



Climate Change Mitigation Messaging Research Executive Summary

Prepared for the:
Alberta Energy Efficiency Alliance and
the Cities of Calgary and Edmonton

September 3, 2015

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Background and objectives

Climate change is arguably the most important environmental issue facing the world today. In Canada, governments at all levels are working on strategies to engage citizens, businesses and other stakeholders in mitigating climate change by reducing their contributions to the greenhouse gas emissions (ghge) that cause the phenomenon.

The Cities of Calgary and Edmonton commissioned research to identify communications strategies, including words, phrases and messaging, that resonate with citizens on the topics of climate change and energy. The focus is on language, messages and forms of communication that are most effective in helping Alberta's large urban populations make the connections between energy and climate change and make choices that reduce carbon pollution, including conservation, energy efficiency and using clean forms of energy.

The specific objectives of the research are to:

- measure people's understanding of climate change and things related to climate change, including other names or terms used to describe it;
- obtain information about perceptions, beliefs and language regarding climate change in Alberta's large urban areas;
- segment the audience to enable the creation of targeted strategies;
- identify the language, by segmented audience, that moves perceptions and beliefs along a continuum of awareness to adoption;
- determine the most resonate value proposition (i.e., the why) on climate change for populations in Alberta's large urban areas;
- determine what or if expectations exist for municipalities to take action to mitigate climate change; and
- test messages to see which resonate best for which market segments.

The results of the research will be used by the municipalities to develop communications and programming that will engage citizens in the changes needed to "turn the curve" on the impact of lifestyle on climate.

The research

The research involved the following three phases, undertaken between April and July 2015:

1. A literature review, which examined: (a) current climate change-related attitudes, beliefs and triggers for action in Alberta, Canada and western countries; (b) existing models for segmenting the public based on their climate change perceptions and beliefs; and, (c) the most effective messages to engage the segments and motivate them to take action on climate change.
2. Qualitative research (focus groups), to understand the range of attitudes, beliefs and assumptions about climate change mitigation held by residents of Calgary and Edmonton, as well as their initial reactions to messaging options. Two focus groups were held in Calgary on June 8, 2015 and two in Edmonton on June 9 with residents who are at least moderately engaged in social, environmental and economic issues and government policies.

- Quantitative research (online survey), which used a robust and well-regarded segmentation model (Six Americas) to segment the Calgary and Edmonton publics on their climate change attitudes, and to identify the most compelling arguments in favour of climate change action for each segment. The online survey was conducted with 311 residents of Calgary and 291 residents of Edmonton (18 years and older), between July 23 and 27, 2015.

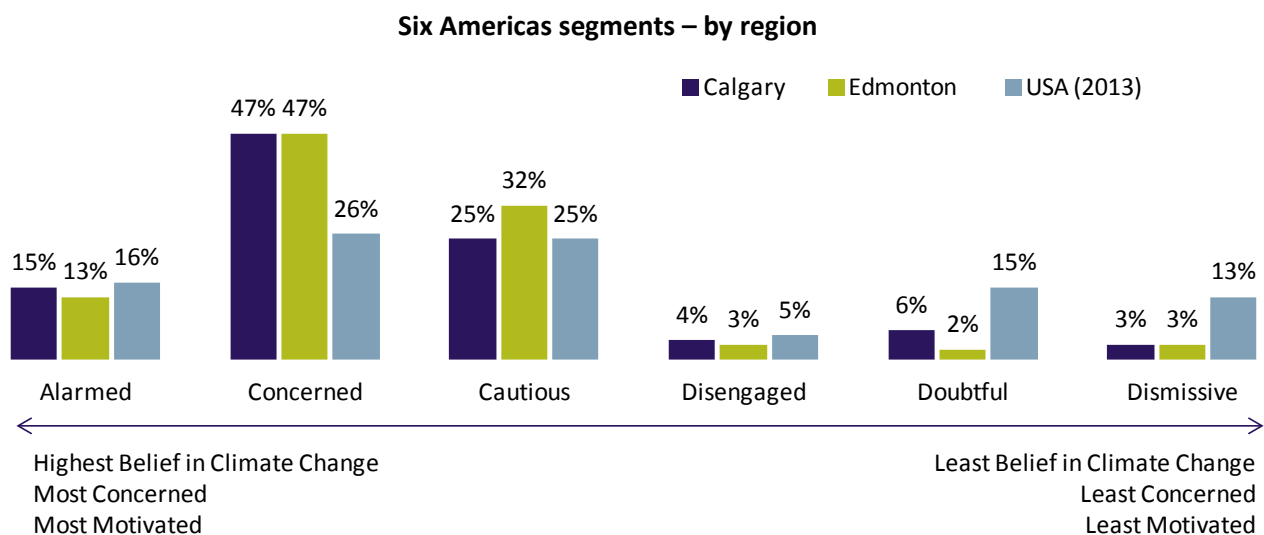
This report presents a summary level synthesis of the key conclusions from the research. Overall, the research did not find substantially different views about climate change in Calgary and Edmonton, indicating that these broad conclusions are equally relevant to the two cities.

Detailed findings are presented separately, in individual reports on each stage of the project.

Key findings

There is widespread belief in, and concern about, climate change in Calgary and Edmonton. Using the Six Americas segmentation, six in ten Calgarians and Edmontonians fall into the Alarmed or Concerned segments that are most convinced of, and concerned about, human-caused climate change. Another quarter to third fit the Cautious segment that believes climate change exists, but are less likely to have strongly formed opinions about the issue.

The focus of communications efforts should be on these larger segments. For the Alarmed and Concerned segments, this means motivating them to take action (including supporting city government policy). For the Cautious segment, this means helping them better understand the threat, in order to move them up the spectrum into the Alarmed/Concerned segments. Very few residents fall at the low end of the spectrum (Doubtful or Dismissive), making it unproductive to spend the considerable resources/efforts required to persuade these segments of the existence of climate change.



Source for American data: Leiserowitz, A., Maibach, E., Roser-Renouf, C., Feinberg, G., Rosenthal, S., & Marlon, J. (2014) *Public Perceptions of the Health Consequences of Global Warming: October, 2014*. Yale University and George Mason University. New Haven, CT: Yale Project on Climate Change Communication

The substantial body of research on climate change communications has yet to definitively identify the best/most effective messaging to use with citizens about climate change or to motivate them to action.

However, it has revealed some general guidelines, which are largely consistent with the findings of the qualitative and quantitative research conducted for this study. These findings are discussed in the following paragraphs.

While most residents are concerned about climate change, relatively few see the threat as immediate, local and/or personal. Concerns about climate change focus on extreme weather events and the consequences for food, water and, ultimately, human survival. However, only a minority believe they have seen evidence of climate change in their city; those who do point to storms and floods (Calgary) or warmer and drier conditions (Edmonton). The implication is that there is little urgency for individuals to make changes since they are unlikely to feel direct effects or to anticipate such effects in the near term. The academic literature suggests that efforts to engage citizens on this topic need to personalize the threat or make it more concrete (without causing excessive fear).

Most residents of Calgary and Edmonton are doubtful that the issue of climate change will be solved. This is not due to a perceived lack of strategies; rather, residents do not see leadership from governments (including at the municipal level) or from business and industry, and do not believe that voluntary lifestyle changes on the part of individuals will be effective nor sufficient.

Residents want to see more action on climate change from all sectors of society: citizens themselves, industry and government – including their city government. This is evident in the majority-level support for a range of policy options, particularly new building regulations and incentivizing solar panel installations. There is also a moderate level of willingness to take the actions necessary to reduce their energy use. The literature on climate change communications highlights the importance of building efficacy, both in terms of the capacity to take action (self-efficacy) and the overall value of such efforts (response efficacy). It is also critical that individuals see action on the part of governments and businesses, so they don't feel they are shouldering the burden on their own.

There is a gap in understanding of the connection between home energy use and climate change. Climate change is a complex subject and most residents do not feel well-informed about the issue. However, the general consensus in climate change literature is that simply providing information about the science of climate change is not sufficient to generate opinion change or action. That being said, there is a much better understanding of the contribution that vehicles and deforestation make to the climate change problem, than of the effect of home heating and electricity use. This likely needs to be addressed to help citizens understand why they are being asked to make certain lifestyle changes.

The most appealing arguments for taking climate change action and/or supporting city government policies are those that stress the benefits for the individual: that these changes will help them save money, improve their quality of life and health, and are easy to make. This is particularly notable in light of the fact that the large majority of residents rated cost as their major barrier to making changes to address climate change. It is also consistent with the literature that recommends appealing to positive emotions (e.g., hope) and solutions (gaining, winning, improving things) rather than on negative emotions (e.g., fear) and the negative consequences of not taking action (losing, sacrificing, giving up things).

Conclusions

Most Calgary and Edmonton residents believe that climate change is real and want to see action, including from their municipal governments. Right now, there is considerable doubt that humans will be able to solve this problem.

Residents' concerns and desire for action translates into majority support for city government policies that address climate change and moderate willingness to contribute to efforts themselves. The most powerful arguments (the "why") for supporting climate change action and reducing energy use are those that point to benefits for the individual, rather than the collective.

People are looking for leadership on climate change, and without this direction or coordination, feel they are doing the best they can at an individual level. It is critical to communicate what is expected of them as citizens and consumers, and then to help them understand that not only can they successfully undertake these actions, but that such actions will make a difference in addressing climate change.



Climate Change Mitigation Messaging Research

Phase 1: Literature Review

Prepared for the:
Alberta Energy Efficiency Alliance and
the Cities of Calgary and Edmonton

June 24, 2015

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Introduction

Background and Objectives

Climate change is arguably the most important environmental issue facing the world today. In Canada, governments at all levels are working on strategies to engage citizens, businesses and other stakeholders in mitigating climate change by reducing their contributions to the greenhouse gas emissions (ghge) that cause the phenomenon.

The Cities of Calgary and Edmonton have commissioned research to identify communications strategies, including words, phrases and messaging, that resonate with citizens on the topics of climate change and energy. The focus is on language, messages and forms of communication that are most effective in helping Alberta's large urban populations make the connections between energy and climate change and make choices that reduce carbon pollution, including conservation, energy efficiency and using clean forms of energy.

The specific objectives of the research are to:

- measure people's understanding of climate change and things related to climate change, including other names or terms used to describe it;
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- test messages to see which resonate best for which market segments.

The results of the research will be used by the municipalities to develop communications and programming that will engage citizens in the changes needed to "turn the curve" on the impact of lifestyle on climate.

The research

The research involves three phases: (1) literature review, (2) focus groups and (3) an online survey. This report presents the results from the Phase 1 literature review. The purpose of this phase is two-fold, and the report has been divided into two sections accordingly:

1. A review of up-to-date climate-related research findings for Alberta, Canada and western countries on attitudes, beliefs and triggers for action.
2. A review of research (e.g., Six Americas) which divide respondents into categories that indicate levels of engagement with a view to creating a comparable baseline for Alberta large urban populations, as well as messages for moving from one level to the next.

Executive Summary

Where does the Alberta public stand on climate change?

- Half of Albertans accept the scientific evidence that climate change is happening and is caused by human activity, a view that has been trending steadily upwards and now falls just shy of levels seen when the media first focused on climate change in 2007. At the same time, the intensity of Albertans' concern about climate change has been declining, suggesting perhaps a growing complacency about or even fatigue with the issue. (Both of these trends mirror the broader Canadian-wide pattern).
- Experts identify the complex science of climate change and its intangible nature (with effects that are perceived as distant and uncertain) as key barriers to climate change communications, both of which are evident in the public opinion research. Most Albertans do not feel well-informed about climate change. Only a minority feel they have seen clear evidence that climate change exists, and fewer than before link climate change to environmental impacts such as melting permafrost, flooding, storms and drought. The public generally accepts the idea that climate change must entail health risks, but few understand exactly how.
- Compared to the U.S. research, Canadian public opinion research has not addressed: the degree of public understanding of the expert consensus that human-caused climate change is happening; knowledge of the causes of climate change (e.g., that carbon dioxide traps heat from the Earth's surface); and reaction to the terms climate change versus global warming.
- There are mixed views about the preferred approach to solving climate change, but the Alberta public continues to look to government to introduce regulations and standards, rather than voluntary industry or consumer action. Similarly, Albertans don't express much confidence that future energy demands can be met by reducing consumer demand; instead, preference is for developing new renewable energy sources. Albertans may be reluctant to pin their hopes on lifestyle changes since few believe consumers are ready to make the necessary level of sacrifice.

Where do we go from here?

- Segmentation research conducted in the U.S. and Australia confirms that there is a wide range of attitudes and opinions about climate change, that generally fall along a continuum from very strong to very low belief, concern and motivation to act. It does not appear that a similar segmentation has been done in Canada or Alberta (that is publicly available).
- One of the benefits of segmenting the public in this way is to define the communications goal, since it will be different for each segment. The existing research suggests that for the more involved segments, who are already "on side" about climate change, the goal is to motivate them to action. For the low involvement middle segment, who are not engaged with the issue, the goal is to get them to pay attention so we can inform them that climate change is real and problematic. The group with the most negative attitudes towards climate change (who believe it is low risk or not even happening) needs persuasion that their beliefs are incorrect, which is the biggest challenge of all.

- Despite a substantial body of research on climate change communications, there are no definitive conclusions on the best/most effective messages for each segment. The general consensus seems to be that simply providing information about the science of climate change is not sufficient to generate opinion change (particularly where the new information is inconsistent with what they already think or feel), and that public engagement is ultimately needed to address the gap on climate change action. The following summarizes the key research findings on ways to overcome barriers to public engagement:
 - Make efforts to personalize the threat or make it more concrete, by focusing on local or community-level impacts.
 - Build efficacy, in terms of perceptions that an individual can take action and that such action will be effective. The research suggests that messaging on solutions/how to prevent losses is more effective than focusing on the negative consequences of climate change. Similarly, promote positive social norms (i.e., emphasize that desirable behaviours are widespread and growing) rather than focusing on extinguishing undesirable behaviours.
 - Consider appealing to positive emotions (hope, pride, gratitude) over fear-based messaging, which may lead to lowered efficacy and/or an avoidance reaction.
 - Frame messages in a way that corresponds to and/or appeals to the inherent values of the recipient. Research suggests that emphasizing the public health benefits of climate change action may be an effective frame. However, framing must be carefully considered, since a national security frame in fact generated anger among the more conservative-minded Dismissive segment (perhaps due to an association between an issue they care about and one they do not).

Part 1: Attitudes, beliefs and triggers for action

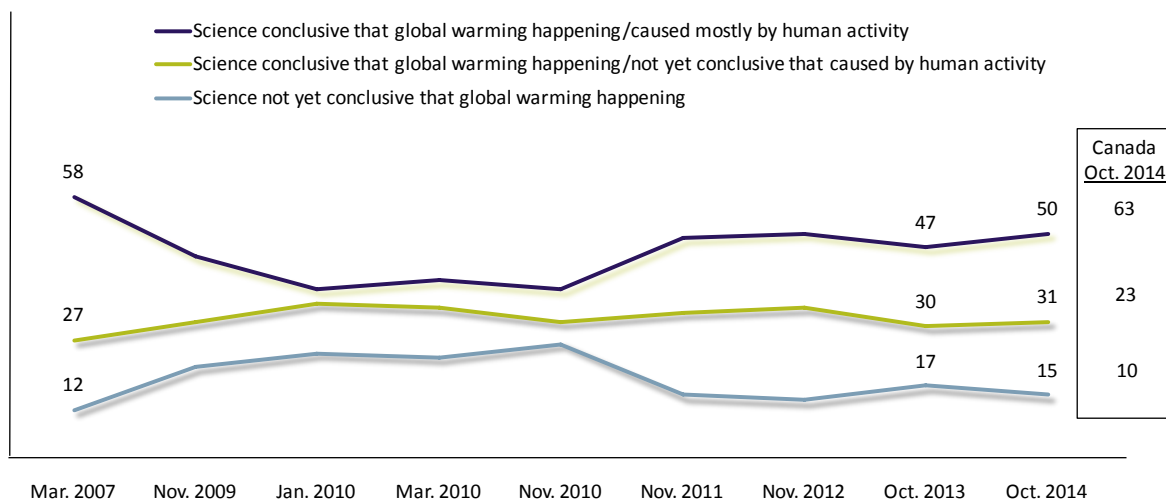
This section of the report draws from opinion research designed to understand where the public currently stands on the issue of climate change, in terms of their understanding and perceptions of the issue and its solutions. Results are presented for Alberta (where available) and compared to the national Canadian average for context. In some cases, U.S. data is presented where similar results are not available for Alberta and/or Canada.

Understanding of climate change

Does climate change exist and what is the cause? As of October 2014, most Albertans believe that global warming is real. Eight in ten (81%) say the science is conclusive that global warming is happening, only slightly lower than the Canadian average (86%)(Environics, 2014a).

However, only half (50%) of Albertans believe global warming is happening and is caused mostly by human activity. This is the highest level of belief in Alberta about human-caused global warming in the past five years, but remains below the peak in 2007 (when 58% agreed that global warming is real and caused by humans), as well as below the current national average (63%).

Science on climate change - Alberta



Source: Envionics' Canadian Environmental Barometer, Winter 2014

These findings are broadly consistent with other surveys recently conducted in Canada (Forum 2014; Lachapelle et al., 2014).

The most recent U.S. data (as of March 2015) indicates that nearly two-thirds (63%) of Americans think global warming is happening, and that half (52%) think that if global warming is happening, it is mostly human-caused (Leiserowitz et al., 2015).

Understanding of expert consensus. Research (surveys of scientists or reviews of peer-reviewed literature on climate change) has shown that at least 97% of climate scientists have concluded that human-caused climate change is happening (Maibach et al., 2014). Yet, as indicated above, public belief in human-caused climate change is considerably lower.

U.S. research has shown that most Americans aren’t aware of the degree of expert consensus on the issue. Only one in ten (12%) Americans say that 90% or more of climate scientists have reached this conclusion. Just as many (14%) say this conclusion has been reached by less than half of scientists; the plurality (45%) believe it is somewhere in between (50-90% of scientists), while the remainder are unsure (29%) (Leiserowitz et al., 2014b). There is no comparable data publicly available for Alberta or Canada.

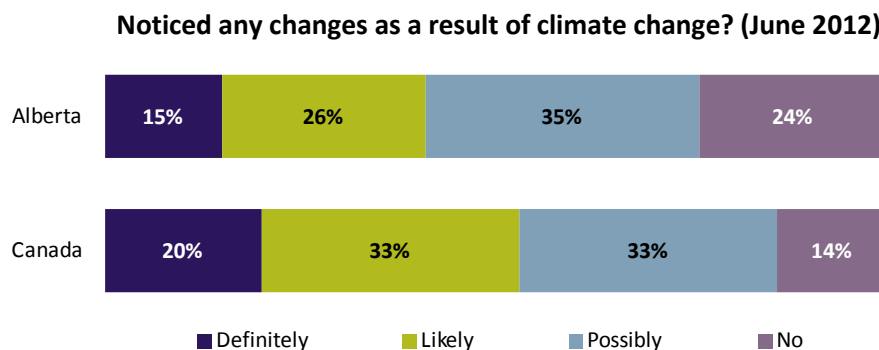
Familiarity. Most Albertans do not feel they have a particularly good understanding of climate change. Only three in ten (31%) feel extremely or very well-informed, which is similar to the Canadian average (28%)(Environics, 2014a).

Similarly, few Americans feel they have a good understanding about how the Earth’s climate system works or the different causes, consequences, or potential solutions to global warming: the proportion who say they are “very well informed” ranges from 11% to 14%, while in each case about half say they are “fairly well informed” (Leiserowitz et al., 2010).

Leiserowitz et al. (2010) also evaluated knowledge of specific facts about climate change, research which does not appear to have been duplicated in Canada. The study concluded that there are substantial gaps in Americans’ understanding of the causes and consequences of climate change, including that only:

- 57% know that the greenhouse effect refers to gases in the atmosphere that trap heat;
- 45% understand that carbon dioxide traps heat from the Earth’s surface; and
- 25% have ever heard of coral bleaching or ocean acidification.

