

# Framing Document

Simon Langlois-Bertrand  
Normand Mousseau  
Alain Bourque  
Louis Beaumier

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## Introduction

In the fall of 2020, the Institut de l'énergie Trottier and Ouranos are jointly hosting the first national workshop of the Canadian Institute for Climate Choices. Entitled "Strategic Dialogue on Climate Change Policy Research in Canada", this workshop aims to:

- **Foster constructive dialogue** on critical climate choices facing Canada
- **Identify research priorities, opportunities for collaboration, and knowledge gaps** in Canada's climate change research and policy landscape
- Help inform the **research agenda** for the Canadian Institute for Climate Choices
- **Identify opportunities** for complementary research across organizations
- **Strengthen relationships** among top climate policy researchers and thinkers across Canada

This framing document is intended to help workshop attendees become acquainted with the main themes of the event and to support and enhance effective and informed participation. The five themes described below will serve as starting points for the panels and discussions that are at the core of the workshop.

### Survey: gaps in climate policy research in Canada

The themes identified below emerged from a synthesis of a June 2020 survey distributed to over 500 Canadians active in climate change work. The 125 respondents identified key gaps and priorities for climate policy research in Canada. A summary of survey responses can be found at the end of this document.

### Workshop themes

Four encompassing themes were developed to initiate and foster the discussions needed to achieve the workshop's objectives and address gaps in climate policy research across Canada. These themes will be debated and refined in Zoom breakout sessions and through web-based discussion threads over a two-week period ahead

of the forum. The fifth and last topic is designed to cut across all others, and will be discussed during the two-day forum at the end of the workshop. These themes are presented below, with a brief description that may serve as the starting point for discussions among participants.

- Theme #1: Cohabitation in governance: a need for new policy approaches?
- Theme #2: Social and equity dimensions of low-carbon transitions and adaptation to a warming world
- Theme #3: Integrative strategies – realizing transformations through the successful implementation of climate policy
- Theme #4: Structures and tools – what is still missing to inform climate policy and action? (web-based discussions only)
- Forum discussion: natural resource extraction and low-carbon transitions in a warming world

## **Theme #1: Cohabitation in governance: a need for new policy approaches?**

Climate governance in Canada is complicated by the political and constitutional context in which policymaking takes place, which results in challenges to designing efficient cohabiting policies able to deliver when coordination or collaboration is not always ensured. In order for policy to help Canada reach its GHG targets, build resilience, or successfully address barriers to innovation, policies must be designed to succeed despite the perennial challenges that often characterize governance in Canada. These challenges include jurisdictional competition over policy areas related to climate objectives, parallel policies from different orders of government, and varying regional politics and preferences combining to create significant governance challenges.

In some cases, disagreements over jurisdiction despite common objectives can lead a key policy into gridlock or significant difficulties. For instance, the role of – and actions taken by, or lack thereof – various governance levels is increasingly identified as a major challenge in disaster management (floods, forest fires, etc.). The federal carbon pricing policy, one of the key components of the government’s Pan-Canadian Framework on Clean Growth and Climate Change, has faced four court challenges by provinces, with others intervening in the cases as well. These disagreements have now reached the Supreme Court, despite the fact that most provinces involved agree in principle over the necessity of having some form of carbon pricing in place.

Other cohabitation challenges may be less politically salient but nevertheless lead to ineffective arrangements. For instance, electricity policy has historically been the domain of provinces, which resulted in the development of transmission and distribution grids within provincial silos. In some cases, the virtual absence of integration across provinces, for instance, can lead to inefficiencies affecting efforts to reduce overall GHG emissions from the sector (Pineau and Langlois-Bertrand 2020), or to clashes over the siting of transmission lines over Indigenous land. In contrast, other regions in North America have used regional integration policies

successfully to achieve climate objectives. One example is the eleven northeastern U.S. states participating in the Regional Greenhouse Gas Initiative, a cap-and-trade system intent on reducing emissions from electric utilities. The arrangement resulted in a pooling of resources and more coordination across the region, which helped the sector achieve GHG reductions.

In view of these challenges, it is clear that further research is needed to find ways to better integrate policies developed, often independently, by various orders of governments in order to accelerate the transformational changes needed to achieve climate targets and adaptation objectives.

