

Canadians' Perspectives on Climate Change & Education Alberta Knowledge **Mobilization Session Post-Session Report**





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Welcome to our Knowledge Mobilization Session!

"Mobilizing research into action is important, complex, and there is a major need for more effective knowledge mobilization within and beyond education."

Quote and information below from: The Sustainability and Education Policy Network (SEPN) https://sepn.ca/knowledge-mobilization/

- Knowledge mobilization (KM) research into action is important, complex, and there is a major need for more effective KM within and beyond education.
- KM is more about engagement and learning, than dissemination and transfer
- KM reflects the concerns, interests, and needs of all audiences



Purpose of the Survey

"Education is a critical agent in addressing the issue of climate change."

United Nations

The purpose of LSF's survey Canadians' Perspectives on Climate Change & Education: 2022 was to assess Canadians' knowledge, understanding and perceptions of climate change and its risks, and to explore views on climate change education, in order to provide recommendations to move Canada toward resiliency and adaptability for climate impacts today and in the future.

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Survey Results: Reports and Infographics

www.LSF-LST.ca/research-policy/survey/

The highlights of the results for this presentation on *Canadians' Perspectives on Climate Change & Education: 2022* were obtained from the following sources:

- 1. Alberta Provincial Report
- 2. Executive Summary
- 3. Infographics
- 4. Full National Report



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



Canadians' Perspectives on Climate Change & Education: 2022 Executive Summary



Canadians' Perspectives on Climate Change & Education: 2022



Survey Background

Why Conduct this Survey?

 There are a number of surveys on Canadian perspectives on climate change but few on Canadian perspectives on climate change education

Survey Participant Groups

- The survey aimed to understand the views from across all regions of Canada from four groups:
 - o general public
 - o parents
 - o students (7-12/cégep)
 - educators (K-12/cégep teachers, P/VPs, curriculum leads, etc.)

Survey Composition

- Contained questions from the original 2019 survey (conducted by LSF, Leger & Lakehead University) for comparison purposes
- Added new questions on current, salient issues related to climate change:
 - o mental health
 - Indigenous knowledge
 - o impacts of COVID-19
 - youth engagement

Survey Methods

Data Collection and Analysis

- Leger provided data collection using their online survey panel.
 - A total of 4,035 Canadians responded, which provided a robust sample size on which to base the national reporting.
 - This was a significant increase from 2019 (2,191 respondents), with better representation from all regions across Canada.
- In addition, 2,461 open-link responses were collected by LSF with support from numerous partners.
 - The data from the open-link 'educator' respondent groups in MB, SK and ATL was utilized in the provincial reports, due to insufficient sample sizes from Leger-panel educator data.

Demographics

Alberta Respondent Groups National Respondent Groups Survey Methods $130 \\ 150 \\ 151 \\ 171 \\ 151 \\ 171$





Overall, the great majority (81%) of Canadians (78% in AB) are certain that climate change is happening, and they are concerned:



feel that we are experiencing a climate emergency









Key Survey Findings

▷ Knowledge

- Impacts
- Actions



Canadians are becoming more knowledgeable about climate change

Based on the ten-question knowledge quiz in the survey:

60% in AB passed in 2022 vs 40% in 2019

Total Correct Knowledge Questions 2022 vs 2019



Respondents' knowledge about climate change

In 2022, significantly more educators nationally answered 8-10 knowledge questions correctly than in 2019 and had the highest pass rate (73%). Parents had the lowest pass rate (63%). Correct Answers by Respondent Group



Regionally:

- **QC** maintained the highest pass rate (74%)
- While **AB and SK** greatly improved since 2019 (+20 % and +24% respectively) their scores remain lower than the rest of Canada (60% each).

Canadians still need to further improve their knowledge about climate change

Just over half (55%) of Canadians in 2022 answered correctly, that carbon dioxide and other greenhouse gases are the primary cause of climate change, vs 49% in 2019.