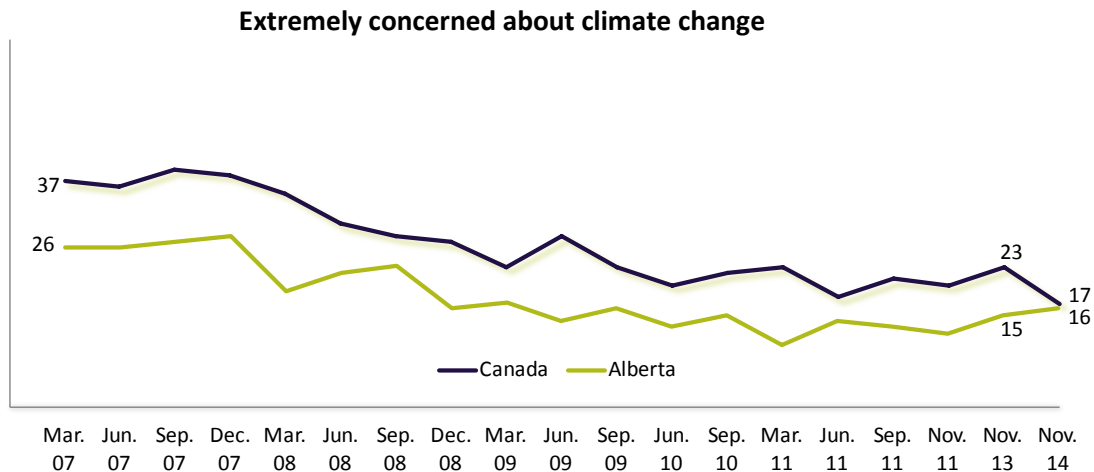
Noticed any changes. As of 2012, only 15 percent of Albertans see clear evidence of climate change and another quarter (26%) say they have noticed changes that are likely the result, both of which are lower than the national average (Environics, 2012). It would be interesting to see if perceptions have changed in Alberta following the 2013 floods.



Source: Environics’ Canadian Environmental Barometer, Summer 2012

Concern. As of late 2014, most Albertans (81%) say they are least somewhat concerned about changes in our climate due to global warming, including 16 percent who are extremely concerned and 30 percent who are definitely concerned (Environics, 2014a).

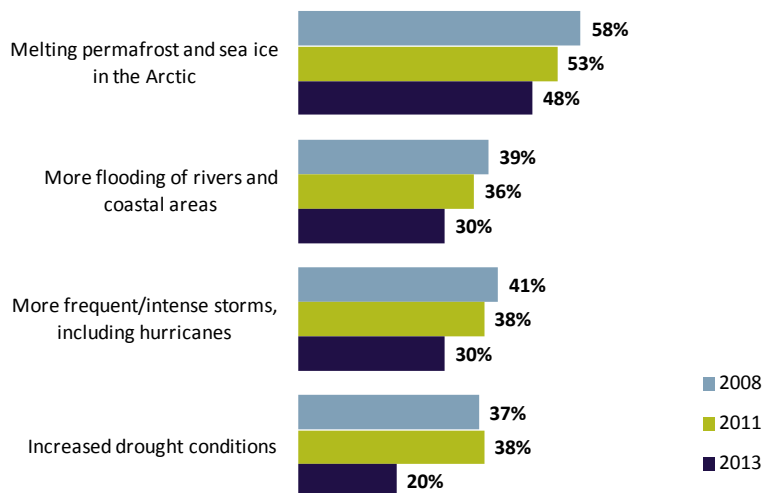
However, the level of strong concern has declined steadily since 2007, mirroring the broader Canada-wide pattern. There has been a slight rebound in strong concern in Alberta since the 2013 floods and this level now approaches the national average.



Source: Environics' Canadian Environmental Barometer, Winter 2014

Canadians' level of certainty about the environmental impacts of climate change has been declining since 2008. Fewer than before believe that climate change definitely causes melting permafrost (48%, down 10 points since 2008), flooding (30%, down 9), more frequent and intense storms (30%, down 11) and drought (20%, down 17). As of 2013, Albertans express less certainty than other Canadians that climate change causes permafrost (38%), flooding (25%) and storms (20%), but similar certainty about the link to drought (19%)(Environics, 2013a).

Definitely caused by climate change - Canada



Source: Environics' Canadian Environmental Barometer, Winter 2013

Basis for concerns. For Albertans who are at least somewhat concerned about climate change, their concerns are based on several potential consequences, but at the top of the list are concerns about the impact on their children and future generations (78% extremely or definitely concerned). The next most common reasons for concern about climate change include the disappearance of wildlife species (71%), greater scarcity of water and more frequent droughts (65%), and extreme weather events such as storms and flooding (63%). Minorities express the same degree of concern about climate change because of rising sea levels (49%), hotter summer temperatures (46%) or the loss of jobs in some industries such as forestry or agriculture (47%). (Environics, 2014a)

To what extent are Canadians making a connection between climate change and its potential health impacts? A 2008 study found that the public generally accepts the idea that climate change must entail health risks, but few understand exactly how (Environics, 2008). More than half of Canadians (54%) believe climate change is posing a health risk to Canadians today (Alberta-specific data is not publicly available). Among the four in ten (39%) who think it will pose a future risk, there is no consensus of when negative effects may begin to be experienced, but five in ten think it will be some time in the next 10 years. Among Canadians who think that climate change poses a health risk, three-quarters (76%) say their community is especially vulnerable, two-thirds (67%) say they are personally vulnerable and about half (46%) say someone in their household is especially vulnerable to climate change's health risks.

But while six in ten (63%) Canadians are able to identify at least one potential health risk of climate change (without prompting), no single effect is widely known; the most commonly mentioned is respiratory or breathing problems (22%).

A recent U.S. survey conducted on the health consequences of global warming found that most Americans have given little thought to the issue and are also unable to identify at least one related health problem. Only one in three (31%) Americans say that global warming is currently harming the health of people in the U.S., and only four in ten (39%) say it will do so within the next ten years (Leiserowitz et al., 2014a).

Terminology. There is almost no Canadian research available in the public domain that explores Canadians' reactions to climate change terminology. The exception is a recent survey that found that, among the subgroup of Albertans who believe that the earth's climate is changing, the term *climate change* (58%) is more widely used than *global warming* (38%) to refer to this phenomenon. The reported use of the term *climate change* in Alberta (58%) is also higher than for the Canadian average (50%)(Forum, 2014).

A 2014 U.S. survey explored differences in how Americans interpret and respond to the terms *global warming* and *climate change*. Using a split-sample methodology (half of respondents were randomly assigned to one term and half to the other term), the study concluded that "the two terms are often *not* synonymous—they mean different things to different people—and activate different sets of beliefs, feelings, and behaviors, as well as different degrees of urgency about the need to respond". (Leiserowitz et al., 2014c).

The study concluded that, for Americans, *global warming* is a "more engaging" term than *climate change*, since it generates:

- Stronger ratings of negative affect (i.e., to consider global warming a bad thing)
- Significantly more top-of-mind associations with icemelt/melting glaciers, alarm/catastrophe, flooding and ozone
- Stronger concern about the issue

- A greater sense of personal threat and of threat to one’s family

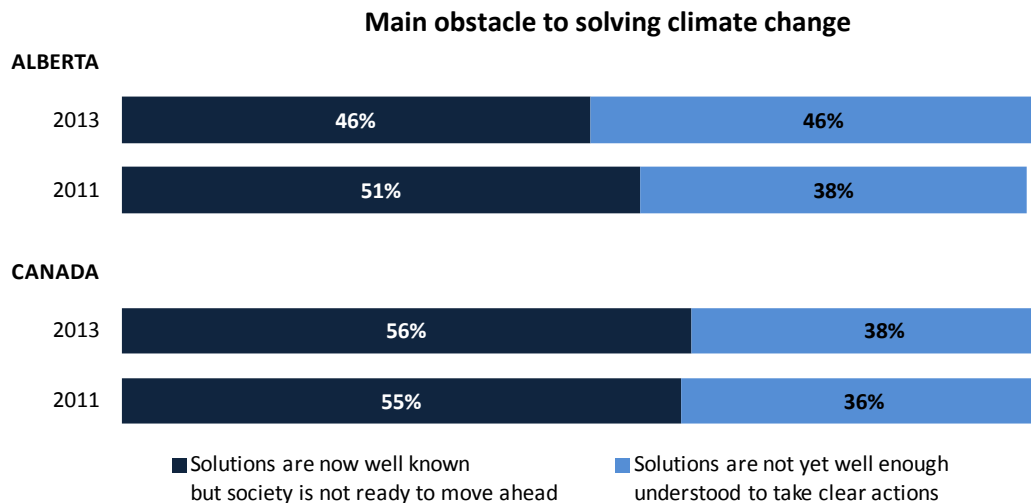
The two terms generated no significant difference in certainty that the phenomenon is happening or in understanding that human activities are the primary cause.

However, not all surveys have found a differing impact from terminology. A separate U.S. split-sample study also published in 2014 found that the perceived seriousness of the phenomenon is similar regardless of whether *climate change* or *global warming* was used (Gallup 2014).

The research on the subjective interpretations of climate change terminology does not appear to take into account the extent to which these terms may have become politicized (i.e., “climate change” may be less preferred in the U.S. because of the significant levels of denial on the political stage). In fact, some experts argue that climate change is objectively a better choice of words to describe the phenomenon, because “it avoids the misleading implications that every region of the world is warming uniformly and that the only dangerous outcome of growing greenhouse gas emissions is higher temperatures” and “better conveys the coexistence of human-made effects with natural climate variability” (CRED, 2009).

Can climate change be solved and consumers’ role in the solution

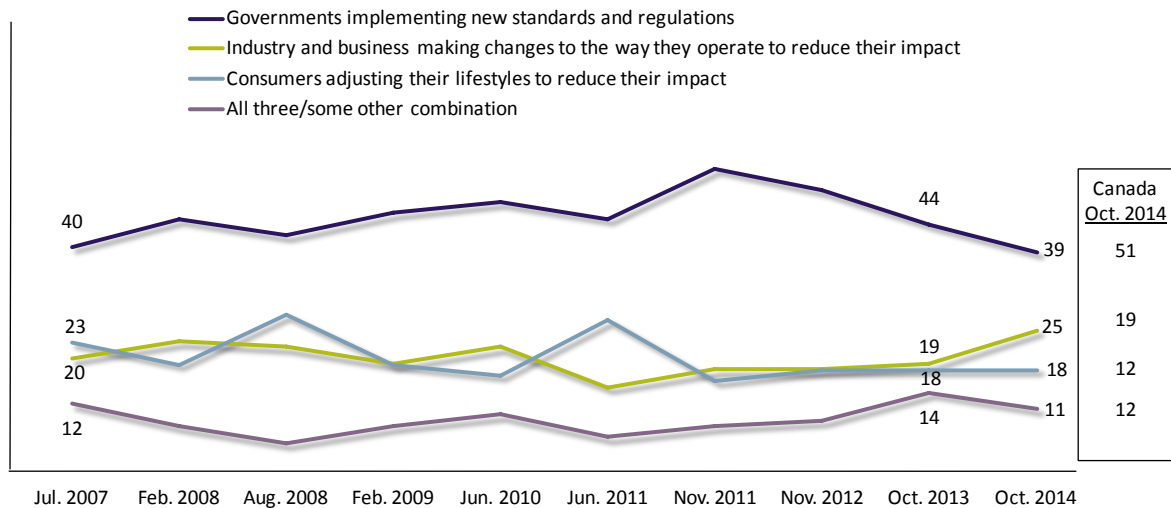
Main obstacle. Albertans are divided about whether societal inertia (46%) or a lack of solutions (46%) is the biggest obstacle to solving climate change. Moreover, perceptions have shifted since 2011 with fewer than before saying that society is not ready to move ahead despite knowing the solutions (down 5 points) and a growing proportion saying we don’t know enough about the possible solutions (up 8 points) (Environics, 2013a).



Source: Environics’ Canadian Environmental Barometer, Winter 2013

Most essential to progress. Albertans continue to look first to government to make serious progress on climate change (39%), and relatively few (18%) place priority on consumers adjusting their lifestyles. This pattern is generally consistent with other Canadians, although Albertans place comparatively less importance on government standards and regulations and slightly greater emphasis on the need for voluntary consumer action (Environics, 2014a).

Most essential to making serious progress on climate change - Alberta

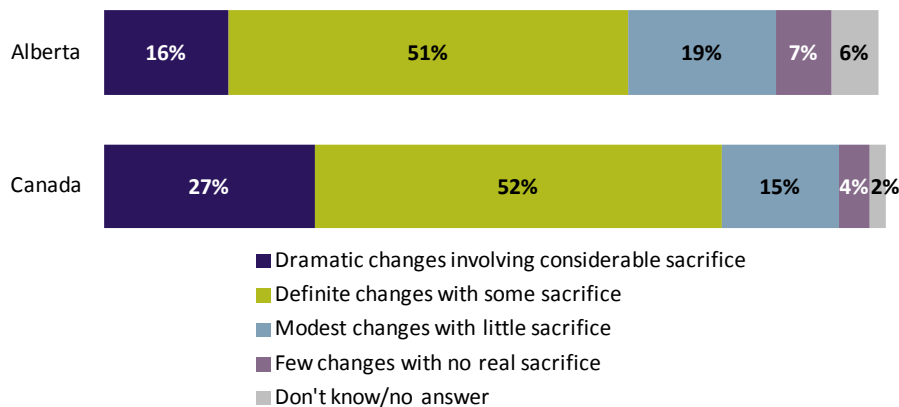


Source: Environics' Canadian Environmental Barometer, Winter 2014

Albertans are evenly divided about whether the solution to climate change lies in developing new technologies or changing consumer lifestyles. Just under half (46%) advocate for new technology while four in ten (40%) endorse behaviour change (nine percent volunteer that both are equally important). These results are similar to those Canada-wide (44% technology and 42% consumer behaviour) (Environics, 2011c).

Role of consumers. How much do Albertans believe consumers like themselves will need to change the way they live in order to ensure there is a solution to climate change in the next few decades? Most Albertans continue to accept that consumers will have to make such changes, but few (16%) believe this will require something dramatic; the most widely held belief is that climate change solutions will require definite lifestyle changes with some sacrifice (51%). The belief that solutions will require modest or few changes is more common in Alberta (26% combined) than the national average (19%) (Environics, 2011b)

How much will consumers need to change to ensure a solution to climate change? (September 2011)

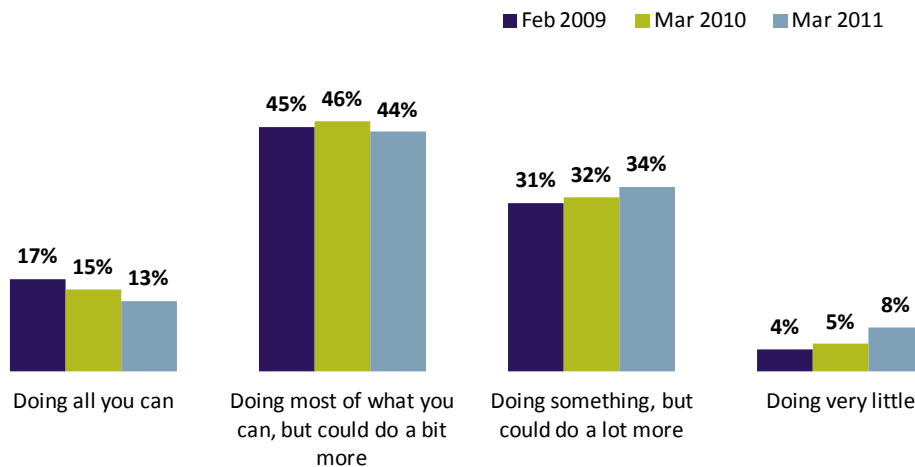


Source: Environics' Canadian Environmental Barometer, September 2011

As of 2011, few Albertans believe consumers are ready to make the level of change they identified as necessary to address climate change. Only one in ten (11%) say “most” consumers are ready to make the necessary changes or sacrifice, compared to four in ten (40%) who say “some” are ready and almost half (48%) who say “few” are ready. These views are similar to the Canadian average. (Environics, 2011b).

The majority of Albertans report to be doing all (13%) or most (44%) of what they are capable of doing to help reduce climate change. Between 2009 and 2011, reported level of effort has declined slightly.

Personal efforts to address climate change - Alberta



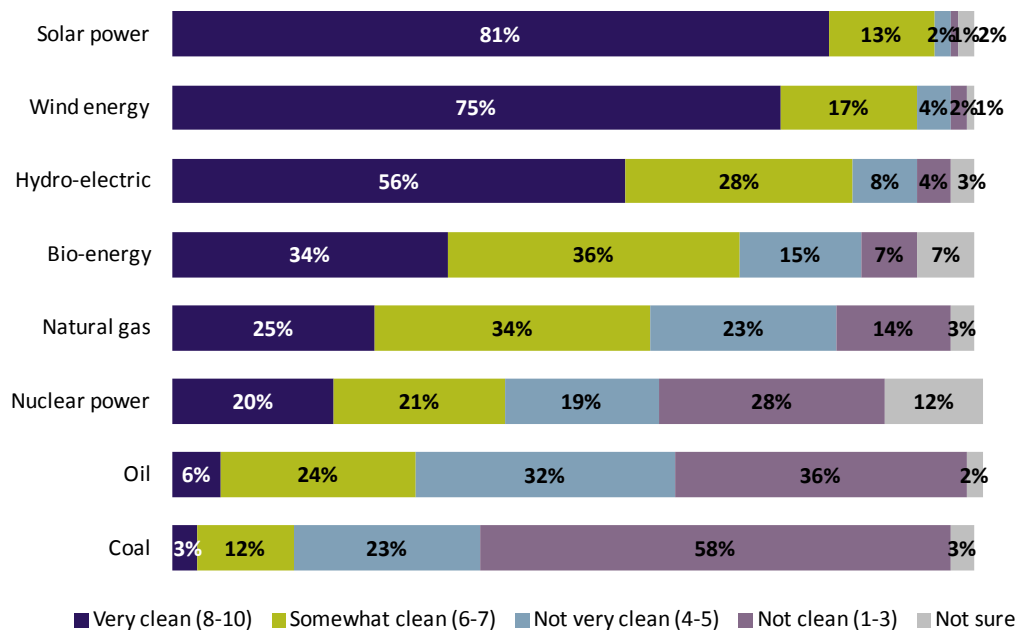
Source: Environics’ Canadian Environmental Barometer

Knowledge and views about consumer energy use

Knowledge of electricity source. Albertans have a reasonably accurate knowledge of the main source(s) of electricity for their province. They are most likely to identify natural gas (47%) and coal (40%), with smaller numbers who mention hydro-electric (23%) and wind (14%) energy. One in four (24%) incorrectly say that oil is a main electricity source (Environics, 2013b).

Clean energy. There is obvious hierarchy of clean energy sources in the public mindset. In Alberta, “clean” energy is most widely associated with solar power (81% very clean) and wind energy (75%), followed by hydro-electric power (56%). By comparison, minorities consider bio-energy (34%), natural gas (25%) or nuclear power (19%) to be very clean. Oil (6%) and coal (3%) are ranked at the bottom. These ratings are largely similar to the Canadian average, although Albertans are more positive about oil and coal (Environics, 2013b).

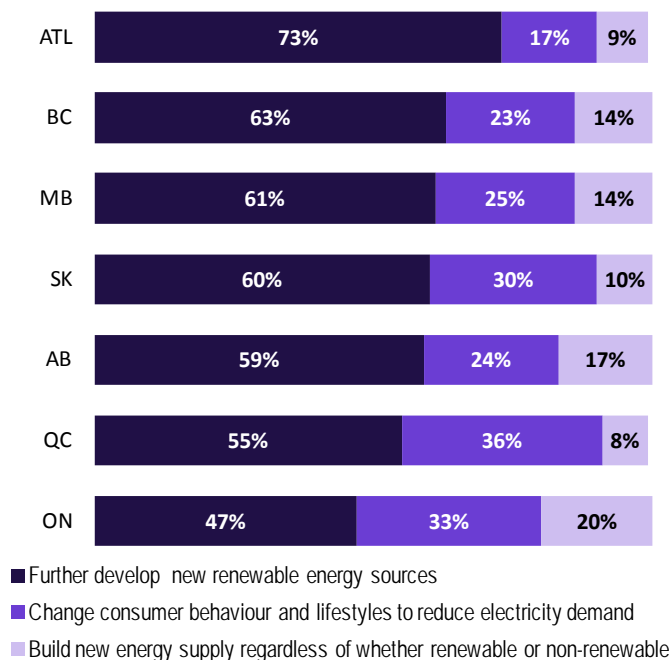
Extent to which energy sources are viewed as “clean” energy – Alberta (2013)



Source: Environics’ Canadian Environmental Barometer, June 2013

Preference for meeting future energy needs. What do Albertans think is best way to meet their energy needs over the coming decade? Developing new renewable energy sources (59%) is preferred over reducing consumer demand (24%) or building new supply regardless of whether it is renewable or not (17%) (Environics, 2013b).

