

Advancing environmental, energy and climate education:

A call to Action



start exploring!

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We have a problem

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We have a big problem in Alberta: our young people lack environmental literacy, knowledge about climate, and hope for the future.

When it comes to teaching students how to balance the complexities of stewarding nature, meeting energy demand, reducing greenhouse gases, and creating prosperity—our K-12 education system gets a failing grade.

This year the Alberta Council for Environmental Education conducted youth polling and focus groups. We found that students have low levels of environmental and climate literacy, construct false and sometimes apocalyptic narratives to fill the knowledge vacuum, and experience high levels of eco-anxiety and fatalism about their future.

*We are very troubled by what we've found, and we will **present and share the evidence** we have gathered and **propose a path forward**. We invite education leaders and parents to support students with better education and opportunities to take well-informed action, as we give them the best gift possible: hope for the future.*

Students feel helpless, abandoned and unsure of what to do in the face of predictions of catastrophic climate change they are being exposed to through social media, the news, and other youth.

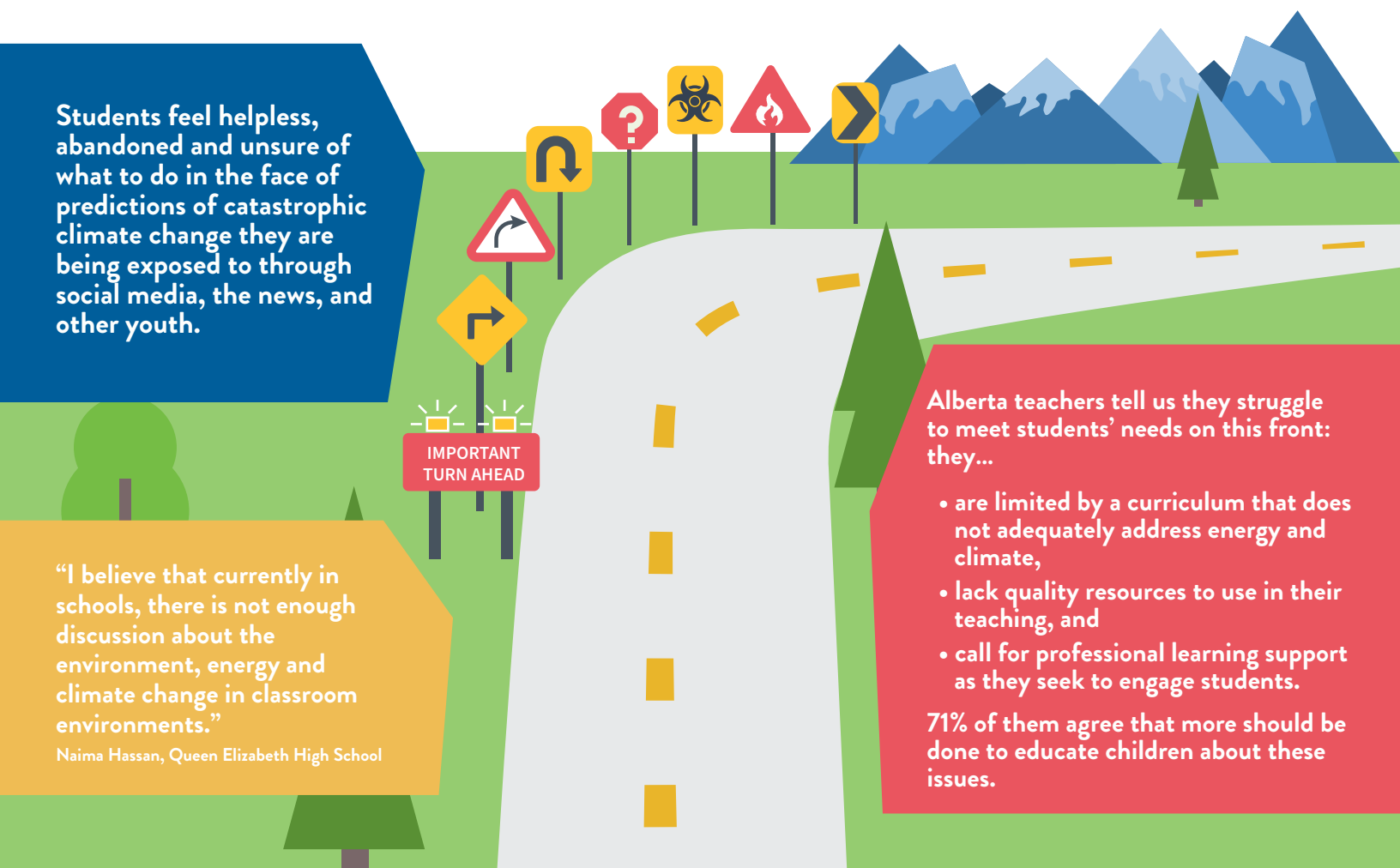
“I believe that currently in schools, there is not enough discussion about the environment, energy and climate change in classroom environments.”