	Carb gree	Carbon Dioxide and other greenhouse gases (correct)						
Province	2019	2022	(+/-)					
BC	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					

While AB and all other regions (except for ATL) showed gains in their understanding of the cause of climate change, there is room for further improvement.

There remains a gap in Canadians' perceptions of their knowledge about climate change

- 55% Over half of Canadians feel well-informed about climate change.
- 21% But less than one quarter correctly answered 8-10 quiz questions.

The good news is that 80% of Canadians want more information Students are the group wanting information the most (85%).

- Regionally, QC (85%) and SK (84%) want the most information
- BC (77%) and AB (76%) residents want the least.

Trusted Sources

Most Canadians (68%) (67% in AB), trust information given by scientists and academics, compared to government sources (23%) (16% in AB).

Age is a big factor in determining where Canadians get their climate change information

Sources of Information	Educators	Parents	Students	General Public
Television news programs	56%	44%	31%	54%
Newspaper and/or online news websites	56%	50%	33%	48%
Documentaries or movies	44%	44%	34%	42%
NET Social Media (Youtube, Facebook, Instagram, TikTok, and Twitter)	35%	36%	51%	33%
Conversations with friends and family	33%	34%	43%	34%
Radio news programs	32%	23%	13%	22%

Key Findings: Impacts

Canadians' firm understanding that humans are responsible for climate change remains the same as in 2019

Canadians' views that humans are causing climate change has remained virtually unchanged.

70% in 2019

72% in 2022

Many Canadians also continue to be concerned that "humans could reduce climate change, but **it's unclear whether we will do what's needed**".

45% in 2019

44% in 2022

Advances in technology since 2019 have not changed Canadians perspectives as few agree that "new technologies can solve climate change **without** individuals having to make big changes in their lives".

28% in 2019

28% in 2022

Note: While students remained the most optimistic about new technologies (32%), the percentage had decreased since 2019 (38%).

Canadians' awareness of the significant impacts of climate change on Canada is growing

More Canadians believe :

• Climate change will harm coastal communities a great deal.

• Climate change is already harming, or will cause harm in 5-10yrs.

• Canada, as an arctic nation, is particularly affected by climate change





Regionally, there are differences in perceptions on how climate change is already causing and making glacier and sea ice melt, and making extreme weather or temperature events worse in Canada.

		· - ·	/		0		
	BC	AB	SK	MB	ON	QC	ATL
Glacier and sea ice melt	86%	78%	83%	86%	85%	88%	83%
Extreme weather events	80%	69%	69%	79%	82%	83%	83%
Extreme temperatures	82%	69%	74%	77%	77%	79%	74%

51%

2019

Percent Agree by Province/Region in 2022

Canadians feel that climate change is impacting mental health and well-being



Albertans feel that climate change is impacting mental health and well-being

Feelings on Climate Change - Nationally

National	25	%	35%	37%		10%	13%	25%	15%	8%
		= F	rightened	Frustrated	A	nxious		Unconce	rned	
		∎ Ir	ndifferent	Hopeful	N	1otivat	ed	Confiden	t	

Feelings on Climate Change – Province/Region



- AB responses were similar to the national average. AB respondents were likely to feel anxious (36%) and frustrated (33%).
- Fewer in AB feel confident (3% vs. 8% nationally).
- Regionally, AB and QC have the lowest combined negative feelings
- AB had the highest number of respondents report being unconcerned (16%)



Key Findings: Action

Canadians are taking action to reduce climate change

69% of Canadians take action to reduce their personal greenhouse gas emissions.



72% of Canadians (63% in AB) would change "some" or "a lot" in their life (at school, work or home) to help reduce the effects of climate change. Educators were significantly more willing to change (83%).

Canadians overwhelmingly believe government is not doing enough

78% of Canadians nationally, and 75% in AB, indicated that, while personal actions are important, systemic change is needed to address climate change.

Only 17% agree nationally, and even fewer in AB (15%), that the government is doing a good job in their actions to address climate change.