Best way to meet province’s energy needs over next decade (2013)



Source: Environics’ Canadian Environmental Barometer, June 2013

When it comes to consumer demand for energy, Albertans' views are sharply divided as to whether it can be significantly reduced by voluntary behaviour change (49%) or whether governments will have to intervene with regulations and incentives (50%) (Environics, 2013b).

How open are Albertans to making the changes that will be required to reduce their energy demand at home? Only a small minority (15%) are very willing to give up control of their comfort at home (such as heating or cooling) to improve energy efficiency; another 46 percent say they are somewhat willing while four in ten (40%) are not willing (Environics, 2013b).

Part 2: Segmentation models and implications for messaging

When developing climate change communications, two pieces of knowledge are essential to success: “an awareness of different climate change audiences and an understanding of specific features of climate change messages that are likely to influence each audience” (Hine et al., 2013).

Given the variation in public perceptions about climate change, audience segmentation has been identified as a particularly useful tool for identifying and understanding distinct groups of individuals who hold similar views on the issue. Ultimately, segmentation “provides organizations with an important strategic planning asset: empirical information about how best to focus the organization’s limited resources, both human and financial, to advance its objectives” (Maibach et al., 2011).

This part of the report explores publicly-available climate segmentation models from the U.S. and Australia, as well as research conducted to understand how climate change messaging resonates with each segment. This section concludes with an overview of the broader body of research on climate change communications, which serves as the basis for the segment-specific recommendations.

Audience segmentation

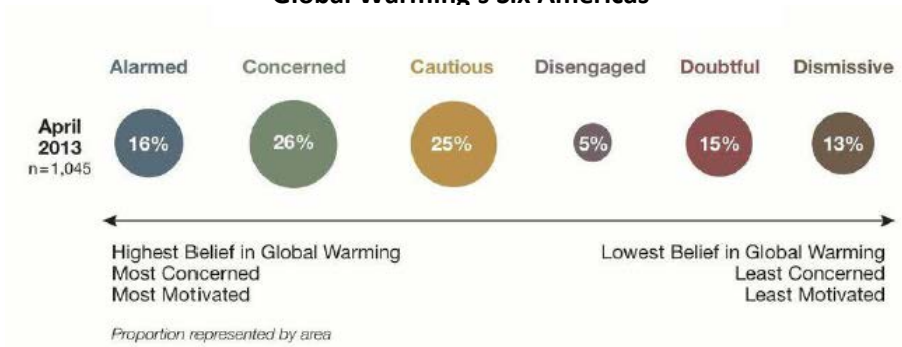
Six Americas

The best-known and most widely used approach to segmenting the public by their orientation to climate change is Global Warming’s Six Americas, developed by the Yale Project on Climate Communication. Initially developed in 2008, Six Americas has subsequently been used in various American states and other jurisdictions, as well as to monitor how climate change beliefs, risk perceptions, motivations, values, policy preferences, behaviours and underlying barriers to action are changing over time.

The objective of the segmentation was to “identify audience segments within the American adult population that could be considered as potential targets for global warming public engagement campaigns” (Maibach et al., 2011). The variables selected for use in the model were based on the “nature of the global warming public engagement challenge – i.e., the need to build public understanding and support for appropriate public policies, and to change the behavior of large numbers of people.” Thus, the inputs included behaviours (i.e., what people are doing) and motivations (i.e., why they are doing it) as well as preference for various policy solutions. A total of 36 variables were measured; subsequently, a manual has been produced to allow the segments to be replicated using the full 36-measure tool or a shorter 15-measure tool.

The segmentation resulted in six groups, which are illustrated “across a spectrum of concern and issue engagement, with segments that accept and reject climate science at the ends of a continuum, and those that are less certain and less engaged in the middle. At one end of the spectrum are the Alarmed, who are very concerned about the threat of global warming and support aggressive action to reduce it. At the other end are the Dismissive, who do not believe global warming is real or a problem, and are likely to think it is a hoax. Between these two extremes are four groups – the Concerned, Cautious, Disengaged and Doubtful – with weaker beliefs that fall between the two extremes.” (Leiserowitz et al., 2014a)

Global Warming's Six Americas

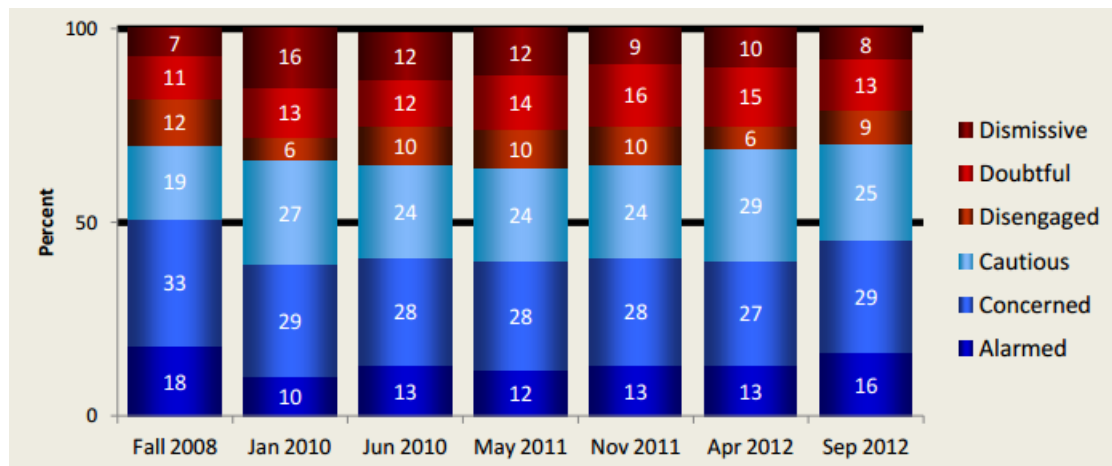


Source: Yale Project on Climate Change Communication – Roser-Renouf et al. (2014)

Changes over time. The Six Americas research has been unique in demonstrating how the proportion of Americans in each of the climate change segments has changed over time. When first measured in 2008, half (51%) of Americans fit into the Alarmed or Concerned segments, while less than two in ten (18%) fell into the Doubtful or Dismissive segments. By January 2010, the Alarmed/Concerned groups had declined to four in ten (39%) and the Doubtful/Dismissive groups had accordingly grown to three in ten (29%) (theorized by Maibach et al. to be due to several factors such as the recession, decline in media coverage and the “climategate” email controversy). As of September 2012, the trend has reversed somewhat, with the Alarmed/Concerned reaching 45 percent of the population and the Doubtful/Dismissive group shrinking to 21 percent.

Environics’ own research has found that segments can evolve over time, with existing segments merging or disappearing and new segments emerging while in other cases, individuals can move between segments.

Global Warming's Six Americas – 2008 through 2012



Source: Yale Project on Climate Change Communication – Leiserowitz et al. (2013)

Australian segmentations

A 2013 study was conducted in Australia using the Six Americas methodology, to allow direct comparisons between the two countries (Morrison et al., 2013). The study used the six segment solution, despite evidence that another solution would better fit the data. It found less polarization among the Australian public than in the U.S., with fewer respondents in the Alarmed/Concerned and Dismissive/Doubtful groups, and more in the middle Cautious/Disengaged groups. These findings suggest that the Six Americas segmentation does not necessarily directly translate to other nations.

Another group of researchers conducted a segmentation unique to the Australian public, to “identify groups of Australians who share similar attitudes, concerns and feelings about climate change” (Hine et al., 2013). The Australian segmentation used a broader range of psychological variables than Six Americas (each comprised of multiple items):

- perceived spatial and temporal proximity of climate change effects;
- environmental values –connection to nature, green self-identity;
- trust in climate change authorities;
- perceived risks from climate change,
- concern about climate change and the environment;
- knowledge about and belief in climate change;
- distress about climate change;
- self-efficacy (perceived ability to influence climate change);
- attitudes toward clean energy and nuclear power.

Another key difference from Six Americas is that the Australian approach excluded variables related to policy support and behaviour. Since attitudes, concerns and feelings are thought to have an impact on how “climate change adaptation messages are attended to, interpreted and subsequently acted upon”, behavioural variables were left for subsequent analysis to understand how the various segments react to them.

Despite the different inputs into the segmentation, the Australian segmentation generated groups that are largely similar to Six Americas. The Australian model identified five segments, including Alarmed (26%), Concerned (39%), Uncertain (14%), Doubtful (12%); and Dismissive (9%). Thus, both the U.S. and Australian models are anchored by Alarmed and Dismissive groups. The Six Americas resulted in four central categories (Concerned, Cautious, Disengaged and Doubtful), while the Australian study produced only three (Concerned, Uncertain, Doubtful).

A second phase of the Australian study, using a new sample of respondents, subsequently identified only three segments: Alarmed (34%), Uncommitted (43%) and Dismissive (20%). The change was attributed to several possible reasons, including a two-year time gap between phases (during which time attitudes, and segments, may be shifting), differences in sample make-up (i.e., demographics of the online respondents) and a slightly different set of input variables.

Strategies for communicating with the segments

Six Americas

Roser-Renouf et al. (2014) take the important step of discussing ways to effectively communicate with each of the segments, based on what we know about their attitudes towards climate change and engagement with the issue. The segments are grouped into three categories: (1) those who are very worried and motivated to take action to mitigate climate change, (2) those who are uninterested and know little about it, and (3) those who dismiss the threat as unlikely or unbelievable.

The goal of communications in each case is different. The first group (Alarmed & Concerned segments) is highly involved and thus likely the easiest to reach, and the goal is to motivate them to action. This group wants information on *what* they should be doing, and also needs efficacy-building messages, since a high degree of concern with low efficacy beliefs has been found to lead to avoidance.

The middle group (Cautious & Disengaged segments) has low involvement with the issue, and thus the goal is to get their attention in order to inform them about climate change. Once their attention is gained, the focus should be on making the climate change threat more immediate and/or personal, and using positive social norms to promote behaviour (i.e., communicating that action is both popular and socially desirable).

The third group (Doubtful & Dismissive segments) are likely the most difficult to reach, since they are convinced that climate change does not exist or is not a risk, and direct efforts to persuade them otherwise are likely to be dismissed (see further discussion of “confirmation bias” below). The authors suggest it may be effective to “frame messages in ways that are consistent with the values and beliefs of the audience”, but this is not as simple as it sounds. For example, one research study found that efforts to use a national security frame to engage the Dismissive segment (because this group typically skews Republican or conservative) resulted in anger, rather than persuasion (Myers et al., 2012).

The following table summarizes the recommendations for each group in terms of what the communications goal should be and how to achieve it.

Summary of Messaging Strategies for Six Americas Segments

Segments	Alarmed & Concerned	Cautious & Disengaged	Doubtful & Dismissive
Description	High involvement: believe in climate change and concerned about the threat	Low involvement: uninterested in the issue, have given it little thought	High involvement but negative attitudes: believe climate change is low risk or not even happening
Communications goal	<i>Motivate</i> them to action.	Get them to pay attention so can <i>inform</i> them that climate change is real and problematic	<i>Persuade</i> them that their beliefs are incorrect
Strategies – what to communicate	<ul style="list-style-type: none"> • Don't need to be convinced of reality or the threat. They are most interested in learning about solutions • Build perceptions of efficacy: that they and others are capable of taking action (self and collective efficacy) and that such efforts will be effective in mitigating climate change (response efficacy) 	<ul style="list-style-type: none"> • Personalize the threat – describe impacts on places that are physically close, emotionally significant and on people with whom the target audience can identify • Promote positive social norms: climate action is popular, respected and common. Promote how desirable behaviours are widespread and growing in popularity (rather than trying to extinguish undesirable behaviours by stating how prevalent they are) 	<ul style="list-style-type: none"> • Frame messages in terms of values of audience
Strategies – how to communicate	<ul style="list-style-type: none"> • Because they are high involvement, likely to be receptive to messages with a great deal of information & complexity, as long as they are strong and logically sound. • Motivate Alarmed group to act as opinion leaders – to use their influence in their network to influence the less involved segments 	<ul style="list-style-type: none"> • Barriers for low involved segments are lack of motivation and ability to understand information, thus need to make it as effortless as possible for them • Draw them in: visuals, humour, attractive and credible sources (e.g., spokespersons) • Make messages simple to understand: show rather than tell; use stories or narratives 	<ul style="list-style-type: none"> • Adopt less confrontational, more indirect approach to avoid triggering counter-arguing or dismissal of messages

Source: Roser-Renouf et al. (2014)

Australian segments

Hine et al. (2013) explored how climate segments of the Australian public (Alarmed, Uncommitted and Dismissive) reacted to messaging designed to promote the adoption of climate change adaptation and mitigation behaviours. The stimuli were 60 messages drawn from the Internet, including TV ads, brochures and videos on topics such as readiness for extreme weather events or floods or energy efficiency. Each message was coded across 10 attributes (topic, message source, language complexity, inclusion of adaptation advice, descriptive and injunctive normative influence, and framing linked to geography, consequence, promotion vs. prevention, emotion vs. reason, individual vs. collective) and respondents were asked to judge each in terms of perceived threat, perceived efficacy, danger control and fear control.

Given the sheer number of messages and their varied format, the study pinpointed certain patterns of messaging that were more effective than others (rather than specific messages, per se). The study found that all three segments were more accepting of messages with a high perceived threat and with high perceived efficacy (i.e., providing useful information to effectively deal with the threat). However, it was also found that the segments used different message cues to determine the level of threat and efficacy:

- The Alarmed segment (with the strongest belief in and concern about climate change) preferred messages that emphasized local impacts and collective responsibility for action, and provided specific advice about what actions to take.
- The Uncommitted segment (with moderate belief in and concern about climate change) preferred messages with a strong emotional component and those framed in terms of preventing losses. It was noted that emotional features need to be balanced with a strong efficacy message so that people do not reject the message out of fear (called “fear control response”).
- The Dismissive segment (with very low belief in and concern about climate change) responded most positively to messages with simple language that avoid emphasizing what “most” Australians do to adapt to climate change (i.e., descriptive norms).

Guidelines on climate change messaging

While the U.S. and Australian papers discuss effective communication strategies, they are also noteworthy for what they do not include: recommendations about specific message wording. While there has been a significant amount of research on climate change communications, to date no-one has definitively identified what messages work and don't work. The following summarizes the main themes arising from the existing literature, which can be used as guidelines when developing messages specific to a region, audience or segment.

Information deficit vs. public engagement

There are two schools of thought about what the goal of climate change communications should be: addressing an "information deficit" as a solution for public scepticism towards climate change, or public engagement, meaning people "need to care about the issue, feel motivated and have the ability to take action" (Wibeck, 2013). Recently, there has been a shift away from the belief that increasing public knowledge is sufficient in favour of focusing on public engagement. In fact, these two goals are not mutually exclusive and building scientific literacy and climate change knowledge is generally considered a key part of public engagement.

For instance, a longitudinal study in New Zealand found that "knowing more about global warming and climate change increases overall concern about the risks of these issues, and this increased concern leads to greater perceived efficacy and responsibility to help solving them" (Milfont, 2012).

The Alberta Climate Dialogue was a unique opportunity to explore how an in-depth (42-hour) deliberative process – the Citizens' Panel on Edmonton's Energy and Climate Challenges – influences participants' knowledge of climate change and associated energy issues. Research found higher self-reported knowledge following participation in the deliberative process, in terms of what climate change is, how energy is used in Edmonton, ways to reduce ghge, what energy vulnerability is and how to reduce it (Hobbs and Boulianne, 2014).

Similarly, the Citizens' Panel (2013) noted that "great care was taken to ensure that we built our knowledge on balanced and credible information", allowing them to come to a consensus on recommendations for Edmonton's Energy Transition, despite initially representing multiple perspectives and values. However, it is very difficult, given the nature of the process, to identify which specific information or messages most influenced participants' level of knowledge and/or attitudes towards energy and climate.

The question remains about what type of information is most effective at generating the desired concern and perceived efficacy about climate change. In a study on how to influence conservation behaviour, Frick et al. (2013) found that action-related knowledge (how to tackle environmental problems) and effectiveness knowledge (how to get the greatest environmental benefit) had a direct effect on behaviour, but that system knowledge (how environmental systems work) does not (aside from affecting the other two knowledge types).

"Gateway belief" theory. Experts argue that one piece of information that the public potentially needs to understand is the degree of needs scientific consensus around human-caused climate change. The theory suggests that this understanding serves as a "gateway belief" that influences acceptance of other important beliefs (i.e., climate change is happening, human caused and a serious problem) as well as support for action.

For example, research has found that providing information about the scientific consensus (97% of climate scientists agree) leads to increased acceptance that human CO₂ emissions cause climate change (Lewandowsky et al., 2013). Other research has indicated a two-stage process, whereby "increasing perceptions of the scientific

consensus causes a significant increase in the belief that climate change is (a) happening, (b) human-caused and (c) a worrisome problem. In turn, changes in these key beliefs lead to increased support for public action”, in terms of whether people should be doing more or less about the issue (van der Linden et al., 2015).

Myers et al. (2015) tested how best to communicate the high level of scientific consensus on human-caused climate change. The research found that numeric statements (“97% of climate scientists have concluded...”) are more effective than qualitative statements (“An overwhelming majority of climate scientists have concluded...”), in terms of increasing people’s estimates (i.e., knowledge) of the scientific consensus.

Confirmation bias. A major challenge in climate change communications is the effect of confirmation bias. Confirmation bias is a tendency for people to favour information that confirms what they already think or feel, and dismiss information that would require them to change their minds. For example, Milfont (2012) found a weaker relationship between climate change knowledge and concern among centre-right party supporters. He hypothesized that, because conservative supporters are typically less trusting about the science of human-caused climate change, their confirmation bias may mitigate (weaken) the association.

Barriers to public engagement and potential solutions

The focus on public engagement is the result of the belief that “increased knowledge and awareness on climate change among the public will not automatically lead to lifestyle changes” (Wibeck, 2013). This begs the question, what are the barriers to action (other than understanding) and how can messaging be used to overcome them?

Emotions

The literature consistently points to a lack of effectiveness of fear-based communications. Threatening imagery and messages that induce fear may draw attention to and communicate the importance of the issue, but the levels cannot be sustained over time, and may lead to a lowered sense of efficacy (O’Neill & Nicholson-Cole, 2009; CRED, 2009). This is the basis for the proposed communications strategy for high involvement/Alarmed segments (see pages 19 and 20); since they are already highly concerned about the issue, the focus needs to be on building their empowerment to do something about it.

Markowitz and Sharrif (2012) suggest that appealing to positive emotions (hope, pride, gratitude) may be a more effective method of motivating climate change action than the use of negative emotions (guilt, shame, anxiety).

Local vs. global and now vs. future

There is a well-established pattern whereby people are most concerned about environmental problems at a global level, and less so when considering their own local community. For example, a June 2014 survey found that eight in ten Canadians (79%) believe pollution levels have increased globally over the past two years, while only one-quarter (26%) believe this has occurred in their own backyard (Environics, 2014b). An Edmonton-specific survey conducted in 2010 similarly found that residents express a high degree of concern about environmental issues at the global level, but less so at the local level (Longwoods, 2010).

There is also a tendency to perceive climate change as a future threat rather than something that is having a detrimental effect right now. In 2011, when asked about the most important issue facing the country, 43% of Canadians identified the economy (without prompting), but when asked the most important issue facing the

world in the future if nothing is done about it, the top mention is the environment (including climate change) at 28% (Environics, 2011a).

Essentially these two perceptions allow people to think of climate change as something that primarily affects “others” (either in distant countries or in future generations), making it difficult to motivate them to act today. Experts suggest focusing on the risks and impacts for the individual, their family and local community, as well as local responses or plans of action, as a way to increase connection to the issue (CRED, 2009; O’Neill & Nicholson-Cole, 2009). This is reflected in the strategy proposed for communicating with the low involvement Six Americas segments (see page 19) but also for the Alarmed (high involvement) Australian segment (see page 20).

Motivating climate change action when the threat is seen as a future risk is more complex, however, research suggests that people are more motivated by the possibility of avoiding or preventing losses than by seeking gains. As a result, experts recommend focusing messaging on “losing less now instead of losing more later on” (CRED, 2009) or on the positive consequences of climate change mitigation efforts (gain frame) than on the negative consequences of not undertaking mitigation (loss frame)(Spence & Pidgeon, 2010).