Naima Hassan, Queen Elizabeth High School

Alberta teachers tell us they struggle to meet students' needs on this front: they...

- are limited by a curriculum that does not adequately address energy and climate,
- lack quality resources to use in their teaching, and
- call for professional learning support as they seek to engage students.

71% of them agree that more should be done to educate children about these issues.



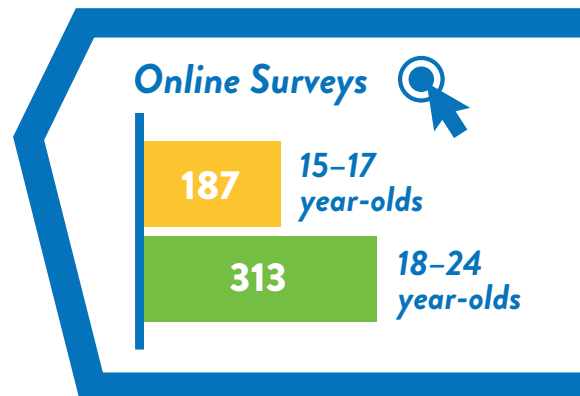
How we collected our evidence

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The Alberta Council for Environmental Education worked with Climate Outreach to conduct youth focus groups from November to December, 2019 and worked with Leger to conduct youth polling in February 2020. Participation by youth under 18 years of age in both workshops and polling was conditional on consent by a parent or guardian.

Polling

Leger conducted polling of 500 Alberta youth aged 15–24 to determine youth’s awareness and understanding of key environmental issues, and to explore youth knowledge and attitudes in relation to climate and energy. The polling was also designed to track long-term changes over a decade, through a comparison to the results from ACEE’s 2010 polling.



Focus Group Workshops

The purpose of the focus group workshops was to elicit from students, in their own voices, how they want climate change and energy topics to be taught in the classroom. The one-hour workshops used a series of images and promoted peer-to-peer dialogue grounded in participants’ identities and sense of belonging to their local community, and as Albertans. We also interviewed the teachers.



The full reports can be found at: www.abcee.org/our-ask

Thank you to the following for supporting this work:



What we heard

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Students in Alberta are struggling with key climate change concepts. Through focus groups, we spoke to 172 students in grades 4–12 from nine locations across Alberta and they had:

- Poor understanding of our energy system, especially energy sources, energy production, the relationship between fossil fuel use and climate change, and energy solutions.
- A desire to learn about the nitty-gritty of energy production, how climate change will impact them, and what they can do to make things better.
- Only a vague understanding of terms like “environment” and “pollution,” which seemed to mean everything and nothing to them at the same time.
- Concern about the loss of farmland, warmer winters and more unpredictable temperatures.

“... I want to learn about the engineering side, like what new technologies will we build to really stop it, or something like that. Like the small things are important but like the really big engineering things that will really make a difference.”
(Grade 11 student)

“I don’t know much about climate. I don’t know much about global warming. I don’t know why... I’d like to learn more about that.” (Grade 7 student)

“... like kids our age are trying to reduce our carbon footprint because of adults and adults before that sort of. Like they, they made the earth polluted and then like they’re relying on us to fix it. So this is the school strike and everything. It’s just to get the adults to have to help us cause you did this too.”
(Grade 7/8 student)

“I get worried about climate change on what the future will be... Like also with most of my family being farmers... the weather’s being messed up a lot, not a lot of my family has gotten their crops off the ground yet or my family’s friends. So like different livelihoods are being destroyed and stuff.”
(Grade 7 student)

“Literally anytime I go to a family reunion... all of my family is very conservative and I can’t say a word. I would get in so much trouble...” (Grade 10-12 student)

Students are concerned about nature, wildlife, and their own future. Students across all age groups feel that the responsibility to fix the problem has fallen on them, and that other key actors such as governments are not playing their part.

Students have drastically different experiences when it comes to acceptance of ‘green’ perspectives. Some think Alberta is great because you have the freedom to voice different opinions, while others experience a very divided, politicized adult culture that is hostile towards people with green views. Students in Sherwood Park, for example, felt that having green opinions would put them in difficult situations.

A 2019 Canadian poll conducted by Lakehead University and Learning for a Sustainable Future found that only one third of educators cover climate change in their classrooms—and those who do only spend between one and ten hours per semester on this topic.