Cohabitation is not just about concurrent orders of government designing and implementing climate policies, but also about coherence among topics and sectors, or across government departments and agencies within a given government. A lack of coordination can lead to clashing objectives and approaches, but also to negative impacts from interactions among different policies. There is a need for a better understanding of whether parallel policies produce cumulative benefits or end up adding to costs without a substantial impact on the outcome (Bhardwaj et al. 2020; Hammond et al. 2020; Rogge et al. 2019). For instance, the presence of a combination of carbon pricing, clean fuel standards and electric vehicle purchase incentives, or of mitigation and adaptation policies, may have unintended results with regard to the objectives of each of these policies. While disaster risk reduction policies were expected to limit the cost of natural disasters, numerous territorial and economic development policies have acted in the opposite way and increased the vulnerability of Canadians.

*Excerpts from survey responses:*

*"How do policies and regulations interact, such as emissions pricing and fuel standards – to what extent do they offset/amplify/mitigate emissions reductions, or increase costs without any benefit?"*

*"The alignment capacity (...) and the facilitating of integration in climate governance is a topic emerging strongly elsewhere. It would be pertinent to consider it more here as well."*

There is also a need to understand how best to approach adaption, mitigation, clean growth and integrated policy design in this context of competing, parallel and cross-cutting approaches and philosophies, and how to leverage the various interests and responsibilities among various governments and institutions to improve collaboration. Attention to cohabitation also raises the importance of increasing research on new policy approaches to address complex or neglected issues. Examples include: non-linear transitions, the alignment of climate policy with circular economy principles, the fostering of the sharing economy to optimize idle energy use, transformative pathways to a steady-state economy, the integration of concrete sustainable development objectives into long-term economic development, or improving education curriculums for youth or policymakers. Research under this theme could help with the elaboration of more concrete long-term pathways, plans, and visions of the future, especially to 2050, to inform policy.

*Excerpts from survey responses:*

*"How do we effectively integrate the incremental costs of climate resilience into existing and planned investments that are not solely focused on climate resilience?"*

*"A suggestion would be to spend more time on "Adaptation Pathways" framing - per Wise et al., 2013. Developing this concept in applied Canadian settings could be a useful contribution to move beyond "risk-based" and "mainstreaming" framings of adaptation."*

*"There is also a need to create research that will further align this government's commitment to the circular economy with its climate ambitions."*

*"What kind of Canada are we trying to create for 2050 (more fundamental reflection than ecofiscal solutions)? This needs to be transformative, not incremental."*

Under this theme, several respondents prompted a discussion for additional research to support and include Indigenous governance as integral to climate-based solutions (Vogel and Bullock 2020; Whitney 2019), with the aim to maximize stewardship of the environment through better governance agreements, for instance by clarifying Indigenous sovereignty or ensuring robust Indigenous government jurisdiction.

*Excerpts from survey responses:*

*"Indigenous nations are/will be key players in mitigating and adapting to climate change. Indigenous governance needs to be acknowledged as a driving factor in addressing climate change. For clarity, this is not an issue of capacity in Indigenous communities, education, etc. This is an issue of Indigenous sovereignty. Indigenous sovereignty protects the environment (e.g., 80% of world's remaining biodiversity is on Indigenous lands). Canadian governments (federal, provincial, territorial) need to embrace Indigenous sovereignty and robust Indigenous governance jurisdictions, via self-government agreements and other mechanisms, in order to ensure that Indigenous nations can properly steward the environment and address climate change."*

**Example of questions to be discussed:**

1. What framework can be used to ensure effectiveness and efficiency of climate policies in the Canadian context?
2. What are the benefits of increased collaboration within the same order of government or among orders of governments across Canada? How is it possible to drive this collaboration?
3. What new policy approaches could be designed to achieve GHG 2030 targets and 2050 objectives while also incorporating other social and economic priorities like skills development, job creation, equity and inclusion?
4. Is there any current policy – or group of policies – that could be made more effective by giving proper attention to the cohabitation reality?
5. How can policy cohabitation challenges be addressed in order to improve the management of the transformations to Canada's natural resources sector expected as a result of climate-related efforts?