Key Survey Findings continued

Perspectives on Climate Change Education

- From the viewpoint of Canadians
- From the viewpoint of educators



Climate change education must be prioritized

- Canadians increasingly think climate change education should be a high priority
- Many Canadians believe that the education system should be doing "a lot more" to educate young people about climate change.
- Many Canadians feel climate change education should be the role of all teachers.

Teaching climate change in the early grades

Most felt climate change topics should be taught early, as only very few (nationally 15%; AB 20%) felt that climate change was too complex to be taught in the younger grades.

Topics that should be taught starting K-3



National educators who agree/strongly agree



49%

58%



67%

59%

NAT 2019

Climate change education must address numerous, diverse topics

When teaching climate education in schools most Canadians agree that climate change education should:



Canadians feel that climate change education should address:



(Most results for the above were similar in AB)

From the viewpoint of students

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Students across Canada were asked the open-response question: "If you could decide what you would learn in school about climate change, what would you tell your teacher?"

Top 5 answers:

Offer solutions to the problem

Explain scientific evidence

Empower individuals so they can make a difference

Highlight consequences of actions

5) More education in order to increase awareness

Teachers and climate change education: Nationally, where taught, how much time spent, and what topics?



When I teach about climate change	BC	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 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		16%	27%	22%		32%	34%	39%
I teach students strategies to cope with emotions that arise	12%	18%	24%	15%		19%	28%	23%
I include Indigenous traditional knowledge about climate change	13%	26%	20%	11%		19%	48%	29%

From the viewpoint of Educators **Role of Education**

Supports that teachers need to address climate change

Only one-third of educators feel that they have the **knowledge and skills** needed to teach climate change.

32% in 2019 34% in 2022

A growing majority need **professional development** to learn about how to effectively teach this complex topic.

50% in 2019 64% in 2022

More teachers feel they don't have sufficient time within the course /grade to teach climate change.

39% in 2019	50% in 2022

Educators are looking for additional supports including:



More Educators need to encourage students to take action

Despite the importance of active, experiential learning in sustainability education to mitigate anxiety and empower students, only 51% of Canadian educators encourage students to take action as part of their learning.

Educators most frequently engage students in the following types of action:









43% To undertake eco-projects

Regionally, there are differences in taking action in schools

	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%
Action Peaceful Dissent Raising Funds	24% 13% 25%	16% 11% 13%	24% 26% 25%	18% 14% 10%	24% 24% 15%	31% 31% 10%	34% 30% 29%

* MB, SK and ATL educator data are from open-link survey

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Final Perceptions

Gender Differences

Pandemic Influences

Youth Empowerment



Climate change perceptions by gender



Personally, how well-informed do you feel you are about climate change?

Pass rate on climate survey knowledge quiz (5 or more correct answers)

- I am certain that climate change is happening Climate change (is happening \bigcirc
 - Human beings are responsible for climate change
 - Climate change poses risks to Canadians





How have Canadians' views on climate change changed due to the pandemic?



Lessons from COVID-19 have influenced perspectives and increased awareness.

68% of (66% in AB) Canadians

agree the pandemic has helped them to recognize the importance of science to provide society with essential facts & evidence-based knowledge.



(52% in AB) 60% felt more concerned about climate change, having seen the denial expressed by many when faced with an acute global threat.



(71% in AB) 74% realize that no matter where we are in the world, we are all interconnected.

Canadians are inspired by youth

69% of Canadians (65% in AB) think the work and voices of young people can inspire important climate action.

Not surprisingly, educators (76%) feel the most strongly about the inspiration provided by youth.

"Educators need to focus on HOPE. We need to foster feelings of hope in our youth in order to empower future climate activists." (survey respondent)

Canadian students showed growth in the 'Ladder of Engagement'

The ladder of engagement sorts individuals' answers into four audiences: dismissive, skeptics, aware, and empowered.