Examples of gain and loss frames

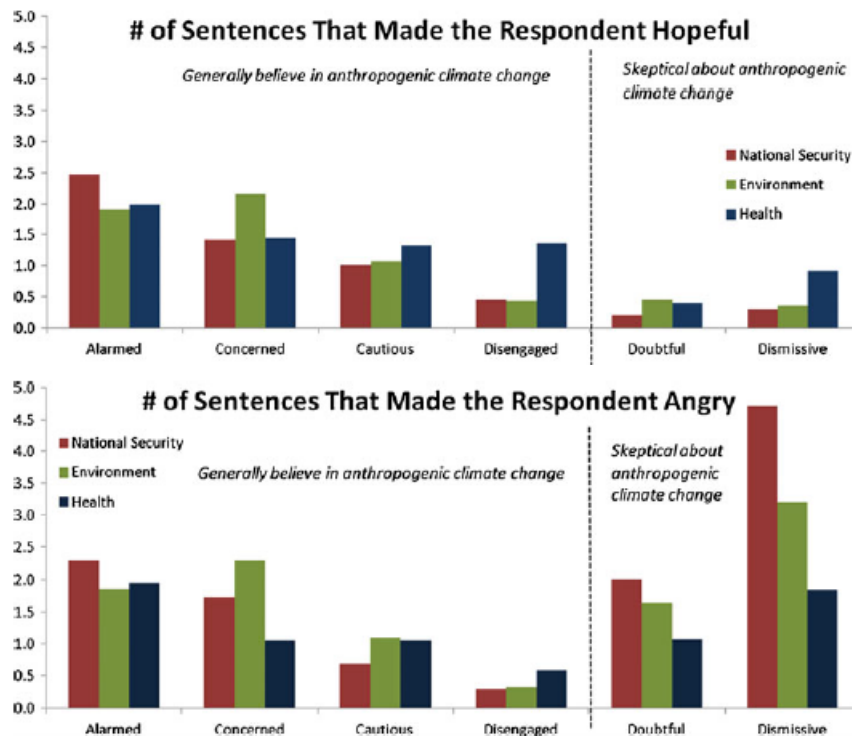
Gain frame	Loss frame
By mitigating climate change, we can prevent further increases in winter floods in maritime regions and flash floods throughout Europe	Without mitigating climate change, we will see further increases in winter floods in maritime regions and flash floods throughout Europe
The mitigation of climate change will prevent further significant warming, which is projected to be greater in the winter in the north and greater in the summer in south and central Europe	Without mitigation of climate change further significant warming will occur; this will be greater in the winter in the north and greater in the summer in south and central Europe
By preventing further sea-level rises, we can prevent the inland migration of beaches and save up to 20% of coastal wetlands, maintaining the habitat availability for several species that breed or forage in low lying coastal areas	With further sea-level rises, beaches will migrate inland and threaten up to 20% of coastal wetlands, reducing the habitat availability for several species that breed or forage in low lying coastal areas

Source: Spence & Pidgeon (2010)

Framing

Framing refers to presenting a message in a way that corresponds with and/or appeals to the inherent values of the recipient. A 2012 study explored how three different messages frames – focused on the environmental, public health or national security risks of climate change – influenced the views of the Six Americas audience segments. The study found that across audience segments, the public health frame was most likely to elicit positive emotions consistent with support for climate change action (i.e., feelings of hopefulness), while the national security frame was the most likely to generate feelings of anger (Myers et al, 2012).

Notably, the national security frame “actually generated substantial anger among the Doubtful and Dismissive segments of the public, both of whom lean conservative in their political outlook”, suggesting a potential backlash against such messaging. The authors hypothesize that these segments disliked an association made between an issue they care about (national security) and one they do not (climate change), or that they were experiencing anger towards the experimenters for presenting “claims about global warming and national security that they as respondents did not perceive as authentic or credible.”



Source: Myers et al. (2012)

The following table summarizes the messages within each frame that were most likely to produce hopeful emotions. In fact, there was considerable consistency across the segments, with the same two sentences generally ranked as most hopeful out of a 600-word article. The authors also noted that the “most hopeful” sentences were those that presented the dual benefits of mitigation efforts on public health/defence/environment as well as global warming.

Messages most likely to produce hopeful emotions

	Sentence	Alarmed	Concerned	Cautious	Disengaged	Doubtful	Dismissive
Public health frame	Redesigning our cities and towns to make it easier and safer to travel by foot, bicycle and public transportation will reduce the number of cars on the road, reduce carbon dioxide emissions, reduce traffic injuries and fatalities, and help people become more physically active, lose weight, strengthen their bones, and possibly even to maintain mentally sharp as they age	1 st (58%)	1 st (55%)	1 st (60%)	1 st (74%)	2 nd (24%)	1 st (79%)
	Using cleaner forms of energy - such as solar and wind power - will reduce air and water pollution, thereby preventing many forms of illness, and help to limit global warming.	2 nd (54%)	2 nd (38%)	2 nd (47%)	--- (37%)	1 st (39%)	2 nd (39%)
Defence frame	Promoting cleaner forms of energy - such as solar and wind power - will drive down the cost of energy, both here and in poor nations that don't have abundant sources of energy, and help to limit global warming.	1 st (64%)	2 nd (58%)	1 st (48%)	2 nd (60%)	1 st (32%)	1 st (54%)
	Improving the energy efficiency of our homes, commercial buildings and factories will strengthen America's economy so that we can afford to keep America's military and national security strong.	2 nd (60%)	--- (49%)	2 nd (36%)	2 nd (60%)	2 nd (26%)	2 nd (52%)
Environment frame	Using cleaner forms of energy - such as solar and wind power - will reduce air and water pollution, thereby reducing the stresses on our ecosystems, and help to limit global warming.	1 st (65%)	1 st (63%)	1 st (23%)	1 st (24%)	2 nd (14%)	--- (13%)
	Preserving our existing forests, and replanting trees in places where they used to live, can help protect many plant and animal species, and absorb carbon dioxide emissions that contribute to global warming.	1 st (45%)	--- (52%)	2 nd (22%)	1 st (30%)	2 nd (14%)	1 st (59%)

Note: Percentages are the within segment percentage of respondents who indicated a given sentence made them feel hopeful.

Source: Myers et al. (2012)

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Climate Change Mitigation Messaging Research

Phase 2: Focus Groups

Prepared for the:

Alberta Energy Efficiency Alliance and
the Cities of Calgary and Edmonton

July 7, 2015

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Introduction

Background and Objectives

Climate change is arguably the most important environmental issue facing the world today. In Canada, governments at all levels are working on strategies to engage citizens, businesses and other stakeholders in mitigating climate change by reducing their contributions to the greenhouse gas emissions (ghge) that cause the phenomenon.

The Cities of Calgary and Edmonton have commissioned research to identify communications strategies, including words, phrases and messaging, that resonate with citizens on the topics of climate change and energy. The focus is on language, messages and forms of communication that are most effective in helping Alberta's large urban populations make the connections between energy and climate change and make choices that reduce carbon pollution, including conservation, energy efficiency and using clean forms of energy.

The specific objectives of the research are to:

- measure people's understanding of climate change and things related to climate change, including other names or terms used to describe it;
- obtain information about perceptions, beliefs and language regarding climate change in Alberta's large urban areas;
- segment the audience to enable the creation of targeted strategies;
- identify the language, by segmented audience, that moves perceptions and beliefs along a continuum of awareness to adoption;
- determine the most resonate value proposition (i.e., they why) on climate change for populations in Alberta's large urban areas;
- determine what or if expectations exist for municipalities to take action to mitigate climate change; and
- test messages to see which resonate best for which market segments.

The results of the research will be used by the municipalities to develop communications and programming that will engage citizens in the changes needed to "turn the curve" on the impact of lifestyle on climate.

The research

The research involves three phases: (1) literature review, (2) focus groups and (3) an online survey. This report presents the results from the Phase 2 focus groups. The purpose of this phase is to explore public attitudes, beliefs and assumptions about climate change mitigation and initial reaction to messaging options, which can then be used to develop messages specific to the Alberta population. The online survey will then serve to confirm public reaction to the messaging and the language used.

Methodology

Four in-facility focus groups were conducted, two in Calgary on June 8, 2015 and two in Edmonton on June 9. In each city, one group was conducted with younger residents (aged 18-40 years) and one with older residents (aged 41-70 years). All participants were recruited to be at least somewhat engaged in social, environmental and

economic issues and government policies, and to exclude climate change deniers. In the latter case, the choice was made to include only individuals who are open to change, recognizing that the resources/efforts required to convert deniers are high and are typically not recommended as a focus of communications.

Statement of limitations: Qualitative research provides insight into the range of opinions held within a population, rather than the weights of the opinions held, as would be measured in a quantitative study. While the results of the focus groups cannot be projected to the full population of Calgary/Edmonton residents, it can be used as directional information in developing climate change messaging.

Executive Summary

What are the existing attitudes, beliefs and assumptions about climate change mitigation among Calgary and Edmonton residents?

- Climate change is among the top environmental issues of concern, because of its implications for human survival. Understanding of the phenomenon ranges from basic to fairly sophisticated, but it is generally understood to represent a long-term pattern of change in climate, due to the addition of greenhouse gases (ghg) or carbon to the atmosphere, causing changes in the earth's natural cycles and resulting in ice melt and rising ocean levels. Notably, when discussing the causes of climate change, participants do not explicitly connect the problem to the energy we use in our homes and for our cars.
- There is limited awareness of current impacts of climate change in Calgary and Edmonton, aside from higher food prices and the perception of different climate conditions than in childhood (e.g., drier winters, earlier springs, hotter summers). There are mixed views about whether the 2013 Alberta floods are evidence of climate change. When considering future impacts, there was almost no discussion of the potential negative effect on human health (e.g., disease).
- When discussing solutions to climate change, there is a sense of hesitation or lack of confidence that the issue can and will be addressed. This is not due to a perceived lack of strategies, since participants were able to come up with a broad range of ideas for addressing climate change. Instead, there is a feeling that the onus for change has been placed squarely on individuals, and that they are not seeing action or leadership from governments (including at the municipal level) or from business and industry.
- Participants may also be disheartened by the long list of intractable barriers: consumerism; growing fossil fuel emissions in developing countries; lack of a technological solution to limit or eliminate fossil fuels emissions; uncertainty about whether green products are really better for the environment; the province's economic reliance on the oil & gas and coal industries; the high up-front costs of making changes, like installing solar panels or building public transit; and the perceived lack of willingness on the part of citizens to make changes that negatively affect their comfort or convenience.
- Despite these barriers, many participants have taken steps in their day-to-day lives that help address climate change, but the primary motive is almost always cost or convenience rather than for climate change or environment-related reasons.

What are the implications for climate change messaging?

- People are looking for leadership on the issue of climate change, and without this direction or coordination, feel they are doing the best they can at an individual level. It is critical to communicate what is expected of them as citizens and consumers, and then to build efficacy that not only can they successfully undertake these actions, but that such actions will make a difference in addressing climate change.
- To the extent possible, frame the messaging in a positive way. The focus should be on solutions, not problems, and on gaining/winning/improving quality of life rather than on loss/sacrifice/giving up. Build a sense of action/progress and inclusivity around each City's climate change endeavours.

- It may be worthwhile to build a stronger understanding of the direct connection between personal energy use and climate change, so that people grasp why they are being asked to make energy-related changes. However, people also need to understand the direct benefits to them, in the form of cost savings, convenience or health reasons, since concern about climate change is unlikely to be a sufficient motivator.
- Spread the pain/responsibility around. Make it clear what City government itself is doing and how industry is being asked (or regulated) to contribute.

Detailed Findings

General views about environment and climate change

Top environmental issues. When asked what environmental issues are of most concern to them, participants were most likely to mention air and water pollution and climate change/global warming (with the exception of the older Edmonton group, where climate change was not mentioned among the top concerns). These environmental issues appear to rise to the top due to fears about their impact on human health and survival, and are generally consistent with the pattern of response observed in recent public opinion surveys.

Other environmental issues identified include: waste management and recycling (including electronic waste); natural resource overuse and depletion; dependence on fossil fuels and need for alternate energy sources; loss of animal habitat; and, food scarcity. There were only one or two mentions of the oil sands as an environmental concern.

Understanding of climate change. Participants demonstrated a range of understanding about climate change, from basic to fairly sophisticated. Their descriptions demonstrate that climate change is not an easy phenomenon to explain, but the common themes tend to be that:

- Climate change reflects a pattern of change occurring over a long time span, and not just weather changes happening day-to-day;
- It is due to the pollution/greenhouse gases/carbon dioxide emissions being added to the atmosphere;
- It is causing changes to our natural climate systems, in terms of how air and water/ocean currents circulate;
- It is resulting in melting ice cover and higher ocean water levels.

Some participants remain sceptical that climate change is something other than part of a natural cycle or that it is being caused by human activity. A few people mentioned some “misinformation” they have seen in the form of books or media reports. There are also a couple of participants who continue to confuse climate change with the issue of ozone depletion, likely because both are related to human greenhouse gas emissions.

“I believe there is a cycle and we are just in an upswing. Is carbon dioxide really contributing? I don’t 100 percent believe it’s been proven.” (Older group, Calgary)

There is no consensus about whether climate change and global warming have the same or different meanings. Some participants said they are synonyms, while others said that global warming contributes to climate change. The view was expressed that “global warming” could actually be perceived as a positive thing for Alberta, particularly if it means more moderate winters.

Participants appear to have some familiarity with climate change terminology, if not the specific mechanics. For instance, most respondents had previously heard the term “greenhouse gases” (ghg) and some were able to name one or two, the most common being carbon dioxide and methane (which represent the bulk of ghg emissions around the world). Carbon was generally understood in relation to reducing one’s “carbon footprint”, which was interpreted as reducing their overall environmental impact.

What participants did *not* explicitly verbalize is the connection between climate change and energy use: that burning fossil fuels for our home energy and transportation needs is a major source of ghg emissions, and thus the one that most needs to be addressed.

Personal experience with climate change. Some participants were able to identify examples of ways in which climate change is directly affecting them or others in Calgary/Edmonton right now, including:

- Higher food prices due to the drought in California
- Lower water levels in Alberta’s lakes
- Seasons changing at different times, with winters getting shorter and spring starting earlier
- Less snow in winter and hotter summers/sunshine than previously remembered/in childhood

Not everyone agreed about whether the 2013 floods in Alberta are evidence of climate change or not. Some felt that floods are happening more frequently now which is evidence that they are climate-change related, while others felt that they were weather-related (and that in fact, less snow cover should mean less flood events).

Participants also identified the following *potential* impacts, including:

- The economic impact – This includes job losses and other economic impacts due to the “natural” effect of climate change on industry (i.e., some industries like natural gas because less necessary as winters become warmer) and due to regulatory change (e.g., tougher restrictions on oil sands), as well as higher prices that reflect the carbon footprint of products/services
- Less predictable weather and extreme weather events, including storms, tornados and forest fires;
- Food security issues, as the conditions for farming and fishing worsen
- Higher sea levels and flooding, resulting in population migration
- Biodiversity issues, as species change native to an area change

There was no mention of the direct impacts on human health (e.g., through disease), aside from a single mention of Lyme disease becoming increasingly common.

Future outlook if climate change continues. There are two main predictions that participants consistently make for Calgary/Edmonton 25 years from now, if nothing happens and climate change continues at the current rate. First is that conditions will be much drier and that water restrictions will be necessary, similar to the situation in California today. The second prediction is changes to our lifestyles because things will be more expensive, for example, forcing people to live more densely and build greener buildings.

Responsibility and action on climate change

Is climate change actionable or inevitable? There are mixed views about whether we can do anything about climate change or if it is inevitable. Some people say it is possible to reduce climate change (if not stop it altogether), because even little steps that people take make a difference and because we have some of the necessary technological developments (e.g., alternate energy sources, electric vehicles).

However, at the same time, there is not a lot of confidence that change can or will occur, due to the following barriers:

- consumer demand is not going to go down or disappear, especially in Alberta with a relatively wealthy population and a preference for “big” cars and homes;
- climate change is a global problem and the fossil fuel contribution of developing countries like China and India will only increase;
- There is no effective technological solution to eliminate (or strongly limit) fossil fuel use;
- There is scepticism that “green” options really are better for the environment (e.g., electric cars require a lot of resources to produce and parts have to be brought from many different countries)

“There are already electric cars, solar panel and wind power. Stuff’s already going in that direction. It just all comes down to money. Once that’s an economic choice, it’ll just keep going and we’ll fix a lot of these problems.” (Younger group, Calgary)

“I’m making a difference by reducing, but in my heart of hearts, we are beyond the point of no return.” (Older group, Edmonton)

Responsibility. When asked whose responsibility it is to take action on addressing climate change, the almost unanimous response is that it is everyone’s responsibility – in part because no individual can make enough of a difference on their own.

“I feel like individuals feel a lot of onus to change their own behaviours, but we are not the ones as individuals that are going to make a difference....Every individual should be doing something, but I don’t feel it should be downloaded to an individual level the way it has been. The progress has just been too slow to make a difference that way.” (Younger group, Edmonton)

“It can’t all ride on the back of us as citizens. We are already carrying so much. I feel overwhelmed sometimes.” (Older group, Edmonton)

Participants want to see involvement from all three levels of government, encouraging change through laws and regulations, by offering incentives, and by showing leadership and setting an example for others – both citizens and other jurisdictions. There is a sense that starting with grassroots action (such as at the individual or municipal level) and building up (to the provincial, federal or even international level) will be more effective than top-down decision making. A few participants expressed an interest as citizens in being consulted or being part of the process, rather than change being dictated by government.

The main role for municipalities is seen to be with the things they are responsible for that can help to address climate change (e.g., recycling/composting, community gardens, transit, bike lanes). There is recognition that some things – like introducing a carbon tax – are undesirable since they would make the city less economically competitive.

Generally participations believe that business and industry will not act voluntarily to address climate change and will need to be forced, either through regulations or when it starts to negatively affect their bottom line. Aside from that, there was little discussion about the responsibilities of industry with regard to climate change.

Strategies to address climate change. Participants were asked to work in pairs to identify strategies or policies at the local level to address climate change. The following main themes emerged:

- Encourage alternatives to driving - suggestions include public transit, carpooling, HOV lanes, road tolls and biking infrastructure.
- Build smarter communities – this involves better planning and intensification. It also relates to reducing car use, since participants feel both cities have made it easier and more efficient to drive than to use public transit.
- Build smarter buildings – make homes, offices and public buildings more energy efficient through retrofitting (e.g., windows, insulation), green roofs and alternate energy sources (e.g., solar power).
- Grow food locally, such as in community gardens
- Inform and educate citizens about climate change actions, especially young people/students
- Offer incentives (e.g, tax deductions for investing in solar panels, high efficiency furnaces) and introduce dis-incentives (e.g., charge for excessive garbage, higher insurance costs for those with bigger carbon footprints)

A couple of solutions were also commonly identified that in fact are unlikely to help *prevent* climate change. The first is reducing water use, which is more of an adaptation in preparation for drier conditions. Recycling also continues to be viewed as a panacea, with some participants suggesting that it is better to recycle an existing product than to use the resources necessary to create a new product from scratch. These two proposed strategies suggest a lack of awareness of the connection between reducing energy use and addressing climate change, and a lack of differentiation between climate change and other environmental concerns.

Participants were also asked for their reaction to specific ideas and strategies to address at climate change that have been discussed at the municipal level (regardless of whether or not it had also been raised earlier in the discussion).

In general, participants were receptive to the ideas but had some reservations, mostly related to cost. Some of the comments suggested they would support the idea until they were personally affected (e.g., had to apply energy efficiency labels to their home, have higher property taxes to pay for public transit). On the other hand, a few made the argument for “taking the bull by the horns” and putting some of these ideas into action, since we would be in a much better position today if we’d had the foresight to make big changes (like mandatory solar panels) 25 years ago.

- **More emphasis on solar/wind power to reduce other energy sources.** A few participants questioned the need for this step, indicating that power in Alberta is not expensive and additional capacity is not necessary (e.g., that most existing wind power gets directed to US customers). There was also some concern about the affordability of this option, particularly if it were to be mandated for new homes, and that government incentives would be required.
- **Charging industry for carbon/greenhouse gas emissions.** The main concern here is that it could put the municipality at an economic disadvantage compared to other cities. There were also individual mentions that industry can manipulate the system by trading credits (and thus being allowed a higher emissions

limit) and that the revenue should be recycled for a relevant purpose (e.g., such as for a solar panel subsidy).

