding climate and the just transition. What does current research say about the drivers of polarization in BC? What contributes to this and how can it be mitigated? Discussion on how to deepen climate engagement to account for worldviews and ideology so to lessen the tendency to polarization, backlash and build cross-community climate collaboration.
Session 5: Final synthesis. Final synthesis session to collaboratively review overarching themes, discuss next steps, and highlight opportunities for collaborative authorship and feedback.

of a broader study on understanding and integrating the psychological and social dimensions of climate action. Using a community of practice (CoP) model, a series of five focus groups were held called 'Sensemaking Climate.' The objective was to better understand how psychosocial dimensions of climate change (e.g. worldviews, values, mental models, political ideologies) shape and influence climate perceptions in today's diverse, socially-complex, and post-truth context.

Focus group methodology is useful when seeking to understand shared meanings and collective opinions on a subject. The focus groups were facilitated to explore sensemaking challenges that practitioners encounter in the implementation of climate action, with an emphasis on the current socio-political narrative dimension present in media and social media. The choice to use focus groups brought participants into dialogue amongst themselves and thus managed to capture current trends in opinions and 'thick' descriptions on field-based realities. Each session lasted 2.5-3 hours, focused on particular themes (sensemaking challenges; psychosocial dimensions of climate action; energy and populism; axes of polarization and 'just transition'; final synthesis, see Table 2).

Co-produced knowledge on complex sustainability challenges has been found to increase "the likelihood that the resulting knowledge is perceived by participants and other end-users as credible (scientifically robust arguments and outputs), salient (relevant to user needs), and legitimate (the extent to which the information is perceived as fair and respectful of all actors)"[74]. In three sessions, key-informant guest speakers presented content on the session's theme which ignited group dialogue, combining cutting-edge academic work with real-world applications. We have sought to retain the dialectical process between guest speakers and the participants in how we reported the results. The specific geographic focus is British Columbia, Canada; but holds relevance for other liberal democracies.

Participants

The CoP involved a core group of 20 participants from across Vancouver and BC as well as four key-informant guest presenters. Participants were invited based on their connection to climate change networks in Vancouver, via word-of-mouth amongst colleagues and LinkedIn posts. Participants came from the public sector (municipal staff, policy analysts), academia (faculty and students), private, non-profit, and labour sectors; offering diverse experiences and perspectives on the discussion topics. Participants were also informed of benefits of attendance, including learning and networking, and that attendance was voluntary, participatory, hybrid, and designed with co-production in mind. This shared development allowed for session themes to be well-connected with professional mandates or obligations on climate issues, and findings to be relevant and valuable to a wide scope of practices. Participants signed informed-consent waivers and understood that personal data would be kept confidential and anonymized (Human Ethics ID H23-00028). Focus groups provide only limited confidentiality as they involve other participants, however during the sessions we agreed to the Chatham House Rule (i.e. to be able to share the information and knowledge you receive, but to keep the identities of other participants confidential). Responses from participants below include sector affiliation.

Analysis

The five sessions (Table 2) were recorded, transcribed, and then coded for themes using NVivo software. Themes were presented at a focus group, where respondents checked and clarified them. Respondents also reviewed drafts and checked their quotes. This in-depth member-checking helped to address possible bias or validity threats in the coding and data analysis. Findings were presented in two papers. In one, we share results on the human dimensions of sensemaking climate, such as emotions, identity crises, and values. Here, we report on results pertaining to certain axes of polarization that structure the broader culture war of which they are a part, and on the discursive dimension of communications in a post-truth social media context which is heavily influenced by these tensions.

Data availability

The qualitative research data generated and analyzed during the study are not publicly available due to the research ethics protocols but may be made available from the corresponding author on reasonable request.

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G.H.: Research design, project coordination, acquisition of funding, facilitation of focus groups, transcription, data analysis, member checking, wrote the main manuscript text, prepared figures, managed editing. M.W.: Assisted in research design, methods ideation and support, writing and editing. W.R.: Assisted in research design, methods ideation and support, writing and editing.

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The authors declare no competing interests.

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