## **Theme #2: Social and equity dimensions of low-carbon transitions and adaptation to a warming world**

Climate change and low-carbon transitions have highly unequal impacts on various demographics, making transitions more difficult for some communities that also have little voice in choices made. Survey respondents provided several examples of such groups, including low-income, remote, northern, Indigenous, resource sector transitioning workers, women, racialized people, health-compromised, very young, elderly, urban legacy communities with existing burdens of pollution and poor housing, communities with few readily available substitutes in relation to carbon pricing, or ones affected by clean tech trade-offs that may exacerbate poverty. These impacts are the result both of climate change and of the policies put in place to ensure proper mitigation and adaptation to this change. Both categories of effects result in negative impacts for some populations in particular.

On the one hand, climate change itself affects different populations unevenly. For instance, adaptation challenges are unevenly distributed and greater for groups that are more exposed (flood-prone, coastal zones) or more vulnerable (socioeconomically disadvantaged in large urban areas) to the increasing impacts of climate change. When these populations also happen to live in remote, small rural centers, and/or experience socio-economic challenges due to current and historic marginalization policies, the limited local means to address the adaptation challenge can make it challenging or insurmountable.

On the other hand, policies designed to improve resilience or to mitigate climate change by accelerating low-carbon transitions can have unintended consequences. For instance, the coal phase-out in the electricity sector across the country, in addition to reduced demand for coal worldwide due to mitigation objectives, results in a significant number of coal mine workers being put out of work. Greening of urban neighbourhoods can lead to gentrification, displacing vulnerabilities instead of solving them. Additionally, such industrial transformations have dire consequences for populations living in areas where employment opportunities

outside of these industries are scarce. Another example is carbon pricing policy, which can have a disproportionate impact on populations without the means to substitute energy sources or products, such as in northern regions or in low-income urban populations.

As a result, specific demographics are especially vulnerable to these unintended consequences. Some policies are implemented to address these inequities, such as the Canadian Coal Transition Initiative, which supports business development and re-employment initiatives in localities with a high number of laid-off coal industry workers. Similarly, under the BC climate action tax credit, low-income individuals and families are offered a tax-free payment to help offset the carbon taxes they pay.

Research should provide more information on how to design effective climate policies in a way that is both inclusive of vulnerable or underrepresented groups, and that ensures that specific attention is given to this vulnerability. This also includes intergenerational equity, and the importance to integrate youth perspectives into all aspects of climate policy.

*Excerpts from survey responses:*

*"We tend in Canadian politics/policy to privilege region over other cleavages in Canadian society (income, race, gender). Regional fairness is an issue but not the only one."*

*"Research and policy should help address the multiple dimensions of vulnerability: exposure, sensitivity, adaptiveness and the different ways vulnerable people are affected (e.g. low-income buildings and heatwaves, economic disruption and jobs, flooding and women's shelters, indigenous community housing/food sources/health)."*

### **Examples of questions to be discussed:**

1. What are the key priorities for climate policy and research in trying to identify vulnerabilities to the impacts of climate change and related policies?

2. In linking adaptation, mitigation and clean growth measures to social justice, what are ways to address real or perceived risks?
3. How can equity dimensions be better integrated into climate policy choices, to ensure that sufficient space is given to various perspectives, for instance youth, BIPOC (Black, Indigenous, People of Colour), French-speaking, etc.?
4. In contrast to negative impacts, are there collateral social benefits that come from the implementation of climate policies?
5. How can policy be designed to address the challenge of single-industry resource towns, where these industries are affected by climate objectives?

### **Theme #3: Integrative strategies – realizing transformations through the successful implementation of climate policy**

The successful implementation of climate policies is often hindered by a neglect of the need to consider simultaneously technological, behavioural, and financial dimensions to the changes proposed. Despite the importance of innovation in achieving adaptation, mitigation and clean growth objectives, limited considerations for behavioural and financial dimensions often result in constraints in the deployment of environmentally performant technologies and innovations, even when policy and regulatory obstacles are successfully addressed.

For instance, a narrow focus on innovation may neglect that a significant barrier to achieving adaptation, mitigation or clean growth objectives in this situation is the cost and financing of technological transformations, and not merely the search for new technologies. One such example is the deep decarbonization in the buildings sector through high-performance retrofits, where a significant amount of effort is devoted to fostering technological innovation, while much less is done to understand the financial barriers to the deployment of existing technologies on a mass scale. In order to establish the parameters of a successful implementation of policies aiming to increase the use of technological innovations in the sector, a better understanding and assessment of the scale of investments required to finance the adoption of existing solutions is necessary.

