

# Canadians' Perspectives on Climate Change & Education: 2022 Alberta Provincial Report



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To view the National Report, visit: LSF-LST.ca/research-policy/survey

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Canadians' Perspectives on Climate Change & Education: 2022

Alberta Provincial Report

**Section 1: Introduction** 

#### **Climate Change and Education Context**

Climate change is one of the most complex and wide-reaching challenges facing humankind today. According to a 2022 report published by the Intergovernmental Panel on Climate Change (IPCC), the planet has already passed a number of crucial tipping points, and some effects of climate change are already irreversible. Canada has seen a significant increase in climate-related disasters over the past decade and urgent action is necessary using the best data available to ensure that Canadians will successfully adapt and prosper.

#### **Climate Change Education and Policy**

The important contribution of the education sector in responding to climate change is recognized globally. According to UNESCO, 95 percent of the 194 reporting countries have included climate change education as part of their national action plans on climate change. However, this pledge has not yet resulted in subsequent curriculum change, as almost half of the curriculum frameworks from 100 countries contain no climate change content, and furthermore, implementation is not consistent. Across Canada, only 6 of 13 provinces and territories have included climate and sustainability in their curricular documents or education policy. In addition, provincial curriculum seldom emphasizes climate change's current and projected impact, mitigation and adaptation strategies, and the scientific consensus on climate science.

#### Impacts on Youth and the Significance of Youth Action

It is essential to provide youth with accurate scientific knowledge and strategies to address climate change to promote a sustainable mindset and build a climate-resilient socioeconomic system. Integrating climate education across subjects and tying together inequality, citizenship, Indigenous stewardship and discussions of systematic change will foster an informed citizenry and empower students to use their voices and advocate for change in their communities. Engaging youth in environmental issues within their communities is but one starting point to further encourage them to undertake collective action through policy, activism, and network building. Yet youth cannot tackle the climate crisis on their own – they require the commitment of previous generations to right cumulative wrongs and change the course of the future. Formal and informal education of all Canadians is key to achieving success in the fight against climate change.

#### **Survey Background**

As the effects of climate change become increasingly more severe, the sense of urgency to act to mitigate and adapt to climate change is also mounting. Moving Canada toward resiliency and adaptability for climate impacts today and in the future will require support, education, and action at all levels of Canadian society.

The report *Canadians' Perspectives on Climate Change & Education: 2022* provides results from a national climate change education survey undertaken by Learning for a Sustainable Future (LSF) and Leger Research Intelligence Group. The survey gathered data from across Canada on different groups' knowledge of climate change and its risks, and their views on the role of schools in climate change education.

This Alberta Provincial Report provides the highlights from the full national report and gives additional results based on further analysis of Alberta data. The findings presented here help to gain an understanding of trends over time and current perspectives of educators, students, parents and the general public in 2022. With this knowledge, recommendations based on evidence can be made to fill in gaps, promote strengths, and address misperceptions in order to implement the most effective strategies to support all Canadians in their efforts to combat climate change.

#### **Acknowledgements**

We recognize that the lands we live, work, teach and learn from are the traditional territories of Indigenous peoples and that all Canadians benefit from this land. We recognize the importance of Indigenous perspectives and connections to land and place as we work towards reconciliation to address the Calls to Action of the Truth and Reconciliation Commission.

This survey is a follow-up to a climate change education survey that was undertaken in 2019 by Dr. Ellen Field at Lakehead University (with funding from SSHRC), Learning for a Sustainable Future and Leger. The 2022 survey design and data analysis was led by Pamela Schwartzberg, Learning for a Sustainable Future President and CEO; Jennifer Stevens, LSF Manager of Learning, Research and Communication, and LSF consultants Dr. Karen Acton and Dr. Susan Elliott. Leger Research Intelligence Group provided data collection and analysis. Elaine Rubinoff, LSF Director of Programs, and Samantha Gawron, Manager of Programs, Engagement & Development provided survey promotion.

Thank you to the Canadian Teachers' Federation and many other teacher organizations, as well as LSF's communication partners for circulating the survey to their members. We would also like to thank the 406 educators, 1,373 parents, 1,208 students and 1,290 members of the general public who participated in the Leger panel, and the 1,237 educators, 462 parents, 586 students and 391 members of the general public who participated through the open survey link on the LSF site.

We would like to thank the Government of Canada for their financial support.



#### Methodology

#### **Population Segmentation**

For this survey, the following populations were identified:

- Educators public and private K-12/cégep teachers, educational assistants, department heads, curriculum leads and curriculum consultants, vice-principals, principals, and district leaders
- Students includes current students from grades 7 to 12/cégep
- Parents includes parents of students in K-12/cégep
- General Public includes participants who do not identify as educators, students, or parents.

#### **Recruitment Procedures**

Leger Research Intelligence Group provided data collection and analysis on behalf of Learning for a Sustainable Future (LSF). Leger panelists received an email invitation to complete the survey with a unique link for each respondent. All respondents from the Leger panel (LEO) are referred to as "panel". From the Leger Web Survey, a total of 4,035 Canadians were surveyed in English and French. This report contains the results for the "panel" data.

Due to the limits of the LEO platform to survey the desired 1000 educators, the survey relied on a multi-sampling approach where additional responses were collected through convenience and snowball sampling through an open survey link hosted on LSF's website. Many teacher affiliations and education-related organizations assisted with the promotion of the survey through their provincial and territorial networks.

#### **Data Collection and Analysis**

As part of the analysis process, the data are weighted by age, gender and province (based on Statistics Canada proportions) to ensure that data are representative of the Canadian public and reflective of Canadian opinion. Demographic data is presented in its unweighted form.

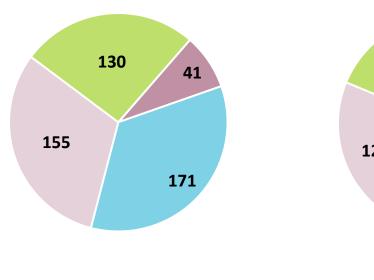
From the sample that was collected through the LSF open-link, a total of 2,461 completed surveys were received from November 9, 2021 to March 6, 2022. The supplemental open-link data was used where Leger panel data was insufficient, and was thus only needed to augment the educator respondent data for SK, MB and ATL in the provincial reports.

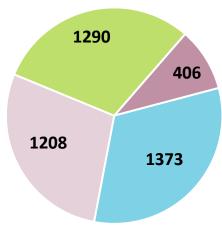
See the methodology section of the full national report for further details.

#### **2022 Demographics**

#### **Alberta Respondent Groups**

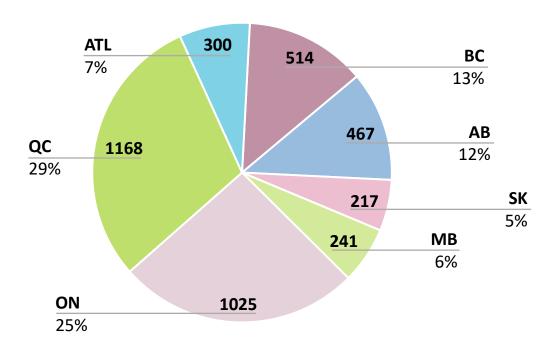
#### **National Respondent Groups**





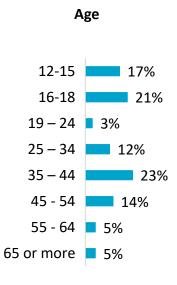
■ Educator ■ Parent ■ Student ■ General Public

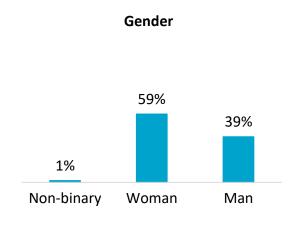
#### **National Respondents by Province/Region**



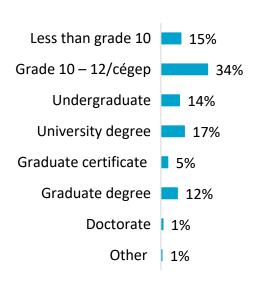
#### **2022 Alberta Demographics**

#### **Total**





# Household Income <\$40K \$40K - <\$80K 18% I prefer not to answer – 17%



**Education Level** 



Canadians' Perspectives on Climate Change & Education: 2022

Alberta Provincial Report

**Section 1: What has changed since 2019?** 

#### Overall Climate Change Knowledge

Respondents were asked 10 climate change questions early in the survey, to test their knowledge and understanding. Each question had a correct answer. The number of correct responses per respondent group and province/region are shown on the following slide, and responses from selected questions are shown on subsequent slides. Below are the 10 questions respondents were asked, with the answers in bold:

- B1. Do you think climate change is...
  - a. Caused mostly by human activities
  - b. Caused mostly by natural changes in the environment
  - c. About equally caused by both human activities and natural changes
  - d. Not happening
  - e. Don't know
  - f. Other (please specify)
- B2. Which comes closest to your own view?
  - a. Most climate scientists think climate change is happening
  - b. Most climate scientists do not think climate change is happening
  - There is a lot of disagreement among climate scientists about whether climate change is happening or not
  - d. Don't know enough to say
- B3. Climate change is caused by....
  - a. Emissions from nuclear power plants
  - b. Thinning of the ozone layer
  - c. Particulate air pollution
  - d. Carbon dioxide and other greenhouse gases
  - e. Industrial chemicals
  - f. Natural variability
  - g. Unsure
- B4. The main process behind climate change is...
  - a. Letting more of the sun's heat into the Earth's atmosphere through a thinner ozone layer
  - b. An increase in gases in the Earth's atmosphere that trap heat
  - c. An increase in solar activity
  - d. Particulate pollution in the air reflecting heat back to Earth
  - e. Unsure
- B5. Canada, as an Arctic nation, is particularly affected by the impacts of climate change
  - a. True
  - b. False
  - c. Unsure

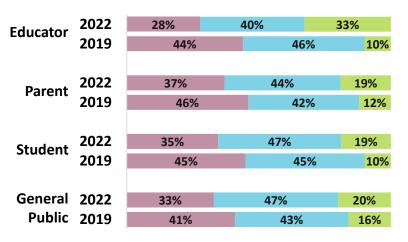
- B6. Canada's average temperature has \_\_\_\_\_ since 1948.
  - a. Decreased by 1 1.5 degrees Celsius
  - b. Decreased by 1 0.5 degrees Celsius
  - c. Decreased by 0.5 0 degrees Celsius
  - d. Stayed the same
  - e. Increased by 0 0.5 degrees Celsius
  - f. Increased by 0.5 1 degrees Celsius
  - g. Increased by 1 1.5 degrees Celsius
  - h. Unsure
- B7. What sector is currently the largest greenhouse gas emitter in Canada?
  - a. Agriculture
  - b. Heavy industry
  - c. Electricity
  - d. Buildings
  - e. Oil and gas
  - f. Transportation
  - g. Waste
  - h. Unsure
- B8. In the next 20 years, Canadian winters are predicted to be colder and to have more snow.
  - a. True
  - b. False
  - c. Unsure
- B9. At what minimum temperature change does scientific consensus predict global warming will result in major consequences to health, livelihoods, food security, water supply, and economic growth?
  - a. 0 degrees Celsius
  - b. 0.5 degrees Celsius
  - c. 1 degree Celsius
  - d. 1.5 degrees Celsius
  - e. 2 degrees Celsius
  - f. 2.5 degrees Celsius
  - g. Don't know
- B10. What do countries need to do in order to ensure temperatures stay within the range that the Earth system can tolerate?
  - a. Significantly increase emissions
  - b. Moderately Increase emissions
  - c. Do nothing
  - d. Moderately decrease emissions
  - e. Significantly decrease emissions
  - f. Move to net zero emissions Don't know

#### Overall Climate Change Knowledge

#### **Total Correct Answers**



#### **Total Correct Answers – Respondent Group**

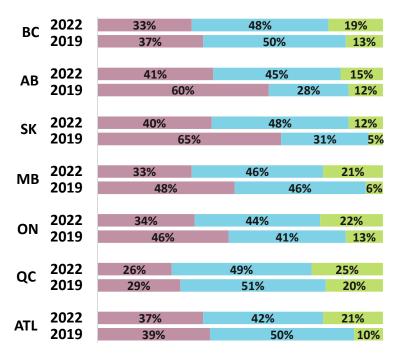


2022: *n*=4,035 (Educator=406, Parent=1,373, Student=1,208, General Public=1,290) 2019: *n*=2,191 (Educator=111, Parent=571, Student=486, General Public=908)

Overall climate change knowledge has increased since 2019, as more Canadians passed the 10 question climate change test embedded in the survey (67% passed in 2022 vs. 57% 2019).

