



# Leading for Action: Climate and Sustainability Education in Schools

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**@SEPNetwork | #MECCE | [www.mecce.ca](http://www.mecce.ca)**



Social Sciences and Humanities  
Research Council of Canada

Conseil de recherches en  
sciences humaines du Canada

Canada



UNIVERSITY OF SASKATCHEWAN  
Sustainability Education  
Research Institute  
COLLEGE OF EDUCATION  
[SERI.USASK.CA](http://SERI.USASK.CA)

# Land Acknowledgement

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*We acknowledge that we are meeting on Treaty 6 territory and the homeland of the Métis, pay respects to Elders and Knowledge Keepers, past and present.*



Winter on the Muskeg, Vanessa Hyggen

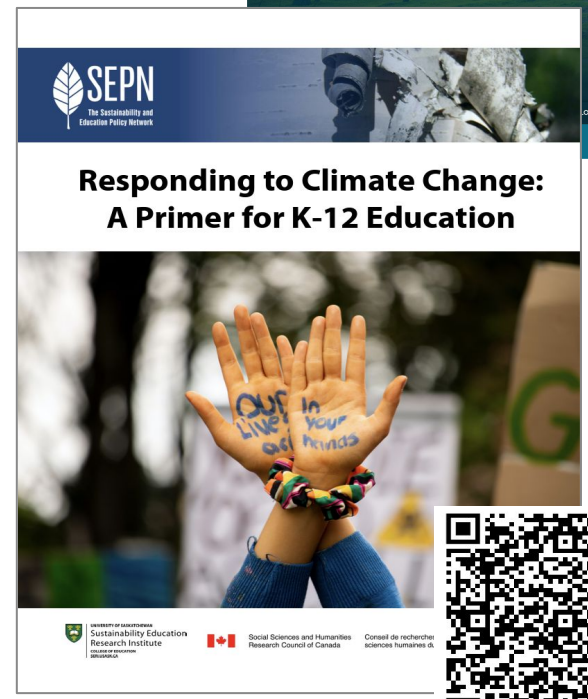
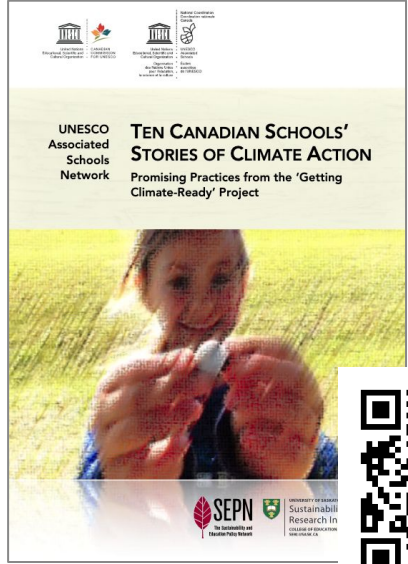
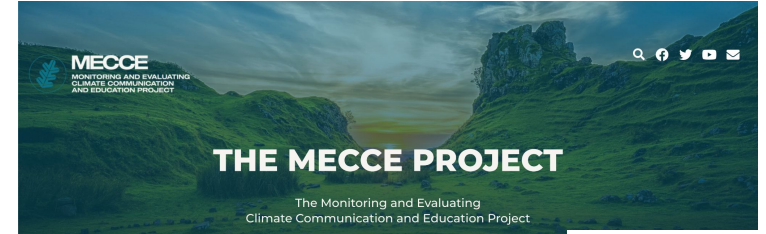
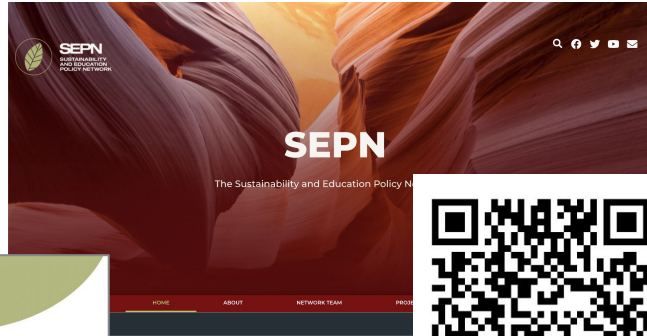