- **Putting energy efficiency labels on houses.** This is probably the best-received idea. The perceived benefits are that it conditions people to think about energy efficiency as a feature and build it into their decision-making, and is an incentive for people to make energy efficient changes to their homes. It is also easy to understand, since it is similar to existing systems for rating the efficiency of vehicles or appliances. Again, the main disadvantage is perceived to be the cost (particularly for older, lower-income households) of having an assessment done and potentially getting less money for their home if it receives low(er) ratings.
- **Requiring renovations be done in way that reduces energy use.** Participants were open to the idea in theory, but felt it would be complicated to regulate and ensure compliance and would require financial incentives.
- **Encouraging use of transit and active transportation.** This is something that participants are particularly interested in, but don't feel their transit systems are currently extensive enough to allow without significant inconvenience (e.g., hour-long commutes versus 15 minutes by car). Weather, bike safety and lack of walk-able neighbourhoods are also cited as concerns for not using active transportation.
- **Planning our cities to increase density and reduce driving.** This idea was also of particular interest to participants, in part because it does not place the burden of responsibility on them as individuals and because it will give them more options for making energy-efficient choices. One concern was the need to change the mentality of wanting big cars and big homes with lots of space and being more accepting of densely planned communities.
- **Mandating electric vehicle plug-ins in all new homes.** Concerns here include requiring people to pay for home features they do not want or need, and whether there is enough evidence that electric vehicles are the way of the future (as opposed to hydrogen fuel cells, for example).

"I think most people buy into that stuff when they are improving their quality of their life, when they see it. I think people are willing to pay for that when their quality of life is improved." (Older group, Calgary)

Are Calgary and Edmonton leaders or laggards, and what are barriers to action? Calgarians feel their city lags behind others on climate change action, while Edmontonians consider their city to be average (neither ahead nor behind). Edmontonians are proud of their role as a municipal recycling leader, which suggests there is potential to appeal to citizen pride in building climate change leadership.

Vancouver is consistently held up as a leader on climate change action, due to its public transit and its attitudes towards environmental issues, as are European countries.

Participants identified a number of reasons why more is not being done to address climate change, including:

- The province's economic reliance on the oil & gas and coal industries, making it difficult and unpopular to impose changes or restrictions;
- High up-front cost to making major changes, like installing solar panels

- Election cycle (every 4 years) is too short to allow for policies that encourage long-term change
- Lack of options available to citizens, such as public transit or smart communities.
- A “big” mentality, meaning a preference for big cars and homes
- No geographic limits on urban sprawl, such as mountains or oceans
- Laziness or dislike for change on the part of individuals, who want comfort and convenience above all and are not willing to make sacrifices

Participants identified a need for citizens to put a priority on climate change and to make their opinions heard at the ballot box, to force governments to listen and start to act. However, it is less clear to them how to raise the profile of this issue – until it starts to affect our comfort levels.

“People react more when it affects their life and I hate to say it, but that means bad things...Things are pretty good and people get apathetic when things are good.” (Older group, Calgary)

“It has to be more uncomfortable to stay the same than to change.” (Older group, Calgary)

Participants in the Edmonton groups were not aware of Edmonton’s Community Energy Transition Strategy (CETS), just announced in April. Based on a very short description, they had a positive reaction to the idea but would need to wait to see the impact.

Personal action on climate change. Participants have no trouble identifying steps they have personally taken in their day-to-day lives (or that they could take) that help address climate change. However, by and large, most say these steps are undertaken for reasons related to cost or convenience, rather than to help reduce their impact on climate change or the environment. The most commonly mentioned changes include:

- Getting a smaller car or getting rid of their car altogether. The main reasons cited include avoiding the stress of traffic and the cost of gas and parking.
- Doing more walking and biking. Participants who do this say it is more for reasons of health/fitness, happiness, cost savings and to enjoy the summer weather, than to address climate change.
- Household actions such as turning lights off, using reusable shopping bags and water bottles, using green cleaning products, recycling and composting, flushing the toilet less frequently, and hanging clothes to dry on a rack instead of putting them in the dryer.
- Choosing to live in denser neighbourhoods/near transit. For these participants, the decision is primarily based on the length of the commute to work, and thus convenience.

Climate change messaging

The final exercise involved the participants working in pairs or small groups to come up with some ideas about the most persuasive message to motivate people to either take action personally to reduce their impact climate change or to support government policies designed to address climate change. The following summarizes participants’ messaging ideas:

- Focus on the future, particularly in terms of leaving a legacy for your children and future generations. Suggested messaging includes: “oil isn’t forever but the earth is” and “take action today to benefit tomorrow.”
- Combining the idea of a future-focused lens with the economic implications of climate change, communicate the need to “pay now or pay more later”.
- Promote the dual benefits of climate change action. For example, making home energy efficiency changes helps you save money and the earth, while cycling helps you become healthier and addresses climate change.
- Focus on the solution not the problem, and communicate it in a way that does not come across as a sacrifice. Ensure people feel they are getting something better in return (“you can live better by taking this action...”). To the extent possible, what is being asked of people needs to be relatively easy for them to undertake.
- Personalize the message, make it relevant to the target audience and be clear on what the benefit is to them (e.g., the focus on personal health in smoking ads). On a related note, use testimonials and people’s stories to create a genuine connection.
- Promote the sense that these changes are socially acceptable or the norm, similar to putting a seat belt on and properly disposing of litter. The message should be inclusive and remove any related stigma, and not shame people or make them fearful .
- Create some excitement or a feeling that something is happening, potentially by making these actions a point of civic pride or competition, and by using terms such as “transition”, “change” and “evolving”.

In Calgary, participants were asked their reactions to the potential slogan “use less, use cleaner, build better”. There were reservations about the wording “use cleaner”, which could be interpreted as referring to cleaning products, and “use less”, which could be read as “useless”. Other concerns include that the slogan confuses individual (use less, use cleaner) and city (build better) responsibility, and makes it sound like everything has to be changed.

Research methodology

On June 8th and 9th, 2015, Environics conducted a series of four in-facility focus groups with residents of Calgary and Edmonton. The four sessions were distributed as follows:

Date and time	Location	Target Audience
June 8, 5:30 p.m.	Calgary	Younger (18-40 years)
June 8, 8:00 p.m.	Calgary	Older (41-70 years)
June 9, 5:30 p.m.	Edmonton	Younger (18-40 years)
June 9, 8:00 p.m.	Edmonton	Older (41-70 years)

The groups lasted approximately one hour and 30 minutes and consisted of between seven and eight participants (out of eight people recruited for each group).

Environics developed the recruitment screener and provided it to AEEA and the Cities of Calgary and Edmonton for review prior to finalizing. Participants were recruited to be at least somewhat engaged in social, environmental and economic issues and government policies, and were screened to exclude individuals who have lived in Calgary/Edmonton for less than six months and climate change deniers. The latter choice was made to focus on individuals who are open to change, recognizing that the resources/efforts required to convert deniers are high and are typically not recommended as a focus of communications. Normal focus group exclusions were in place (marketing research and media); the screener was also designed to exclude individuals who work for an environmental organization.

All participants were offered an honorarium to encourage participation, as is typical for focus group research. All groups were video and audio recorded for use in subsequent analysis by the research team - during the recruitment process participants were asked to consent to such recording.

All focus groups were moderated by Derek Leebosh, Vice President, Environics.

All qualitative research work was conducted in accordance with the professional standards established by the Marketing Research and Intelligence Association (MRIA) and applicable PIPEDA legislation.



Research instruments

**AEEA
Focus Group Discussion Guide
PN8333**

1.0 Introduction to procedures (10 minutes)

Welcome to the group. We want to hear your opinions. Not what you think other people think – but what you think!

Feel free to agree or disagree. You don't have to direct all your comments to me; you can exchange ideas and arguments with each other too. Please turn off your cell phones as well.

You are being video-taped to help me write my report. I also have some colleagues who are observing us through a two-way mirror. Let me reassure you that everything you say here is anonymous. We are interested in what you think as a group and no one will be quoted or identified by name.

The host/hostess will pay you your incentives at the end of the session.

Let's go around the table so that each of you can tell us your name and a little bit about yourself, such as what part of the city you live in, what kind of work you do and who lives with you in your household.

2.0 General Feelings about Environment and Climate Change (20 minutes)

We are going to be exploring some issues relating to the environment today. When you think about environmental issues that affect us what are the first ones that come to mind? Could you each write down two environmental issues that concern you the most and we will see what people came up with.

PARTICIPANTS WILL EACH READ THEIR RESPONSES AND MODERATOR WILL WRITE ON FLIP CHART

IF NOT MENTIONED: What about climate change?

Let's discuss climate change in greater depth. Can anyone tell us what exactly climate change actually is?

Do you usually refer to it or think of it as "climate change" or global warming"? Are those synonyms or do they each mean something slightly different?

What causes it? **PROBE:** What about "greenhouse gases"? What is a green house gas?

What about carbon in relation to climate change? What is the role of carbon?

How do you see climate change affecting you personally or affecting people in general here in [Calgary/Edmonton]? What would be specific examples of what it could do to us? Could you each jot down the main specific concerns you have about the impact of climate change.

PEOPLE WILL READ OUT WHAT THEY WROTE

PROBE IF NOT MENTIONED: What about “extreme weather events”? Food security? Human health? Future generations?

Is climate change mainly something you see as potentially having an impact on your life in the future or is it something that is already affecting us here in [Calgary/Edmonton]?

If nothing happens and climate change continues at the rate at which it is happening – what would Calgary/Edmonton be like 25 years from now?

3.0 Responsibility and Action on Climate Change (30 minutes)

Can we do anything about climate change or is it inevitable?

Whose responsibility is it to take action in addressing climate change?

PROBE: Federal gov’t? Provincial gov’t? Municipal gov’t? Corporations? We as individuals? The global community?

What can be done to address climate change? Has anyone here ever heard of any strategies or policies to address climate change? I would like you to break into groups of two and I want each pair to discuss and make a list of what you think ought to be done here at the local level to address climate change? It could be things you have heard of or things you think might be good ideas and then we will see what people have come up with.

EACH PAIR TO REPORT ON WHAT WAS DISCUSSED

Do you think we are “on the case” here in [Calgary/Edmonton] in terms of taking action?

Why do you think more is not being done? **PROBE:** Lack of political will? People not being ready to give anything up?

Here are some ideas and strategies to address climate change that have been discussed at the municipal level. Have you heard of each and what is your reaction?

- Putting more emphasis on solar and wind power (and maybe programs to subsidize or encourage people to retrofit home to get power these ways)
- Charging corporations and industry for how much carbon or greenhouse gases they put into the environment, and encourage them to get the carbon costs down
- Putting energy efficiency labels on houses so people know how efficient they are at the time of buying/selling
- Requiring that all renovations be done in a way that reduces the energy use of a home or business
- Restricting the number of cars on the road and encourage people to use transit and active transportation (bikes, walking)
- Changing the way we plan our cities so that we don't always have to drive everywhere and so that we have more density.

Is addressing climate change mainly about all of us changing our lifestyles or is it more about policies being made a much higher level by governments?

4.0 Personal Action on Climate Change (20 minutes)

Let's explore the personal level some more. Have any of you taken any steps personally in your day to day lives to help address climate change? What have you done?

Why have you taken these steps? What was your motive?

PROBE: To save money? Keep up with what others in your community were doing? Doing your part for the planet?

What are the main reasons you don't do more? Why don't others do more?

How would you feel about personally doing some of the following things? Are they things you could realistically see yourself doing?

- Improving the energy efficiency of your home to reduce energy waste
 - Replace windows, insulation, high efficiency furnaces, water heaters
- Getting a more fuel efficient vehicle (small, hybrid, electric)
- Regularly carpool, transit, bike or walk to work or shopping instead of driving
- Buying technology/a device to show the energy performance of your house or car
- Buying “green power” (wind, solar, etc.) from companies like Bullfrog Power etc...

5.0 Messaging (10 minutes)

Part of why we are doing this research is to understand what messages to use to motivate people to either take personal action on climate change or to be supportive of government policies to address it. I want you to work together again in pairs and come up with some ideas about the best message to put out to motivate people? What do you think is the most persuasive reason or message to get people you know to “get with the program”?

EACH PAIR TO REPORT BACK ON WHAT THEY CAME UP WITH

THANK YOU FOR YOUR PARTICIPATION

May 28, 2015

**EnviroNics Research
AEEA/Cities of Calgary and Edmonton
PN8333
Recruitment for Group Discussion**

Respondent Name: _____

Home #: _____

Business #: _____

Group #: _____

Recruiter: _____

GROUP 1

Calgary
18-40 year olds
Monday, June 8
5:30-7:30pm

GROUP 2

Calgary
41-70 year olds
Monday, June 8
8:00-10:00pm

GROUP 3

Edmonton
18-40 year olds
Tuesday, June 9
5:30-7:30pm

GROUP 4

Edmonton
41-70 year olds
Tuesday, June 9
8:00-10:00pm

All must be 18 to 70, be very/somewhat interested in politics and public policy issues. We will screen out those who are "climate change deniers"

Recruit 8 participants per group for a minimum 6 shows.

Hello, I'm _____ from Research House. We are telephoning to invite people to be a paid participant in a group discussion about some public affairs issues facing [Calgary/Edmonton]. May we have your permission to ask you some further question to see if you fit in our study?

1. Are you over 18 and have lived in [Calgary/Edmonton] for at least the last six months?

Yes
No

CONTINUE
TERMINATE

2. INDICATE:

Female	1	
Male	2	GET 50/50 MIX IN EACH GROUP

3. a. Are you or is any member of your household or your immediate family employed in any of the following: **READ LIST**

3 b. Have you ever been employed ...?

	<u>3a</u>		<u>3b (Ever)</u>	
	<u>No</u>	<u>Yes</u>	<u>No</u>	<u>Yes</u>
At a market research agency	()	()	()	()
As a journalist	()	()	()	()
At a public relations agency	()	()	()	()
By an environmental organization	()	()	()	()

IF YES TO ANY OF THE ABOVE – DISCONTINUE

4. What part of [Edmonton/Calgary] do you live in?

TRY TO GET PEOPLE FROM A MIX OF AREAS OF EACH CITY

5. In general, how much attention do you pay to news about social, environmental and economic issues and government policies? **READ**

A great deal of attention	CONTINUE
Some attention	CONTINUE
Very little attention	TERMINATE
No attention at all	TERMINATE
DK/NA	TERMINATE

6. When it comes to the scientific evidence around global warming, which one of the following three statements best fits your own view: **READ**

01 – The science is conclusive that global warming is happening and that it is caused mostly by human activity **CONTINUE**

02 – The science is conclusive that global warming is happening, but it's not yet been proven that it's caused by human activity **CONTINUE**

03 – The science has not yet conclusively proven that global warming is happening at all
 **TERMINATE**

7. We have been asked to speak to participants from all different ages. So that we may do this accurately, may I have your exact age please. _____. **WRITE IN**

- 18-24 years of age..... 1 **GROUPS 1 AND 3**
- 25-30 years of age..... 2 **GROUPS 1 AND 3**
- 31-40 years of age..... 3 **GROUPS 1 AND 3**
- 41-50 years of age..... 4 **GROUPS 2 AND 4**
- 51-60 years of age..... 5 **GROUPS 2 AND 4**
- 61-70 years of age..... 6 **GROUPS 2 AND 4**
- 71 years or more 7 **TERMINATE**

8. Could you please tell me what is the last level of education that you completed?

- Some High School only.....1
- Completed High School.....2
- Trade School certificate.....3 **GET MIX**
- Some Post secondary.....4
- Completed Post secondary.....5
- Graduate degree.....6

9. Are you working (**CHECK QUOTAS**)?

- Full Time (35 hrs. +) ()| 4 minimum
- Part Time (under 35 hrs.) ()
- Homemaker () 2 maximum
- Student () 1 max.
- Retired () 2 max.
- Unemployed ()| 1 max.

10. What is your current occupation?

Type of Job

Type of Company

IF ANY CONNECTION TO STANDARD OR PROJECT RELATED OCCUPATION IN Q. 3a/b – TERMINATE...SOMEONE IN HOUSEHOLD MUST BE EMPLOYED

11. Which of the following categories best corresponds to the total annual income, before taxes, of all members of your household, for 2014? READ

- 01 - Under \$30,000
- 02 - \$30,000 to \$60,000
- 03 - \$60,000 to \$100,000
- 04 - \$100,000 to \$150,000
- 05 - \$150,000 and over
- 99 - REFUSE/DK/NA

GET MIX OF INCOMES

TERMINATE

12. Participants in group discussions are asked to voice their opinions and thoughts, how comfortable are you in voicing your opinions in front of others? Are you... (Read list)

Very comfortable.....1- **MIN 5 PER GROUP**

Fairly comfortable...2

Not very comfortable.3|- **TERMINATE**

Very uncomfortable...4|- **TERMINATE**

13. Have you ever attended a focus group or a one-to-one discussion for which you have received a sum of money, here or elsewhere?

Yes 1

No 2 ---> **(SKIP TO Q.17)**

IF YES ASK:

14. When did you last attend one of these discussions?

(TERMINATE IF IN THE PAST 6 MONTHS)

15. What was the subject matter?

(TERMINATE IF IT RELATED TO ENVIRONMENTAL ISSUES)

16. How many focus groups or one-to-one discussions have you attended in the past 5 years?

(SPECIFY)

IF MORE THAN 5, TERMINATE.

ASK ALL

17. Sometimes participants are also asked to write out their answers on a questionnaire. Is there any reason why you could not participate? If you need glasses to read, please remember to bring them. (Add hearing impairment.)

Yes.....1 - **TERMINATE**

No.....2

NOTE: TERMINATE IF RESPONDENT OFFERS ANY REASON SUCH AS SIGHT OR HEARING PROBLEM, A WRITTEN OR VERBAL LANGUAGE PROBLEM, A CONCERN WITH NOT BEING ABLE TO COMMUNICATE EFFECTIVELY.

All participants in this study are asked to bring to the group PICTURE IDENTIFICATION. If you do not bring your personal identification then you will not be able to participate in the session and you will not receive the incentive fee. Are you going to bring along your ID?

Yes.....1

No.....2 - **TERMINATE**

The session is 2 hours in length, but we are asking that all participants arrive 15 minutes prior to the start time of the session. Are you able to be at the research facility 15 minutes prior to the session time?

Yes.....1-**CONTINUE**

No.....2-**TERMINATE**

I would like to invite you to a group discussion on:

The interview will last 2 hours in total and you will receive **\$100** to thank you for your participation.

Location:

June 8th - Calgary
Qualitative Coordination
707 10th Avenue SW, Suite 120
403.229.3500

June 9th - Edmonton
Trend Research
10147- 104 Street
780.485.6558

INTERVIEWERS:

Tell respondent that it is a small group and anyone who does not show or cancels at the last minute will compromise the project. Make sure they know we feel their opinions are valuable and we are serious about finding out what they have to offer.

NOTE:

PLEASE TELL ALL RESPONDENTS THAT THEY WILL RECEIVE A CONFIRMATION CALL THE DAY PRIOR TO THE SESSION. IF FOR SOME REASON THEY HAVE NOT HEARD FROM US THEY SHOULD CONTACT US AT _____. IF THEIR NAME IS NOT ON THE ATTENDANCE FORM THEY WILL NOT BE ADMITTED TO THE GROUP.



Climate Change Mitigation Messaging Research

Phase 3: Online survey

ENVIRONICS
RESEARCH

Research objectives

The Cities of Calgary and Edmonton commissioned research to identify communications strategies that are most effective in helping Alberta's large urban populations make the connections between energy and climate change and make choices that reduce carbon pollution, including conservation, energy efficiency and using clean forms of energy. The specific objectives of the research are to:

- measure people's understanding of climate change and things related to climate change, including other names or terms used to describe it;
- obtain information about perceptions, beliefs and language regarding climate change in Alberta's large urban areas;
- segment the audience to enable the creation of targeted strategies;
- identify the language, by segmented audience, that moves perceptions and beliefs along a continuum of awareness to adoption;
- determine the most resonate value proposition (i.e., they why) on climate change for populations in Alberta's large urban areas;
- determine what or if expectations exist for municipalities to take action to mitigate climate change; and
- test messages to see which resonate best for which market segments.

The results will be used by the municipalities to develop communications and programming that will engage citizens in the changes needed to “turn the curve” on the impact of lifestyle on climate.

Executive Summary

- The survey used the Six Americas segmentation to segment the target audience on their climate change attitudes and found that most Calgary and Edmonton residents fall at the higher end of the spectrum in terms of their belief in and concern about the issue. It is likely unproductive to spend resources to persuade the relatively small Doubtful and Dismissive segments of the existence of climate change. Instead, the focus can and should be on the other segments:
 - Alarmed and Concerned: motivating them to take action (including supporting city government policy)
 - Cautious: informing them of the threat, ideally in terms of its local and personal nature, in order to move them up the spectrum into the Alarmed/Concerned segments
- The results suggest the most appealing arguments for taking action and/or supporting city government policy are those that stress benefits for the individual: cost savings, quality of life and health, and that changes are easy to make. This is particularly notable in light of the fact that the large majority of residents – regardless of segment - rated cost as a major barrier to making changes to address climate change.
- While most residents are concerned about climate change, the results correspond with other research (by Environics and others) indicating that relatively few see the threat as immediate, local and/or personal. The academic literature suggests that efforts to engage citizens on this topic need to make the threat more concrete (without causing excessive fear).
- Most residents do not feel well-informed about the topic of climate change, nor do they express a keen interest in learning more. However, there is room for greater understanding of the connection between home energy use and climate change, particularly to help citizens understand why they are being asked to make certain types of lifestyle changes.
- Residents want to see more action on climate change from all sectors of society: citizens themselves, industry and government – including their city government. This translates into majority support for the policy options presented in the survey, most notably for new building regulations and incentivizing solar panel installations. There is also a moderate level of interest in taking the types of actions needed, especially where it relates to improving their home's energy efficiency.
- The results are notably consistent between Calgary and Edmonton, suggesting that residents of the two cities do not have substantially different views about climate change or positions on the potential solutions.