Furthermore, significantly more educators passed with over 80% in 2022 vs. 2019 (33% vs. 10%), as did parents (19% vs. 12%), students (19% vs. 10%), and the general public (20% vs. 16%).

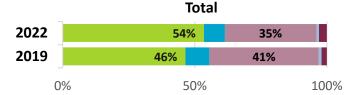
#### Total Correct Answers – Province/Region



Climate change knowledge has also increased regionally across Canada with the majority showing improvement on the climate change knowledge test.
Significantly fewer failed in AB, SK, MB and ON.

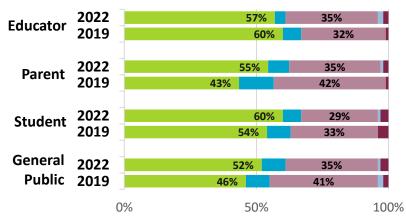
Furthermore, significantly more respondents were able to answer 8 or more questions correctly in BC SK, MB, ON, QC and in ATL. While AB and SK have improved, their scores remain lower than the rest of Canada.

### Do you think climate change is...



- Caused mostly by human activities (correct)
- Caused mostly by natural changes in the environment
- About equally caused by both human activities and natural changes
- Not happening
- Don't know

#### **Respondent Group**



2022: n=4,035 (Educator=406, Parent=1,373, Student=1,208, General Public=1,290) 2019: n=2,188 (Educator=111, Parent=571, Student=484, General Public=907)

A majority of respondents were correct in their thinking that climate change is caused mostly by human activities. More respondents in 2022 answered correctly (54%) than in 2019 (46%), which is fairly consistent across most respondent groups. Parents showed the largest gains (55% in 2022 vs. 43% in 2019). However, slightly fewer educators answered correctly in 2022 (57%) than in 2019 (60%).

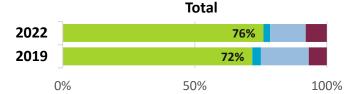
Notably, a proportion (35%) still think climate change is equally caused by both human activities and natural changes, although this number has decreased since 2019 (41%).

	Caused mostly by human activities (correct)				
Province	2019	2022	(+/-)		
ВС	47%	59%	+12		
AB	28%	40%	+12		
SK	29%	41%	+12		
MB	39%	50%	+11		
ON	46%	55%	+9		
QC	57%	60%	+3		
ATL	51%	44%	-7		

The percentage of respondents who were able to answer this question correctly in 2022 increased across all regions compared to 2019, other than in ATL.

Correct responses increased from +3 percentage points in QC to +12 percentage points in BC, AB, and SK between 2019 and 2022.

### Which comes closest to your own view?

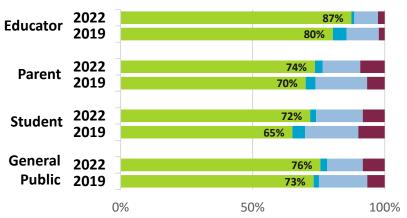


- Most climate scientists think climate change is happening (correct)
- Most climate scientists do not think climate change is happening
- There is a lot of disagreement among climate scientists about whether climate change is happening or not
- Don't know enough to say

A majority of respondents hold the correct belief that most climate scientists think climate change is happening. Slightly more respondents hold this view in 2022 (76%) than did in 2019 (72%).

Similarly, more respondents from each respondent group in 2022 hold this view, than did in 2019. The largest increase in correct responses from 2019 to 2022 was seen in educators and students, with an increase of +7 percentage points.





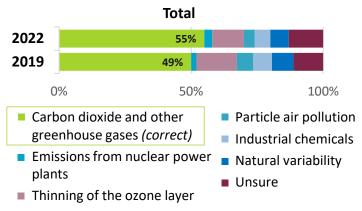
2022: n=4,035 (Educator=406, Parent=1,373, Student=1,208, General Public=1,290) 2019: n=2,189 (Educator=110, Parent=571, Student=486, General Public=907)

	Most climate scientists think climate change is happening (correct)				
Province	2019	2022	(+/-)		
ВС	78%	79%	+1		
AB	61%	73%	+12		
SK	52%	73%	+21		
MB	70%	70%	-		
ON	70%	76%	+6		
QC	81%	77%	-4		
ATL	67%	77%	+10		

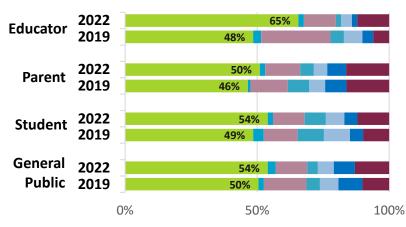
The percentage of respondents who were able to answer this question correctly in 2022 increased across all regions compared to 2019, except for QC, which decreased by 4 percentage points, and MB which stayed consistent with 2019 answers.

Correct responses increased from +1 percentage point in BC to +21 percentage points SK.

### Climate change is caused by...







In terms of understanding the scientific causes of climate change, just over half (55%) of respondents in 2022 answered correctly, that carbon dioxide and other greenhouse gases are the primary cause of climate change, compared with less than half (49%) in 2019.

Educators showed the largest increase in correct answers to this question (65% vs. 48%). Parents remained the most 'unsure' with only half choosing the correct response.

2022: n=4,035 (Educator=406, Parent=1,373, Student=1,208, General Public=1,290) 2019: n=2,191 (Educator=111, Parent=571, Student=486, General Public=908)

	Carbon Dioxide and other greenhouse gases (correct)					
Province	2019	2022	(+/-)			
ВС	52%	58%	+6			
AB	44%	48%	+4			
SK	34%	52%	+18			
MB	49%	60%	+11			
ON	48%	52%	+4			
QC	55%	64%	+9			
ATL	49%	46%	-3			

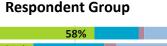
The percentage of correct answers to the cause of climate change increased for respondents in all provinces aside from those in ATL.

SK had the largest increase in correct responses from 2019 to 2022, with significantly more respondents in SK answering this question correctly in 2022 (52%) than in 2019 (34%).

### The main process behind climate change is...



- An increase in gases in the Earth's atmosphere that trap heat (correct)
- Letting more of the sun's heat into the Earth's atmosphere through a thinner ozone layer
- An increase in solar activity
- Particulate pollution in the air reflecting heat back to Earth
- Unsure





2022: *n*=4,035 (Educator=406, Parent=1,373, Student=1,208, General Public=1,290) 2019: *n*=2,184 (Educator=110, Parent=571, Student=486, General Public=903)

Less than half of all respondents were able to answer correctly that the main process behind climate change is an increase in gases in the Earth's atmosphere that trap heat. The percent of correct answers increased slightly from 2019 (42%) to 2022 (45%).

While all respondent groups showed gains in answering correctly in 2022, educators showed the most improvement in understanding the main process behind climate change (58% in 2022 vs. 37% in 2019).

	An increase in gases in the Earth's atmosphere that trap heat (correct)					
Province	2019	2022	(+/-)			
ВС	48%	45%	-3			
AB	43%	45%	+2			
SK	25%	38%	+13			
MB	38%	43%	+5			
ON	41%	44%	+3			
QC	46%	51%	+5			
ATL	39%	42%	+3			

The percentage of respondents who answered this climate change question correctly increased for respondents in all provinces aside from those in BC.

Correct responses increased from +2 percentage points in AB to +13 percentage points in SK between 2019 and 2022.

#### In the next 20 years, Canadian winters are predicted to be colder and to have more snow



#### **Respondent Group**



2022: *n*=4,035 (Educator=406, Parent=1,373, Student=1,208, General Public=1,290) 2019: *n*=2,190 (Educator=111, Parent=571, Student=486, General Public=907)

		False (correc	ct)
Province	2019	2022	(+/-)
ВС	38%	37%	-1
АВ	43%	42%	-1
SK	37%	42%	+5
МВ	35%	42%	+7
ON	41%	43%	+2
QC	45%	58%	+13
ATL	41%	48%	+7

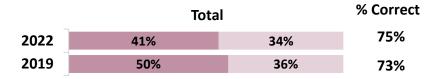
When asked if in the next 20 years, Canadian winters are predicted to be colder and to have more snow, less than half of all respondents answered correctly that the statement was false. Slightly more respondents in 2022 (46%) answered correctly than did in 2019 (41%). Over one-quarter of all respondents remained unsure.

Correct responses increased across all respondent groups other than in the general public, where correct responses stayed consistent between 2022 and 2019 (45%). Significantly more students and educators correctly answered that this question in 2022 (both groups up by 12 percentage points).

The percentage of correct responses increased across all regions other than BC and AB where correct responses in these two provinces each dropped by 1 percentage point from 2019 to 2022.

Correct responses increased from +2 percentage points in ON to +13 in QC from 2019 to 2022.

#### What do countries need to do in order to ensure temperatures stay within a tolerable range?



- Significantly Decrease **Emissions**
- Move to Net Zero **Emissions**

% Correct (Significantly decrease emissions or move to net zero emissions)

		Responder	Respondent Group				
Educator	2022	41%	38%	79%			
Luucatoi	2019	53%	42%	76%			
	2022	450/	240/	76%			
<b>Parent</b>	2022 2019	45% 51%	31%	76% 73%			
	2019	51%	36%	73/0			
Ci de d	2022	45%	30%	76%			
Student	2019	46%	31%	65%			
General	2022	40%	34%	74%			
Public	2019	51%	36%	74%			

2022: n=4,035 (Educator=406, Parent=1,373, Student=1,208, General Public=1,290)

2019: n=2.189 (Educator=111. Parent=571. Student=486. General Public=906)

When asked what countries need to do to ensure temperatures stay within a tolerable range, about three-quarters of respondents were able to answer correctly, that countries should either significantly decrease emissions or move to net zero emissions. Responses were similar but slightly improved in 2022 (75%) compared to 2019 (73%).

Correct responses increased across all respondent groups other than the general public, where correct responses stayed consistent between 2022 and 2019 (74%). Students had the largest increase in correct responses from 2019 (65%) to 2022 (76%).