An adequate consideration for behavioural dimensions beyond changing individual preferences is also essential to the design of successful implementation strategies. For instance, the German renewable energy program contributed to increasing the share of renewables in power generation from less than 5% to close to over 35% since the 1990s. While the main objective of the program was to prop up the development and deployment of wind and solar technologies, it was part of a strategic political economy rationale for the program as a whole, that targeted both individual/consumer behaviour and investor preferences. This included the shutting down of nuclear electricity production, improvements to energy independence, and

the development of a domestic renewable industry, all necessary to build strong and enduring public support for the program. Adequate policy design was supplemented with strategic aspects in its implementation, in order to change investor preferences as well as consumer ones, helping the country achieve the renewable electricity generation objectives. A better understanding and integration of these broad behavioural aspects is necessary to eliminate or reduce implementation obstacles, as well as seize opportunities brought about in demographics or through changing individual preferences, in relation to the political economy of climate policies.

In light of these considerations, more research should help develop operationalization strategies for climate policy that are tailored to address Canada's specific situation and challenges, and which will help make the substantial corrections needed to both achieve 2030 GHG targets and decrease vulnerability to the impacts of unavoidable climate change. This would help fill gaps in research on the implementation of policies intent to spur the development and use of environmentally performant technology and infrastructure, as well as set standards that ensure resilience, innovation and reactivity to disruptive technologies. A long list of areas were brought up by respondents as requiring more attention from research and policy, and where financial and behavioural aspects need to be better understood. For instance, respondents alternatively pointed out the hydrogen economy, integration of flood proofing and other resilience into energy efficiency strategies, the importance of retrofits and re-use of existing infrastructure and equipment, modular *Passive house* construction, battery storage, natural sequestration, high tech heat recovery, and CCUS beyond its primary use at this point for enhanced oil recovery.

*Excerpts from survey responses:*

*"Less on new tech, more on existing tech deployment to scale (far too often, 'clean growth' research focuses on new technology development and innovation. While important, those areas are much less important to decarbonization efforts than overcoming the policy, cultural, and financial barriers to rolling out proven and*

*existing technologies (renewable energy, smart grids, efficiency, vehicle electrification)."*

In relation to behavioural aspects, respondents underlined the importance of better understanding how to change consumption patterns (or reduce consumption), convince populations of the long-term benefits of short-term preparation through adaptation policy, and identify and leverage youth enablers to climate action. All of these, in addition to policy stability and coherence, can help improve the political economy of climate policies, by increasing confidence and engagement from individuals and business actors.

*Excerpts from survey responses:*

*"Behavioural change is the top mitigation research gap and opportunity. We have seen that we can reduce emissions, but it is not clear how to incentivize this behavior in a sustainable manner."*

*"Adaptation: what do people need to change behaviour, to understand that preparation today pays dividends in the future?"*

*"The stability and coherence of public policy plays a significant role in determining the confidence of the private sector in pursuing new carbon credit related business models and often shapes investment decisions in infrastructure key for emission reduction. The lack of coherence in public policy and a lack of confidence from the private sector that policies are designed to create the most effective and lowest cost emission reduction policy has created lost opportunities for the private sector to be further engaged in the transition"*

With regard to financing aspects, respondents highlighted that research could help establish the projected scale of investment required over the next three decades, and how to align financing from banks and institutional investors with climate targets.

*Excerpts from survey responses:*

*"Canada's banks, insurance companies, asset managers and pension funds hold massive pools of capital and are critical to financing the clean growth transition and enabling Canada to meet its climate commitments. Just like governments must align their policies with Canada's climate commitments, so must investors and financial actors. (...) Canadian banks failing to align their investment and financial strategies with the Paris Agreement alone are enough to prevent Canada from meeting its climate targets. "*

The challenge to integrate technological, behavioural and financial aspects in the operationalization of climate objectives is key to the successful implementation of strategies that result in the transformative changes necessary to achieve climate policy targets.