Methodology

- The research was conducted in three phases: (1) literature review, (2) focus groups and (3) an online survey. This report presents the results from the Phase 3 online survey. (The Phase 1 and 2 results are presented under separate cover).
- The online survey was conducted with 311 residents of Calgary and 291 residents of Edmonton (18 years or older), between July 23 and 27, 2015.
- Respondents were recruited from an online panel. As online panels are non-probability samples, no margin of sampling error is cited (in accordance with the standards of the Marketing Research and Intelligence Association).
- The sampling method was designed to complete interviews within households selected across the cities, with quotas set by age and gender within city to ensure as representative a sample as possible and to enable analysis by population segments.
- The data are statistically weighted to ensure the sample's age and gender composition reflects that of the actual adult Calgary and Edmonton populations according to the 2011 Census.
- In this report, results are expressed as percentages unless otherwise noted. Results may not add to 100% due to rounding or multiple responses. Net results cited in the text may not exactly match individual results shown in the charts due to rounding.

Audience segmentation

Six Americas segmentation

One of the main objectives of the research was to segment the Calgary and Edmonton populations, in order to facilitate targeted messaging. The literature review identified Global Warming's Six Americas, developed by the Yale Project on Climate Communication, as the best-known and most widely used approach to segmenting the public by their orientation to climate change. Initially developed in 2008, Six Americas has subsequently been used in various American states and other jurisdictions (e.g., Australia), although it does not appear to have been used in Canada before now.

The objective of the Six Americas segmentation is to “identify audience segments within the American adult population that could be considered as potential targets for global warming public engagement campaigns” (Maibach et al., 2011). The variables selected for use in the model were based on the “nature of the global warming public engagement challenge – i.e., the need to build public understanding and support for appropriate public policies, and to change the behavior of large numbers of people.” Thus, the inputs included behaviours (i.e., what people are doing) and motivations (i.e., why they are doing it) as well as preference for various policy solutions. A total of 36 variables were measured; subsequently, a manual has been produced to allow the segments to be replicated using the full 36-measure tool or a shorter 15-measure tool. For this current survey, the 15 measures were incorporated into the questionnaire and the segmentation was calculated for Calgary and Edmonton.

The Six Americas segmentation generates six groups, which are illustrated “across a spectrum of concern and issue engagement, with segments that accept and reject climate science at the ends of a continuum, and those that are less certain and less engaged in the middle. At one end of the spectrum are the **Alarmed**, who are very concerned about the threat of global warming and support aggressive action to reduce it. At the other end are the **Dismissive**, who do not believe global warming is real or a problem, and are likely to think it is a hoax. Between these two extremes are four groups – the **Concerned**, **Cautious**, **Disengaged** and **Doubtful** – with weaker beliefs that fall between the two extremes.” (Leiserowitz et al., 2014)

Sources:

Maibach EW, Leiserowitz A, Roser-Renouf C, Mertz CK (2011) Identifying Like-Minded Audiences for Global Warming Public Engagement Campaigns: An Audience Segmentation Analysis and Tool Development. PLoS ONE 6(3): e17571. doi:10.1371/journal.pone.0017571

Leiserowitz, A., Maibach, E., Roser-Renouf, C., Feinberg, G., Rosenthal, S., & Marlon, J. (2014) Public Perceptions of the Health Consequences of Global Warming: October, 2014. Yale University and George Mason University. New Haven, CT: Yale Project on Climate Change Communication

Six Americas segmentation - definitions

The following are thumbnail descriptions of the Six Americas segments:

- **Alarmed:** Most engaged on the issue of climate change. Most convinced that it is happening, is human-caused and that it is a serious and urgent threat.
- **Concerned:** Also convinced that climate change is a serious threat, but compared to Alarmed segment, are less involved in the issue and less likely to be taking personal action.
- **Cautious:** Believe climate change exists, but less certain that it is caused by human activity and less concerned about it. Less likely to hold strongly formed opinions and in fact more likely than other segments to feel they could change their mind about climate change.
- **Disengaged:** Haven't thought much about the issue and also likely to say they could easily change their mind. Most likely to select "don't know" option in response to questions used to determine the segments.
- **Doubtful:** Divided as to whether climate change is happening, but if it is, believe it is due to natural causes.
- **Dismissive:** Actively engaged on the issue, but at the other end of the spectrum from the Alarmed segment. Most likely to believe that climate change is not happening and that it is not a serious or urgent threat.

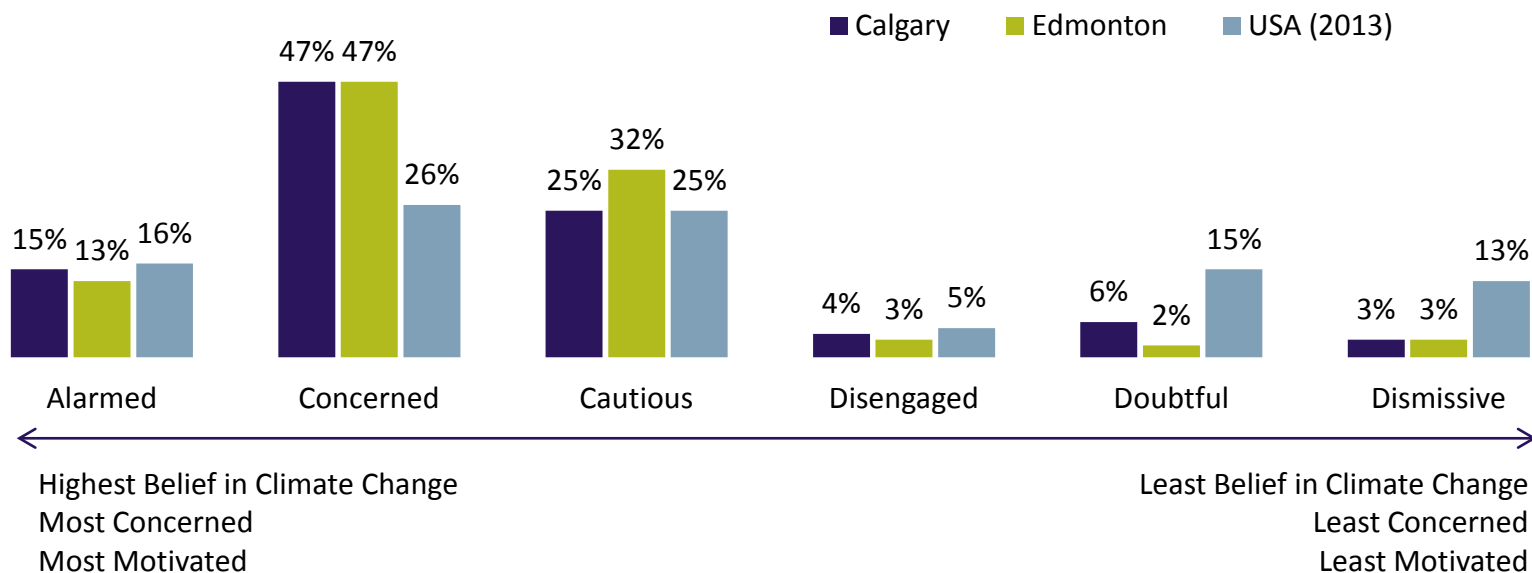
Sources:

Maibach EW, Leiserowitz A, Roser-Renouf C, Mertz CK (2011) Identifying Like-Minded Audiences for Global Warming Public Engagement Campaigns: An Audience Segmentation Analysis and Tool Development. PLoS ONE 6(3): e17571. doi:10.1371/journal.pone.0017571

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Most Calgary and Edmonton residents fall at the higher end of the spectrum in terms of climate change belief and concern

Six Americas segments by region



By applying the Six Americas segmentation to Calgary and Edmonton residents, it is clear that most residents in both cities fall into the segments that are more likely to believe in and be concerned about climate change: 87 percent of Calgarians and 92 percent of Edmontonians fit the Alarmed, Concerned or Cautious categories. Very few (13 percent of Calgarians and 8 percent of Edmontonians) fall at the lower end of the spectrum (Disengaged, Doubtful or Dismissive). This indicates that there are relatively few residents who don't believe in or aren't concerned about climate change, and that there is a little benefit in a persuasion campaign to change their minds (which would likely be an uphill battle); the focus can and should be on the messaging that will appeal most to the other segments.

The segment sizes are very similar between Calgary and Edmonton. Notably, residents of these cities are almost twice as likely as Americans to be in the Concerned segment, and much less likely to be Doubtful or Dismissive of climate change.

Note: In the remainder of the report, the Alarmed and Concerned segments have been combined since the size of the Alarmed segment is too small to report alone. The same is true for the Disengaged, Doubtful and Dismissive segments.

The orientation of the segments is evident in their views about the nature of climate change and their level of concern and engagement

Summary of key measures that define the Six Americas segments

	City		Segment		
	Calgary	Edmonton	Alarmed/ Concerned	Cautious	Disengaged /Doubtful/ Dismissive
Think that climate change is happening (Q1)	90%	89%	99%	84%	49%
Believe it is caused mostly by human activities (Q2)	61%	70%	84%	47%	10%
Very or somewhat concerned about climate change (Q5)	83%	83%	99%	68%	28%
Thought a lot/some about climate change before today (Q10)	74%	63%	82%	51%	37%
Issue of climate change is extremely/very important to you personally (Q11)	35%	25%	48%	2%	5%
Agree that “I could easily change my mind about climate change” (Q14)	42%	37%	27%	64%	45%

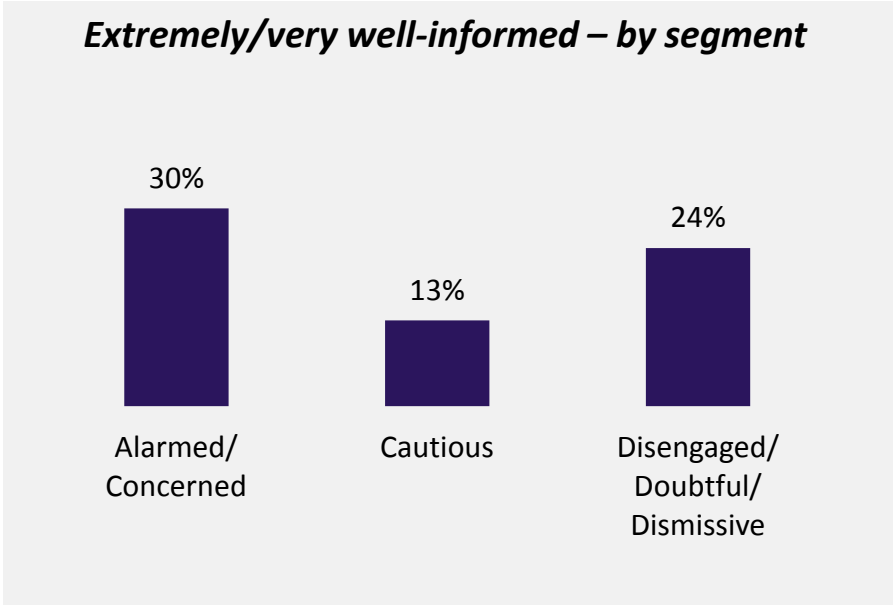
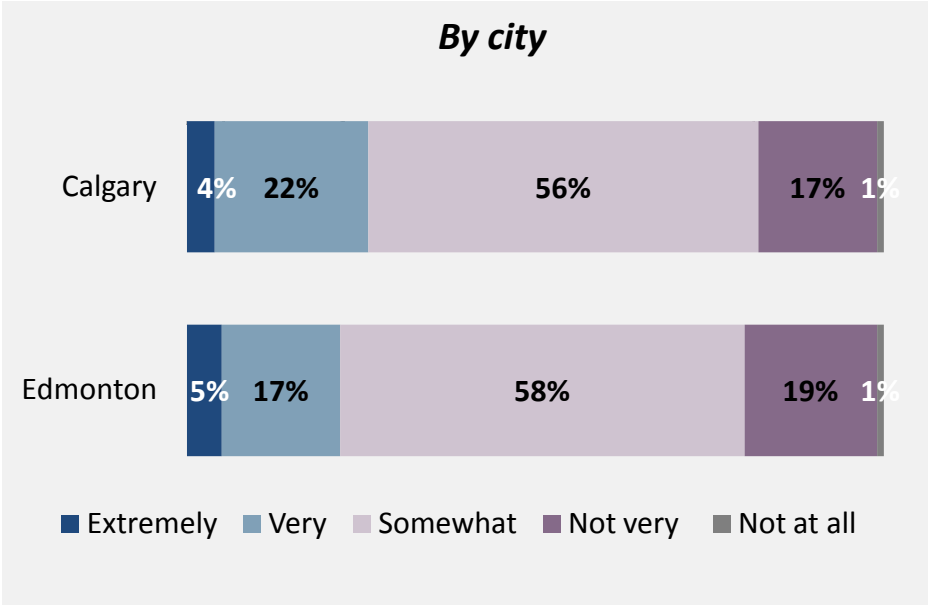
While Calgary and Edmonton residents are equally likely to believe that climate change exists, Edmontonians are more inclined to believe it is caused by human activity (70% vs. 61% for Calgary). In turn, Calgary residents are more likely to say they have given the topic at least some thought and that the issue is important to them personally.

Circle indicates significantly higher than other city/segments and square indicates significantly lower

Climate change understanding

Relatively few feel well-informed about climate change and this is the case regardless of segment

How well informed do you feel about climate change?



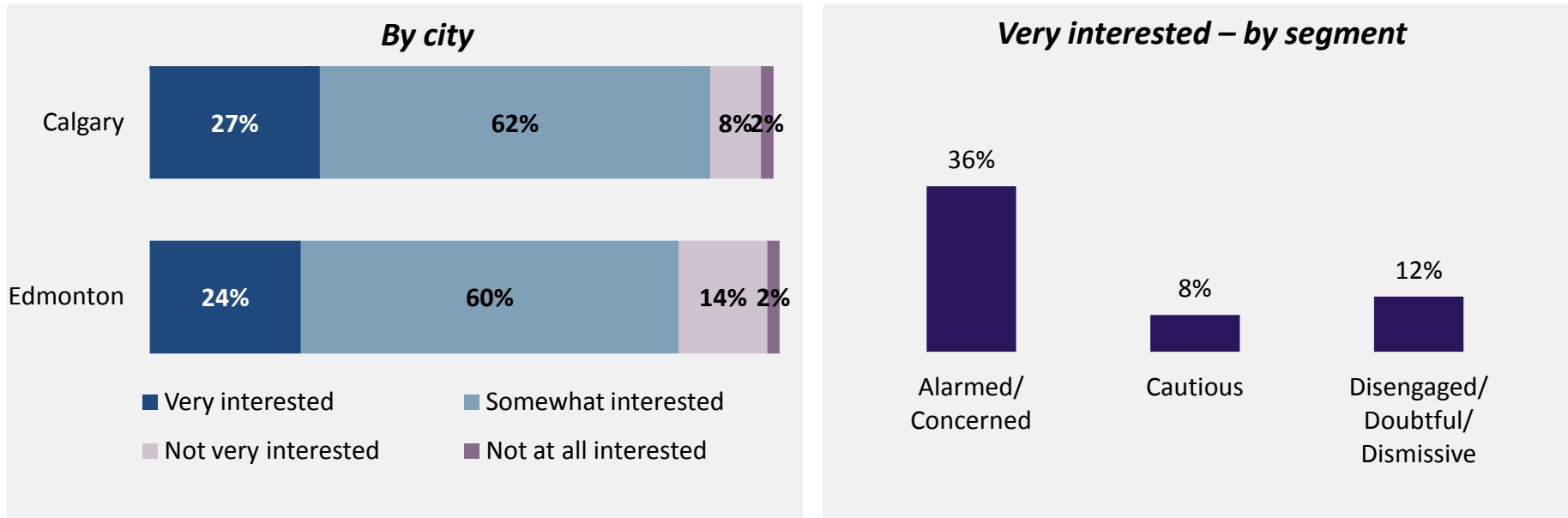
Neither Calgary nor Edmonton residents feel they have a particularly good understanding of climate change. Only one-quarter (26%) of Calgarians and a similar proportion (22%) of Edmontonians say they are extremely or well-informed about the issue; majorities in each city say they are “somewhat” well-informed.

Notably, self-rated familiarity with climate change is low regardless of segment; however, it is particularly low among the Cautious segment, who tend to be less engaged with the topic despite being on the “concerned” end of the spectrum.

Q4. In general, how well-informed do you feel about climate change?

A minority of residents express strong interest in learning more about climate change, and this skews to the Alarmed/Concerned segments

Desire to be better informed about climate change



If residents do not feel particularly well-informed about climate change, how interested are they in becoming better informed about the issue? Only a minority of about one in four (27% in Calgary and 24% in Edmonton) say they are very interested in gaining a better understanding of climate change. There are many potential reasons for this, such as a lack of perceived relevance or the perception that the topic is too complex to truly understand, which the survey did not explore. However, it is evident that residents generally do not feel a keen need for more information about climate change.

The Alarmed/Concerned segments are the most interested in better understanding the issue of climate change.

Q12. How interested are you in having a better understanding of climate change?

Concerns about climate change focus on extreme weather conditions that will threaten humans' ability to survive

Biggest concerns or fears about climate change (top mentions) Among those very or somewhat concerned about climate change

	Calgary	Edmonton
Extreme weather/storms/disasters (NET)	40	41
<i>Extreme weather conditions</i>	24	20
<i>Drought</i>	8	10
<i>Increase in temperatures/extreme heat</i>	6	7
<i>Natural disasters</i>	6	6
<i>Floods</i>	5	5
Human health/survival/impact (NET)	35	36
<i>Famine due to reduced food production</i>	12	15
<i>Shortage in fresh drinking water</i>	9	10
<i>Impacting future generations</i>	12	6
<i>Impact on quality of life/health</i>	5	3
<i>Impact on animal habitat/plants</i>	16	19
<i>Impact on oceans/melting icecaps/rising water levels</i>	16	14
<i>Reached point of no return/no efforts to solve problem</i>	8	5
<i>Economic impact</i>	2	2

Circle indicates significantly higher than other segments and square indicates significantly lower / "NET" indicates the proportion of unduplicated mentions of the theme Q6. [IF VERY OR SOMEWHAT CONCERNED ABOUT CLIMATE CHANGE] What are your biggest concerns or fears about climate change?