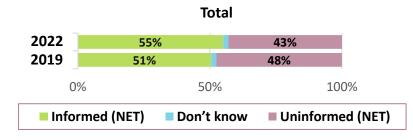
	, ,	<b>% Correct</b> lecrease emissions transfer zero emissions	
Province	2019	2022	(+/-)
ВС	71%	76%	+5

	110	et zero emissioni	5)
Province	2019	2022	(+/-)
ВС	71%	76%	+5
AB	64%	65%	+1
SK	60%	70%	+10
MB	74%	66%	-8
ON	74%	76%	+2
QC	82%	78%	-4
ATL	68%	75%	+7

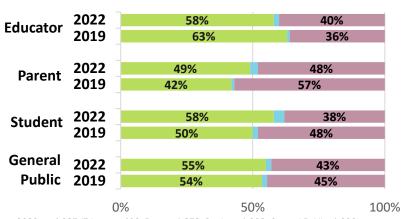
The percentage of correct responses varied across all province/regions from 2019 to 2022. Most had an increase in correct responses, however in MB and QC correct responses decreased by -8 to -4 percentage points, respectively.

Correct responses increased from +1 percentage point in AB to +10 in SK from 2019 to 2022.

# How well-informed do you feel you are about climate change?



#### **Respondent Group**



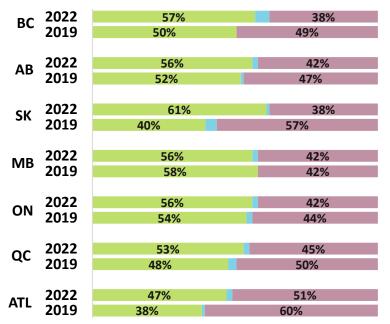
2022: n=4,035 (Educator=406, Parent=1,373, Student=1,208, General Public=1,290) 2019: n=2,188 (Educator=110, Parent=571, Student=485, General Public=907)

Most respondents (55%) in 2022 felt they were well-informed (very well-informed/fairly well-informed) about climate change, more than in 2019 (51%).

Parents (49%), students (58%), and the general public (55%) indicated feeling more well-informed in 2022 than in 2019 (42%, 50%, 54%, respectively).

Educators were the only group to feel less informed in 2022 than in 2019 (58% vs. 63% in 2019).

#### Province/Region



All respondents in provinces across Canada, other than in MB, indicated feeling more well-informed in 2022 than in 2019.

Those in SK felt the most well-informed (61%) in 2022, a significant increase from 2019 (40%). Residents in ATL felt the least well-informed (47%) in 2022, however still notably more than in 2019 (38%)

#### Climate change education should be a high priority for schooling

#### Agree (NET)— Total

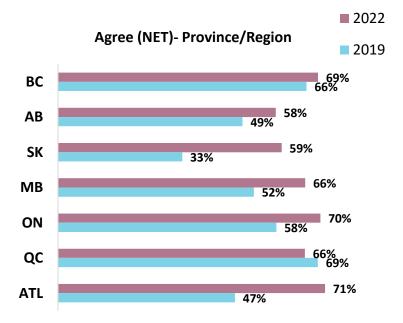


#### Agree (NET) - Respondent Group



2022: n=4,035 (Educator=406, Parent=1,373, Student=1,208, General Public=1,290)

2019: n=2,179 (Educator=111, Parent=570, Student=479, General Public=906)



Education is becoming a higher priority for Canadians. When asked if climate change should be a high priority for schooling, more respondents agreed in 2022 (67%) than in 2019 (59%).

Parents (64% vs. 53%), Students (66% vs. 57%) and the general public (67% vs. 60%) agreed significantly more in 2022 than they did in 2019.

Similarly, when asked if climate change education should be a high priority for schooling, a majority of respondents in 2022 across all regions in Canada agreed. Those in AB (58% vs. 49%), SK (59% vs. 33%), MB (66% vs. 52%), ON (70% vs. 58%), and those in ATL (71% vs. 47%) agreed significantly more than they did in 2019.

Notably, QC is the only region that decreased in agreement from 2019 to 2022.

In 2022, respondents in AB (58%) and SK (59%) agreed less than other provinces.



# Section 3: What do Canadians think of Climate Change in 2022?

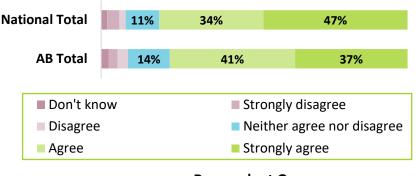
- Part 1: Knowledge Questions
- Part 2: Effects and Action
- Part 3: Climate Change Education
- Part 4: Teaching Climate Change



# Part 1: Climate Change Perspectives and Knowledge

Part 1 assesses respondent knowledge, understanding, and perspectives on the cause, impact, and reality of climate change.

#### I am certain that climate change is happening.



#### **Respondent Group EDUCATOR National 52%** 37% AB 11% 45% 36% **PARENT** National 11% 38% 44% AB 46% 34% 12% STUDENT National 9% 36% 46% AB 8% 42% 42% **GENERAL PUBLIC** National 12% 34% 47% AB 15% 40% 37%

The overwhelming majority of Canadians acknowledge that climate change is a reality. When respondents were asked if they are certain that climate change is happening, 78% of respondents from AB agreed (strongly agree/agree) with this statement, which was slightly lower than the national results (81%)

Educators in AB were less likely to agree vs. educators nationally (81% in AB vs. 89% nationally). Students in AB had the highest level of agreement among the respondent groups (84%), and agreed slightly more than the national average (82%).

National: n=4,035 (Educator=406, Parent=1,373, Student=1,208, General Public=1,290) AB: n= 467 (Educator=41, Parent=171, Student=155, General Public=130) Responses 4% or less not labelled.

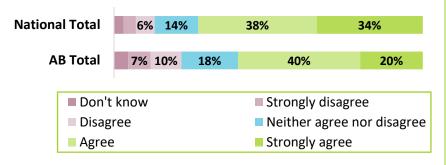




Provinces across Canada are in similar agreement, with a majority being certain that climate change is happening.

Regional agreement ranges from 85% in QC to 78% in AB and MB.

#### We are experiencing a climate emergency



#### **Respondent Group**

EDUCATOR			
National	10%	42%	40%
AB	<b>12%</b> 6% <b>7%</b>	44%	30%
PARENT			
National	8% 14%	38%	33%
AB	7% 11%	17% 34%	26%
STUDENT			
National	7% 13%	41%	31%
AB	6% 10%	22% 3	7% 20%
<b>GENERAL PUBLIC</b>			
National	5%6% 14%	38%	34%
AB	7% 10%	18% 41	.% 19%

National: n=4.035 (Educator=406, Parent=1.373, Student=1.208, General Public=1.290) AB: n= 467 (Educator=41, Parent=171, Student=155, General Public=130) Responses 4% or less not labelled.

# Province/Region - % Agree



A large majority of Canadians believe that the climate change situation we are facing is extremely urgent. Close to three quarters of respondents nationally, (73%) are in agreement. AB residents are much less likely to agree (60%).

In Alberta, parents, students, and the general public are significantly less likely to agree (strongly agree/agree) that we are experiencing a climate emergency compared to those nationally. The most pronounced difference is among students (57% in AB vs. 72% nationally).

Regionally, the level of agreement in AB (60%) is far lower than the rest of Canada. Respondents in BC (77%), MB (79%), ON (77%), and QC (77%) having higher levels of agreement overall. SK (72%) and ATL (67%) were also less likely to agree.

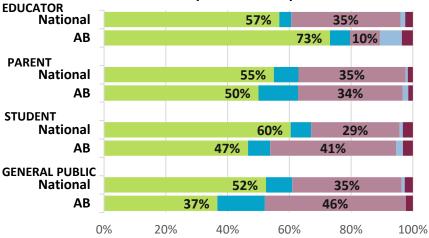
EDITICATOR

### Do you think climate change is...



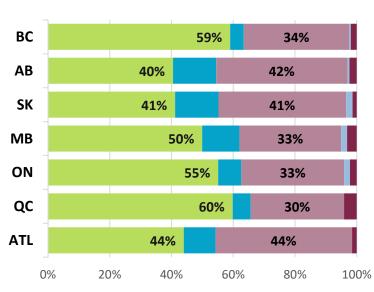
- Caused mostly by human activities (correct)
- Not happeningDon't know
- Caused mostly by natural changes in the environment
- About equally caused by both human activities and natural changes

#### **Respondent Group**



National: n=4,035 (Educator=406, Parent=1,373, Student=1,208, General Public=1,290) AB: n= 467 (Educator=41, Parent=171, Student=155, General Public=130) .

#### Province/Region



When asked whether climate change is human-caused, 54% of respondents nationally, and significantly less respondents in AB (40%), answered correctly.

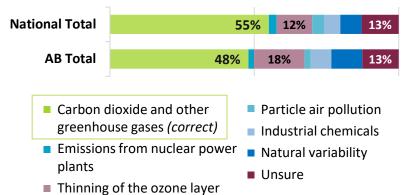
As well, a much higher percentage of Albertans responded that climate change is equally caused by human activities and natural changes (42% in AB vs. 35% nationally).

Breaking the results down by respondent groups, educators nationally, were significantly less likely to answer correctly than educators in AB (57% vs. 73%). Yet students nationally were more likely to answer correctly than students in AB (60% vs. 47%), as were members of the general public (52% nationally vs. 37% in AB).

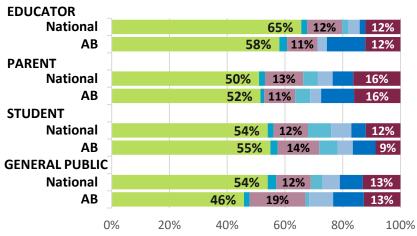
The understanding and acceptance that climate change is human-caused, varies across regions. Those in BC (59%), ON (55%), and QC (60%) understand and agree that climate change is mostly caused by human activities, more than those in AB (40%), SK (41%), ATL (44%), and MB (50%).

Similarly, a notable percentage of respondent's across all regions indicated that climate change is equally caused by both human activities and natural changes.

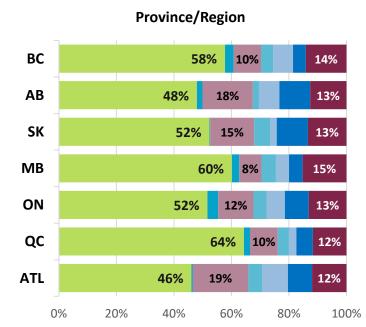
### Climate change is caused by...



#### **Respondent Group**



National: n=4,035 (Educator=406, Parent=1,373, Student=1,208, General Public=1,290) AB: n= 467 (Educator=41, Parent=171, Student=155, General Public=130)



In terms of understanding the scientific causes of climate change, just over half of respondents nationally (55%) answered correctly, that carbon dioxide and other greenhouse gases are the primary cause of climate change. Less than half (48%) of Alberta respondents answered correctly.

However, a notable portion of respondents were 'unsure' of the cause of climate change (13%) or incorrectly believed that climate change is caused by the thinning of the ozone layer (12% nationally and more so in AB, 18%).

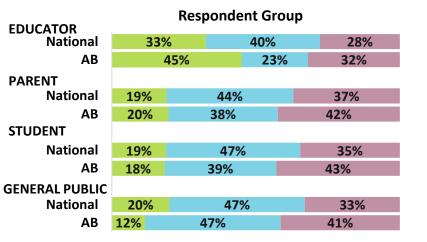
Educators and members of the general public nationally, were significantly more likely to answer correctly compared to those in AB; educators (65% nationally vs. 58% in AB), members of the general public (54% nationally vs. 46% in AB).