**SEPN** SUSTAINABILITY AND EDUCATION POLICY NETWORK



**MECCE** MONITORING AND EVALUATING CLIMATE COMMUNICATION AND EDUCATION PROJECT

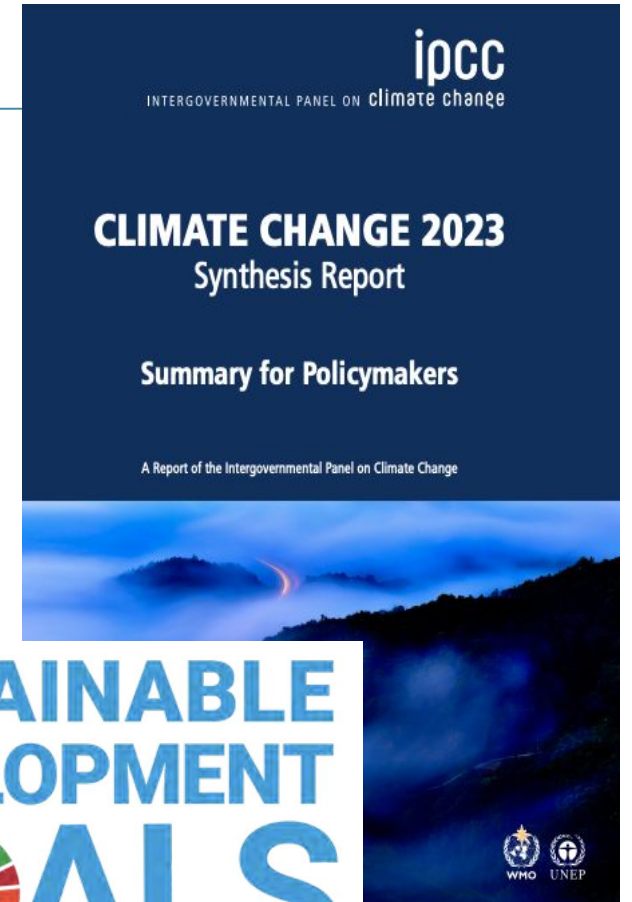


# The Time to Act is Now

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“Climate change is a threat to human well-being and planetary health... There is a rapidly closing window of opportunity to secure a liveable and sustainable future for all... The choices and actions implemented in this decade will have impacts now and for thousands of years.”

– Intergovernmental Panel on Climate Change (2023)

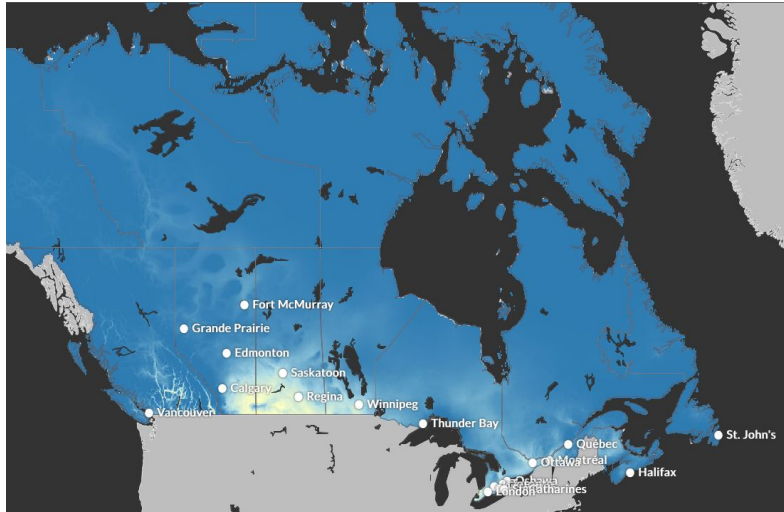


**SUSTAINABLE  
DEVELOPMENT  
GOALS**

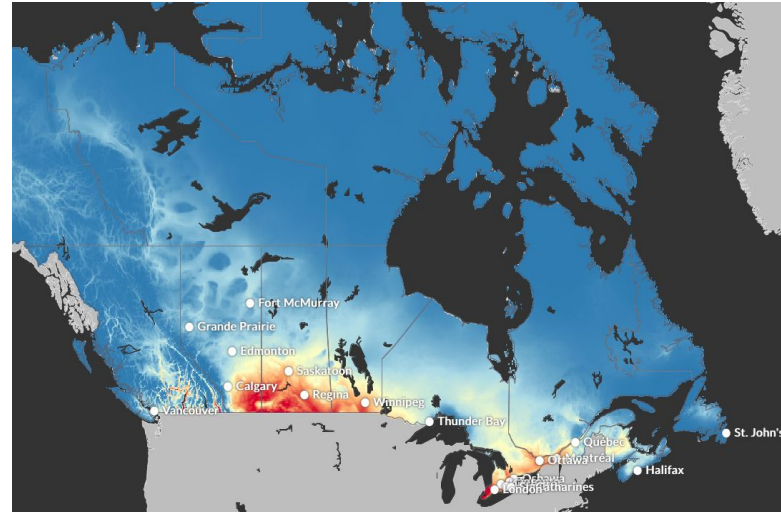




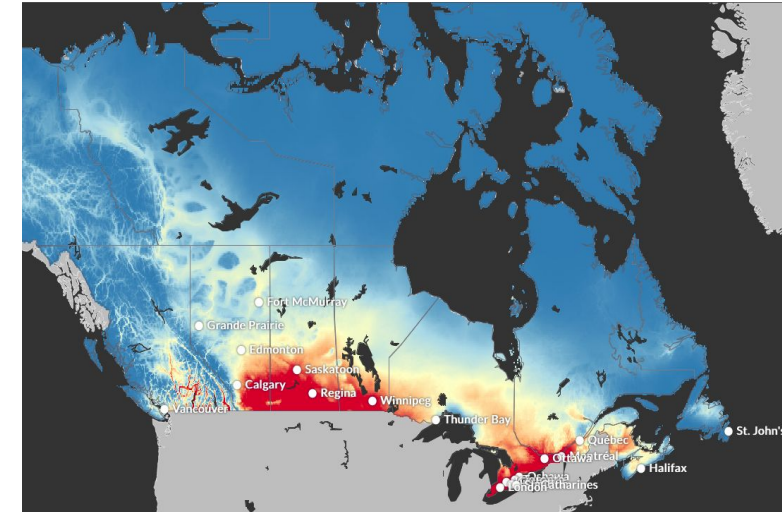
# Climate Change Impacts | Canada



1976-2005



2051-2080  
(low carbon future\*)



