WHAT IS "TRANSITION"?

THE TWO REALITIES OF ENERGY AND ENVIRONMENTAL LEADERS IN CANADA

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EXECUTIVE SUMMARY

Canada's commitment to reducing greenhouse gas (GHG) emissions by transitioning its energy system to a low-emissions configuration is one of the biggest challenges facing the country. Canada is the world's fourth largest producer of both oil and natural gas, and faces growing imperatives to reduce emissions to mitigate the effects of climate change. A transition will require reaching a durable balance between these and other imperatives (security, affordability, reliability, etc.).

The language of 'transition' has become a buzzword in policymaking, public discourse, headlines, and academic literature. But often, a precise definition of the term is missing from accounts. Does everyone assign the same meaning to the word 'transition'? If they don't, what are the implications for Canada's energy future in an age of climate change?

Language matters in polarized environments, yet there is scant research on the contribution of 'transition' language to polarization over energy and environmental issues in Canada.

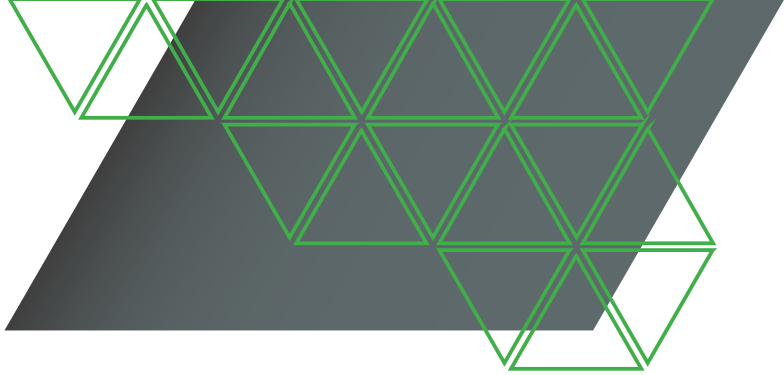
Against this backdrop, this study centres on two research questions addressed through interviews with over 40 senior energy and environmental practitioners in Canada:

1. How do various actors in Canada's energy and environmental communities differ in their understanding and use of the term 'transition'? What meanings are shared, and where are the key points of divergence?

2. What can we learn from these findings that can improve our understanding of and help to overcome controversy and fragmentation in Canada about the country's energy future in an age of climate change?

Two key findings emerge from the research. First, a majority of energy and environmental leaders interviewed use the language of transition when speaking about Canada's energy future. Yet, many find the term too vague, non-inclusive, or even pejorative to be useful. Others do not assign negative meanings to the term but feel that the word 'transition' is a euphemism that vastly understates the scale of changes Canada must make and that masks real differences of opinion.

Second, the research revealed that senior leaders have vastly different understandings about the changes Canada should make to address climate change. Interviewees strongly disagreed about the scope and pace of change to Canada's energy economy and society more broadly in response to climate change. Analysis of the interviews revealed two 'ideal types' of narratives about transition. No individual's views represent exactly one or the other narrative, but participants' perspectives were generally closer to one narrative than the other. We call these two narratives 'Reality I' and 'Reality II'.



Reality I is more common among participants from industry, government, and regulatory agencies. Participants occupying Reality I perceive transition as a measured process of change, focused on reducing GHG emissions. According to this view, natural gas, nuclear power, renewables, carbon capture technologies, and energy efficiency should all be part of Canada's energy portfolio. Greater reliance on these energy sources, together with other innovations in the oil and gas sector, will slowly but surely decouple economic activity and energy production from GHG emissions. Oil and gas will therefore continue to play an important role in Canada's energy future, and needed changes will occur largely as a result of market forces.

Reality II is more common among participants from research, non-government and Indigenous organizations. From this viewpoint, reducing GHG emissions is a key component of transition, but is situated within much larger changes to political and economic systems. Canada's oil industry faces certain phase-out in this view due to decreased demand for the product as well as the need to drastically reduce fossil fuel use to meaningfully address the 'climate crisis'. Transition must occur in the next 10 to 20 years based on scientifically derived emissions targets. Key drivers for transition in this narrative are policy interventions, market forces, and increasing social demands in the face of climate change.

Crucially, both groups identify themselves as 'realists' about transition and believe that their views constitute the practical, sensible approach to transition. Multiple participants mentioned that the country lacks 'honest conversations' and transparency about the reality of transition – but they had different realities in mind about which they felt Canadians needed to be more honest.

These findings are crucial for those interested in addressing polarization in Canadian energy and climate debates. Moving beyond polarization will be nearly impossible if conversations about Canada's energy future fail to acknowledge critical differences between these two visions. They suggest that those convening dialogues or developing policy about Canada's energy future should begin by focusing on areas of convergence between Reality I and Reality II and attempting to build bridges between them.

BOX 1: POSITIVE ENERGY'S RESEARCH ON POLARIZATION

The second three-year phase of Positive Energy (2019-2021) aims to address the following question: How can Canada, an energy-intensive federal democracy with a large resource base, build and maintain public confidence in public authorities (federal, provincial, and territorial policymakers and regulators, Indigenous governments, municipal governments and the courts) making decisions about the country's energy future in an age of climate change?

Three fundamental questions form the research and engagement agenda. How can Canada effectively overcome polarization over its energy future? What are the respective roles and responsibilities between policymakers, regulators, the courts, municipalities and Indigenous governments when it comes to decision-making about its energy future? What are the models of and limits to consensus-building on energy decisions?

Understanding the various dimensions of polarization over energy and environmental issues is fundamental to addressing roles and responsibilities, and models of and limits to consensus-building. And yet, the extent and consequences of polarization over Canada's energy future are unclear. Positive Energy's research and engagement on polarization seek to understand polarization as a general phenomenon affecting policies of all sorts, to assess the nature and extent of polarization when it comes to energy and environment, and to offer strategies to address or navigate polarized contexts.