Across provinces, there is a variation in the knowledge that carbon dioxide and other greenhouse gases are the principal cause of climate change (BC=58%, AB=48%, SK=52%, MB=60%, ON=52%, QC=64%, ATL=46%).

A notable portion of respondents on average, are unsure of the cause of climate change or responded that climate change is caused by the thinning of the ozone layer.

# Number of correct answers to knowledge statements



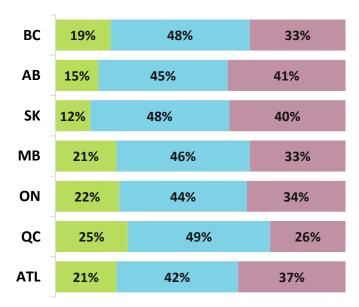


National: n=4,035 (Educator=406, Parent=1,373, Student=1,208, General Public=1,290) AB: n= 467 (Educator=41, Parent=171, Student=155, General Public=130)

On average, 67% of respondents nationally answered 5 or more of the climate change knowledge questions correctly, while only 60% did in AB.

Educators in AB were more likely to answer 8 or more questions correctly compared to those nationally (45% vs. 33%), while national members of the general public were significantly more likely to answer 8 or more knowledge questions correctly compared to members of the general public in AB (20% vs. 12%). Students in AB were more likely to score between 0-4 (43% in AB vs. 35% nationally).

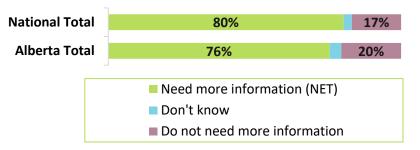
#### Province/Region

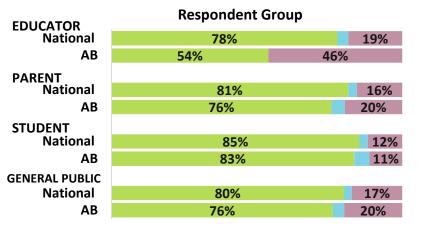


Provinces ranged between a 60% (AB and SK) to 74% (QC) success rate in answering 5 or more of the knowledge statements correctly.

For the over 80% success rate, QC scored the highest with 25% of respondents getting 8 to 10 questions correct, followed closely by ON (22%). AB (15%) and SK (12%) had the fewest residents answering 8 or more questions correctly

# How much information do you feel you need about climate change to form an opinion?





National: n=4,035 (Educator=406, Parent=1,373, Student=1,208, General Public=1,290) AB: n= 467 (Educator=41, Parent=171, Student=155, General Public=130) Responses 4% or less not labelled.

Just over three quarters (76%) of AB respondents on average indicate they feel they need more information (a lot more, some more, a little more) about climate change to form a firm opinion, compared to 80% nationally.

Educators in AB are significantly less likely than educators nationally to indicate that they need more information (a lot more, some more, a little more) about climate change to form a firm opinion (54% vs. 78%). Responses among AB parents, students, and members of the general public are consistent with national responses.

#### Province/Region

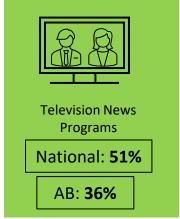


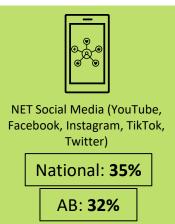
Provinces across Canada indicate they feel they need more information about climate change to form a firm opinion/

Respondents in QC are significantly more likely to indicate they need more information (86%), compared to respondents living in BC (77%), AB (76%), and ON (79%).

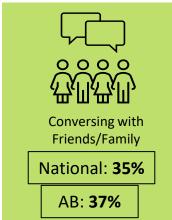
# Which of the following do you use to inform yourself about climate change?

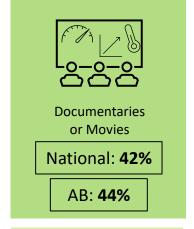
#### 2022 Total













When asked which sources respondents use most to inform themselves about climate change, 51% of respondents nationally indicated television news programs compared to only 36% of respondents in AB. AB respondents were most likely to indicate using newspaper/online news websites to inform themselves (47% nationally and 45% in AB), followed by documentaries and movies (42% nationally and 44% in AB). Fewer respondents indicated conversing with friends/family (35% nationally and 37% in AB) and listening to radio news programs (22% nationally and 20% in AB).

Note: Respondent group and provincial data can be viewed on the following page. Students nationally are most likely to use various social media platforms to inform themselves about climate change (51% nationally vs. 40% in AB) while those in AB are more likely to have conversations with family or friends (41% nationally vs. 51% in AB). Educators and parents are more likely to watch documentaries or movies about climate change. Regionally, using social media platforms was most common in BC (42%). Television news programs were more common in BC (51%), ON (53%), QC (58%) and ATL (52%) than in AB (36%). Using documentaries or movies were more common in BC (46%), and AB (44%) than in MB (28%).

# Which of the following do you use to inform yourself about climate change? (continued)

#### **Respondent Group**

Sources of Information	Educators		Parents		Students		General Public	
	Nat.	AB	Nat.	АВ	Nat.	AB	Nat.	AB
Television news programs	56%	31%	44%	43%	31%	26%	54%	37%
Newspaper and/or online news websites	56%	60%	50%	48%	33%	30%	48%	45%
Documentaries or movies	44%	57%	44%	50%	34%	29%	42%	45%
NET Social Media (YouTube, Facebook, Instagram, TikTok, and Twitter)	35%	20%	36%	37%	51%	40%	33%	32%
Conversations with friends and family	33%	17%	34%	41%	43%	51%	34%	36%
Radio news programs	32%	43%	23%	19%	13%	11%	22%	20%

National: n=4,035 (Educator=406, Parent=1,373, Student=1,208, General Public=1,290) AB: n= 467 (Educator=41, Parent=171, Student=155, General Public=130)

#### **Province/Region**

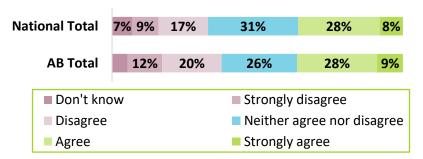
Sources of Information	ВС	АВ	SK	МВ	ON	QC	ATL
Television news programs	51%	36%	46%	46%	53%	58%	52%
Newspaper and/or online news websites	49%	45%	53%	44%	47%	50%	38%
Documentaries or movies	46%	44%	40%	28%	40%	43%	43%
NET Social Media (YouTube, Facebook, Instagram, TikTok, and Twitter)	42%	32%	32%	33%	36%	32%	30%
Conversations with friends and family	38%	37%	42%	29%	36%	28%	38%
Radio news programs	19%	20%	22%	21%	19%	29%	20%



# Part 2: Climate Change Effects and Actions

Part 2 highlights respondent knowledge, understanding, and perspective on the impact of climate change and actions that can be taken.

# I have personally experienced the effects of climate change



#### **Respondent Group**

EDUCATOR					
National	12%	17%	24%	33%	10%
AB	13%	31	.% 10%	23%	19%
PARENT					
National	6% 9%	19%	26%	31%	10%
AB	8% 8%	14%	25%	37%	8%
STUDENT					
National	12% 8	% 21%	<b>27</b> %	24%	8%
AB	12% 9	199	<b>29</b> %	6 24	% <mark>6%</mark>
<b>GENERAL PUBLIC</b>					
National	6% 9%	17%	33%	27%	8%
AB	13%	21%	26%	27%	9%

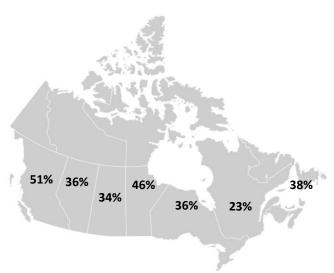
National: n=4,035 (Educator=406, Parent=1,373, Student=1,208, General Public=1,290) AB: n= 467 (Educator=41, Parent=171, Student=155, General Public=130) Responses 5% or less not labelled.

Over one third (36%) of respondents nationally and in AB (37%) agree that they have personally experienced the effects of climate change, while 26% nationally and 32% in AB have not.

Educators (43% nationally and 42% in AB) and parents (40% nationally and more so, 45% in AB) were significantly more likely to agree that they had experienced effects than students (32% nationally and 30% in AB).

The general public and educators are much more likely to disagree with this statement compared to nationally; educators: (44% in AB vs. 29% nationally), and the general public: (34% in AB vs. 26% nationally).

#### Province/Region - % Agree (Strongly Agree/Agree)



Regionally, with regards to having personally experienced the effects of climate change, respondents in BC (51%) agree the most, and those living in QC are the least likely to agree (23%).

AB falls in the middle of responses nationally.

# Which of the following statements comes closest to your personal view?

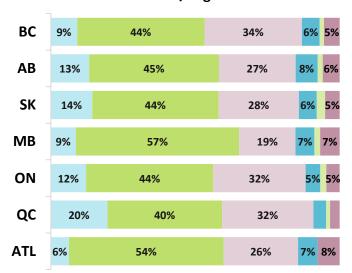
<b>National Total</b>	13%	44%	31%	<mark>6%</mark> 5%
AB Total	13%	45%	27%	8% 6%

- Humans can reduce climate change and we are going to do so successfully
- Humans could reduce climate change but it's unclear at this point whether we will do what's needed
- Humans could reduce climate change, but people aren't willing to change their behaviour so we're not going to
- Humans can't reduce climate change
- Climate Change isn't happening
- Don't know

#### **Respondent Group EDUCATOR** National 7% **53**% 32% AB 5% 61% 19% **PARENT** National 11% 46% 31% 5% 5% AB 12% 43% 31% 8% **STUDENT** National 11% 39% 37% 5% 5% AB 13% 35% 5% 8% 36% **GENERAL PUBLIC** National 14% 43% 30% 6% 5% AΒ 14% 45% 26% 8% 6%

National: n=4,035 (Educator=406, Parent=1,373, Student=1,208, General Public=1,290) AB: n= 467 (Educator=41, Parent=171, Student=155, General Public=130) Responses 4% or less not labelled.

#### **Province/Region**



Over two-in-five (44%) respondents nationally, and 45% of respondents in AB, have the personal view that humans could reduce climate change but that it is unclear at this point whether we will do what is needed. This personal view is followed by the view held by about one-third (31% nationally and 27% in AB) of respondents who believe that humans could reduce climate change, but that people aren't willing to change their behaviours so we aren't going to.

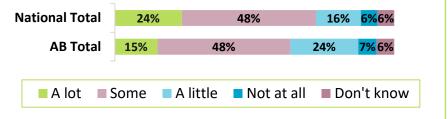
Responses among AB respondents are consistent with national responses across all respondent groups except for a slight difference among educators. AB educators are less likely to believe in people's unwillingness to change (19% in AB vs. 32% nationally), and more likely to believe that humans can reduce climate change but it is unclear whether we will (61% in AB vs. 53% nationally).

Those in MB (57%) are significantly more likely to believe that humans could reduce climate change but that it is unclear whether we will do what is needed than those in QC (40%).

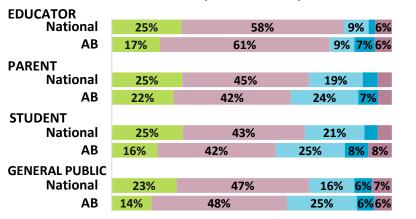
Those in BC (34%), ON (32%), and QC (32%) are significantly more likely to believe than those in MB (19%), that humans could reduce climate change, but that people aren't willing to change their behaviours so we aren't going to.