**Example of questions to be discussed:**

1. What are the advantages, if any, in linking technological, behavioural and financial issues? How do these advantages differ among sectors?
2. Given that these questions are often managed in different ministries and even at different levels of government, what is the impact on policy development?
3. How can a strategic approach be employed to integrate these three dimensions to ensure the successful operationalization of climate objectives?
4. What are the main behavioural barriers to the widespread adoption of climate mitigation technology, and how can policy design ensure that these are overcome in a sustainable manner?
5. What are some emerging behavioural trends that could leverage the adoption of climate mitigation technology?
6. How can policy be made resilient so as to be reactive to disruptive technologies?
7. What is needed to make private investment better aligned with climate targets?
8. How can technological, behavioural and financial dimensions be integrated to address the challenges of national mitigation policies targeting the natural resources sector?

## **Theme #4: Structures and tools – what is still missing to inform climate policy and action?**

The fourth theme aims to discuss, in this case only through web-based discussions, the need for structures and tools to support research on climate policy and action. Despite the numerous and significant research efforts underway throughout the country on climate issues, there is no umbrella structure to facilitate the production, sharing and use of data and research results, as well as foster the interdisciplinary research required to address the multiple dimensions of climate issues. The development of such structures and tools could help the research community contribute to better climate policy and action.

Other jurisdictions have experimented with interdisciplinary structures for climate research. One example is the United Kingdom's Energy Research Center, which regroups researchers at 20 different institutions working on how to address the challenges and opportunities in relation to transitioning to a net zero energy system. The interdisciplinary approach allows for research projects to be conducted on a variety of complex, multidimensional issues, through such activities as an energy modelling hub, a social engagement observatory, and work on energy, environment and landscapes.

In Canada, Ouranos represents an example of such a structure focusing on climate resilience and adaptation, acting as an innovation cluster involving more than 400 researchers and relevant actors who study the impacts of climate change, relevant socio-economic and environmental vulnerabilities and identify optimal adaptation strategies. Being a boundary organization, Ouranos also facilitates the financing of interdisciplinary and multi-institutional projects in order to better inform policymakers and support adaptation to anticipated climate change.

The development of better structures and tools would help enhance data usage, production and sharing – including through modelling efforts – to refine knowledge on adaptation, mitigation, and clean growth as well as contribute to a better



understanding of the links between well-being and growth. The focus in this theme is on identifying what is needed to help the research community address gaps and deliver more to support the efforts to achieve the desired changes.

For instance, respondents pointed out the need to increase the sharing of standardized data, including at subnational levels whenever possible, on issues where data is lacking. Similarly, some respondents emphasized increasing the number of modelling efforts to help obtain more refined understandings of a variety of longer-term scenarios, for instance low growth/degrowth, projected costs of secondary impacts in relation to adaptation, how to maximize primary and co-benefits from public investments, development pathways for technologies, or planning for Canada's changed position in the world after fossil fuels and quantifying benefits from diversification.

*Excerpts from survey responses:*

*"Comparing how effective various mitigation policies (such as carbon tax, output-based pricing, cap and trade, renewable standards, etc.) are in reducing emissions and compare the negative economic and distributional impacts. Currently there is not enough empirical evidence to show which policy better keeps the right balance between the economy and environmental outcomes. This could help reducing conflicts between the federal and some provincial governments regarding the right approach to climate policies and could reduce redundant administrative costs related to court challenge"*

*"There are many gaps in data monitoring and availability that makes many adaptation metrics difficult to track."*

*"The impacts on emissions resulting from land planning should be possible to estimate from modelling."*

This topic is therefore centered on the research itself: what are the structures and tools needed for researchers to be able to answer the fundamental questions linked to achieving climate objectives?

Given the survey results, there should be a special mention of the need for research to help develop a working definition of human well-being, with data that allows for the clear identification of overlaps and disparities when compared with GDP.

*Excerpts from survey responses:*

*"What are the impacts of climate policies on well-being for different groups and socio-demographics?"*

*"How can research help define broader measures of wellbeing/progress (compared with GDP) that capture satisfaction, environmental health, resilience, etc."*

**Example of questions to be discussed:**

1. What is needed for researchers to be more effective in climate research?
2. Beyond the research questions developed in the thematic workshops, what should the research community focus on, and what is missing to do so?
3. How can climate change-related data sharing and use be improved across both policy and research communities?
4. What should be the priorities for new modelling efforts to fill gaps in knowledge for policy design?
5. What is required to measure progress on well-being in a way that goes beyond GDP?