Three of the four groups (educators, parents and general public), showed little change since 2019. However, in 2022, the percentage of students feeling "empowered" increased significantly, meaning more students felt that: Human-caused climate change is happening, AND there are things we can do to change it.







Knowledge Mobilization Session Takeaways

The following slides synthesize the discussions and contributions of the Albertans who joined LSF on March 22, 2023 for a Virtual Knowledge Mobilization Session. Participants who attended the session represented a wide variety of stakeholder groups.

During the session attendees were asked to participate in three, interactive activities. The results capture insights on the current reality of climate change education, priority actions, and next steps.

Note: The comments included in the following summary are direct contributions of the Alberta stakeholders who participated in the March 22 KMS and do not necessarily reflect the views of LSF.

Current Reality of Climate Education

In order to get a better picture of the current reality of climate change education in Alberta, participants of the Knowledge Mobilization session responded to the following question:

What do you feel is helping or hindering you in your efforts to promote climate change education - both formal and informal?

The results of this 'sticky note' brainstorm activity have been synthesized on the following slides.

THEMES on what is HELPING to promote climate change education. (Results of the group brainstorm)								
Public interest & sharing Information	Extreme Weather	Partnerships & Collaboration	Integration into schools	Research	Youth Leadership	Connecting with the natural world		
Changing attitudes leading to more support for climate knowledge	Notable weather events as illustration of change	More groups stepping into the conversation	The feedback and interest in the draft Alberta k-4 curriculum	Sessions like these that present key research findings	Youth are asking for information and opportunities	Tending to my own relationship to the natural world.		
Public interest and demand	Social media - extreme weather events can part	Finding communities, F2F and online, that	(it raised awareness and conversations)	Experts are willing to	Engaging with youth leaders	A sense of awe and wonder for the natural		
Commercial success stories around energy transition and clean tech	get "missed" by mainstream media	fighting climate change.	Grant opportunities for student projects.	Government research	Creating a youth council to empower students' ideas.	Connecting with the		
Positive examples of what can be done - e.g., growth of renewables	extreme weather, with attribution information	sectors coming together	Having climate related classes available at our school.	Research and knowledge gained	Student interest - courses are filling quickly so it is easy to	land regularly		
Great examples of things happening in other communities	Extreme weather events make it "real" and relatable	ENGO's and schools Partnerships with	Climate change forms a (small) part of the	through teaching Science! (Student questions always help too!)	get support to offer more courses			
Knowing that I'm not alone Increased availability of open		different orgs engaged in this work - collaborating and sharing messages	Push for STEM,	Continued evidence- based research to inform my programs	Seeing the smiles on students' faces when they know their actions matter!			
More knowledge of potential solutions		Supportive program partners	tech & innovation in schools	for students	Students are inquisitive and are asking more climate related			
Lots of good news stories to share					questions			
Increased interest by educators								

THEMES on what is HINDERING efforts to promote climate change education. (Results of the group brainstorm)

Polarization & Misinformation	Competing priorities	Lack of confidence /knowledge of solutions	Consumer culture	Systemic barriers & lack of funding	Need for support	
Misinformed parents and the taboo of portraying Alberta's oil industry in any	Curriculum still limits teachers - still mainly science	Belief that one person cannot make a difference.	Overall consumerism attitude	Funding for busing, field trips, guest speakers	Complexity of the concept, need to help make connections between the pieces	
negative light Religious ideologies	School based action projects can be difficult to get past admin	Difficult to see the effects of actions when students do try since it takes years to see effects.	Greenwashing	Funding fears due to politics	Not knowing which area to focus climate change education on.	
Politics	Curriculum	Cynicism about our ability to effect change.	Consumer culture	Lack of government and business support for	Disconnection	
Mis-information about the effects of climate change.	Lack of time in busy workdays.	Lack of confidence in knowledge around solutions to climate	Pop-environmentalism; switching to electric vehicles without	Work related - rigid		
Polarization The speed of information,	So many education priorities, how to make climate change a top	Change.	determining if the carbon footprint is a net benefit for the climate	Systemic red tapes with	Loss of connections, relationships	
changing information and knowing which information to trust	Limited capacity	Feelings of being overwhelmed		organizational bodies	Individualism	
Preachy lectures on the consequences of climate change.	So many issues to compete with	Apocalyptic visions for the future.		Lack of representation and voice from marginalized people		
Communications Resources (people and money) dedicated to promoting climate change education	Project-learning pedagogy to focus on actions still not widespread	People who don't understand that their lack of adaptability in their career has created fear of loss that shows up as resistance to action on climate change.		Need: Dedicated provincial funding and targets for this subject matter specifically		