AB falls in the middle of responses nationally.

# Would you be willing to change your life to help reduce the effects of climate change?

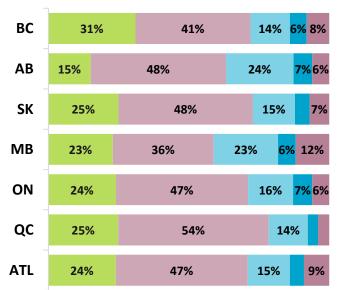


#### **Respondent Group**



National: n=4,035 (Educator=406, Parent=1,373, Student=1,208, General Public=1,290) AB: n= 467 (Educator=41, Parent=171, Student=155, General Public=130) Responses 5% or less not labelled.

#### Province/Region



A large majority of respondents nationally (72%) would be willing to change their life either "a lot" or "some" to help reduce the effects of climate change. Significantly less respondents in AB (63%) would be willing to change. Only 6% of respondents nationally and in 7% in AB are not at all willing to change their life at school, work, or home.

Students nationally were more likely to indicate they would be willing to change their lives "a lot" or "some" compared to students in AB (68% nationally vs. 58% in AB). National responses from educators, parents, and members of the general public are fairly consistent with responses from those in AB.

Respondents across the provinces in Canada were also willing to take "some" or "a lot" of action to help reduce the effects of climate change, ranging from 79% in QC to 59% in MB.

Those in BC (31%), were more willing to take "a lot" of action than those in other provinces, especially compared to AB (15%).

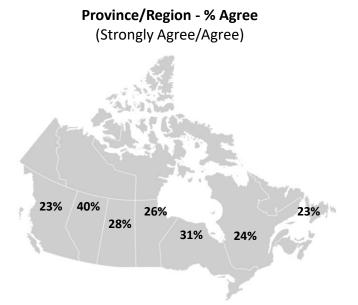
# New technologies can solve climate change without individuals having to make big changes in their lives



#### **Respondent Group**



National: n=4,035 (Educator=406, Parent=1,373, Student=1,208, General Public=1,290) AB: n= 467 (Educator=41, Parent=171, Student=155, General Public=130) Responses 5% or less not labelled.



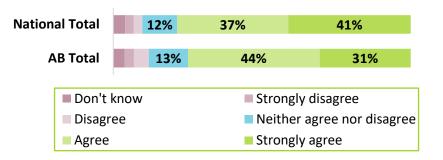
Few respondents nationally (28%) agree (strongly agree/agree) that new technologies can solve climate change without individuals having to make big changes in their lives, however, significantly more respondents in AB (39%) agree.

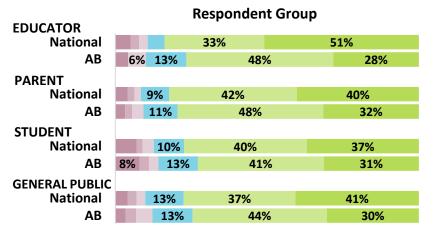
Significantly more members of the general public in AB agree that new technologies can solve climate change compared to members of the general pubic nationally (42% in AB vs. 28% nationally). AB responses from educators, parents, and students are fairly consistent with responses nationally. Educators in AB were more likely to disagree with this statement than educators nationally (24% vs. 42%) as were the general public in AB (27% vs. 41%).

Regionally, respondents differed in their belief that new technologies can solve climate change.

Those living in AB (40%) were significantly more likely to believe in technology as a solution without sacrifices needing to be made, than those in BC (23%), ATL (23%), QC (24%), and MB (26%).

# Personal actions are important, but systemic change is required to address climate challenges





Most respondents feel individual efforts must be supported by a whole-system response to mitigate the effects of rising temperatures. A majority of respondents (78% nationally and 75% in AB) agreed that while personal actions are important, systemic change is required to address climate challenges.

Across the board, respondent groups in AB are slightly less likely to agree with this statement. The most pronounced difference is between educators (76% in AB vs. 84% nationally).

National: n=4,035 (Educator=406, Parent=1,373, Student=1,208, General Public=1,290) AB: n= 467 (Educator=41, Parent=171, Student=155, General Public=130) Responses 5% or less not labelled.

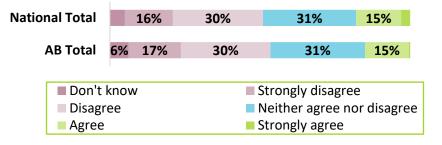
#### Province/Region - % Agree (Strongly Agree/Agree)



Similarly, respondents across the provinces in Canada agreed that systemic change is needed.

Agreement ranged from 82% in SK to 73% in MB with AB falling closer to the lower end at 75%.

#### The government is doing a good job in their actions to address climate change

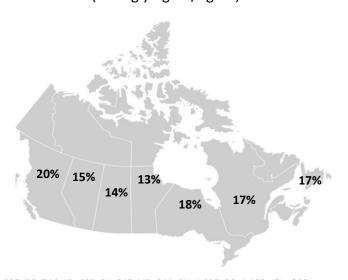


#### **Respondent Group**



National: n=4,035 (Educator=406, Parent=1,373, Student=1,208, General Public=1,290) AB: n= 467 (Educator=41, Parent=171, Student=155, General Public=130) Responses 5% or less not labelled.

#### Province/Region - % Agree (Strongly Agree/Agree)



Albertans, like most
Canadians, are not satisfied
with the actions the
government is taking to
mitigate the effects of a
warming planet. Very few
respondents (17% nationally
and 15% in AB) agreed
(strongly agree/agree) that
the government is doing a
good job in their actions to
address climate change.

AB Educators were much more likely to strongly disagree that the government is doing a good job in their actions in Alberta (38% in AB vs. 15% nationally). Otherwise, dissatisfaction between respondent groups is fairly consistent nationally vs. in AB.

Similarly, there are few respondents across Canada who agree the government is doing a good job. Regional responses range from 13% agreement in MB to 20% in BC. AB agreement falls in the middle at 15%.

# Please elaborate on what you feel needs to be done to address climate change

Survey respondents were given the opportunity to answer this open-ended question in their own words. Out of the survey population, 290 individuals in AB chose to answer this optional question.

The results were coded and grouped according to themes. The 7 most common themes are shown below, and indicate suggestions for government regulation, reducing greenhouse gases, lifestyle changes to reduce carbon footprint, reduced consumptions and waste, among other suggestions to address climate change.

1

### Government legislation/regulations/action 16%

"Governments have to take action and implement changes to countries worldwide. Everyday people will not make changes unless forced to." (Member of the General Public)

2

### Reduce greenhouse emissions/pollution 14%

"Products made from recycled materials and ways to make less pollution." (Parent)

3

### Carbon tax/tax companies who are big polluters 12%

"Additional taxes on foreign goods and online/non-local goods to offset pollution." (Member of the General Public) 4

### Countries leading by example/holding countries accountable

11%

"We...need to hold ALL countries accountable, even if they are powerful and not wanting to do anything to change." (Parent)

5

### Co-operation from all industries/companies being corporately responsible 10%

"Systemic change in the way society consumes resources, especially in large industries. Large corporations contribute far more to climate change than any individual." (Student)

6

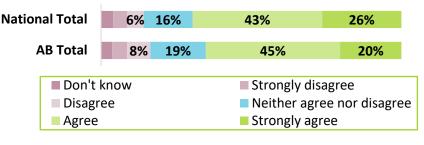
### Reduce consumption of products/reduce waste 10%

"Turning away from over consumption. We buy buy buy brand new and throw away. Companies are not doing much to make their products recyclable or less packaging. They put it on us as consumers. They throw away unsold goods and food. They throw away returned goods." (Parent)

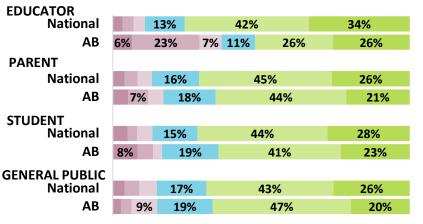
### Reduce our carbon footprints/change our lifestyles 10%

"Everyone has to do their part in reducing their impact on the environment. Reduce waste, energy efficient appliances/ homes, eliminate food waste, eat less meat, reduce water consumption. Lessen our carbon footprint." (Student)

# The work and voices of young people can inspire important climate action



#### **Respondent Group**

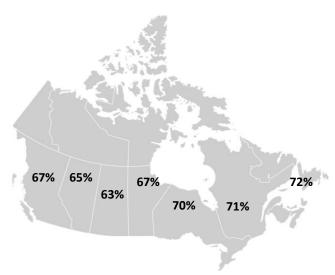


National: n=4,035 (Educator=406, Parent=1,373, Student=1,208, General Public=1,290) AB: n= 467 (Educator=41, Parent=171, Student=155, General Public=130) Responses 5% or less not labelled.

# Many Canadians are counting on our youth to help win the fight against global warming. The majority of respondents nationally (69%) and in AB (65%) agree (strongly agree/agree) that the work and voices of young people can inspire important climate action.

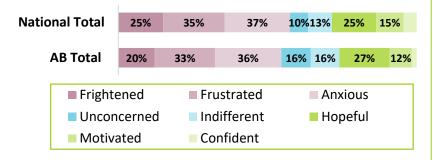
Educators in AB are significantly less likely than educators nationally (52% vs. 76%) to agree that young people can inspire climate action. Parents, students and the general public in AB share views fairly consistent with the national average.

### Province/Region - % Agree (Strongly Agree/Agree)



A majority of respondents across various provinces in Canada, including AB (65%) agree with this statement, ranging from 72% of those in ATL to 63% in SK.

# When you think about climate change, what main emotions or feelings arise?



#### Feelings on Climate Change – Respondent Group

EDUCATOR						
National	31%	35%	38	% 10	0% 30	% 9%
AB	20%	61%		35%	12% 1	4%
PARENT						
National	27%	32%	39%	10%1	5% <b>22</b> %	<b>6</b> 14% 9%
AB	26%	35%	41%	14%	15%	24% 10%
STUDENT						
National	32%	33%	41	.% <mark>13</mark> '	<b>%</b> 13%	21% 15%
AB	24%	31%	39%	18%	21%	24% 14%
GENERAL PUBLIC						
National	24%	35%	36%	10%139	<b>25</b> %	16%
AB	19%	31%	35%	16% 15%	29%	12%

National: n=4,035 (Educator=406, Parent=1,373, Student=1,208, General Public=1,290) AB: n= 467 (Educator=41, Parent=171, Student=155, General Public=130) Responses 8% or less not labelled.

#### Feelings on Climate Change - Province/Region



When AB respondents were asked to think about climate change and the emotions or feelings that arise when they do, their feelings were similar to those expressed nationally. The top emotion was anxiety (36% in AB, 37% nationally) followed by feeling frustrated (33% in AB, 35% nationally). However, over one quarter of all AB respondents are also feeling hopeful (27% in AB, 25% nationally). Fewer respondents in AB are feeling confident compared to the national average (3% in AB vs. 8% nationally), and more AB respondents are unconcerned (16% in AB vs. 10% nationally).

Similarly, in AB, anxiety is the top emotion felt by parents (41%), students (39%) and the members of the general public (35%). Educators in AB are significantly more likely to feel frustrated (61%) than those nationally (35%), and less likely to feel hopeful (14% in AB vs. 30% nationally).