There are some misperceptions about the causes climate change, the key one being a lack of understanding of the role of home energy use

Definitely or likely causes climate change

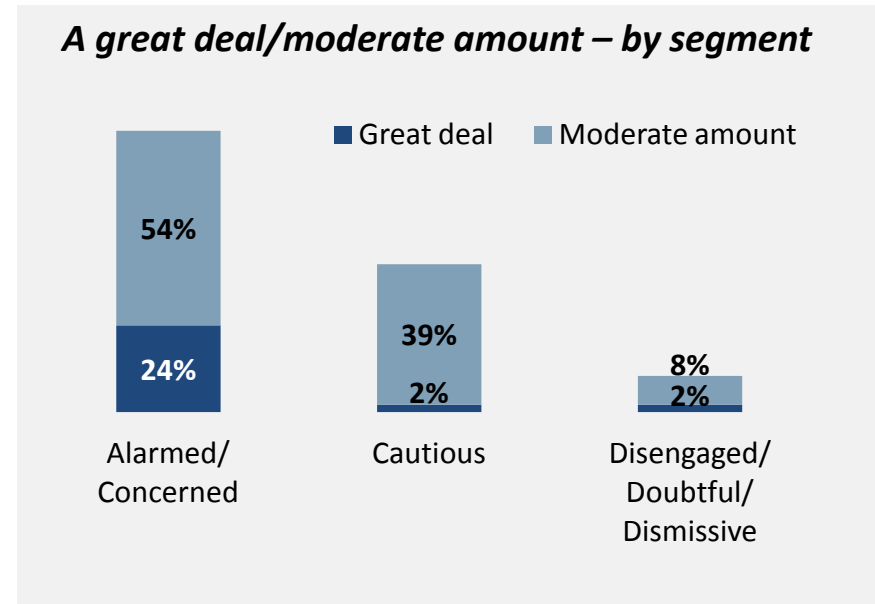
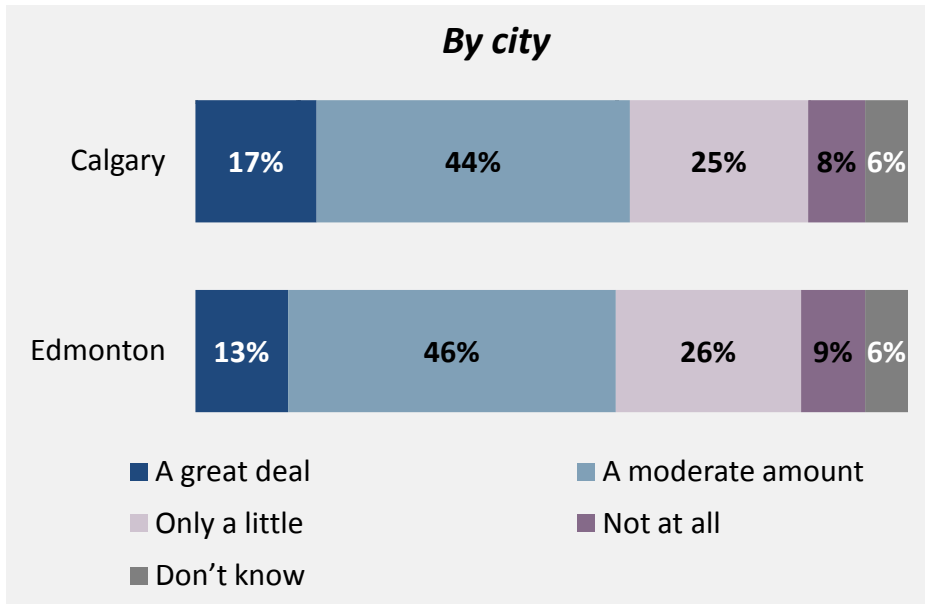
		City		Segment		
		Calgary	Edmonton	Alarmed/ Concerned	Cautious	Disengaged /Doubtful/ Dismissive
TRUE	Cars and trucks	85%	87%	97%	78%	41%
	Deforestation	84%	87%	93%	83%	45%
	Home heating and electricity use	56%	62%	73%	44%	19%
FALSE	Hole in the ozone layer	76%	79%	87%	74%	37%
	Toxic waste	71%	77%	82%	74%	25%
	Aerosol spray cans	65%	68%	79%	56%	25%
	The sun	53%	54%	49%	60%	63%

Although relatively few residents are strongly inclined to better understand climate change, there is clearly some misunderstanding about what causes the phenomenon. Residents are most likely to say it is caused by vehicles and by deforestation, both of which are true. However, only about six in ten (56% in Calgary and 62% in Edmonton) say the home energy use definitely or likely causes climate change – lower than the proportions who attribute climate change to the hole in ozone layer, toxic waste or aerosol spray cans (all of which are false). This relative lack of understanding about the role of home energy use likely needs to be addressed for residents to understand *why* they are being asked to make changes at home.

Circle indicates significantly higher than other segments and square indicates significantly lower
 Q17. Which of the following do you believe cause climate change?

There is little urgency perceived around the personal negative effects of climate change

Extent of personal negative effects



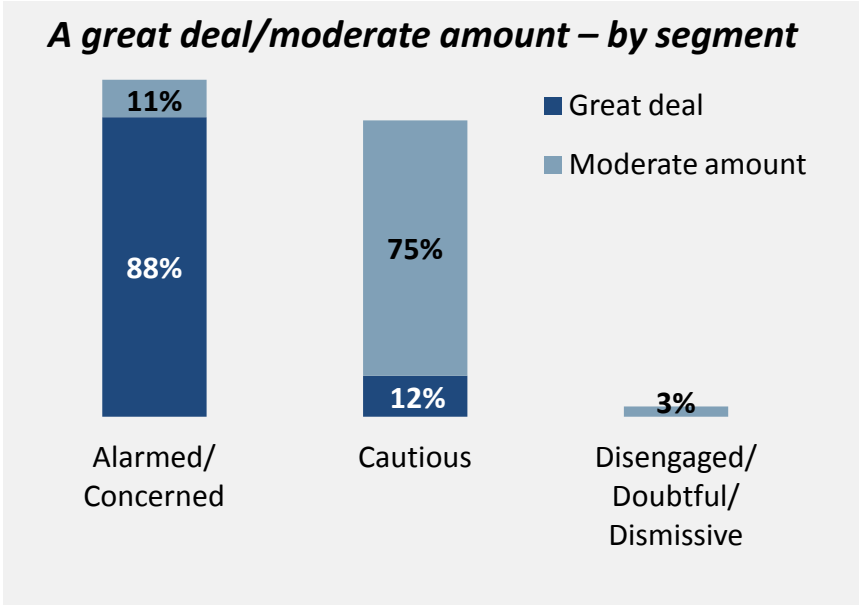
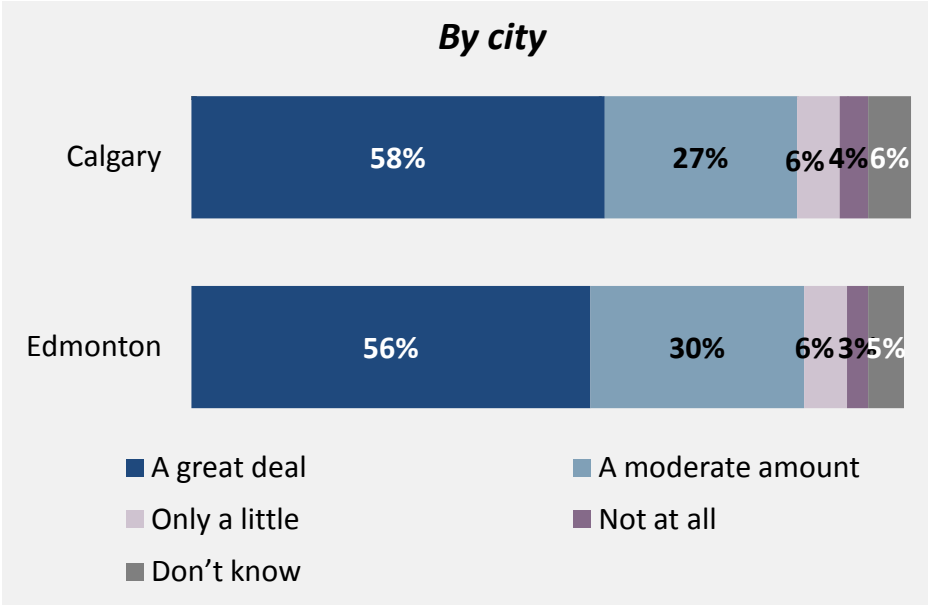
Most residents believe they will personally feel the negative affects of climate change, even if only a little. However, very few think the personal impacts will be substantial (17% in Calgary and 13% in Edmonton say they will be affected “a great deal”). The academic literature suggests that this lack of immediate urgency is a substantial barrier to motivating action on climate change.

Given that the Alarmed/Concerned segments are more concerned about the threat of climate change, it is not surprising that they also perceive a greater personal threat (24% a great deal vs. 2% for the other segments).

Q7. How much do you think climate change will negatively affect you personally?

Instead, most residents believe that future generations will feel a substantial impact from climate change

Extent of negative effects on future generations

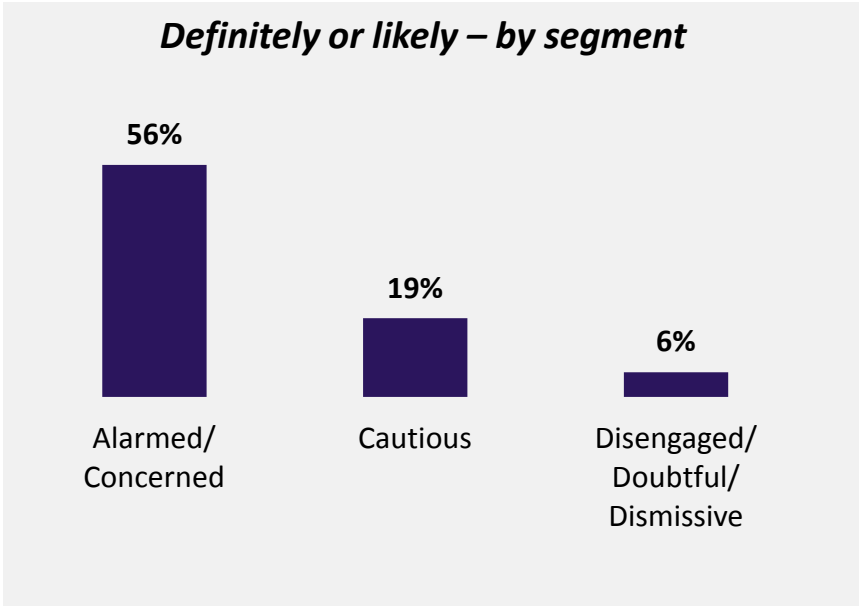
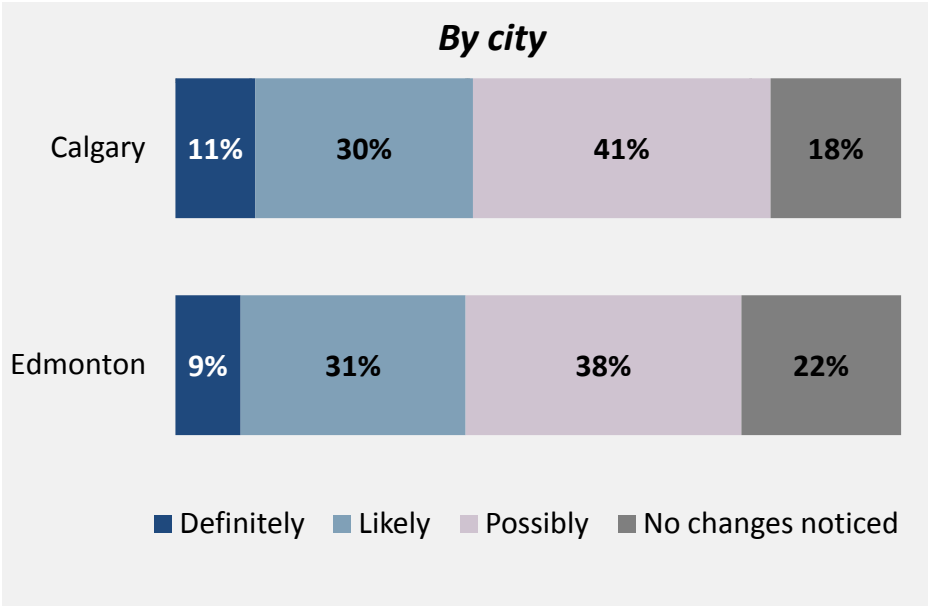


Rather than viewing climate change as an immediate personal threat, residents are more inclined to see it as a longer-term threat that will affect people other than themselves. More than half (58% in Calgary and 56% in Edmonton) say that future generations will be affected “a great deal” by climate change. This skews almost entirely to the Alarmed/Concerned segments (88% a great deal), while few in the Cautious segment (12%) and none in the Disengaged/Doubtful/Dismissive segments are as certain about this type of impact.

Q9. How much do you think climate change will negatively affect future generations of people?

Most believe there is at least some chance that they have seen the impacts of climate change, although few are certain

Noticed local impacts



The large majority of residents say it is at least possible that they have seen changes in their city that are the result of climate change, but less than half say it is definitely or likely the case (41% in Calgary and 40% in Edmonton). The Alarmed/Concerned segments are the most confident that they have seen local evidence of climate change (56% definitely or likely). The academic literature suggests that a lack of perceived local impacts is another factor than could potentially suppress climate change action or engagement.

Q15. Have you noticed any changes in [Calgary/Edmonton] which you think are definitely, likely or possibly the result of climate change, or not?

Calgarians are more likely to point to storms/floods as evidence of climate change, while Edmontonians refer to warmer/drier conditions

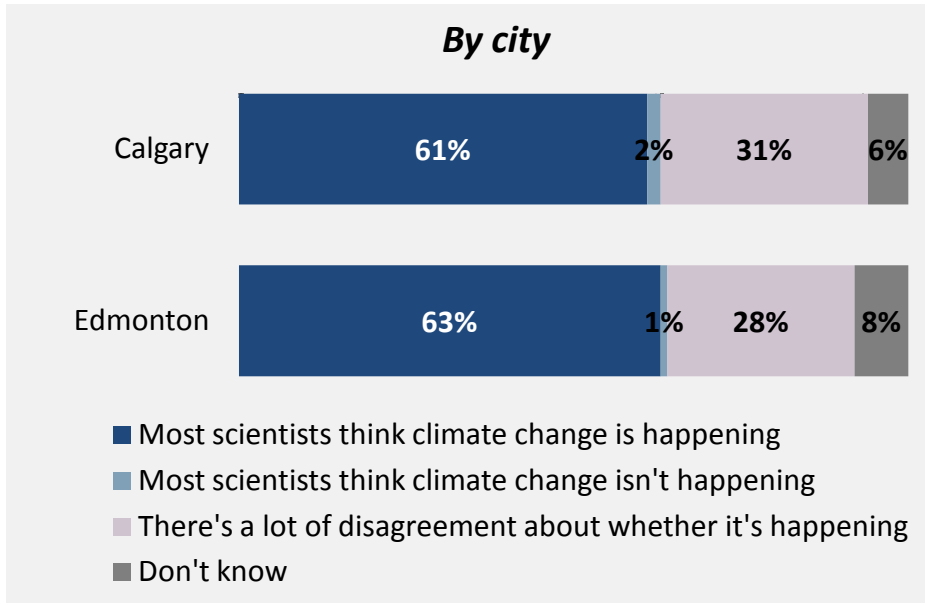
Changes due to climate change that you have noticed (top mentions) Among those who have noticed changes definitely/likely/possibly a result of climate change

	Calgary	Edmonton
Milder/warmer temperatures (NET)	33	47
Warmer/milder winter	13	22
Hot weather/getting warmer	12	16
Hotter summer	6	13
Weather changes/extreme/unpredictable weather	38	33
Disasters/storms (NET)	45	16
Tornados/stormier weather	25	11
Floods	24	4
More severe hail storms	6	1
Drier conditions (NET)	14	36
Drier conditions/less rain falls	5	20
Less snow in winter	6	9
Droughts	5	10
Poor air quality/hazy/smoggy air	3	7
Changes in animals/plants/species extinction	4	6

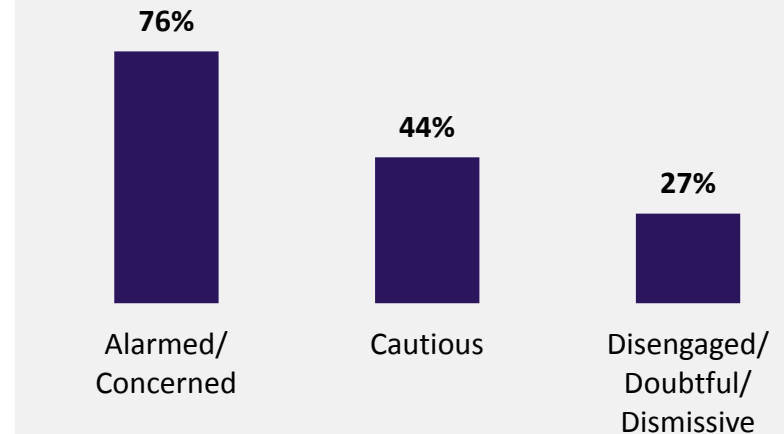
Circle indicates significantly higher than other segments and square indicates significantly lower / "NET" indicates the proportion of unduplicated mentions of the theme Q16. [IF NOTICED CHANGES DEFINITELY/LIKELY/POSSIBLY A RESULT OF CLIMATE CHANGE] What kinds of changes have you noticed?

The majority of residents understand the scientific consensus on climate change, but this skews strongly to the Alarmed and Concerned segments

Understanding of scientific consensus on climate change



Most scientists think cc is happening – by segment



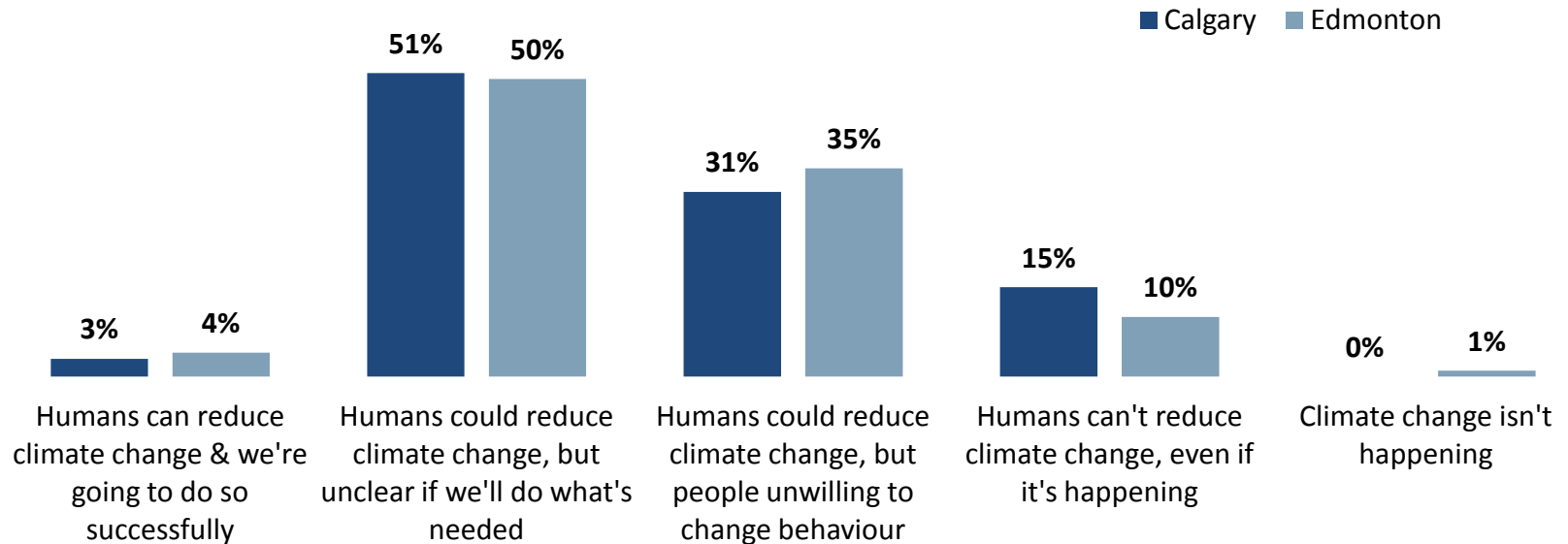
Six in ten residents (61% in Calgary and 63% in Edmonton) understand that there is a consensus among scientists that climate change is happening, while most of the remainder are uncertain. The academic literature has suggested that a better understanding of the scientific consensus may help persuade people who are less certain about the threat of climate change. This argument is most likely to benefit the Cautious segment (only 44% believe there is a scientific consensus), since those closer to the Doubtful or Dismissive end of the spectrum are more likely to dismiss information that is inconsistent with the current views.

Q3. Which comes closer to your own view ...?

Climate change action

Residents believe we have the ability to address climate change, but are not optimistic that the necessary changes will occur

Likelihood of climate change action



Consistent with the majority belief that climate change is caused by human activities rather than natural phenomena, most residents believe that humans can reduce climate change through their efforts. However, very few believe we will do so successfully; eight in ten (82% in Calgary and 85% in Edmonton) are uncertain that we'll do what's needed or are pessimistic that people will change their behaviour sufficiently.

Q18. Which of the following statements comes closest to your view ...?

Residents believe that all sectors should be doing more about climate change; desire for municipal involvement is higher in Edmonton

Should be doing more or much more to address climate change

	City		Segment		
	Calgary	Edmonton	Alarmed/ Concerned	Cautious	Disengaged /Doubtful/ Dismissive
Citizens themselves	78%	83%	93%	68%	37%
Business and industry in the province	74%	83%	91%	64%	42%
Federal government	69%	76%	87%	56%	32%
Alberta government	67%	77%	86%	56%	34%
City of [Calgary/Edmonton]	62%	73%	83%	49%	24%
None of the above	16%	10%	5%	19%	45%

Environics’ own research has consistently demonstrated that Canadians are looking for leadership on climate change and the environment, and are not seeing it from any organization or sector. It is not surprising, then, that majorities say that everyone should be doing more to address the problem, whether it be citizens, business and industry or governments at the federal, provincial or municipal levels. Edmonton residents are more likely than Calgary residents to have these expectations of industry, the Alberta government and their city government.