2051-2080  
(high carbon future)

\* Assumes the collective global action drastically reduces greenhouse gas emissions

Number of "Very Hot Days"  
(>30°C)



Source: [www.climateatlas.ca](http://www.climateatlas.ca), Prairie Climate Research Centre

# Climate Change Impacts | Saskatchewan



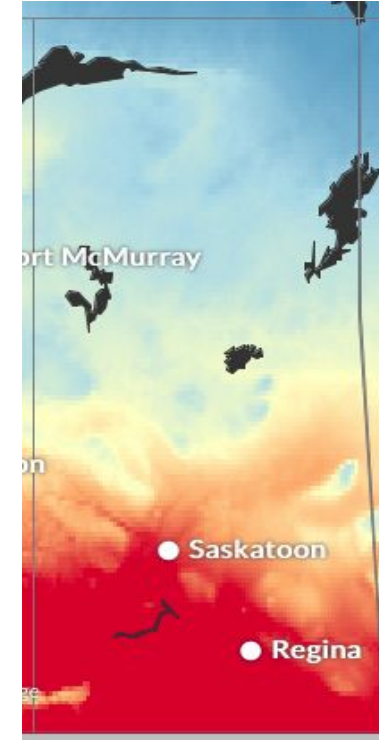
7 days >30°C  
1976-2005



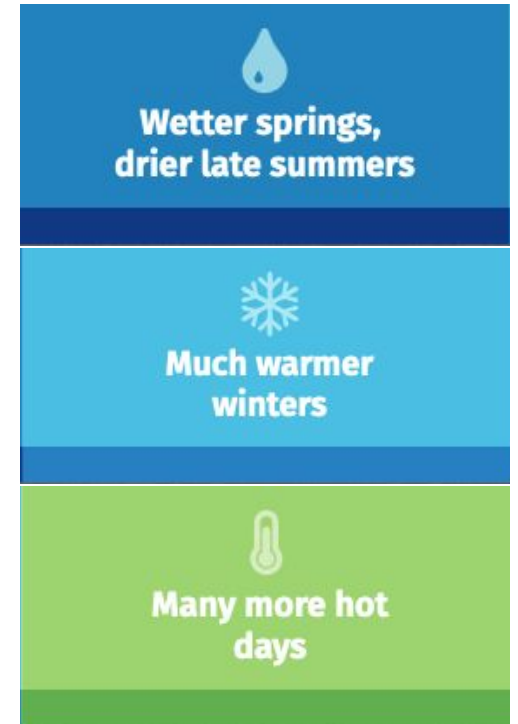
13.8 days >30°C  
2021-2050  
(low carbon future)



19.1 days >30°C  
2051-2080  
(low carbon future)



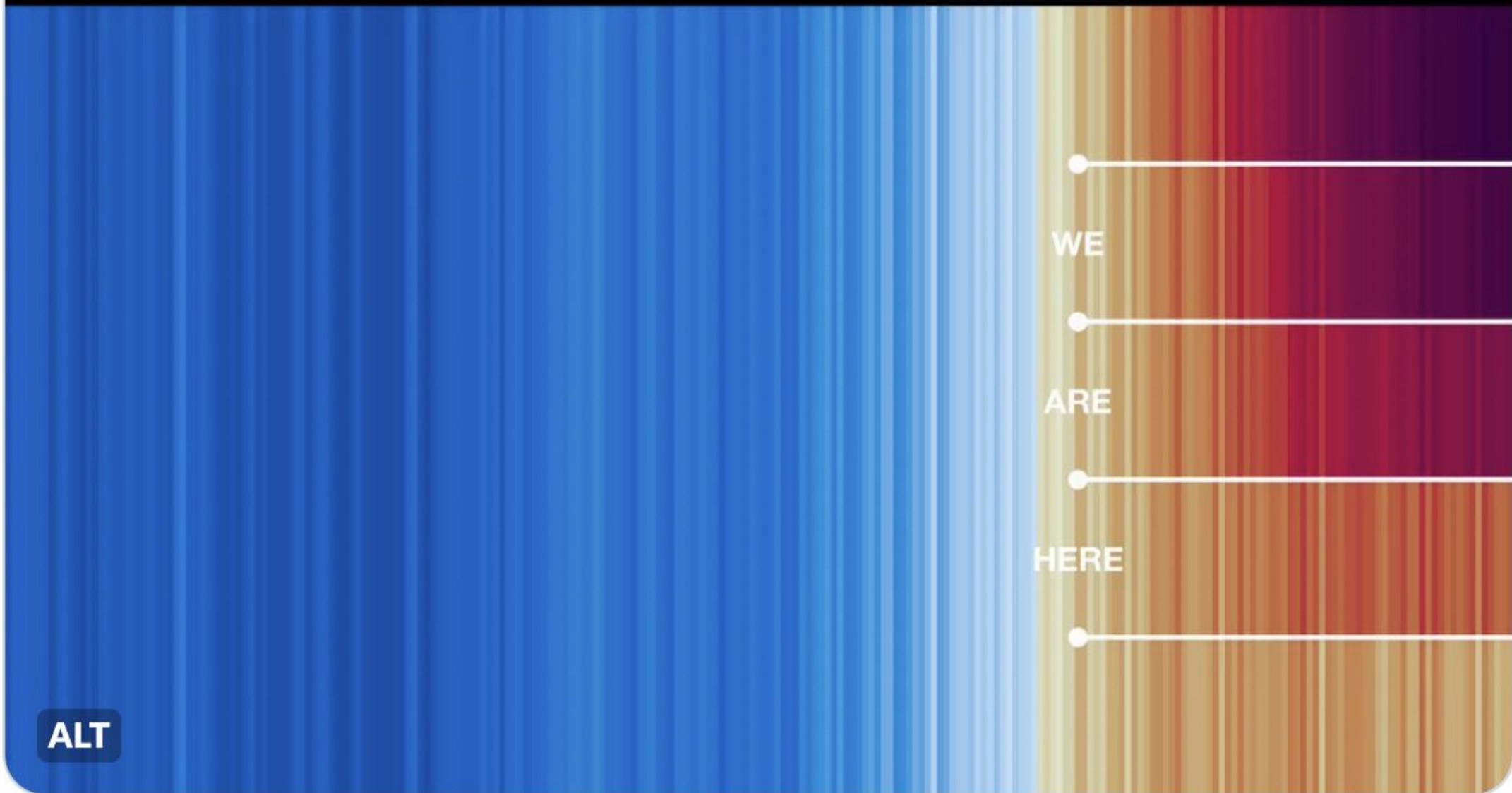
29 days >30°C  
2051-2080  
(high carbon future)