The polarization research programme includes the following projects:

- A literature review on polarization as a general phenomenon: its causes, severity and consequences
- Original survey research to measure and track polarization among decision-makers and the general public
- Interviews with energy and environmental leaders to understand the role of language and terminology: unpacking assumptions and interpretations of the term "transition"
- Exploring attitudes and the role of values when it comes to perceptions of energy technologies (renewable energy technologies and carbon capture, utilization and storage)
- Identifying "What Works?": Case studies of organizations and programs designed to address polarization

INTRODUCTION

Canada's energy future remains a very contentious topic. The country's commitment to reducing greenhouse gas (GHG) emissions by transitioning its energy system to a low-emissions configuration is one of its biggest challenges. Canada is the world's fourth largest producer of both oil and natural gas and the world's seventh largest producer of renewable energy (NRCan 2019a; 2019b). The energy sector accounts for 11 percent of national GDP and directly employs 269,000 people, 62,000 of whom work in oil and gas (NRCan, 2019c). Canadian energy continues to bring many opportunities for economic development both at home and abroad. At the same time, extreme weather events made likelier by climate change are on the rise. Eight of Canada's 10 costliest years for extreme weather have occurred since 2010, totaling $18 billion in insured losses alone (IBC 2020).

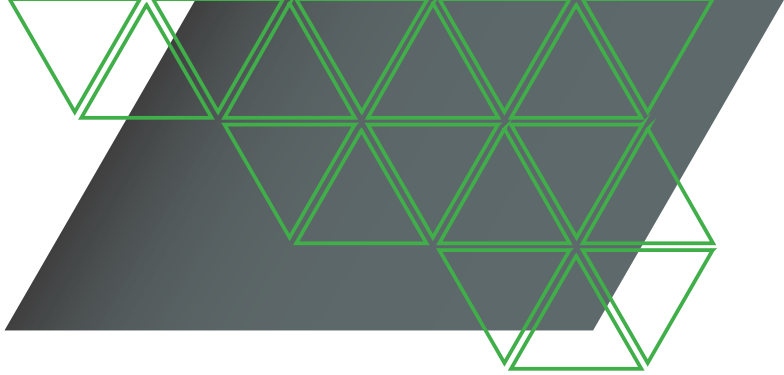
Effectively responding to these challenges will require reaching a durable balance between competing imperatives. Recent political controversies and partisan polarization around issues like the federal carbon tax, the Trans Mountain Pipeline Expansion Project, the Teck Frontier mine, and the Coastal GasLink pipeline underscore divisions in the country over what transitioning to a low-emissions energy system means in practice. But often, a precise definition of 'transition' is missing from debates.

In polarized and divided environments, language matters. It can facilitate constructive dialogue or shut it down (Cleland and Gattinger 2019). It has the potential to galvanize action or erode legitimacy and political support.

The language of 'clean energy', 'low-carbon' or 'low-emissions transition' has gained traction in policymaking and public discourse. The term 'transition' has become something of a buzzword, used by those in the energy and environmental communities in Canada as well as by the general public. Terms like 'low-carbon transition', 'energy transition' and 'just transition' appear in news headlines, policy statements and in academic literature.

Governments across Canada are using these terms in high-profile reports and communications. The final report for Generation Energy, Natural Resources Canada's extensive public engagement initiative around the country's energy future, is entitled, Canada's Energy Transition (NRCan 2018). The term also appears repeatedly in the federal government's Pan-Canadian Framework on Clean Growth and Climate Change (ECCC 2016). And in 2017, the Québec government established Transition énergétique Québec, a new agency in charge of promoting energy transition, technological innovation and energy efficiency. Outside of government, the term 'transition' has been used by various energy industry associations, environmental organizations, and Indigenous groups alike when talking about Canada's energy future.

But often, a precise definition of the term 'transition' is missing in these accounts. This begs the questions: Do all of these actors assign the same meaning to the term? If not, what are the implications for Canada's energy future?



While there is significant scholarly debate around the term transition in both global and Canadian literature, we currently lack an understanding of what energy and environmental practitioners in Canada understand by this terminology and how they use it in their day-to-day work. Do energy and environmental leaders have different understandings of what transition is, and what it entails for Canada? How controversial is the language of transition among senior practitioners? Does the terminology contribute to building a unifying national vision on energy or deepen divergences between groups? Answering these questions is pivotal to charting Canada's energy future in an age of climate change.

Against this backdrop, this study centres on two research questions addressed through interviews with over 40 senior energy and environmental practitioners in Canada:

1. How do various actors in Canada's energy and environmental communities differ in their understanding and use of the term 'transition'? What meanings are shared, and where are the key points of divergence?

2. What can we learn from these findings that can improve our understanding of and help to overcome controversy and fragmentation in Canada about the country's energy future in an age of climate change?

Two key findings emerge from this study. First, energy and environmental leaders found the term transition too vague to be useful in the current debate about Canada's energy future. Despite this ambiguity, however, participants reported that transition terminology is widely used and accepted. This is an important finding. Ambiguity has the potential to mobilize a wide range of interests to address complex issues. On the other hand, it can prevent groups with divergent understandings and interests from making meaningful progress on complex issues.

Second, the research reveals that senior leaders have vastly different understandings about the kind of changes that Canada will need to make to address climate change. While there is convergence on some of the fundamentals, these differences go far beyond the use of language and reflect profoundly different visions of Canada's energy future.

BACKGROUND: A BRIEF OVERVIEW OF THE LITERATURE

There is a significant body of social sciences literature addressing the concept of transition.[1] Many authors have studied low-carbon transition and similar concepts, including low-carbon transformation, decarbonization, energy transformation, sustainability transformation, energy reconfiguration and low-carbon society. However, despite the presence of low-carbon transition and similar terms throughout the scholarly literature, there is uncertainty about how to define 'transition'.

In broad terms, the literature focused on Canada understands transition to be the movement towards energy systems that will result in a significant reduction of GHG emissions before mid-century (Rosenbloom, Haley & Meadowcroft 2018; Skea and Nishioka 2008). However, the specific scope, timeline and objectives of transition are unclear.