Grande Prairie

Fort McMurray

Sherwood Park

Cochrane

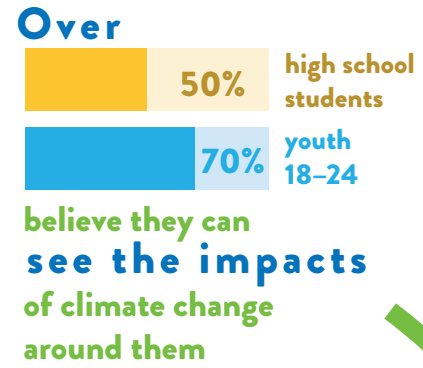
Lethbridge

By the numbers

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We polled 500 Alberta youth in 2020, and our findings are clear: the majority of youth in Alberta are *concerned about climate change* but feel like they lack the knowledge and ability to do anything about it.

9 in 10 youth have a moderate to extreme level of concern when considering the environment and climate change



70% of high school students are worried about their future as a result of climate change

Feelings of Hopelessness

Energy literacy is low: for example, only **2 in 10** youth are aware that hydro-electric generation is the main source of electricity in the rest of Canada

When it comes to protecting the environment, the top barriers cited by youth include
“I don’t know what to do”

Over **two thirds** of youth agree that educating students about climate change should be a high priority in schools.



ROADMAP TO Excellent Climate Change Education

Insights from the Alberta Council for Environmental Education

In late 2019 we spoke with more than 170 students from nine communities across Alberta and in early 2020 we conducted province-wide polling of over 500 Alberta youth ages 15 to 24. For today's students, climate change is not controversial; in fact, the vast majority agree that it should be taught in school and should be a high priority for grades 4-12. For Alberta youth, **teachers are one of the most trusted sources of information** about climate change.¹ When students are not taught about environment, energy and climate change, they construct their own meanings, which are commonly incorrect - and can create feelings of confusion and anxiety.² Here are six things we can all do on the 'road' to excellent climate change education!

"I think that's the problem, is that we don't know how we can help. And then everybody keeps putting it on us like: "All right, figure it out". But we don't know how to figure it out because we haven't found that out yet."
(Grade 10, rural student)



1 Approach with empathy and curiosity

- Acknowledge and accommodate anxiety. Avoid fear and blame.
- Frame climate action as part of a **positive, respectful narrative** connected to our shared identity and pride in Alberta, and helping create the future kids want.
- Empathize **with your students' concerns**. Listen to them³.
- Approach learning as a **shared exploration**, recognizing that, as educators, we aren't climate experts.
- Remember that youth don't all feel the same about climate change. In Alberta, youth fall into three subgroups: Alarmed (55%), Concerned Passives (35%) and Dismissives (10%)¹.

2 Connect to nature and place

- Build a foundation of love and respect for nature by spending time outdoors and providing positive experiences in nature, which also benefit mental health.
- Help students understand that **we are part of nature**.
- Emphasize **connectedness and interdependence** with our environment.
- Make learning **local and relevant**, to foster a sense of place.

Focus on 'Us, Here and Now' NOT 'Them, There and Then'

3 Build literacy of environment, energy and climate

- Teach fundamental concepts, creating a deeper understanding of key concepts.
- Use consistent language for better understanding of the differences between pollution, climate change, environment, and waste.
- Use real data⁴ to ensure student learning is evidence-based.³
- Explore both the scientific and social dimensions of climate change.

4 Develop critical thinking and problem-solving skills

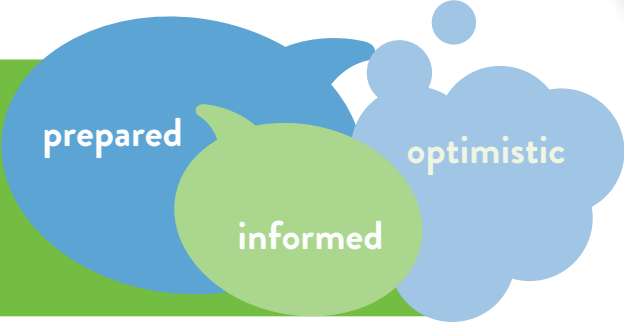
- Teach **HOW** to think, not what to think.
- Create **hands-on action projects** that develop skills, inspired by student interests⁴.
- Consider **different perspectives** and weigh the relevant evidence.
- Practice **interdisciplinary, systems-level, and creative thinking**.
- Connect with **experts** and approaches that help students explore **future career paths**.

5 Create hope and agency by helping students be part of the solution

- Spend more time in the 'solution space' than the 'problem space'.
- Connect to real-world (e.g. municipal) action plans and strategies. Begin with climate actions that will have the greatest impact: *Energy efficient buildings. Low carbon transportation. Fueled by renewables. Responsible individual and collective choices.*
- Help students imagine, prepare for, and explore to help create their sustainable future.

6 Inspire others to action

- Evaluate and assess programs, teaching and action projects to **demonstrate learning and impact**.
- Share successes to **inspire others to action!**



"Heading into an uncertain future, it is imperative that youth fully grasp the situation in front of them and have the skill required to prepare adequate solutions"

-Naima Hassan, High School Student.