Respondents in BC (45%) are significantly more likely to feel anxious about climate change than those in MB (31%), ON (36%), and QC (36%). SK respondents are most likely to feel frustrated (51%). Residents in BC have the highest combined negative feelings while those in AB and QC have the lowest.

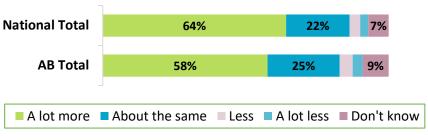
Those in QC (14%) are significantly more likely to feel confident about climate change. 16% of those in AB feel unconcerned, which is significantly more than those in SK (6%), ON (9%), and QC (9%).



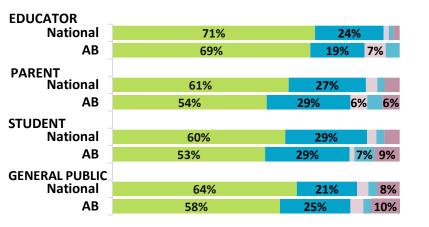
# Part 3: Climate Change Education

Part 3 highlights respondent's opinions and perspectives of climate change education in schools.

# Should education systems do more, less, or about the same as now to educate young people about climate change?



#### **Respondent Group**



National: n=4,035 (Educator=406, Parent=1,373, Student=1,208, General Public=1,290) AB: n= 467 (Educator=41, Parent=171, Student=155, General Public=130) Responses 5% or less not labelled.

Many Canadians understand the importance of education in the fight against climate change. 64% of Canadians nationally indicated they think that 'a lot more' should be done to educate young people. as did 58% of respondents from AB.

Overall, respondent groups in AB tended to agree less, compared to their national counterparts, that 'a lot more' should be done to educate young people about climate change. Educators agreed the most with this statement (71% nationally and 69% in AB). Students were least likely to agree with this statement, (60% nationally and 53% in AB).

### Province/Region



Across Canada, the majority of respondents think the education system should be doing more to educate about climate change. AB (58%) had the lowest levels of support for the schools doing more to educate young people about climate change, while QC had the highest (69%).

### To what extent do you agree (or disagree) with the following on teaching climate change in schools?

#### % Agree (Strongly Agree/Agree) – Total

**National Total** 

AB Total

Climate change education should aim to change the way people behave.	75%	67%
Climate change education should be a high priority for schooling.	67%	58%
Climate change education should be the role of all teachers.	61%	49%
Only one 'side' of the climate change debate should be taught (it is happening, and humans are the cause).	31%	26%
The topic of climate change is too complex and should not be discussed in younger grades.	15%	20%
It is not the role of schools to teach students	13%	15%

National: n=4,035 (Educator=406, Parent=1,373, Student=1,208, General Public=1,290) AB: n= 467 (Educator=41, Parent=171, Student=155, General Public=130)

about climate change.

Respondents nationally are significantly more likely to agree that climate change should be the role of all teachers (61% nationally vs. 49% in AB), and that climate education should be a high priority (67% nationally vs. 58% in AB). AB respondents are also less likely to believe that climate change education should aim to change the way people behave (75% nationally vs. 67% in AB).

Albertans were slightly more likely to agree that climate change is too complex to discuss in younger grades (20% in AB vs. 15% nationally). Very few respondents (13% nationally and 15% in AB) agreed that it is not the role of the school to teach students about climate change.

Perceptions of teaching climate change in schools varies regionally, AB had the lowest agreement that climate change education should be the role of all teachers (49%), and that it should be a high priority for schooling (58%).

#### % Agree (Strongly Agree/Agree) – Province/Region

	ВС	AB	SK	МВ	ON	QC	ATL
Climate change education should aim to change the way people behave.	75%	67%	65%	68%	76%	78%	71%
Climate change education should be a high priority for schooling.	69%	58%	59%	66%	70%	66%	71%
Climate change education should be the role of all teachers.	62%	49%	52%	63%	65%	62%	57%
Only one 'side' of the climate change debate should be taught (it is happening, and humans are the cause).	38%	26%	26%	28%	31%	34%	23%
The topic of climate change is too complex and should not be discussed in younger grades.	13%	20%	21%	14%	15%	13%	15%
It is not the role of schools to teach students about climate change.	18%	15%	14%	15%	13%	12%	9%

# To what extent do you agree (or disagree) with the following on teaching climate change in schools? (continued)

Nationally and in Alberta there is a strong belief that teaching climate change education to students is the role of schools. (I.e., agreement that "it is *not* the role of schools" was less than 15% for all national and provincial respondent groups, with parents in AB being the exception at 21%)

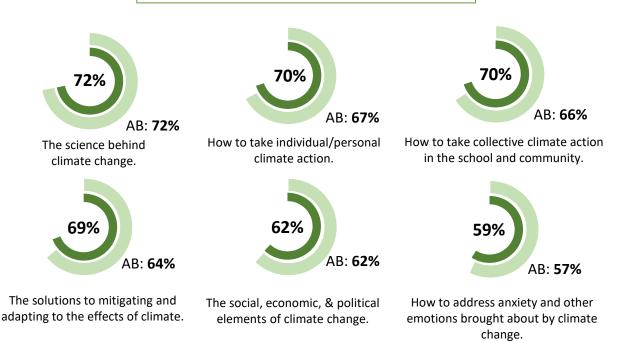
Educators in AB are significantly less likely than educators nationally to agree that climate change education should aim to change the way people behave (46% vs. 78%), should be a high priority for schooling (39% vs. 68%), should be the role of all teachers (35% vs. 61%), and that only one side of climate change should be taught (22% vs. 36%). Educators in AB are more likely to agree the topic of climate change is too complex and should not be discussed in younger grades (21% vs. 12%).

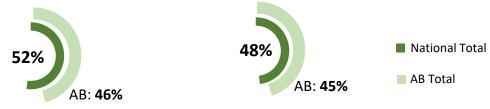
Students in AB are also less likely to agree with those statements compared to students nationally. Parents in AB are significantly more likely to agree that it is not the role of schools to teach students about climate change (21% vs. 15% of parents nationally).

% Agree	Educ	ator	Parents		Stud	ents	Gen Pul	
	Nat.	АВ	Nat.	АВ	Nat.	АВ	Nat.	АВ
Climate change education should aim to change the way people behave.	78%	46%	74%	67%	72%	64%	75%	69%
Climate change education should be a high priority for schooling.	68%	39%	64%	60%	66%	54%	67%	59%
Climate change education should be the role of all teachers.	61%	35%	60%	57%	61%	50%	61%	48%
Only one 'side' of the climate change debate should be taught (it is happening, and humans are the cause).	36%	22%	31%	26%	30%	16%	31%	27%
The topic of climate change is too complex and should not be discussed in younger grades	12%	21%	17%	22%	16%	21%	15%	19%
It is not the role of schools to teach students about climate change.	10%	15%	15%	21%	14%	13%	14%	14%

# To what extent do you feel that the Kindergarten to Grade 12 classes should focus on the following?

% Agree (Somewhat more/A lot more)





Indigenous traditional knowledge related to climate change.

The connection between climate change and racial inequality, gender equality, and social justice issues with students.

Most respondents (72% nationally and in AB) agree that K-12 classes should focus on the science behind climate change. AB respondents were somewhat less likely to support the inclusion of most of the other climate change related topics, compared to nationally.

Note: Respondent group and provincial data can be viewed on the following page. Many educators (70% nationally and 67% in AB) agree that there should be a focus on how to take collective climate action in the school and community. Educators in AB are significantly less likely than educators nationally to agree that K-12 classes should focus on how to take individual/personal climate action (43% in AB vs. 74% nationally) and how to address anxiety and other emotions brought about by climate change (28% in AB vs. 62% nationally). Responses among parents, students and the general public are fairly consistent with the national average.

Across Canada, the majority of respondents agree that K-12 classes should focus on the science behind climate change and how to take individual/personal climate change action. AB was least likely to agree that classes should include a focus on Indigenous traditional knowledge (46%).

# To what extent do you feel that the Kindergarten to Grade 12 classes should focus on the following?

#### **Respondent Group**

% Somewhat more/A lot more

	Educators Parents		Stud	ents	General Public			
	Nat.	AB	Nat.	AB	Nat.	AB	Nat.	AB
The science behind climate change	76%	68%	72%	71%	70%	71%	72%	72%
How to take individual/personal climate action	74%	43%	70%	69%	69%	64%	70%	68%
How to take collective climate action in the school and community	73%	69%	68%	67%	68%	57%	70%	67%
The solutions to mitigating and adapting to the effects of climate	73%	63%	69%	63%	63%	60%	69%	65%
The social, economic, & political elements of climate change	66%	64%	61%	60%	61%	59%	62%	62%
How to address anxiety and other emotions brought about by climate change	62%	28%	58%	58%	57%	54%	59%	59%
Indigenous traditional knowledge related to climate change	51%	59%	50%	50%	48%	41%	52%	45%
The connection between climate change and racial inequality, gender equality, and social justice issues with students	55%	34%	46%	49%	47%	39%	48%	46%

National: n=4,035 (Educator=406, Parent=1,373, Student=1,208, General Public=1,290) AB: n= 467 (Educator=41, Parent=171, Student=155, General Public=130)

### Province/Region

% Somewhat more/A lot more

	вс	АВ	SK	МВ	ON	QC	ATL
The science behind climate change	71%	72%	71%	67%	76%	69%	69%
How to take individual/personal climate action	67%	67%	66%	72%	71%	73%	70%
How to take collective climate action in the school and community	66%	66%	68%	68%	71%	72%	68%
The solutions to mitigating and adapting to the effects of climate	71%	64%	70%	65%	70%	69%	69%
The social, economic, & political elements of climate change	66%	62%	63%	66%	65%	58%	56%
How to address anxiety and other emotions brought about by climate change	57%	57%	60%	55%	60%	57%	60%
Indigenous traditional knowledge related to climate change	48%	46%	51%	52%	57%	48%	52%
The connection between climate change and racial inequality, gender equality, and social justice issues with students	49%	45%	51%	44%	52%	46%	40%

# How do you think education systems should further contribute to climate change education?

Survey respondents were given the opportunity to answer this open-ended question in their own words. Out of the survey population, 267 individuals from AB chose to answer this optional question.

The results were coded and grouped according to themes. The 7 most common themes are shown below, and indicate suggestions for an enhanced curriculum, and increased awareness and education.

1

### Include with curriculum in school 31%

"Incorporate it into the education curriculum!
Also, when younger kids learn about it, the more
informed they'll be about current events."