Scholarship notes that transition will require support from economic, political and social actors, as well as cooperation between them (Foxon, 2013). Related to this, a number of researchers have studied the importance of language when it comes to climate change and energy transitions. Rosenbloom, Berton and Meadowcroft (2016) and Smink, Hekkert and Negro (2015) explore competing narratives for emerging renewable technologies. Using the case of solar electricity in Ontario, Rosenbloom et al. (2016) affirm that actors "...use language to build or erode the legitimacy of socio-technical innovations. . ." (p.1275). They found tensions between emerging and established interests, with language a key tool in the competition for legitimacy and political support.

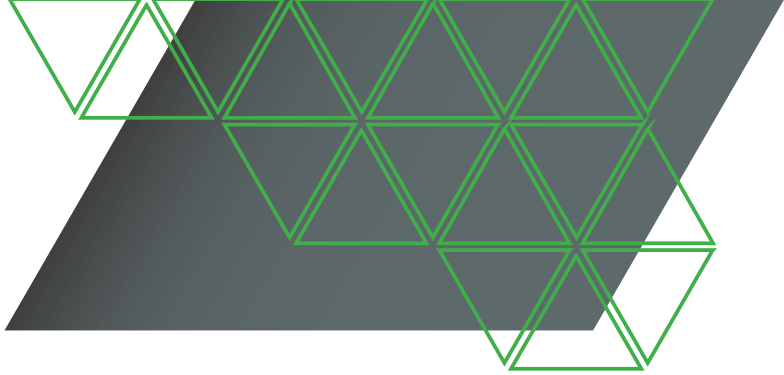
Similarly, Smink et al. studied how incumbents and entrants in the energy field used language to influence public debate in the Netherlands. A study of climate change discourses by Fleming et al. (2014) affirmed that language is a powerful tool for shaping perceptions of issues and the routes of possible action. The authors identify language as an essential contributor to climate change mitigation. More recently, in Canada, Marshall, Bennett and Clarke aimed to find language and narratives that allow Albertans to talk about their energy future in a way that reflects their values and builds bridges to groups who may not share similar visions (2018).

Despite the important contributions of this literature, however, there is scant research on the contribution of 'transition' language to polarization and division over energy and climate issues, or to ambiguity and inaction on climate change. Positive Energy's extensive engagement with energy and environmental leaders over the last five years strongly suggests that language and framing can be divisive. In the report, *Canada's Energy Future in an Age of Climate Change: How Partisanship, Polarization and Parochialism are Eroding Public Confidence*, Cleland and Gattinger note that language matters, "...especially in polarized environments, where it can open up or shut down productive debate and meaningful progress" (2019, p.29)[2] . This study addresses this topic empirically by focusing on the term transition, a word that has emerged as particularly prone to division in Positive Energy's ongoing engagement with energy and environmental leaders.

1. This section draws on Aimee Richard, 'Definitions of Transition: Review of the Scholarly Literature,' Prepared for Positive Energy, Ottawa: University of Ottawa, 2019.

2. The report suggested using the term 'low emissions' over other terms such as 'low carbon' or 'clean energy.' This places the focus on the source of anthropogenic climate change (emissions) rather than on specific fuel sources.

METHODS



The findings presented in this report are based on 38 semi-structured interviews with a total of 42 participants in May-July of 2019. Interview participants were senior leaders capable of guiding the direction of their organizations. They were drawn from the energy and environmental communities, including from industry, policy, regulatory, non-government, research and Indigenous organizations. We selected participants capable of providing a wide range of perspectives across the energy and environmental fields, including the region and organization they represent and the other organizations with which they work. Interviews were conducted on a confidential but not anonymous basis. That is, participants agreed to their names being made public, but what they said in their interview remains confidential (i.e., it is not connected directly to their name in reporting findings). A list of interviewees appears in Appendix 1.

Prior to conducting the interviews, the website and publications of participating organizations were scanned to obtain an understanding of how these organizations use transition language in their public-facing communications. The scan revealed a variety of understandings and approaches to the concept. Many organizations use multiple terms and/or modifiers for the word transition on their website and in communication materials. Examples include 'low-carbon future', 'decarbonization of the economy', 'transition to a clean economy' and 'modernization of the energy sector'. Despite the widespread use of the term, however, no clear consensus on its definition and scope emerged from the scan.

FINDINGS

Four key insights emerged from the research. First, the word transition received mixed reviews from participants. Only a slim majority of energy and environmental leaders use the term. Those who use it do so because of its accessibility and widespread usage. Those who do not view it as either vague, politicized, or both. That said, there was a relatively broad consensus that while there are some benefits to vagueness in the term, clearer terms and definitions would be helpful to energy and environmental debates.

Second, when it comes to the meaning of transition, there was consensus that human-made climate change is a reality and that GHG emissions must be reduced, but there was strong disagreement about the scope and pace of change needed to address climate change. Participants tended toward one of two 'ideal type' realities about transition: Reality I perceives transition as a measured process of change, focused on reducing GHG emissions through a diverse energy portfolio and market forces. Reality II views transition as an urgent process rooted in the world facing a climate crisis. It does not see a future for oil in the country's energy mix and believes fossil fuels should be eliminated. Here, policy intervention is the main driver.

Third, while Reality I and Reality II offer significantly different visions of Canada's energy future, there are points of convergence between them. They both agree that transition is happening, requires leadership to address and involves costs and benefits to the country's domestic and export energy economies. Fourth, the key areas of divergence between the two realities relate to the pace of transition, the future of oil and whether public policies or markets are or should be the key driver of transition.

USE OF "TRANSITION" TERMINOLOGY: MIXED REVIEWS

An organizational scan conducted prior to the interviews revealed that many of the organizations that interviewees represent use the language of transition. Participants were asked directly if they or their organizations use the term in their work.

- The data reveals that a slim majority of participants use transition terminology (21 participants use the terminology, while 15 do not).

- For those who use the term, the most popular modifiers include 'low-carbon transition', 'clean energy transition' or simply 'energy transition'.