Global temperature change since 1850

Future choices up to 2100




ALT

# Youth Want Change

- 48% of Canadian young people were extremely or very worried about climate change
- 66% say climate change makes them feel afraid
- 63% say climate change makes them feel anxious
- 58% say climate change makes them feel helpless
- 56% say climate change makes them feel powerless
- 64% think the government is not doing enough to avoid climate catastrophe
- 48% think the government is betraying them/future generations

Source: Galway & Field (2023)



#ForTheYouthByTheYouth

### Youth Statement on Quality Climate Education

We, 227 national youth delegates of the Mock COP Mock Education Ministers' Summit from 89 countries, have come together to raise ambition for quality climate education.

We are facing unprecedented challenges as the climate emergency and ecological crisis worsens, and we believe quality climate education can not only help us understand the crises we face, but can equip us to tackle them and build a just, equitable, sustainable future.

Yet, our current education system is failing us. It is not preparing young people to face the effects of the climate crisis nor to understand solutions to the climate crisis, biodiversity collapse and large-scale environmental degradation. Our governments are not taking sufficient action, so we have taken it into our own hands. This statement is the culmination of delegates' country statements on climate education and puts forward the first-ever unified youth definition of quality climate education alongside our asks for world leaders to act on.

We urgently call for our Education Ministers to take meaningful action to implement and advance quality climate education.

### The state of global climate education

We know from our own experiences, and those of our peers, that climate education worldwide is inadequate. We are left with an education system unable to prepare us to face the climate crisis or to understand its solutions.

Where climate education does exist, it is optional, limited to a few selected subjects, unreliable, simple and generalised, often offered only to older students or those with specific qualifications, and almost never covers the solutions to the climate crisis. Our teachers are not supported or trained to deliver climate education, nor provided with relevant materials and resources that are proven to be free from fossil fuel industry influence. Due to the lack of formal quality climate education, in many countries climate education lies in the hands of NGOs and civil society organisations. In some countries it is being led by young people who are taking it upon themselves to teach themselves and their peers in the absence of anything else.

Whilst some countries have developed policies around climate education, we still need to see these implemented on the ground.

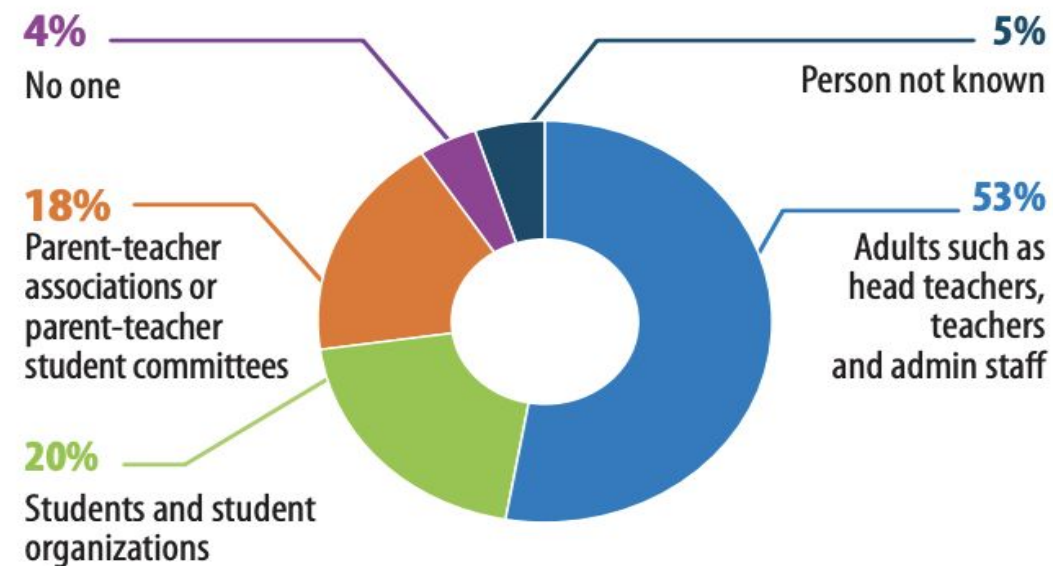
Youth Statement on Quality Climate Education