(Student)

2

### Explain scientific evidence of what causes climate change 18%

"More concentration on the science. Show the evidence!" (Member of the General Public)

3

# Offer solutions to the problem (e.g., reduce your carbon footprint, less pollution) 14%

"Education systems should include teaching things other than what is happening. For example, how to actively make the right choices as to means to decrease your carbon footprint, and ways to live more sustainably." (Student) 4

### Educate people more/ increase awareness 12%

"Raise the students' awareness of climate change and educate them how to reduce the factors which cause climate change in daily life." (Student)

5

### Increase awareness of actions and consequences of actions 11%

"Important to teach towards community thinking - helping students recognize that their choices will impact others, even impact those they will never meet or may not live in their country." (Parent)

6

### Keep it nonbiased/Honest 8%

"They need to tell the actual truth, not politically swayed and biased information." (Member of the General Public) 7

# Empower individuals so they feel they can make a difference 7%

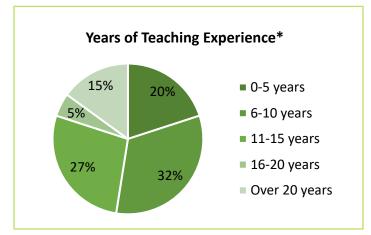
"If we empower
young kids now to
be a better
custodian of our
planet, they will."
(Parent)

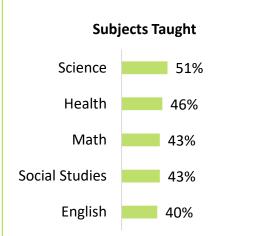


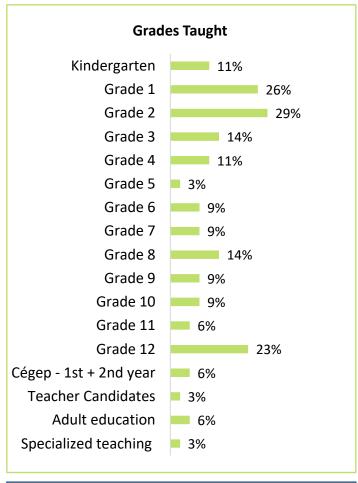
# Part 4: Teaching Climate Change

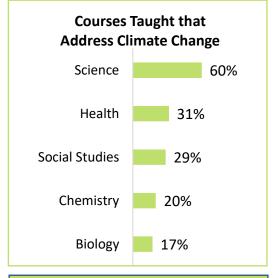
Part 4 highlights the results from the portion of the survey designed exclusively for educators. This section includes their perspectives on the issues that impact the teaching of climate change. 406 Educators responded to the survey with representation from each province across Canada.

### **Alberta Educator Demographics**



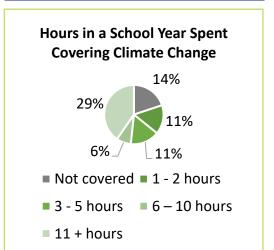






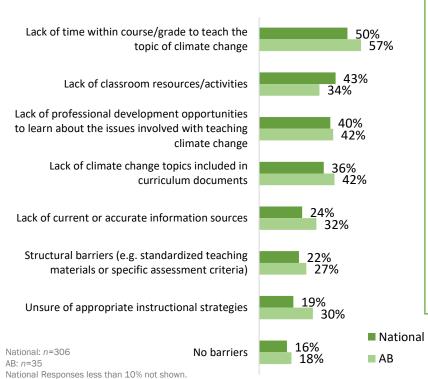
23% do not cover climate change topics in any subjects they teach





# What barriers have you experienced when attempting to include climate change education within your classroom?

### Barriers when attempting to include climate change education within the classroom



Educators in AB (57%) are slightly more likely than educators nationally (50%) to mention a lack of time within the course/grade to teach the topic of climate change is a barrier when attempting to include climate change education within the classroom. Educators in AB are less likely to agree that lack of classroom resources/activities are a barrier to teaching climate change (34% in AB vs. 43% nationally).

Comparing regional responses, AB often diverged from the other provinces. Educators in AB agreed the least often that lack of classroom resources was a barrier (34%). AB educators were most likely to agree that they are unsure of appropriate instructional strategies (30%).

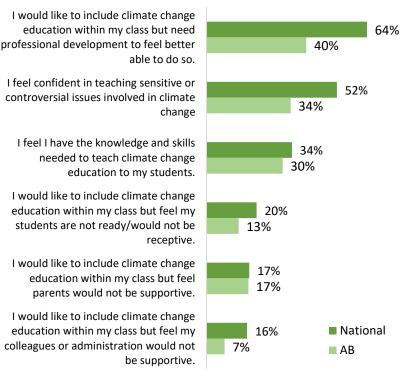
#### Province/Region

	ВС	АВ	ON	QC	ATL*	SK*	МВ*
Lack of time within course/grade to teach the topic of climate change	69%	57%	43%	48%	62%	55%	55%
Lack of classroom resources/activities	53%	34%	52%	38%	59%	62%	54%
Lack of professional development opportunities to learn about the issues involved with teaching climate change	59%	42%	48%	28%	56%	45%	49%
Lack of climate change topics included in curriculum documents	48%	42%	44%	28%	60%	59%	51%
Lack of current or accurate information sources	48%	32%	22%	19%	31%	45%	36%
Structural barriers (e.g. standardized teaching materials or specific assessment criteria)	18%	27%	21%	24%	33%	31%	25%
Unsure of appropriate instructional strategies	14%	30%	23%	13%	24%	21%	25%
No barriers	8%	18%	14%	17%	12%	-	10%

National: Educators (BC=40, AB=35, SK=29, MB=175, ON=81, QC=109, ATL=156) Total National Responses less than 10% not shown.

# To what extent do you agree/disagree with the following statements?

#### % Agree (Strongly Agree/Agree)



Educators in AB are significantly less likely than educators nationally to agree they would like to include climate change education within their classes but need professional development to feel better able to do so (40% in AB vs. 64% nationally). Educators in AB also feel much less confident in teaching sensitive or controversial issues involved in climate change (34% in AB vs. 52% nationally).

Regionally, responses were quite varied. Educators perceptions in AB of climate change education were significantly different compared to their counterparts in BC, especially in their need for PD (40% in AB vs. 89% in BC) and confidence in teaching sensitive issues (34% in AB vs. 65% in BC).

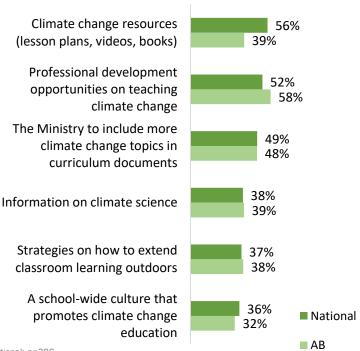
National: *n*=306 AB: *n*=35

#### % Agree - Province/Region

	вс	АВ	ON	QC	ATL*	SK*	МВ*
I would like to include climate change education within my class but need professional development to feel better able to do so.	89%	40%	68%	63%	63%	52%	61%
I feel confident in teaching sensitive or controversial issues involved in climate change	59%	34%	51%	51%	62%	83%	65%
I feel I have the knowledge and skills needed to teach climate change education to my students.	41%	30%	41%	25%	53%	86%	54%
I would like to include climate change education within my class but feel my students are not ready/would not be receptive.	16%	13%	18%	24%	9%	17%	9%
I would like to include climate change education within my class but feel parents would not be supportive.	14%	17%	19%	16%	8%	41%	9%
I would like to include climate change education within my class but feel my colleagues or administration would not be supportive.	20%	7%	18%	15%	8%	24%	6%

# What support do you need to teach climate change?

### Top 6 "Things" Needed to Teach Climate Change



National: n=306
AB: n=35
Top 6 Responses Shown.

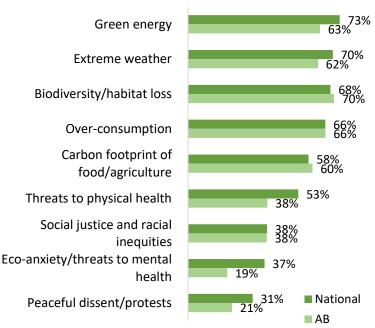
Some survey topics were included in more than one question to confirm findings. Again, educators nationally highlighted that the most needed item was climate change resources, but Alberta educators were less likely to agree (56% nationally vs. 39% in AB). Educators in AB were more aligned with the national average on the need for climate change professional development opportunities (52% both nationally and 58% in AB) and more climate change curriculum documents (49% nationally and 48% in AB).

Similar to a previous slide, educators in AB were less likely to express a need for climate change resources (39%) compared to other provinces. BC educators were most likely to request a school wide culture to support climate change (50%), and ON was most likely to want strategies on outdoor learning (40%).

	вс	АВ	ON	QC	ATL*	SK*	MB*
Climate change resources (lesson plans, videos, books)	61%	39%	57%	54%	72%	72%	75%
Professional development opportunities on teaching climate change	83%	58%	52%	42%	69%	55%	78%
The Ministry to include more climate change topics in curriculum documents	43%	48%	59%	40%	60%	76%	63%
Information on climate science	38%	39%	42%	34%	60%	48%	57%
Strategies on how to extend classroom learning outdoors	36%	38%	40%	33%	56%	45%	58%
A school-wide culture that promotes climate change education	50%	32%	46%	23%	61%	69%	65%

# To what extent do you agree (or disagree) that climate change should be addressed in grades Kindergarten to Grade 3?

### % Agree (Strongly Agree/Agree)



National: *n*=406 AB: *n*=41 Educators agree that green energy (73% nationally and less so in AB, 63%) and extreme weather (70% nationally and 62% in AB) should be addressed in Kindergarten to Grade 3.

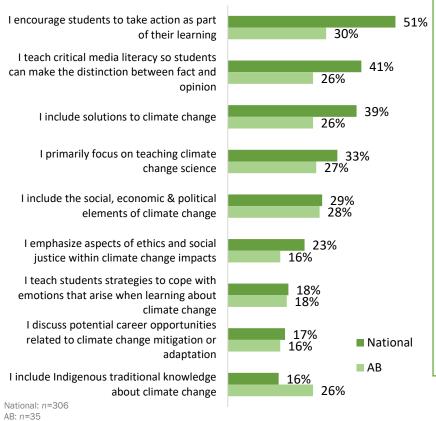
Educators in AB (19%) are significantly less likely than educators nationally (37%) to agree eco-anxiety/threats to mental health should be addressed in younger grades. AB educators are also much less likely to agree that threats to physical health should be addressed (38% in AB vs. 53% nationally).

Regionally, AB (70%) ranked biodiversity highest. QC (77%) ranked over-consumption highest, and ON (72%) and BC (67%) ranked teaching green energy highest.

	вс	АВ	ON	QC	ATL*	SK*	МВ*
Green energy	67%	63%	72%	75%	85%	82%	82%
Extreme weather	65%	62%	71%	72%	73%	74%	79%
Biodiversity/habitat loss	64%	70%	66%	63%	84%	85%	85%
Over-consumption	48%	66%	66%	77%	86%	79%	81%
Carbon footprint of food/agriculture	59%	60%	64%	53%	75%	72%	72%
Threats to physical health	59%	38%	54%	53%	48%	51%	61%
Social justice and racial inequities	26%	38%	31%	42%	53%	59%	58%
Eco-anxiety/threats to mental health	21%	19%	36%	43%	42%	46%	49%
Peaceful dissent/protests	19%	21%	28%	34%	39%	28%	44%

## When I teach about climate change...

#### A Great Deal/ A Moderate Amount



Educators nationally (51%) are

significantly more likely than educators in AB (30%) to encourage students to take action as part of their learning when they teach about climate change.

AB educators are also less likely to teach students critical media literacy (26%) in order to make the distinction between fact and opinion, compared to the national average (41%). Educators in AB and nationally are not very likely to teach potential career opportunities related to mitigation and adaptation (17% nationally and 16% in AB).