- When asked why they employed the term, the key reason cited was its familiarity and accessibility to the general public. The term was thought to be familiar to those outside of expert circles and to be generally understood, despite its vagueness. Some participants responded that they use the term because everyone else uses it.

For the participants who do not use the language of transition, popular alternatives to speak about Canada's energy future included 'low-carbon economy', 'energy portfolio' or simply 'Canada's energy future'. These terms were viewed to be more inclusive than transition, as they are technology and energy neutral and do not discriminate against particular energy sources. Key reasons to not use the word transition included the vague but politicized nature of the concept. In the view of these participants, transition itself has no clear definition, but has often been employed to promote a specific technological vision: one that excludes fossil fuels from Canada's energy future. Transition implies moving away from something that many, but not all, understand to be the use of fossil fuels. Furthermore, some participants indicated that transition has been so overused that it has become empty or meaningless.

Interviewees were also asked if the vagueness of transition terminology is problematic in the current debate around Canada's energy future.

- A majority of interviewees (25) reported that the vagueness of the term is problematic because it leads to misunderstanding, confusion and inaction. It allows for a lot of talking with little action, because people do not agree on what they are talking about.

- A smaller number (7) reported that vagueness is beneficial as it allows people to come together and discuss. Vagueness is therefore inclusive because it encourages a broader group of people to come to the table.

- Other participants (5) reported that the vague nature of the term is both positive and negative for the above reasons.

- Industry and Indigenous participants tended overwhelmingly to view vagueness as problematic, while research/non-government organizations and policymakers/regulators were more diverse in their assessments.

Multiple participants recognized the tension between the widespread use of the term and its lack of precise definition. Overall, there was a relatively broad consensus that the terminology of transition is too vague to be useful and that clearer terms and definitions would be helpful to the debate.

TRANSITION IN CANADA: THE TWO REALITIES

This study sought to understand the meaning that participants or the organizations they represent assign to the term transition. Consensus emerged in the interviews on a few basic issues, notably that human-made climate change is a reality and that consequently, GHG emissions must be reduced. But the divergence in views outweighs areas of convergence. Interviewees strongly disagreed about the scope and pace of needed changes in Canada's energy economy and society more broadly in response to climate change. In particular, when it came to scope and pace of transition, analysis of the interviews revealed two 'ideal types' of narratives about transition.

These narratives are 'ideal' in the sense that they broadly describe the tendencies of different participants. No participant's views represent exactly one or the other narrative. However, interviewees' perspectives were generally closer to one narrative than the other. **In the process of identifying labels for the two narratives, an important insight emerged: both groups identify themselves as 'realists' about transition.** That is to say, they believe their views are realistic about what changes are needed in Canada and what this entails for the country. Multiple participants mentioned that the country lacks 'honest conversations' and transparency about the reality of transition – but they had fundamentally different realities in mind about which they felt Canadians needed to be more honest.

As such, we have labelled the two narratives Reality I and Reality II.

TABLE 1
TRANSITION IN CANADA: TWO REALITIES AMONG DECISION-MAKERS

Dividing Lines	Reality I	Reality II
Scope of Change	Focused on reducing GHG emissions. Canada's energy portfolio should be diverse and should include fossil fuels.	Focused on reducing GHG emissions, but ultimately major reforms of the energy system. Fossil fuels should be eliminated now, if not in the near future.
Pace of Change	Slow and measured. The transformation of the energy system will not occur overnight. Careful consideration must be given to how the energy system will change to address new challenges.	Need for urgent action driven by science. The world is facing a climate crisis and Canada must act now to address its worst impacts.

Reality I

How would you define transition?

"[A] switch towards lower-emitting forms of energy that strikes me as open minded and [as] technology neutral as possible."

This narrative is most common among participants from industry, government (policymakers) and regulatory agencies (the tendency among regulators, however, was fairly divided between Reality I and Reality II, in the sense that characterization as I or II was often a matter of degree). The Reality I narrative does not question the existence of human-made climate change or the need to address it. However, it perceives transition as a measured process of change, focused on reducing GHG emissions. According to this view, oil, natural gas, nuclear power, renewables and carbon capture technologies (as well as increased efficiency of these technologies) should all be part of Canada's energy portfolio. Greater reliance on these energy sources, together with other technological innovations in the oil and gas sector, will slowly but surely decouple activity in this sector from GHG emissions. Oil and gas therefore should and will continue to play an important role in Canada's energy future.

This narrative perceives market forces as the main driver to make transition more efficient. Policy interventions may be required, but should not be so drastic that they lead to excessive costs to industry and individuals. In this Reality, fundamental change to Canada's energy system and economy is costly and will take a long time. The narrative is often rooted in the view that historical energy transitions have never occurred over the span of a few years. Likewise, Canadians' lifestyle and quality of life are dependent on energy from fossil fuels – people will not choose the 'cleaner' option if it is more expensive or less convenient. As such, transition must be reasonable, measured and rational.

As noted above, no participant aligned exactly with Reality I. Different participants emphasized the role of different technologies in transition. For example, some viewed carbon capture technologies as an interesting innovation, but ultimately not viable on a scale that can meaningfully drive down GHG emissions. Others affirmed that carbon capture will play an essential role in transition because it will allow for the continued use of fossil fuels while mitigating their climate impacts.

Reality II

How would you define transition?

". . . to meet our emissions reductions target as science indicates [means] that we need to completely transform the way that we produce, transport and then use energy. So it is a transition across all these sectors of energy production and use across economic sectors."

"The transition is really a significant revolutionary cultural transition that extends beyond energy because energy is so embedded in our economy. Necessarily our economies will change."

This narrative is most common among participants representing research, non-government and Indigenous organizations. From this viewpoint, reducing GHG emissions is a key component of transition, but transition also entails much greater changes to the political and economic systems that surround energy. In other words, transition is the process required to address climate change, but it is also a process that will fundamentally alter the energy system in Canada and internationally.