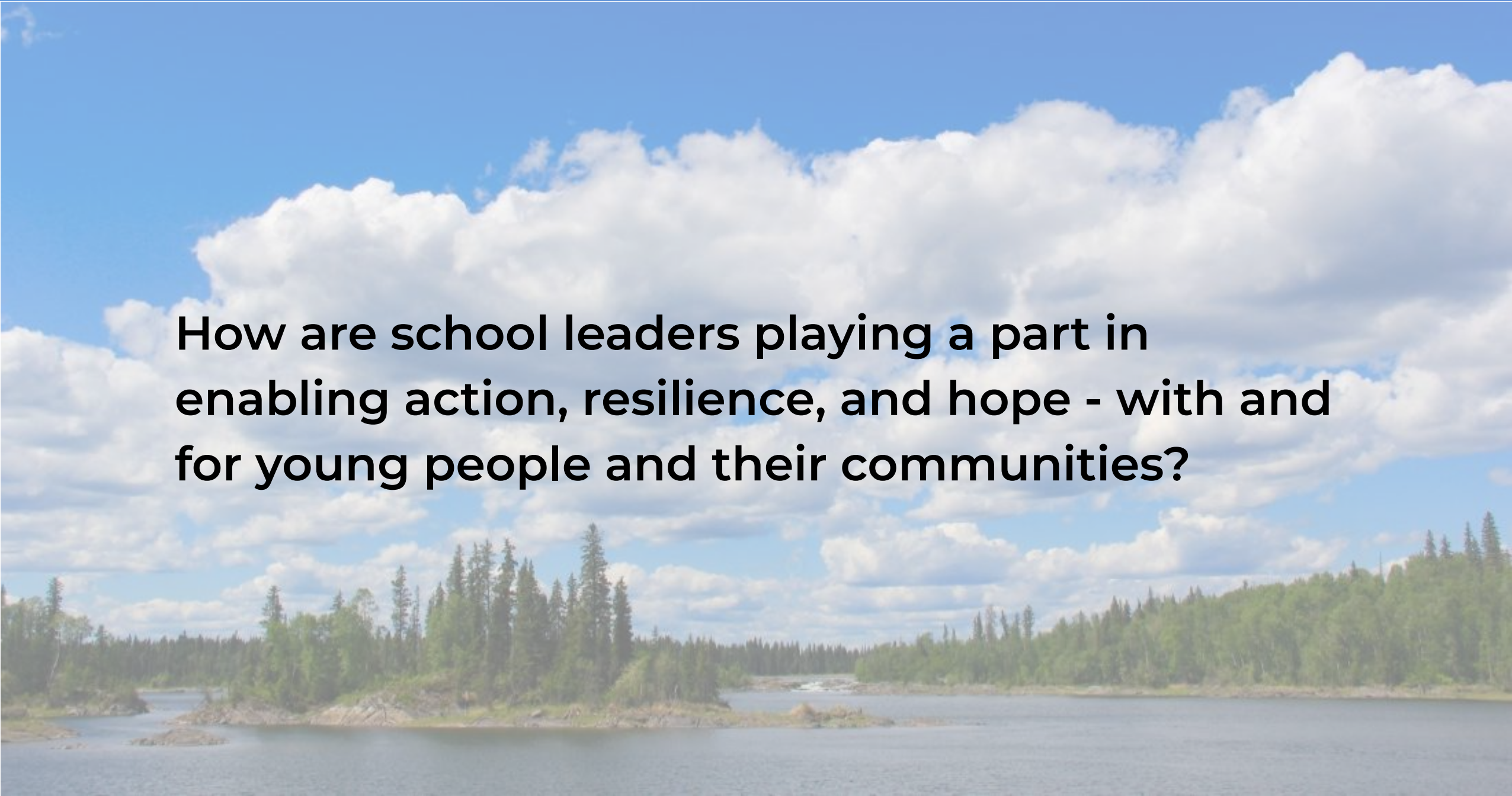


# A Call from Youth for School Leadership on Climate and Sustainability Action

Who leads climate change activities in schools.