To help you, we curate some great climate education resources from many sources and organizations:
<https://www.abcee.org/climate-education>

Alberta Youth Leaders for Environment and Energy Education (AYLEEE)
<https://www.abcee.org/student-recommendations>

References:
1. 2020 Youth Polling: Environment, Energy, & Climate Literacy. Prepared by Leger Marketing Alberta, Inc. for the Alberta Council for Environmental Education. April 27, 2020.
2. Shaw, C. and Bennett, A. (2020) Youth Narrative and Voice: Recommendations for Climate and Energy Education in Alberta. Oxford: Climate Outreach
3. Lessons Learned Report from 3% Project, Produced by 3% Project, Foundation for Environmental Stewardship
4. How should climate change be taught in schools? Dr. Ellen Field, Pam Schwartzberg and Dr. Paul Berger EdCan Network, the Faculty of Education at Lakehead University and Learning for a Sustainable Future

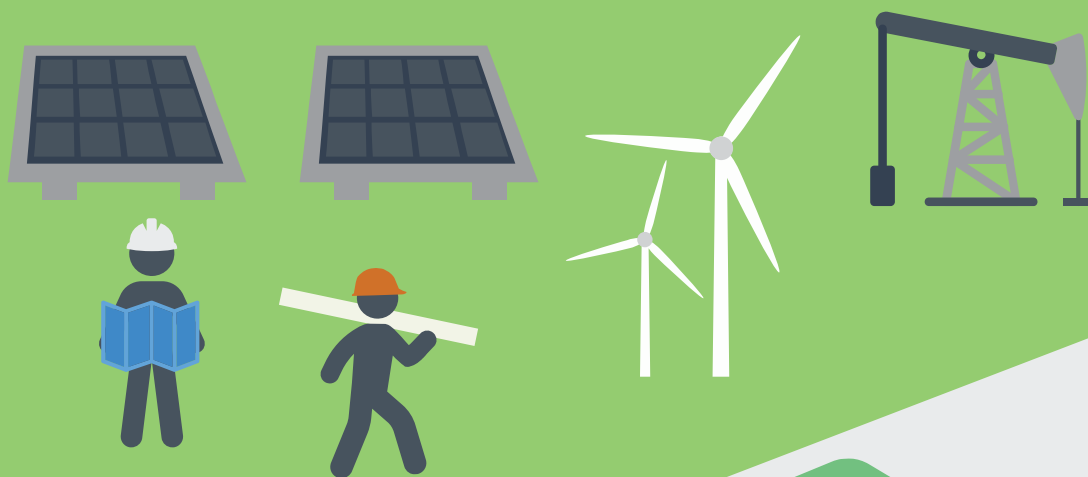
Give students a better future

Our Ask of Education Leaders

Advancing environmental, energy and climate education: A call to Action

Together, we can pave the way.

Alberta students are asking for more education that helps them learn about environment, energy, and climate—and how to balance the complexities of stewarding nature, meeting energy demand, reducing greenhouse gases, and creating prosperity.



Environmental education helps prepare students for the future that they will inhabit, the jobs they'll create, and the society they'll build—and by empowering them to become active citizens, it gives them hope for the future.



For over a decade we have worked with opinion leaders, school board and government officials, and youth on how to solve this problem. On behalf of Alberta's almost 750,000 K-12 students, we call upon Alberta's education leaders to create or enhance policies and plans that give students more environmental education.



We ask the Alberta government to...

- Strengthen the Alberta curriculum by incorporating the community's recommendations, captured in the *Curriculum for a Sustainable Future*.
- Support and fund more relevant professional learning for practicing and pre-service teachers, as described below.
- Help school boards implement more cost-saving energy efficiency and renewable energy solutions in schools—and link these to student learning.



We ask the trustees and superintendents who govern school boards to 'take the next step' in their work...

- Recognize and celebrate best practices in this area by schools, teachers, and students.
- Promote and enhance outdoor education, making it easier for teachers to connect students with nature.
- Emphasize relevant teacher professional learning, as described below.
- Implement more cost-saving energy efficiency and renewable energy solutions in schools—and link these to student learning.
- Create student advisory groups to engage youth voice.



We ask the Alberta Teachers' Association to...

Enhance teacher professional learning for practicing and pre-service teachers, helping them...

- Better connect their curriculum to topics in the environment/energy/climate space.
- Access quality teaching resources.
- Take their students outdoors, fostering students' wellness and connection to community—and keeping them healthy during COVID-19.
- Support student critical thinking around controversial issues.
- Support student environmental citizenship through action projects—giving our kids hope for the future.

We ask that Alberta's education leaders take action, paving the way for our youth and creating the education system that students are asking for.