## **Forum discussion: natural resource extraction and low-carbon transitions in a warming world**

The two-day, concluding forum will provide a recap of the four themes discussed throughout the event. Subsequently, there will be an integration session that provides an opportunity to discuss a specific perspective on the themes discussed, applying the reflections made in working groups. This topic is presented below.

Canada's large natural resources sector contributes significantly to its prosperity. From a national perspective, this importance is illustrated by the fact that 49% of the value of total merchandise exports were natural resources exports in 2018. 7.9% of GDP came from a direct contribution of the energy sector, 3.5% from minerals and metals, and 1.4% for forests. When including indirect contributions, natural resources accounted for 17% of the country's GDP, with 1.71 million people working in the sector.

Furthermore, in order to truly appreciate the impact of the sector, it is essential to understand that this contribution to the economy is not spread evenly throughout the country. There is a large number of small communities which can be characterized as single-industry resource towns, where the economic base is dominated by the extraction and primary processing of natural resources (Hayter 2008). According to estimates from NRCAN, 909 communities throughout the country were economically reliant on at least one natural resource sector (NRCAN 2019).

Consequently, it is essential that more research address the profound economic transformations that will result from climate change and related (domestic and foreign) policies. This would help understand the possibilities for changes to the role of the Canadian oil and gas, mining, forestry, agriculture, and fisheries sectors (MacArthur et al. 2020). The transformation of these sectors also implies that Canadian regional economies, jobs and exports will be very different in the future, which underlines the importance that natural resource extraction takes in this

evolution. Identifying the opportunities for diversification is key to developing a strategy to maximize prosperity in the upcoming years.

*Excerpts from survey responses:*

*"What will Canada export in the future? Obviously, a tough question looking far into the future. But I think there's a tendency (e.g., for NGOs, but average citizens too) to assume that clean energy or clean energy tech (solar panels, windmills) will supplant fossil fuel exports. Could CICC contribute to a more informed conversation about Canada's other comparative advantages to inform that debate?"*

*"Canada is more dependent on agriculture than most other OECD countries and is arguably one of the leaders in climate mitigation but none of that seems to be captured in the national policy. If Canada doesn't lead, whatever becomes the norm may not work for our industry. Similarly, we are heavily invested in mining, oil/gas/pipelines and forestry, but have few national efforts focused on getting mitigation policy to work well in those sectors. Other heavy emitting sectors are important, but we are not necessarily the only or most likely place to develop the models and technologies that will drive mitigation."*

The Canadian economy will be significantly transformed as the world achieves its targeted reductions in GHG emissions and adapts to a warming world. In this transforming economy, influenced by changing global conditions, some natural resource sectors will see growth, others will experience reductions; all will have to modify their current operations.

**Example of questions to be discussed:**

1. Can and should the natural resources sector survive and even thrive in a net zero Canada?
2. What challenges does it face?
3. How can the natural resources sector best support the transition to net zero?

4. How can the thinking about themes 1 through 3 help address the challenges faced by this sector?
5. How can Canada resolve the tension between the emission intensity of most natural resource sectors and objectives to decrease emissions?
6. How can Canada grow the less consumptive part of its economy – for instance health care, education, tourism, information and communication technologies, etc. – as part of a transition to a more sustainable economy?
7. What are the adaptation priorities for the agricultural sector?

## General results from June 2020 survey

The themes covered by the workshop emerged from a synthesis of a June 2020 survey distributed to over 500 Canadians active in climate change work. The 125 respondents identified key gaps and priorities for climate policy research in Canada. This section presents a summary of answers and ideas provided by respondents.

### **Question 1: The challenge of illustrating the complexity of climate change policymaking**

Question 1 asked respondents to comment on a visual representation of the complexity of climate change policy, which tried to capture sectors, subjects/approaches, regions, and actors. While several respondents noted that the Rubik's cube image conveyed the complexity and multiple dimensions to climate policy, many pointed out lacks or inconsistencies that require attention.

With regard to sectors, several respondents questioned the use of infrastructure, economy, and ecosystems as sectors, and suggested clarifications. Many also asked why energy, agriculture and transportation are identified explicitly, but not other sectors key to climate policy efforts, like heavy industry, resources and mining, forestry, manufacturing and waste. A clarification of the distinctions in this dimension of the cube would also help situate key activities more explicitly, notably whether each of electrical power generation and resources would fall under energy or under infrastructure.