The Reality II narrative affirms that Canada's oil industry should and will face a certain phase-out due to decreased demand for the product, but primarily because fossil fuel use must be drastically reduced to meaningfully address the 'climate crisis'. The pace of change is therefore much faster, with transition envisioned as occurring in the next 10-20 years. In this view, emissions reduction targets should be determined by science, such as Intergovernmental Panel on Climate Change (IPCC) reports. Key drivers for transition in this narrative are policy interventions, market forces and increasing social demands in the face of climate change.

There are areas of divergence within this narrative. Most notably, a handful of participants aligned with this narrative called for changes reaching beyond energy systems, including health care reform, democratic reform, and improvements to local and Indigenous governance. For these participants, transition implies a sweeping scope of change that goes well beyond the energy system towards a different political, social and economic future.

AREAS OF CONVERGENCE: TRANSITION IS HAPPENING, REQUIRES LEADERSHIP AND INVOLVES COSTS AND BENEFITS

While the Reality I and Reality II narratives offer significantly different visions of Canada's energy future, there are convergences between them. First off, the term transition is used by many participants aligned with both narratives, although their definitions of the word vary greatly. Whether uneasily or more enthusiastically, as noted earlier, approximately half (21) of those surveyed use transition language.

Beyond simply the use of transition terminology, however, a number of points of convergence can be drawn from the interview data.

There was agreement that Canada currently finds itself in some kind of transition triggered by responses to climate change. A majority of participants (35) agreed that Canada is in a transition. There was, however, little agreement on when this transition started. When asked when transition started, some common answers included the Ontario coal phase-out (2003-2014), the Paris Agreement (2015) and the Pan-Canadian Framework on Clean Growth and Climate Change (2016). Other participants pointed to something more vague, such as "over the past 20 years," while others affirmed that society is always in transition. This latter belief sees transition as an ongoing process without a start or an end point. Others saw transition as a movement from state A to state B, i.e., something with a clearer end goal.

Participants aligned with both realities pointed to the need to differentiate between the energy export economy and the domestic energy economy. Though often lumped together, domestic energy use and energy for export each pose different challenges in the context of climate change. Canada may reduce its emissions domestically, but addressing emissions tied to exports is another matter.

Participants aligned with both realities identified a need for strong leadership to guide Canada through transition, including through policy interventions. However, who exactly should lead and what these policies should target were sources of divergence.

Markets have a role to play in transition. This emerged as a source of convergence among participants. No one implied that markets have not or will not change in response to climate change and all agreed that Canada will be affected by these changes. The weight given to the importance of markets, however, emerged as a source of divergence between the narratives (more on this below).

Many participants pointed out that transition implies both costs and benefits. Some participants fell to one side or the other (that is to say, transition will be largely positive or will be largely negative) but there was a general acknowledgement of potential costs and benefits. Moreover, there was recognition that costs are not likely to be equally distributed across the country. Many participants pointed to the regional nature of costs and opportunities. Due to the geographic distribution of natural resources, certain regions are seen to be better prepared to transition than others.

There was agreement that Canada should ensure that transition does not leave people behind. Because transition implies costs, participants believed that public policies should aim to mitigate costs for those who will be adversely affected. What specific policies should look like and which communities should be targeted was a source of divergence between the narratives.

AREAS OF DIVERGENCE: PACE OF TRANSITION, THE FUTURE OF OIL AND THE ROLE OF POLICY VERSUS MARKETS

Despite areas of potential consensus on the topics listed above, there are also very clear differences between the Reality I and Reality II narratives. The differences go beyond the use of transition language towards very different understandings of Canada's energy future.

Pace of Transition. The Reality I narrative views the pace of transition to be much slower than the pace proposed by Reality II.

When asked about pace of change, participants aligned with Reality I envision a slow, measured and (in their view) rational pace of change. Transition cannot and should not be rushed, as current energy systems are deeply connected to the Canadian economy and way of life. A rushed transition would lead to undesirable outcomes and high costs. Rather, transition should occur gradually over natural investment cycles as infrastructure and equipment is replaced. Therefore, calls for urgent and drastic action within the next 10 to 20 years are not realistic and would not benefit Canada. GHG emissions should be reduced, but without compromising economic prosperity and the way of life that many Canadians enjoy. Furthermore, if transition occurs at a slower pace, its negative impacts will largely be mitigated. Given the opportunity to more cautiously reflect on the road ahead, industry, governments and individuals alike will be spared from the (primarily economic) implications of an energy transition.

The Reality II narrative presented a profoundly different understanding of the pace of transition for Canada. Beginning from the view that the globe is facing a 'climate crisis', urgent action is needed immediately. Therefore, the pace of transition would be much faster than that outlined in Reality I, with specific targets for emissions reductions determined by science. Many participants aligned with this narrative pointed to the 2018 IPCC special report, Global Warming of 1.5°C (IPCC 2018) as a guide for the pace of transition. To meet scientifically determined targets, transition must move at an urgent pace. In this view, non-incremental change is needed now to avoid dangerous levels of climate change and must continue over the next several decades. The alternative to drastic change is perceived to be severe environmental, social and economic consequences. Beyond the environmental imperative of transition, the Reality II narrative also argues that Canada risks being left behind unless transition occurs quickly. If the rest of the world is transitioning, Canada must participate.

The future of Canadian oil. A profound divergence also emerged during the interviews about the future of Canadian oil. Reality I views oil as here to stay for the foreseeable future, while Reality II calls for its retirement as soon as possible.

From the perspective of Reality I, Canadian oil has an important role to play in Canada's energy future, including in the process of transition. Canada's industry should and will continue as long as there is domestic and international demand for Canadian products, a demand that participants aligned with this narrative argue will continue long into the future.