Circle indicates significantly higher than other city/segments and square indicates significantly lower
 Q19. Do you think each of the following should be doing more or less to address climate change ...?

Substantial minorities are very willing to take actions that would reduce their energy use

Very willing to take action

	City		Segment		
	Calgary	Edmonton	Alarmed/ Concerned	Cautious	Disengaged /Doubtful/ Dismissive
Make your home more energy efficient	43%	39%	48%	34%	19%
Reduce your consumption/buy less	37%	35%	47%	22%	12%
Reduce heating in winter/ac in summer	35%	34%	45%	22%	11%
Install solar panels on your home	30%	24%	31%	23%	11%
Reduce car use/use public transit to commute	26%	26%	33%	15%	13%
Buy green energy	16%	14%	21%	6%	7%
Buy an electric vehicle	15%	12%	16%	9%	9%
None of the above	34%	33%	24%	44%	59%

What types of actions are residents themselves willing to take? This analysis focuses on those who say they are “very willing”, since it is the most accurate measure of those who might follow through on their commitment (i.e., it is easy – and socially desirable – on a survey to say that one is “somewhat willing” to take action).

Interest is highest in changes that will make a home more energy efficient, such as replacing a furnace or improving the insulation, followed by reducing consumption and reducing heating and air conditioning use. Residents in both cities are least willing to buy green energy or an electric vehicle.

Circle indicates significantly higher than other city/segments and square indicates significantly lower Q20. How willing are you personally to take the following actions ...?

Cost is rated as the biggest barrier to doing things that would address climate change

Major or moderate barriers to taking action to address climate change

	City		Segment		
	Calgary	Edmonton	Alarmed/ Concerned	Cautious	Disengaged /Doubtful/ Dismissive
Cost	81%	81%	81%	83%	76%
Amount of time/effort involved/not convenient	42%	46%	43%	47%	41%
Not convinced it's going to make a difference	36%	30%	25%	44%	50%

When asked about three potential barriers that might hold them back from taking action on climate change, residents are most likely to rate cost as a major or moderate barrier (81% each in Calgary and Edmonton). Time and effort is also a substantial barrier for a sizable minority of residents (42% in Calgary and 46% in Edmonton), while residents are least likely to say they are put off because they don't think such actions will make any difference.

Notably, cost and effort are equally likely to be rated as barriers regardless of segment; however, the Cautious and Disengaged/Doubtful/Dismissive segments are most likely to express doubt that their actions will make a difference.

Circle indicates significantly higher than other city/segments and square indicates significantly lower
 Q21. To what extent are each of the following barriers that hold you back from taking action to address climate change ...?

There is widespread support for policy change, most notably for new building regulations and incentivizing solar panel installations

Support (strongly or somewhat) policies for Calgary/Edmonton

	City		Segment		
	Calgary	Edmonton	Alarmed/ Concerned	Cautious	Disengaged/ Doubtful/ Dismissive
Change new building regulations to require better energy efficiency	92%	93%	97%	90%	76%
Provide incentives to encourage solar panel installation	87%	90%	93%	89%	60%
Expand public transit, even if it means fare or tax increases	75%	70%	83%	59%	49%
Expand biking infrastructure	69%	66%	78%	54%	42%
Change city planning to promote denser neighbourhoods	65%	57%	67%	53%	45%
None of the above	3%	3%	<1%	3%	15%

There is majority support for all five policy options for Calgary and Edmonton that were presented in the survey. Almost all residents say they are at least somewhat supportive of new building regulations to improve energy efficiency (92% in Calgary and 93% in Edmonton) and for providing incentives to encourage people to install solar panels on their homes (87% in Calgary and 90% in Edmonton). Notably, even the Disengaged/Doubtful/Dismissive segments express majority support for these two policies. While the Alarmed/Concerned segments are widely supportive of all five policy options, there is a substantial drop in the level of support among the Cautious segment between their top two options and the public transit, biking infrastructure and neighbourhood density options.

Circle indicates significantly higher than other city/segments and square indicates significantly lower Q22. To what extent do you support or oppose the following policies for [Calgary/Edmonton] ...?

Climate change messaging

- The survey tested a range of arguments to increase support of city government policies and to motivate people to personally take action to reduce their impact on climate change. At least half feel that several statements about the benefits of city policies/individual actions would be effective, but that stressing that it will make the city a progressive choice to attract young people or that it is a collective effort is not. Residents are most likely to rate the following statements as convincing:
 - *It will contribute to a better quality of life in Calgary/Edmonton*
 - *It involves simple changes on the part of individuals and families that don't require a lot of effort*
 - *It will protect people's health by reducing the risk of infectious diseases and harm from air and water pollution*
- Residents were also asked about four arguments for reducing energy or vehicle use (without reference to the potential impact on climate change). In this case, residents are most likely to feel that the statements related to saving money will be convincing, more so than arguments about our health or the long-term supply of energy.
- Those in the Alarmed/Concerned segments are the most likely to think any of the arguments would help.

The most convincing arguments relate to quality of life, the ease of making changes and the impact on health

Residents who view each statement as convincing (rated 4 or 5 out of 5)
(Statements condensed for visual clarity)

Taking action to address climate change...	City		Segment		
	Calgary	Edmonton	Alarmed/ Concerned	Cautious	Disengaged /Doubtful/ Dismissive
...would contribute to a better quality of life	69%	66%	79%	55%	38%
...involves simple changes that don't require a lot of effort	66%	69%	75%	60%	45%
...will protect people's health	67%	61%	72%	58%	35%
...will help reduce extreme weather events	64%	57%	75%	44%	21%
...will help avoid home/vehicle insurance increases due to extreme weather events	57%	53%	63%	50%	19%
...will create a sense of pride in the city	55%	48%	60%	42%	30%
...will attract young people to the city	46%	46%	55%	34%	25%
...is something that all residents are playing a part in	47%	42%	52%	36%	24%

Circle indicates significantly higher than other city/segments and square indicates significantly lower Q23A. Here are some statements that might – or might not – convince people to support city government policies designed to address climate change and to take actions themselves to reduce home energy and vehicle use. Please rate each statement on a scale of 1 to 5, where 1 means the statement would be not at all convincing, 3 means it is neutral, and 5 means it would be very convincing.

The most convincing statements related to reducing energy use are about saving money

Residents who view each statement as convincing (rated 4 or 5 out of 5)
(Statements condensed for visual clarity)

	City		Segment		
	Calgary	Edmonton	Alarmed/ Concerned	Cautious	Disengaged /Doubtful/ Dismissive
Reducing energy use will help people save money	77%	78%	84%	69%	63%
Reducing energy use will help avoid increases to the cost of electricity/natural gas	71%	69%	77%	63%	49%
Reducing car use will help people be more active and healthier	63%	61%	73%	47%	40%
Reducing energy use will ensure we have the energy resources we need for the future	62%	61%	69%	53%	42%

Circle indicates significantly higher than other city/segments and square indicates significantly lower Q23B. Here are some statements that might – or might not – convince people to support a particular government policy and to take actions themselves to reduce home energy and vehicle use. Please rate each statement on a scale of 1 to 5, where 1 means the statement would be not at all convincing, 3 means it is neutral, and 5 means it would be very convincing ...

Questionnaire

Alberta Energy Efficiency Alliance/Cities of Calgary and Edmonton
Climate Change Messaging Research

DRAFT (3) Questionnaire – for launch

Introduction

This survey is about issues facing [Calgary/Edmonton]. It will take approximately 15 minutes to complete. All responses will be kept confidential and aggregated findings will be used to better serve your community.

Note: if you genuinely have no opinion about a question or cannot answer it, please click through to the next question. There are only a few key questions where your answer will be required in order to move forward.

QA – QC and Q17 and 19- 23 are MANDATORY

All other questions are non mandatory but if respondent clicks next and doesn't answer please display this pop up with two buttons. One will allow respondent to move to next question, one will take the respondent back to the question and let them answer.

Pop up text:

You did not answer one of the questions on this page. Do you want to leave this question blank and move on to the next question in the survey or do you want to go back and answer it?

(Button) Leave question unanswered and move on

(Button) Go back to answer the question

For us to classify your responses and ensure we are including different groups of people we need to first collect some background information.

Please select >> to continue

A. In what year were you born?

B. To better understand how results vary by communities of different sizes, may we have your 6-digit postal code?

C. What is your gender?

01 – Male

02 – Female

CHECK AGAINST QUOTAS

Recently you may have noticed that climate change (also called global warming) has been getting some attention in the news. Climate change refers to the idea that the world's average temperature has been increasing over the past 150 years, may be increasing more in the future, and that the world's climate may change as a result.

Six Americas – Belief1

1. What do you think? Do you think that climate change is happening?

Yes...

- 09 - ...and I'm extremely sure
- 08 - ...and I'm very sure
- 07 - ...and I'm somewhat sure
- 06 - ...but I'm not at all sure

No...

- 01 - ...and I'm extremely sure
- 02 - ...and I'm very sure
- 03 - ...and I'm somewhat sure
- 04 - ...but I'm not at all sure

Or...

- 05 - I don't know

Six Americas – Belief2

2. Assuming climate change is happening, do you think it is ...

RANDOMIZE 01-02

- 01 - Caused mostly by human activities
- 02 - Caused mostly by natural changes in the environment
- 03 - Other
- 04 - None of the above because climate change isn't happening

Understanding of scientific consensus

3. Which comes closer to your own view?

RANDOMIZE 01-02

- 01 - Most scientists think climate change is happening
- 02 - Most scientists think climate change is not happening
- 03 - There is a lot of disagreement among scientists about whether or not climate change is happening
- 99 - Don't know enough to say

Self-rated familiarity

4. In general, how well informed do you feel about climate change?

- 01 - Extremely well informed
- 02 - Very well informed
- 03 - Somewhat well informed
- 04 - Not very well informed
- 05 - Not at all informed

Six Americas – Inv15

5. How concerned are you about climate change?

- 04 - Very concerned
- 03 - Somewhat concerned
- 02 - Not very concerned
- 01 - Not at all concerned

Reasons for concern

6. (IF VERY/SOMEWHAT CONCERNED AT Q5) What are your biggest concerns or fears about climate change?

INSERT MEDIUM-SIZED TEXT BOX

Six Americas – Belief4

7. How much do you think climate change will negatively affect you personally?

- 01 - Not at all
- 02 - Only a little
- 03 - A moderate amount
- 04 - A great deal
- 99 - Don't know

Six Americas – Belief7

8. When do you think climate change will start to negatively affect people in Canada?

- 06 - They are being negatively affected now
- 05 - In 10 years
- 04 - In 25 years
- 03 - In 50 years
- 02 - In 100 years
- 01 - Never

Six Americas – Belief5

9. How much do you think climate change will negatively affect future generations of people?

- 01 - Not at all
- 02 - Only a little
- 03 - A moderate amount
- 04 - A great deal
- 99 - Don't know

Six Americas – Inv16

10. How much had you thought about climate change before today?

- 04 - A lot
- 03 - Some
- 02 - A little
- 01 - Not at all

Six Americas – Inv18

11. How important is the issue of climate change to you personally?

- 01 - Not at all important
- 02 - Not too important
- 03 - Somewhat important
- 04 - Very important
- 05 - Extremely important

Desire to be better informed

12. How interested are you in having a better understanding of climate change?

- 01 - Not at all interested
- 02 - Not too interested
- 03 - Somewhat interested
- 04 - Very interested

Six Americas – Inv19

13. How much do you agree or disagree with the following statement: "I could easily change my mind about climate change."

- 01 - Strongly agree
- 02 - Somewhat agree
- 03 - Somewhat disagree
- 04 - Strongly disagree

Six Americas – Inv22

14. How many of your friends share your views on climate change?

- 01 - None
- 02 - A few
- 03 - Some
- 04 - Most
- 05 - All

Noticed local impacts

15. Have you noticed any changes in [Calgary/Edmonton] which you think are definitely, likely, or possibly the result of climate change, or not?

- 01 – Definitely the result of climate change
- 02 – Likely the result of climate change
- 03 – Possibly the result of climate change
- 04 – No changes noticed

Types of local impacts

16. (IF DEFINITELY/LIKELY/POSSIBLY IN Q.14) What kinds of changes have you noticed?

INSERT MEDIUM-SIZED TEXT BOX

Causes of climate change

17. Which of the following do you believe causes climate change?

RANDOMIZE STATEMENTS – SHOW ONE AT A TIME

- a. Cars and trucks (*true*)
- b. Home heating and electricity use (*true*)
- c. Deforestation (cutting down or clearing away trees or forests) (*true*)
- d. The hole in the ozone layer (*false*)
- e. Toxic waste (*false*)
- f. Aerosol spray cans (*false*)
- g. The sun (*false*)

- 01 – Definitely causes
- 02 – Likely causes
- 03 – Likely does not cause
- 04 – Definitely does not cause
- 99 – Not sure

Six Americas – Belief 8

18. Which of the following statements comes closest to your view?

- 01 - Climate change isn't happening.
- 02 - Humans can't reduce climate change, even if it is happening.
- 03 - Humans could reduce climate change, but people aren't willing to change their behavior so we're not going to.
- 04 - Humans could reduce climate change, but it's unclear at this point whether we will do what's needed.
- 05 - Humans can reduce climate change, and we are going to do so successfully.

Responsibility for climate change

19. Do you think each of the following should be doing more or less to address climate change?

RANDOMIZE ITEMS – SHOW ONE AT A TIME

- a. Federal government
- b. Alberta government
- c. City of [Calgary/Edmonton]
- d. Business and industry in the province
- e. Citizens themselves (*Six Americas - PSR34*)

- 01 - Much less
- 02 - Less
- 03 - Currently doing the right amount
- 04 - More
- 05 - Much more

Willingness to take action

20. How willing are you personally to take the following actions ~~to address climate change?~~

RANDOMIZE ITEMS – SHOW ONE AT A TIME

- a. Buy an electric vehicle
- b. Install solar panels on your home/roof
- c. Reduce heating use in winter and air conditioning use in summer
- d. Reduce car use and use public transit to commute to work/school
- e. Buy green energy for your home from a company like Spark or Bullfrog Power
- f. Reduce your overall consumption/buy fewer things
- g. Make your home more energy efficient, for example, by replacing the furnace or improving insulation.

- 01 – Very willing
- 02 – Somewhat willing
- 03 – Not very willing
- 04 – Not at all willing
- 05 – Not sure

Barriers to action

21. To what extent are each of the following barriers that hold you back from taking action to address climate change?

RANDOMIZE ITEMS – SHOW ONE AT A TIME

- a. Cost
- b. The amount of time and effort involved/it's not convenient
- c. Not convinced it's going to make a difference

- 01 – Major barrier
- 02 – Moderate barrier
- 03 – Minor barrier
- 04 – Not a barrier
- 05 – Not sure

Opinions of government policy

22. To what extent do you support or oppose the following policies ~~designed to address climate change~~ for [Calgary/Edmonton] ?

RANDOMIZE ITEMS – SHOW ONE AT A TIME

- a. Change city planning to promote denser neighbourhoods, where there are more homes per block, mixed with retail and office space, in order to reduce energy and vehicle use.
- b. Expand public transit, even if it means fare or tax increases
- c. Expand biking infrastructure, such as dedicated bike lanes and more bike parking
- d. Change new building regulations to require better energy efficiency (e.g. heating and cooling, electricity)
- e. Provide incentives to encourage people to install solar panels on their home

- 01 – Strongly support
- 02 – Somewhat support
- 03 – Somewhat oppose
- 04 – Strongly oppose
- 05 – Not sure

Messaging opportunities

23A. Here are some statements that might – or might not – convince people to support city government policies designed to address climate change and to take actions themselves to reduce home energy and vehicle use. Please rate each statement on a scale of 1 to 5, where 1 means the statement would be not at all convincing, 3 means it is neutral, and 5 means it would be very convincing.

(Regardless of your personal feelings, we would like to know if you think each argument might convince others to be more supportive of climate change action).

RANDOMIZE STATEMENTS – SHOW ONE AT A TIME

Taking action to address climate change...	How convincing would this statement be at getting people to support climate change action and city government policies?					
	1 Not at all convincing	2 Not very convincing	3 Neutral	4 Somewhat convincing	5 Very convincing	Not sure
a) ...will create a sense of pride in [Calgary/Edmonton]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) ...will protect people's health by reducing the risk of infectious diseases and harm from air and water pollution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) ...contribute to a better quality of life in [Calgary/Edmonton]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) ...will help reduce dangerous extreme weather events like droughts, floods and forest fires in and around [Calgary/Edmonton]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) ...will help people avoid increases in the cost of insurance due to home/vehicle damage from extreme weather events	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) ...involves simple changes on the part of individuals and families that don't require a lot of effort	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) ...is a progressive choice that will attract young people to [Calgary/Edmonton]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) ...is something that all residents of [Calgary/Edmonton] are playing a part in	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Messaging opportunities

23B. Here are some statements that might – or might not – convince people to support a particular government policy and to take actions themselves to reduce home energy and vehicle use. Please rate each statement on a scale of 1 to 5, where 1 means the statement would be not at all convincing, 3 means it is neutral, and 5 means it would be very convincing.

(Regardless of your personal feelings, we would like to know if you think each argument might convince others to be more supportive of the specified actions).

RANDOMIZE STATEMENTS – SHOW ONE AT A TIME

	How convincing would this statement be at getting people to support the specified actions and city government policies?					
	1 Not at all convincing	2 Not very convincing	3 Neutral	4 Somewhat convincing	5 Very convincing	Not sure
i) Reducing our energy use will ensure we have the energy resources/fossil fuels we need for the future	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j) Reducing car use will help people be more physically active and be healthier	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k) Reducing our energy use will help people save money	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l) Reducing energy use will help us avoid increases to the cost of electricity and natural gas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Six Americas – Behavior25

24. Over the past 12 months, how many times have you chosen NOT to buy products or services from companies that are opposing steps to reduce climate change?

- 01 - Never
- 02 - Once
- 03 - A few times (2-3)
- 04 - Several times (4-5)
- 05 - Many times (6+)
- 99 - Don't know

Six Americas – PSR32

25. Do you think climate change should be a low, medium, high, or very high priority for the federal government?

- 01 - Low
- 02 - Medium
- 03 - High
- 04 - Very high

Six Americas – PSR36

26. People disagree whether Canada should reduce greenhouse gas emissions on its own, or make reductions only if other countries do too. Which of the following statements comes closest to your own point of view? Canada should reduce its greenhouse gas emissions...

- 04 - Regardless of what other countries do
- 03 - Only if other industrialized countries (such as the U.S., England and Germany) reduce their emissions
- 02 - Only if other industrialized countries and developing countries (such as China, India and Brazil) reduce their emissions
- 01 - Canada should not reduce its emissions
- 99 - Don't know

Demographics

Finally, a few questions about you that will help us analyze the results of this survey...

Please select >> to continue

D1. How many automobiles does your household own or lease?

___ # of vehicles

OR - No vehicles

Items to identify opinion leaders

D2. Please indicate to what extent you agree or disagree with the following statements:

Select one response for each item

RANDOMIZE OPTIONS

	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
a. My family and friends look to me for my opinions on issues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. I enjoy sharing my opinions with others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. I actively seek out new sources of information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

D3. Do you frequently, sometimes, rarely or never participate in each of the following activities?

Select one response for each item

RANDOMIZE OPTIONS

	Frequently	Sometimes	Rarely	Never	Not sure
a. Use Twitter, Facebook or other social media platforms to follow subjects and stories you find interesting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Blog or post on Facebook about issues or topics important to you	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Attend community and council meetings to keep up with local issues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

D4. What is the last level of education you have completed?

Select one only

- 01 - Elementary school
- 02 - Some high school
- 03 - Completed high school
- 04 - Some community college/technical college/CEGEP
- 05 - Completed community college/technical college/CEGEP
- 06 - Some university
- 07 - Completed university
- 08 - Post-graduate degree
- 09 - No schooling

D5. For statistical purposes only, we need information about your income. All individual responses will be kept confidential. Which category applies to your total household income before taxes for 2014?

Select one only

- 01 – Under \$40,000
- 02 – \$40,001 to \$60,000
- 03 – \$60,001 to \$80,000
- 04 – \$80,001 to \$100,000
- 05 – \$100,001 to \$150,000
- 06 – More than \$150,000

Thank you for completing this survey.



ENVIRONICS

RESEARCH

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