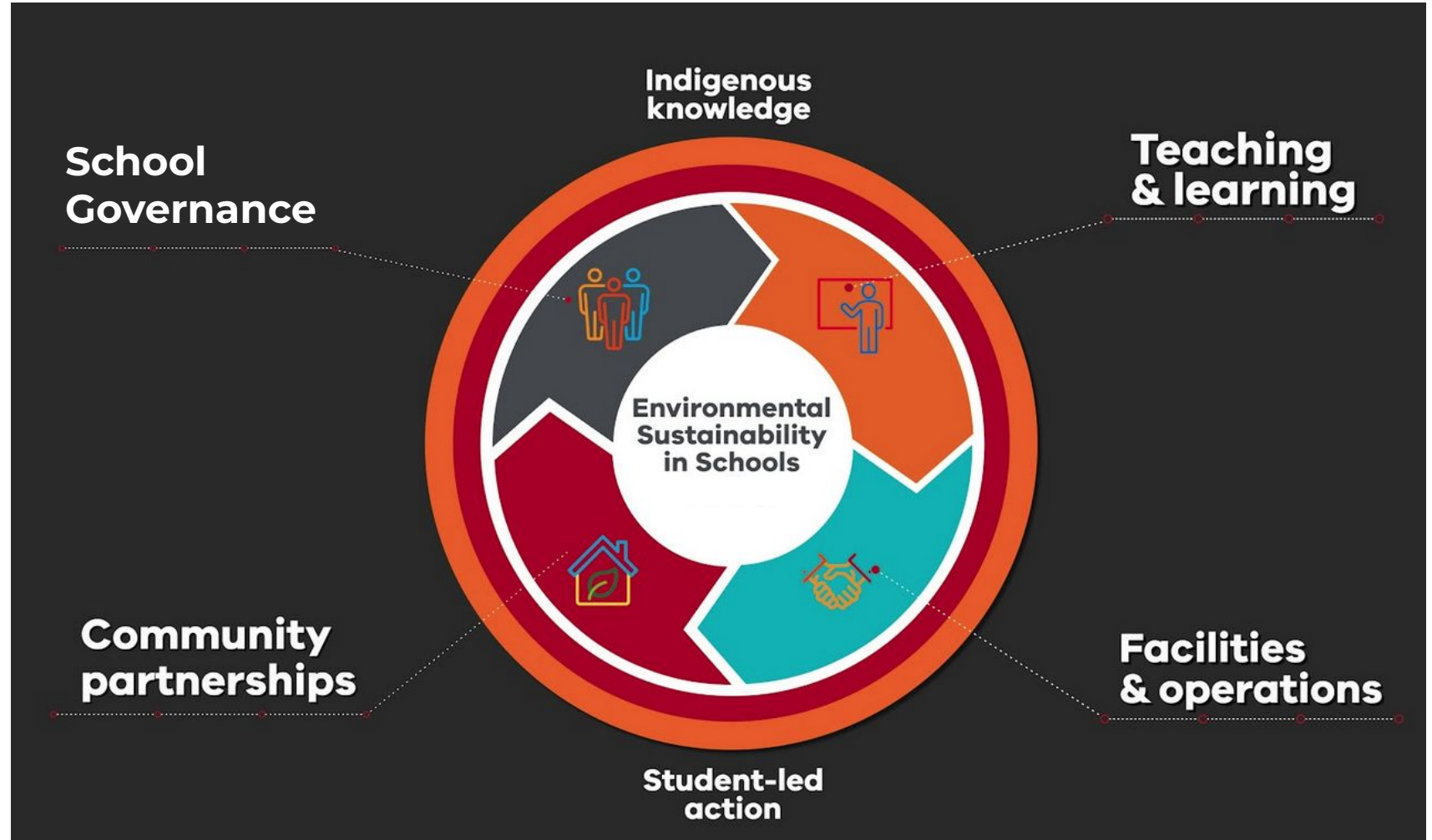
Source: Galway & Field (2023)

A scenic landscape featuring a calm body of water in the foreground, a dense forest of green trees in the middle ground, and a bright blue sky filled with large, white, fluffy clouds. The text is centered over the sky and forest area.

**How are school leaders playing a part in enabling action, resilience, and hope - with and for young people and their communities?**



# A Whole School Approach to Sustainability and Climate Action



Source: Adapted from the Victorian Government (2023) Environmental Sustainability in Schools Policy



[bit.ly/3JFbSnh](https://bit.ly/3JFbSnh)

- **During the presentation, jot down notes for what the whole institution domains could look like in your school**
- **Discussion on:**
  - **What inspires you in each domain?**
  - **What creative ideas do you have?**
  - **How might you overcome implementation hurdles?**
  - **What can you do take to increase sustainability and climate action in your school?**





## Whole School Domains in Action | Visioning Exercise

On a scale of 1 to 10, with 1 being the lowest and 10 being the highest, rate each of the whole school domains as they are currently implemented in your school. During the presentation, you can also jot down notes of what activities could be furthered in your school in each domain to advance sustainability and climate action.



bitly

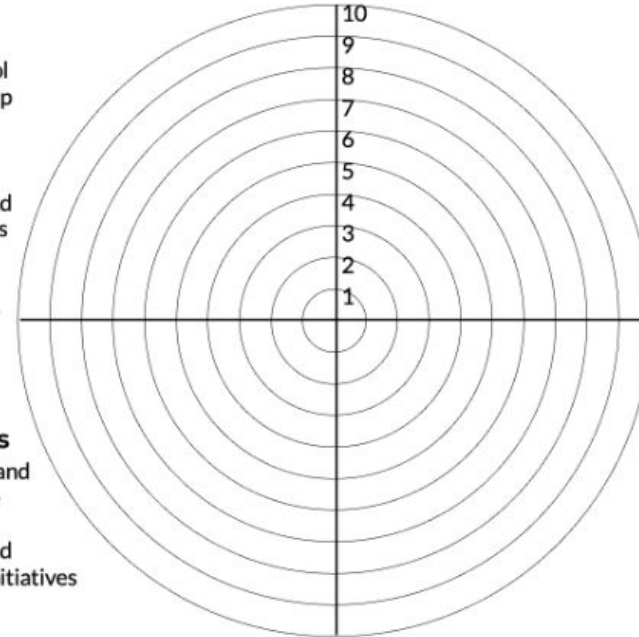
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### School Governance

The entire school and its leadership have an overall focus on advancing sustainability and climate action, as indicated in the school mission, vision, and plans

### Community Partnerships

Schools engage and partner with the community on sustainability and climate action initiatives



### Teaching & Learning

Sustainability and climate change are addressed in curricula and academic programs, inside and outside the classroom

### Facilities & Operations

Schools model sustainability and climate action through management of school infrastructure, facilities, and grounds





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With your neighbour, discuss inspiring and creative ideas, ways to overcome challenges, and what actions you will take to increase sustainability and climate action in your school.