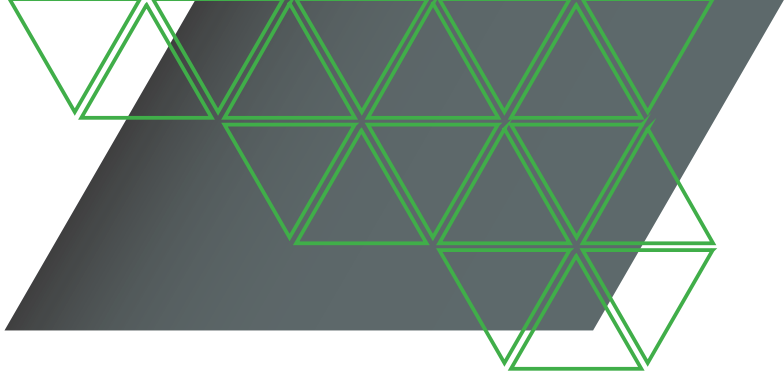
In this view, Canadian oil plays an integral role in the Canadian economy and it is here to stay. In order to address climate change, emissions from production should be reduced (possibly even to net zero). This will occur through innovative technologies, including carbon capture. Furthermore, demand for Canadian oil will continue to grow in the future as consumers increasingly demand energy that is 'cleaner'. Canada has an opportunity to export oil that has lower environmental and social impacts than products from other jurisdictions, a feature that represents a competitive advantage. Canadian oil can be beneficial on a global scale if it is produced with a lower environmental impact than production elsewhere. Canada can also serve as a leader to other countries in the development of cleaner technologies.

The Reality II narrative offers a fundamentally different vision of oil in Canada. In this view, the industry in Canada should and will face a certain phase-out because of the need to reduce GHG emissions coupled with decreasing global demand. For many, this means that fossil fuels must be left in the ground in the near future, if not immediately. Phasing out fossil fuel production will likely create economic costs, particularly in the short term, but in this view these costs pale in comparison to the threat of catastrophic climate change. Moreover, in Reality II, the demand for Canadian oil domestically and internationally is declining and will continue to decline. From this perspective, it is a fallacy to believe that Canadian oil will enjoy high demand into the future: world markets will not pay a premium for Canadian oil, even if the product is 'cleaner'. In this view, the argument that Canadian oil is 'cleaner' is merely an excuse to continue business as usual.

That is to say, the promise of a product that is more socially and environmentally responsible amounts to little more than greenwashing. For Reality II, Canada cannot continue to export oil and promise environmental sustainability, as these are concepts in fundamental opposition.

Differing emphases: Key drivers of transition. Both Reality I and Reality II point to the importance of markets and policy in transition; however, each narrative accords different importance to the drivers.

For Reality I, market forces should be the main driver to make transition more efficient. In this view, past energy transitions have been market-driven and this is not likely to change in the future. The market will demand increased efficiency and technologies that reduce emissions going forward. This is coupled with the understanding that demand for Canadian oil and gas will continue into the future. Therefore, the main driver of transition for Reality I should be markets, and policy interventions should be careful to avoid undue costs on the energy system, such as stranded assets.



From the Reality I perspective, the implications for Canada's prosperity would be severe if policies are introduced that exclude any sectors, technologies or resources, rather than focusing on lowering emissions across all sectors, technologies and resources. Policy should not exclude any form of energy but make all forms of energy and energy consumption more efficient. However, many technologies, including renewables and electric vehicles, are not yet cost competitive. Policy intervention is therefore required, but should not be too drastic as this can easily 'go wrong' and lead to excessive costs.

For the Reality II narrative, market forces will act as a major driver in transition but in a different way. In Reality II, global demand for oil will decrease in the future and Canada should be prepared for this eventuality. In the absence of strong policy, especially in the short term, market forces are insufficient to meaningfully limit emissions and prepare Canada for the pending global transition. Strong policies can push Canada towards energy sources that are lower in emissions, reduce costs for Canadians and keep Canada competitive in the world market.

Policy must also mitigate costs for those who are likely to be adversely impacted by transition. In this perspective, policy choices in the next few years will dictate how Canada fares in the global transition. Cultural changes and awareness of climate change will also be a driver of transition. The public will increasingly demand action to transition to a more sustainable future. And the increasingly visible impacts of climate change will further this cultural change and drive transition forward.

DISCUSSION: HOW THIS RESEARCH CAN HELP CANADA ADDRESS POLARIZATION

This study, part of Positive Energy's larger research programme about polarization over energy and climate in Canada, sought to understand how various actors in Canada use and understand the term 'transition'.

Do the findings suggest that the language of transition contributes to polarization over energy and climate in Canada? The short answer is yes. Canadian energy and environmental leaders occupy two divergent realities when it comes to Canada's energy future in an age of climate change. What's more, our findings suggest that the term transition has the potential to drive these realities further apart.

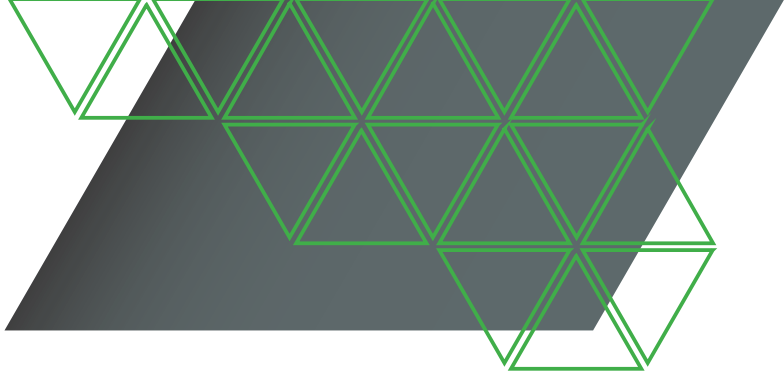
Language matters. The research reveals that language matters. Transition terminology contributes to polarization for some study participants.

Some participants feel excluded or judged by the term transition. One individual reported that their organization does not use transition terminology because it is seen to be pejorative. That is, moving away from something "bad" (oil and gas) towards something "better" (renewables). Another interviewee reported that their organization does not use transition terminology because they prefer more neutral terms like "low-emissions" that do not risk offending others. Some participants perceive transition as having negative connotations that exclude a portion of Canadians, specifically those involved in oil and gas.