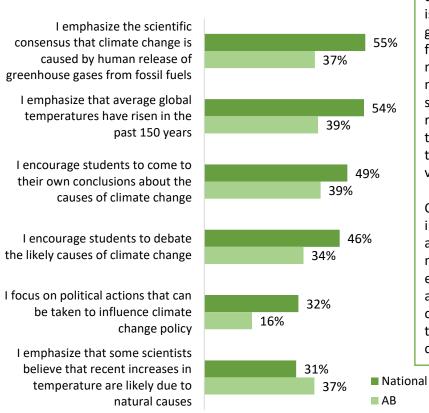
Regionally, educators from AB are less likely to take many of the listed actions, with the exception that they are most likely to include indigenous traditional knowledge about climate change in their classes (26%).

AD. 11–33					•	Ū	
	вс	AB	ON	QC	ATL*	SK*	MB*
I encourage students to take action as part of their learning	45%	30%	60%	50%	66%	66%	66%
I teach critical media literacy so students can make the distinction between fact and opinion	41%	26%	45%	45%	45%	66%	42%
I include solutions to climate change	40%	26%	42%	41%	56%	59%	58%
I primarily focus on teaching climate change science	25%	27%	38%	32%	42%	59%	36%
I include the social, economic & political elements of climate change	31%	28%	30%	29%	35%	38%	35%
I emphasize aspects of ethics and social justice within climate change impacts	25%	16%	27%	22%	32%	34%	39%
I teach students strategies to cope with emotions that arise when learning about climate change	12%	18%	24%	15%	19%	28%	23%
I discuss potential career opportunities related to climate change mitigation or adaptation	23%	16%	21%	12%	27%	28%	13%
I include Indigenous traditional knowledge about climate change	13%	26%	20%	11%	19%	48%	29%

54

### In my classes...

### % Agree (Strongly Agree/Agree)



Educators in AB are significantly less likely than educators nationally to agree they emphasize the scientific consensus that climate change is caused by human release of greenhouse gases from fossil fuels (37% in AB vs. 55% nationally). AB educators are more likely to emphasize that some scientists believe that recent increases in temperature are likely due to the natural causes (37% in AB vs. 31% nationally).

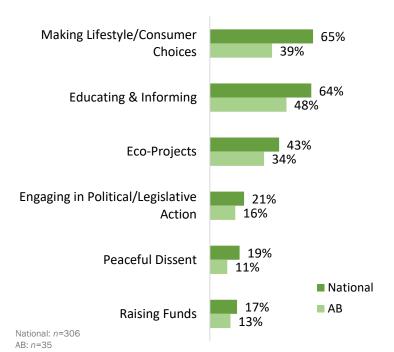
Compared to other provinces in Canada, educators from AB are least likely to agree with most of the listed statements, especially when asked if they agree on a focus in their classes on political actions that can be taken to influence climate change policy.

National: *n*=306 AB: *n*=35

	ВС	АВ	ON	QC	ATL*	SK*	МВ*
I emphasize the scientific consensus that climate change is caused by human release of greenhouse gases from fossil fuels	73%	37%	60%	50%	69%	79%	67%
I emphasize that average global temperatures have risen in the past 150 years	71%	39%	59%	48%	64%	79%	63%
I encourage students to come to their own conclusions about the causes of climate change	37%	39%	53%	46%	39%	34%	41%
I encourage students to debate the likely causes of climate change	50%	34%	44%	48%	33%	45%	43%
I focus on political actions that can be taken to influence climate change policy	43%	16%	34%	32%	42%	52%	40%
I emphasize that some scientists believe that recent increases in temperature are likely due to natural causes	34%	37%	29%	27%	16%	24%	23%

# How frequently do you engage students in taking the following types of actions to address climate change?

#### Frequently / Occasionally



Educators in AB are significantly less likely than educators nationally to engage students to make lifestyle/consumer choices (39% in AB vs. 65% nationally). AB educators are also less likely to engage their students in all of the other listed actions.

The highest level of agreement among AB educators was with engaging their students in educating and informing, as almost half agreed (48% in AB vs. 64% nationally).

Educators from AB engage students in all actions that address climate change less frequently than those from BC, ON or QC. The most significant difference was seen in engaging students in lifestyle/consumer choices (39% in AB, vs. 71% in BC, 70% in ON, and 65% in QC.)

	вс	АВ	ON	QC	ATL*	SK*	MB*
Making Lifestyle/Consumer Choices	71%	39%	70%	65%	76%	76%	82%
Educating & Informing	65%	48%	65%	65%	74%	86%	77%
Eco-Projects	37%	34%	46%	45%	56%	69%	62%
Engaging in Political/Legislative Action	24%	16%	24%	18%	24%	31%	34%
Peaceful Dissent	13%	11%	26%	14%	24%	31%	30%
Raising Funds	25%	13%	25%	10%	15%	10%	29%



Canadians' Perspectives on Climate Change & Education: 2022

Alberta Provincial Report

Section 4: Climate Audiences

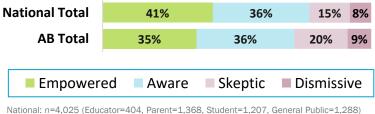
### **Ladder of Engagement**

The group EcoAnalytics has been mapping Canadian public opinion on climate change since 2016. As well, they have been providing additional analysis on specific segmented audiences in order to provide insights for communicators, educators, and policymakers for better targeting and engagement. Within this body of work, EcoAnalytics has put forward a Canadian ladder of engagement, which is a conceptual map to help groups engage audiences with more success (LaChappelle, Mahéo, & Nadeau, 2016).

The four audiences are broadly categorized and paraphrased from the EcoAnalytics report as:

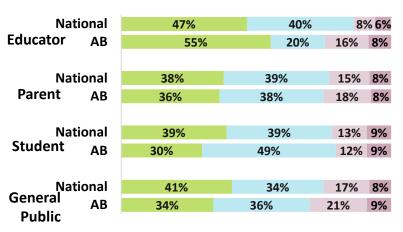
- Dismissive disagree that climate change is happening
- **Sceptic** agree that climate change is happening and do not think it's caused by humans OR, neither agree nor disagree that climate change is happening
- Aware agree that climate change is happening and do think it's caused by humans
   AND indicated that there is nothing that we can do to change it
- **Empowered** agree that climate change is happening and do think it's caused by humans AND indicated that there are things we can do to change it

Below is a comparison of the AB Ladder of Engagement Results to the National Results:



AB: n=464 (Educator=404, Parents=170, Student=154, General Public=130)

#### Respondent Group

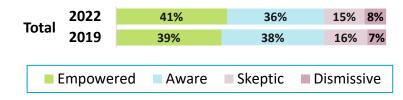


The majority of respondents both nationally and in AB are either Empowered or Aware, meaning they do agree that climate change is happening and that it is caused by humans.

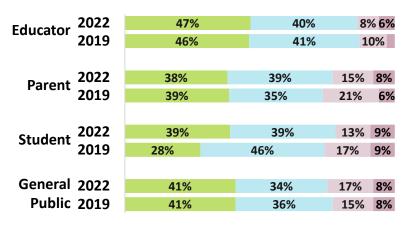
Educators in AB are significantly more likely to be Empowered than educators nationally (55% in AB vs. 47% nationally). However, AB educators are also much more likely to be a Skeptic than educators nationally (16% in AB vs. 8% nationally).

Students in AB are the group most likely to be in the Aware category (49%), when compared to all other groups.

# Ladder of Engagement 2022 vs. 2019

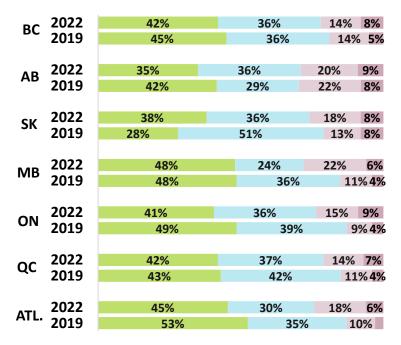


#### **Respondent Group**



2022: n=4,025 (Educator=404, Parent=1,368, Student=1,207, General Public=1,288) 2019: n=3,196 (Educator =111, Parents=571, Student=486, General Public=908) Responses less than 4% not labelled.

#### Province/Region



In three of the four participant groups (educators, parents and general public), there was little change in the ladder of engagement in 2022 vs. 2019, with educators remaining the most empowered (47% vs. 46%) and parents feeling the least empowered (39% vs 38%).

This lack of movement in other groups made the change in the student results much more significant. The percentage of students feeling "empowered" in 2019 was 28%. However, this number rose to 39% in 2022, meaning more students felt that human-caused climate change is happening, and that there are things we can do to change it.

When the ladder of engagement is applied regionally, most provinces are largely either empowered and aware. In 2022 in some regions (BC, AB, ON, QC, and ATL) there were fewer respondents in the empowered group than in 2019. SK, however, showed significant gains in the empowered group in 2022 vs. 2019 (38% vs. 28%).



Canadians' Perspectives on Climate Change & Education: 2022

Alberta Provincial Report

### **Section 5: Recommendations**

### Recommendations

The analysis of the survey data revealed a series of opportunities to strengthen climate change education in Canada, both in formal and informal education settings. Overall, Canadians wish to be better informed about climate change. In addition, educators call for enhanced professional learning and resources.

The following recommendations provide a roadmap for governments, policymakers, universities, school boards, teachers' unions, community organizations, corporations, educators, and youth to address the importance of climate change education and recognize the urgency of acting now.

#### **Formal Education**

- Ministries of Education should revise curricula to incorporate climate change expectations across all subjects and in all grades, from kindergarten to grade 12 and seek input from:
  - youth
  - Indigenous educators
  - marginalized communities
- Curriculum expectations should include: scientific consensus that climate change is human caused, the social, economic, and political aspects of climate change, Indigenous knowledge, and social justice issues.
- Ministries of Education, school boards, and teachers' unions should provide professional development and resources to enhance teacher knowledge, skills, and confidence in teaching climate change. and should include transformative pedagogies such as inquiry, active learning, and hands-on, experiential learning.
- Teachers must be supported to include solutions to mitigating and adapting to the
  effects of climate change, and promote student action to foster feelings of hope
  and empowerment and ameliorate emotions brought about by climate change.
- Faculties of Education, in implementing the Accord on Education for a Sustainable Future adopted by the Association of Canadian Deans of Education in 2022 should highlight the urgency of climate change education. They must ensure that climate change education is a central and required component of course offerings in preservice, in-service, and graduate-level teacher education curricula

### Recommendations

#### Informal and Non-Formal Education

- Canadians should be provided with information, from trusted sources including scientists and academics, about the process and causes of climate change, opportunities for mitigation and adaptation, and personal, higher-impact actions.
- Sources of information about climate change need to target different population groups more purposefully and effectively.
- Informal education sources should provide resources and strategies to help parents, grandparents, children, and youth cope with emotions that arise when learning about climate change, with a focus on solutions, actions, and hope.
- Canadians should hear positive stories of climate action and learn about collaborative approaches that create systemic change.
- Informal education sources should provide resources and professional learning for teachers on current national/provincial climate data, information on green jobs, and locally relevant climate change classroom resources.

In summary, the results of the climate change survey emphasized the need for enhanced climate change education, both in the formal school setting, as well as through informal education channels. Using this two-pronged, targeted approach will help to reduce climate change knowledge gaps and work towards the positive outcome of active citizenship for all Canadians.

Climate change mitigation and adaption will require education, support, action, and empowerment at ALL levels of Canadian society.



### **Contact information**

Pamela Schwartzberg President and CEO Learning for a Sustainable Future cc-survey@LSF-LST.ca 1 877 250 8202









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