<i>Domain</i>	<i>Inspirations &amp; Ideas</i>	<i>Overcoming Challenges</i>	<i>Next Steps for Action</i>
<i>School Governance</i>			
<i>Facilities &amp; Operations</i>			
<i>Community Partnerships</i>			
<i>Teaching &amp; Learning</i>			

## School Governance

The entire school and its leadership have an overall focus on advancing sustainability and climate action, as indicated in the school mission, vision, and plans

- Distribute responsibility for sustainability across the school community
- Co-develop school's mission, vision, and value statements to include sustainability and climate action
- Co-develop school policies and strategic plans to include sustainability and climate change mitigation and adaptation actions
- Support staff and student creativity and risk-taking in developing sustainability and climate initiatives across whole institution domains
- Encourage student involvement in civic activity related to sustainability and climate change
- Support teachers and students to access resources
- Build time for sustainability and climate education into school timetables





# Governance | Funding Sustainability through Entrepreneurship Competencies in School 1

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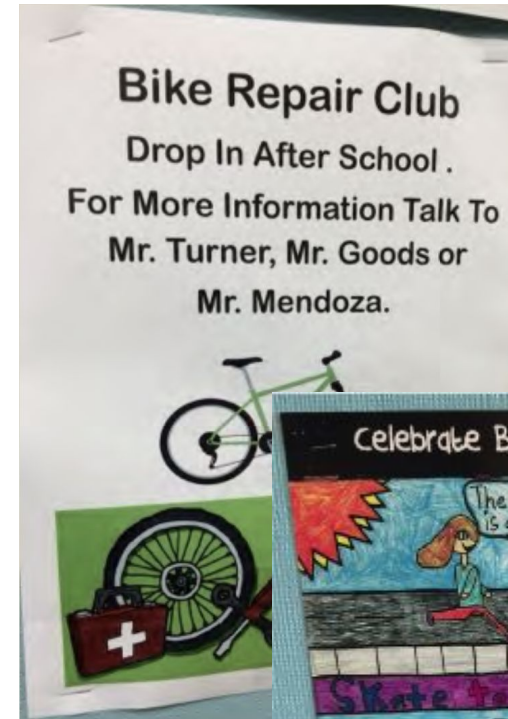


- School's creative administrative leadership led to adaptation of sustainability initiatives to fit a funder's non-sustainability priorities
- Strong school interest in developing sustainability projects
- Local and regional funding priorities were on entrepreneurship
- School leadership adapted sustainability projects to fit provincial and school district level policies related to entrepreneurial competencies
- Successfully accessed funding for sustainability projects, even though project outcomes were not business-related



# Governance | Sustainability Policy through Biking in School 2

- Sustainability incorporated into the official school plan, followed provincial and school division policy mandates
- School-wide program intentionally aligned with school division active transportation commitments
- ‘The most striking feature of the principal’s office was the corner where multiple bikes and a child’s scooter were stored. During one of our meetings, students poked their heads in the office to ask Mr. H about retrieving their “wheels.” ... Instead of an off-limits space reserved for student discipline, through the addition of the student bikes, the office became a space for principal-student collaboration’



# Governance | Distributing Sustainability Leadership in School 3

- School's principal decided early in her administration to diffuse the school's sustainability leadership
- Strong whole school sustainability policy uptake due to relationships amongst staff, students, and school environment
- The co-created sustainability vision had broad support from the school community
- The principal initiated and maintained sustainability projects, introduced a timetable slot dedicated to sustainability, forged collaborative environment
- Widespread integration of sustainability into teaching
- Reduced precarity and burnout often associated with sustainability initiatives





# Environmental Sustainability in Schools

[Policy](#)[Guidance](#)[Resources](#)

## Policy

This policy outlines requirements, advice and supports for schools in relation to environmental sustainability and climate change. This policy contains 2 mandatory requirements outlined below. The remaining activities are suggestions for best practice.

[Print whole topic](#)