Others did not assign such negative meanings to the word transition but instead felt that the term does little to describe the challenges Canada faces. To these people, transition is a euphemism that vastly understates the scale of changes the country must make. For example, one participant thought transition terminology sounded 'nice', while another one referred to it as 'cute'. Transition is a sort of codeword; it does not sufficiently describe the scope of change envisioned by masking it with fairly neutral language.

The term 'transition' masks major differences. Overall, a majority of participants indicated that they use the language of transition when speaking about Canada's energy future, albeit with varying degrees of enthusiasm. However, this research also reveals that the vagueness of the term masks underlying differences. Transition language is used by industry, government, regulatory, nongovernment, Indigenous and research organizations in the energy and environmental communities. It has become a buzzword used by many but largely without any consensus as to its meaning.

There are substantive differences in peoples' visions of Canada's energy future and the realities that underpin them. While the term 'transition' may enable different actors to come to the table to engage in a conversation about Canada's energy future, it has masked the scale of differences between peoples' visions.



But differences extend well beyond language. This research reveals that polarization over energy and climate goes much deeper than semantics. The Reality I and Reality II narratives represent profoundly different visions for Canada's energy future going far beyond language and terminology. Multiple participants pointed out that the lack of a shared vision of the country's energy future is the underlying problem – not merely the language used to talk about it.

On the brighter side, many participants expressed the need for 'honest' conversations about Canada's energy future, where people really listen to each other. Some called for better public education on the issues and more spaces where Canadians can engage with the issues and have productive conversations. However, this research shows that Canadians may have different ideas about what constitutes an 'honest' conversation.

Others identified the need to identify strong leaders from various sectors of society, including government and industry, as well as the need to move conversations beyond unhelpful stereotypes (e.g., Albertans don't care about climate change). Participants aligned with Reality I and Reality II both called for the need to recognize and compensate people bearing the costs of changes to Canada's energy system and energy economy, whatever these changes might be.

Given the extent of differences between Reality I and Reality II, is it possible to build bridges between them? This study demonstrates that despite the widespread use of the word transition, on balance, energy and environmental leaders do not believe the term has moved Canada forward on climate change action or on developing a plan for the country's energy future. Transition, for all its ambiguity, may allow for conversations between many different kinds of people, but these conversations do not lead anywhere if they are grounded in different realities and understandings.

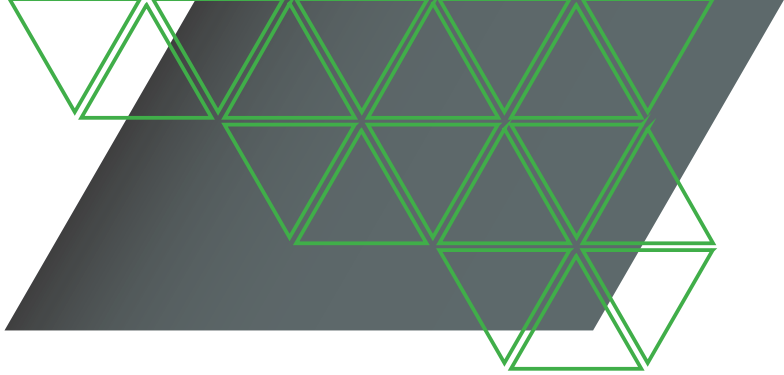
That said, the research does reveal that there are areas of convergence between Reality I and Reality II. There is broad agreement on the reality of human-induced climate change and the need to address its impacts. No participant, regardless of whether they aligned with Reality I or Reality II, denied the existence of human-caused climate change. In addition, there is agreement that Canada should act with some dispatch, although there is disagreement on both the speed and scope of change required, and the respective roles of policy and markets.

CONCLUSION: IMPLICATIONS FOR DECISION-MAKERS

The term 'transition' is widespread in Canada's energy and climate debates. But what do people mean when they say it? And what do others think when they hear it? This research reveals that energy and environmental leaders are often talking past one another when they use the term. In fact, people are grounded in two distinct realities when it comes to Canada's energy future in an age of climate change. These are important findings for those charting an energy and environmental path forward for Canada.

Language and terminology matter. They can bring people to the table or drive them apart. They can facilitate constructive debate or amplify polarization. In the case of transition, ambiguity surrounding the term does a bit of both. More than anything, though, it masks fundamentally different views about Canada's energy and climate future.

The first, Reality I, perceives transition as a measured process of change, focused on reducing GHG emissions through a diverse energy portfolio. Market forces are the main driver, with policy levers deployed in ways that don't impose excessive costs on industry and individuals.
Reality II views transition as an urgent process rooted in the world facing a climate crisis. This reality nests scientifically derived climate targets within a much broader set of political and economic reforms related to energy. It does not see a future for oil and gas in the country's energy mix and believes fossil fuels should be eliminated. Here, policy intervention is the main driver.



There are some areas of convergence between the two realities. There's agreement that Canada is in a transition of some sort, triggered by responses to climate change. Participants also differentiated between the domestic and export energy economies when it comes to costs and benefits. They also identified the need for strong leadership, although they disagreed over who should lead and what should be done.

So, what should decision-makers make of this? Does the term 'transition' help those charting a path forward? Or does it lead to people talking past one another and drive polarization? What should be done going forward?

The research suggests the term transition may be doing more harm than good. As ubiquitous as it is in energy and climate debates, it may actually be hampering constructive discussion – even driving polarization. All told, the language of transition may not be the most productive way to frame things. It might be better to use terms like 'emissions' and 'emissions reductions'.

But the study reveals that this is more than just semantics: there are two competing 'realities' among energy and environmental leaders. Moving forward, it would be helpful if conversations about Canada's energy future focused on areas of convergence to build bridges between the two realities.