The actors dimension prompted similar questions about lacks and needs for clarifications. First, it was often not clear what the private sector entails, with some respondents suggesting breaking out NGOs and ENGOS, as well as small business actors. Second, academia and research institutes should be clearly identified. Third, the term "community" left many respondents curious as to what it encompasses. Some suggested a clarification of these actors with a high-level category like civil society (regrouping NGOs, research institutes and academia, as well as citizens groups or underrepresented demographics). Finally, a recurring suggestion was to

explicitly identify actors from the financial sector, given their importance for climate-related efforts.

Concerns with the regions dimension mostly related to the lumping together of certain provinces, notably the Prairies, given their very different profiles. Overall, the main recurring concern with this dimension was the overreliance on provincial and territorial jurisdictions, while there is an absence of key regional distinctions relevant to climate policy. As a result, there were several suggestions of distinctions seen as more meaningful and useful for climate policy, like urban vs. rural regions, or the more general fact that many similarities and distinctions across local contexts do not correspond neatly to provincial boundaries and could be identified explicitly.

Beyond these specifics, respondents shared concerns with aspects not well covered by the visual. In general, several respondents pointed out that it looked like a technology policy framework and not a social change policy framework, whereas both were needed for improving climate policy. For instance, there is no mention of culture, societal norms, education, or behaviour change. Moreover, the cube does not convey the varying time horizons aspect to climate policy. Finally, many saw the term “clean growth” as problematic, and suggested instead to use human well-being.

Although a new version of the visual will not be presented during the event, the limitations highlighted by respondents contributed to the elaboration of the themes that will be covered.

### **Questions 2-5: The need for targeted and integrated climate change policies**

Survey respondents were asked to identify what they thought were the main research gaps in climate policy with regard to adaptation, mitigation, clean growth, and integration (See Appendix A for definitions). Common themes from the survey respondents are re-worked below into sessions for the Strategic Dialogues on Climate Change Policy Research in Canada workshop.

One recurring topic is the need for research to contribute to a better understanding of how policy should deal with the temporal dimension of climate-related efforts. For instance, several respondents highlighted the need to rapidly develop a more refined set of scenarios to 2050 and/or to a net-zero economy, while other pointed out the utmost importance of significantly increasing efforts to achieve 2030 targets.

A second common thread running across respondents is the insufficient attention to transformative change. Respondents often pointed out that most climate policy research focused on incremental change, and neglected the fact that disruptive innovations or transformations are likely to be game-changers in the future of efforts to deal with climate change. Research should help inform policy that addresses this aspect, both with a technological perspective (e.g., how to accompany various actors and groups when a disruptive technology gains momentum rapidly, or how to address potential negative impacts of the technology on the climate) and with a socio-economic perspective (i.e., how to address the socio-economic impacts of the disruption).

### **Question 6: Narrowing down priorities in climate policy advising**

Question 6 asked respondents to rank the top five highest-priority considerations for further discussion on research and analysis to improve the design and/or implementation of Canadian climate policies. The list consisted of 12 such considerations, and question 7 offered respondents the possibility to add further topics or comment on the list and their attempt at ranking. The overarching point often raised by respondents in question 7 was that it was very difficult to rank items in the list, both because all 12 considerations were key to effective climate policy and because several topics were interdependent. This is reflected in the results of the ranking, as no issue in the list for question 6 was chosen by less than 30% of respondents as part their top 5, illustrating the importance of each issue across the spectrum of stakeholders surveyed.



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## Appendix A - Definitions

**Clean growth** is about the connection between climate change, the economy, and human wellbeing. It seeks out approaches that can simultaneously grow the economy, reduce emissions, improve resilience to a changing climate, and make Canadians better off.

**Mitigation** is primarily about reducing greenhouse gas emissions.

**Adaptation** refers to actions that prepare for or respond to the impacts of climate change - including, for example, floods, forest fires, and permafrost thaw. Resilience, or the capacity to recover quickly from difficulties, is a key factor in effective adaptation given the diverse socio-economic and historical inequities faced by many Canadian populations.

**Integration** seeks a more strategic perspective on policy design that takes into account, in a unified fashion, mitigation, adaptation, and clean growth.