Sector Action Planning

Participants were divided into breakout rooms according to their sector, to collaborate on the following question: *What should your sector specifically be doing to support climate change education?*

Individuals were given time to brainstorm and jot down ideas before discussing as a small group which actions should be identified as **"priority actions"**.

The five sectors represented in Alberta were:

- Youth/Students
- NGOs
- Educators
- Businesses/Foundations/Government
- Education Organizations/Academia

The following slides illustrate the priority actions determined by each sector including supporting ideas and additional details related to these actions.

Youth/Student: Priority Actions

Priority 1: Lobby schools, government and energy sector	Priority 2: Speak up about climate action	Priority 3: Be the change you want to see in the world		
 Engage political figures at all levels of government Approach teachers and administrators to include more climate information and actions in schools Communicate to your community about your concerns 	 Find and create communities where climate change action is one of the priorities Follow prominent youth leaders already acting against climate change Connect with people on a personal level to engage them in climate activism and other sustainable action 	 Take individual action in your own life Take action, no matter how big or small Be the role model starting with gateway actions Find purpose in community action 		

Priorities:

• Take part in presentations to be more aware of climate change and learn

• Less doom and gloom

NGOs: Priority Actions

Priority 1:

Collaborate!

- Work collectively on specific key priorities that impact us as a sector
- Work on projects together to deepen engagement, reach the broadest audience and limit duplication
- Create a community of practice to learn, share, and collaborate

Priority 2:

Engage a diverse range of partners

- Diversify content and messaging to appeal to folks not typically in the audience
- Better supports for Indigenous, rural and remote educators and communities
- Work with educators and schools to deepen actions leading to bigger impact changes in their school/community



at their level of knowledge

• Bring learning outdoors and connect students to place

Additional Priorities:

- Support the well-being of teachers through nature-responsive practices
- Ensure students are aware of the career opportunities in green economy need a workforce to support the transition

Educators: Priority Actions

Priority 1:

Provide hands on learning with measurable impact

- Inspire student opinion, allow them to ask questions, research answers, give them responsibility!
- Undertake action project so students can learn through doing rather than just being "preached" at
- Assign classroom projects such as hydropronics, community gardens, etc.

Priority 2:

Foster Partnerships

- Partner with businesses, educational orgs, activists, etc to connect, share resources and, get funding!
- Partner with schools across Canada (or international) to do similar projects and see effects across the country/globe
- Include parents in activities, research, personal accounts, etc.

Priority 3: Prioritize climate change

education

- Assign system staff resources to sustainability and climate change education (ie. sustainability learning specialist)
- Work to ensure climate change instruction is not just limited to science / social studies
- Foster cross-curricular learning

Additional Priorities:

• Incorporate "famous" activists-leaders, youth, actors, etc.

Business/Foundation/Government: Priority Actions

Priority 1:

Listen, Learn, and Connect

- Gain trust from the public by listening to concerns and coming up with solutions
- Engage parents in the conversations, shifting actions at home
- Know when to engage and not to engage and what role business can play
- Form a network of government, business (all sizes) foundations, and educational institutions

Priority 2:

Walk the talk!