None of the study participants denied the existence of human-caused climate change. That's a solid starting point. There's also agreement that further action is required to address climate change through a combination of market and policy drivers. And while the speed and scope of change is a major point of contention, we now have a stronger understanding of the key areas of disagreement. Addressing these differences carefully but meaningfully could offer a starting point for more productive conversations – and policies – that help bridge the two realities. This could contribute to positive ongoing progress on both energy and environmental objectives.

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APPENDIX 1: LIST OF INTERVIEW PARTICIPANTS

Name	Title	Organization
David James	Associate Deputy Minister, Natural Gas	Alberta Energy
Stacey Schorr	Executive Vice-President, Stakeholder and Government Engagement	Alberta Energy Regulator
Tonio Sadik	Director of Environment	Assembly of First Nations
Les MacLaren	Assistant Deputy Minister, Electricity and Alternative Energy Division	British Columbia Ministry of Energy, Mines & Petroleum Resources
David Morton	Chair and CEO	British Columbia Utilities Commission
John Dillon	Senior Vice-President, Policy and Corporate Counsel	Business Council of Canada
Louis Legault	Director of Legal Services	Régie de l'Énergie (Québec) Also past Chair, CAMPUT (Canada's Energy and Utility Regulators)
Shannon Joseph	Vice-President, Government Relations	Canadian Association of Petroleum Producers
Isabelle Des Chênes	Executive Vice-President	Canadian Chemistry Association
Tabatha Bull	Chief Operating Officer	Canadian Council for Aboriginal Business
Dale Beugin	Executive Director	Canada's Ecofiscal Commission
Chris Bloomer	President and CEO	Canadian Energy Pipeline Association
Allan Fogwill	President and CEO	Canadian Energy Research Institute
Sonja Winkelmann	Director, Net Zero Energy Housing	Canadian Homebuilders Association

Name	Title	Organization
David Foster	Senior Director, Communications	Canadian Homebuilders Association
Joy Romero	Vice-President of Technology and Innovation	Canadian Natural Resources Limited, also Chair, Clean Resource Innovation Network
John Stewart	Director of Policy and Research	Canadian Nuclear Association
Robert Hornung	President	Canadian Wind Energy Association
Catherine Abreu	Executive Director	Climate Action Network Canada
Jacob Irving	President	Energy Council of Canada
Angel Ransom	Director of Operations	First Nations Major Projects Coalition
Guy Lonechild	Chief Executive Officer	First Nations Power Authority
Shahrzad Rahbar	President	Industrial Gas Users Association
Kim Baird	Owner	Kim Baird Strategic Consulting
Brendan Marshall	Vice-President, Economic and Northern Affairs	Mining Association of Canada
Kathryn Pollack	Assistant Deputy Minister, Minerals, Lands and Resource Policy	Ministry of Energy and Resources Saskatchewan
Tracy Sletto	Executive Vice-President	National Energy Board
Jean-Denis Charlebois	Chief Economist	National Energy Board
Jim Fox	Vice-President, Strategy and Analysis	National Energy Board
Debbie Scharf	Director General, Energy Policy Branch	Natural Resources Canada
Keith Collins	Executive Director, Sustainable and Renewable Energy	Nova Scotia Department of Energy and Mines
Peter Gurnham	Chair	Nova Scotia Energy and Utilities Board
Bob Watts	Vice-President, Indigenous Relations	Nuclear Waste Management Organization
Kim Scott	Senior Consultant	Nvision Insight Group Inc.

Name	Title	Organization
Steen Hume	Assistant Deputy Minister, Energy Supply Policy Division	Ontario Ministry of Energy, Northern Development and Mines
Isabelle Turcotte	Director, Federal Policy	Pembina Institute
Richard Carlson	Director, Energy Policy and Energy Exchange	Pollution Probe
Tonja Leach	Executive Director	QUEST
Stewart Muir	Executive Director	Resource Works
Meredith Adler	Executive Director	Student Energy
Laura Oleson	Executive Director, International Affairs, Security and Justice	Treasury Board of Canada (former Director General, Energy Policy Branch, Natural Resources Canada)
Sarah Vandaiyar	President and CEO	Young Pipeliners Association Canada

*Where organizations are listed more than once, more than one person from the organization participated in the interview.

APPENDIX 2: SEMI-STRUCTURED INTERVIEW GUIDE

The language of transition

1. The term 'transition' has become quite a buzzword. If you had to provide a brief definition of the term 'transition' in the context of energy and climate change – what would that definition be?
2. The term is often associated with modifying words: energy, clean energy, low carbon, low emissions to name a few. Are there ways of modifying the term that are more or less constructive, more or less likely to lead to a broad social and political consensus, more or less likely to lead to effective action?
3. Is the vagueness of the term a problem in the current debate?

Canada's 'transition'

4. Is it essential to include in Canadian energy policy the idea of transition? Should it be the central idea or should Canadian energy policy focus on other objectives right now? Why or why not?
5. Is Canada's energy economy in the process of going through a transition right now?
    a. If yes, when and how did it begin and what substantive changes mark that beginning and its ongoing process?
    b. If not, what would characterize the onset of such a change?
6. In your opinion, what drives/will drive/has been driving transition in Canada – technological progress, the knock-on effects of changes in global energy markets, public attitudes, or policy and associated programs?
7. What does/will transition mean for Canada's citizens, governments, industries and different regions?
8. What should the endpoint of Canada's transition be?
9. What is Canada's position/role in the context of a global transition?

Reflections on the usefulness of the term

10. Do you and your organization use the language of transition?
    a. If yes, what wording do you use exactly and why?
    b. If not, why not and what language do you prefer to use instead to talk about Canada's energy future?

At conclusion of the interview, the researcher gave participants the opportunity to add anything further that they wanted to share.

NOTES

POSITIVE ENERGY AIMS TO STRENGTHEN PUBLIC CONFIDENCE IN CANADIAN ENERGY POLICY, REGULATION AND DECISION-MAKING THROUGH SOLUTION-FOCUSED RESEARCH, ENGAGEMENT WITH DECISION-MAKERS AND RECOMMENDATIONS FOR ACTION.

POSITIVE **ENERGY**

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