- Demonstrate that it can be done e.g. net zero buildings, electric vehicles
- Depolarize the conversation and find ways to bring different perspectives together to learn from each other and identify actions
- Support generative discussions about balanced solutions

Priority 3:

Provide resources, mentorship, funding, knowledge, expertise

- Support student projects, providing mentorships, resources
- Connect Truth and Reconciliation with Climate Change
- Discuss how energy use can change while remaining resilient & reliable & affordable

Additional Priorities:

 Provide early support for energy transition projects from various groups (corporate, government) while it scales up and becomes economic

• Continue to advance multiples solutions in parallel

Education Organizations/Academia: Priority Actions

Priority 1:

Provide ongoing and early education as part of curriculum

- Ensure buy in and accountability from all stakeholders
- Provide professional development opportunities
- Enable students to be leaders, they might be the one with the most knowledge
- Use community-engaged, projectbased learning to help students feel empowered

Priority 2:

Increase collaboration

- Collaborate with Indigenous, marginalized communities, and youth
- Increase youth capacity and create empowerment opportunities
- Partner with community organizations to engage students
- Ask Public School members to brainstorm what would work in their different areas of the province



• Provide professional learning

Additional Priorities:

• Take steps to incorporate products that can help reduce costs/ reduce emissions. e.g solar panels in schools to switch energy type use

Concluding Thoughts

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

The results of the climate change survey emphasized the need for enhanced climate change education to reduce climate change knowledge gaps, to support our educators, to empower our youth, and ultimately work towards the positive outcome of active citizenship for all Canadians.



How can you support these goals?

Action Pledges

At the conclusion of the Alberta Knowledge Mobilization Session, participants pledged to take an action to enhance climate change education.

Some of the actions include:



Advancing climate change education requires commitment and collaboration from all sectors. Thank you to the Alberta education, government, business, NGO, academia, and youth representatives who joined us to discuss this important work, and who pledged to take-action on this issue.

Climate Change Resources for Educators (Shared by participants)

	Resource Name	Website link
1	LSF Resources for Rethinking (database of over 1,700 teacher-reviewed, curriculum-based resources)	https://lsf-lst.ca/resources/database-resources-for-rethinking/
2	LSF Classroom Climate Guides "Empowering Learners in a Warming World" (K-2, Gr 3-6; Gr 7-12)	https://lsf-lst.ca/resources/empowering-learners-in-a-warming-world/
3	LSF Green Jobs Videos: Adapting to our Changing Climate (gr. 9-12)	https://lsf-lst.ca/resources/green-jobs/
4	The Climate Game	https://ig.ft.com/climate-game/
5	City of Calgary Climate Program, Calgary Climate Strategy, and Climate Actions Checklist	Calgary.ca/ClimateProgram
6	GreenLearning Canada Foundation - free resources on energy transition, climate change and green economy for educators	https://greenlearning.ca/
7	Martinez, A. M., & Alsop, S. (2018). Climate change education trends in Canadian post-secondary educational institutions (psis). University Initiatives in Climate Change Mitigation and Adaptation, 229–243. https://doi.org/10.1007/978-3-319-89590-1_13	https://www.researchgate.net/publication/325855783 Climate Change Educa tion Trends in Canadian Post-secondary Educational Institutions PSIs
8	Climate Change Atlas of Canada - (Interactive climate change map of Canada, great for geography teachers)	<u>ClimateAtlas.ca</u>
9	Project Drawdown (An extensive resource for climate solutions)	https://drawdown.org
10	Sustainability and Education Policy Network (SEPN) - an international network of researchers and organizations advancing sustainability in education policy and practice (look for their report: <u>Responding to Climate Change: A Primer for K-12 Education</u>)	https://sepn.ca/
11	Sustainable Development Goals – Resources/Activities page and information on each of the 17 goals	https://www.un.org/sustainabledevelopment/student-resources/

For full climate change survey results, visit: Canadians' Perspectives on Climate Change & Education www.LSF-LST.ca/research-policy/survey/

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