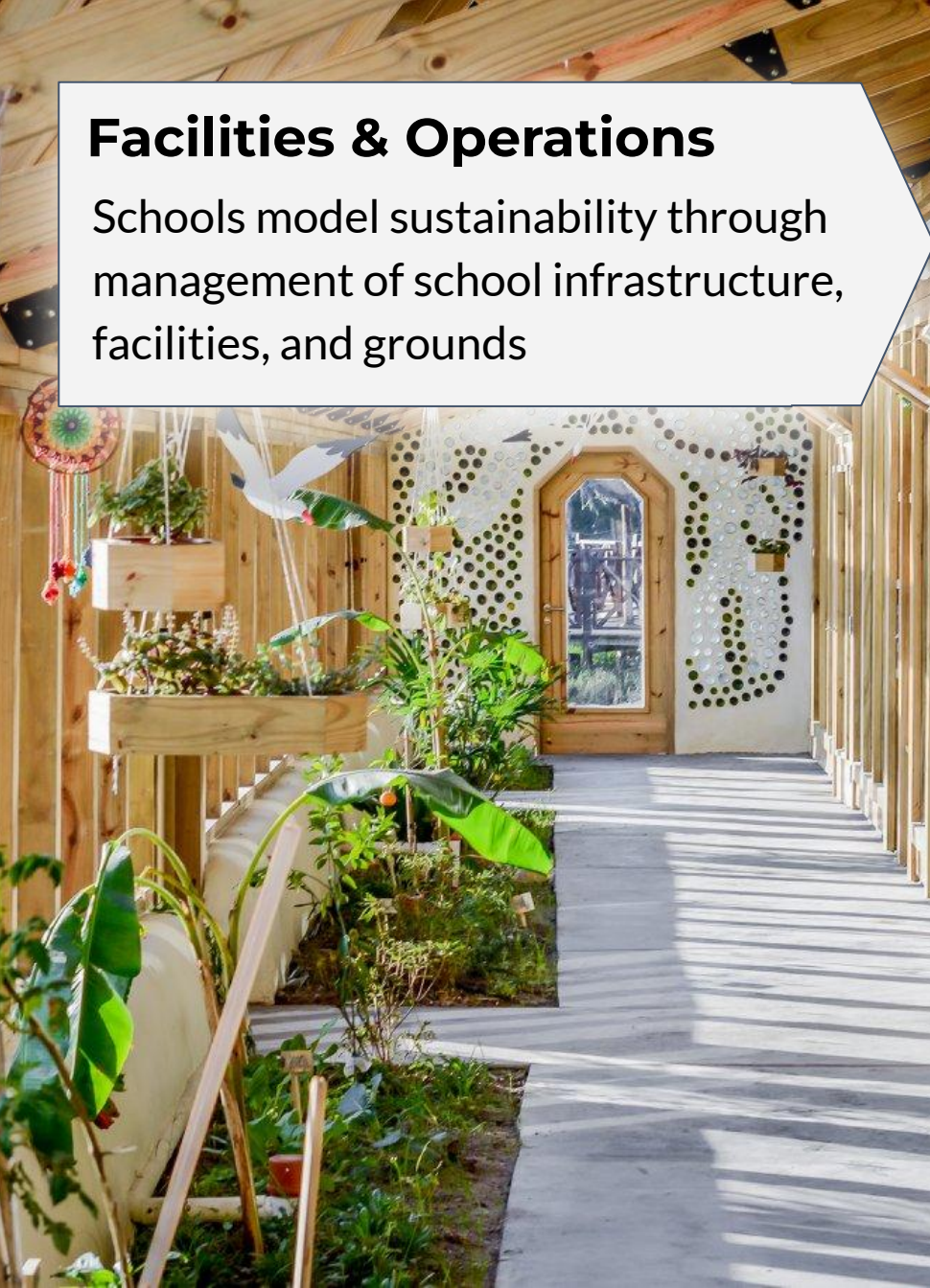
## Policy last updated

19 September 2023



## Facilities & Operations

Schools model sustainability through management of school infrastructure, facilities, and grounds



- Promote sustainable transportation (e.g., discourage car use, install bike sheds, implement anti-idling policies)
- Reduce water consumption using low-flow technology and reduce electricity use
- Work with school building authorities to transition to renewable energy
- Promote sustainable food and waste management practices (e.g., meat-free cafeterias, locally sourced food, water bottle fountains)
- Promote increased biodiversity through activities such as school gardens and bee habitats
- Improve communication networks so schools can quickly respond to changing conditions in case of fire or floods

# Facilities & Operations | **Earthship School**

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- This school infuses a focus on sustainability and climate change into its very structure, as well as curricula, teaching, and leadership
- The 'earthship' school building was built by the local community using sustainable materials
- Built on a coastal lagoon and UNESCO reserve
- Students and the community are responsible for the school's maintenance
- Children at the school become adept at learning and living with the natural environment in ways that foster sustainability
- Education and environment are fundamentally intertwined





## Community Partnerships

Schools engage and partner with the community on sustainability and climate action initiatives



- Partner with a non-governmental organization to co-develop climate action plans
- Working with Indigenous Elders to ensure Indigenous knowledge and priorities are integrated into sustainability learning and action
- Encourage students to meet with local government on their concerns and ideas for climate action
- Work with local businesses to upgrade school infrastructure
- Have field trips for students to learn about local higher education institution work to develop sustainability innovations
- Partner with local industries to learn about how climate change is impacting local economies and livelihoods
- Students write opinion pieces for the local newspaper



# Community Partnerships | **Super-Connector Teachers**

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- Teachers and principals commonly mentioned community partnerships when asked about sustainability education practices in their school
- School staff in rural areas more commonly discussed partnerships than those in cities
- Teachers mentioned 2 unique partners and principals mentioned 0.85 partners
- However, some “super-connector” teachers mentioned 8 or more partners
- Community connections often ‘snowball’ when a school is open to partnerships

“All those connections happen organically. They sort of evolve, you keep putting links in your chain and your chain keeps getting bigger and stronger and longer and it’s pretty fantastic.”

– Teacher, Manitoba (SEPN, 2023)

## Teaching & Learning

Sustainability and climate change are addressed in curricula and academic programs, inside and outside the classroom

- Curriculum & entry points
- Learning dimensions
- Relational learning
- Indigenous knowledge & justice
- Examples

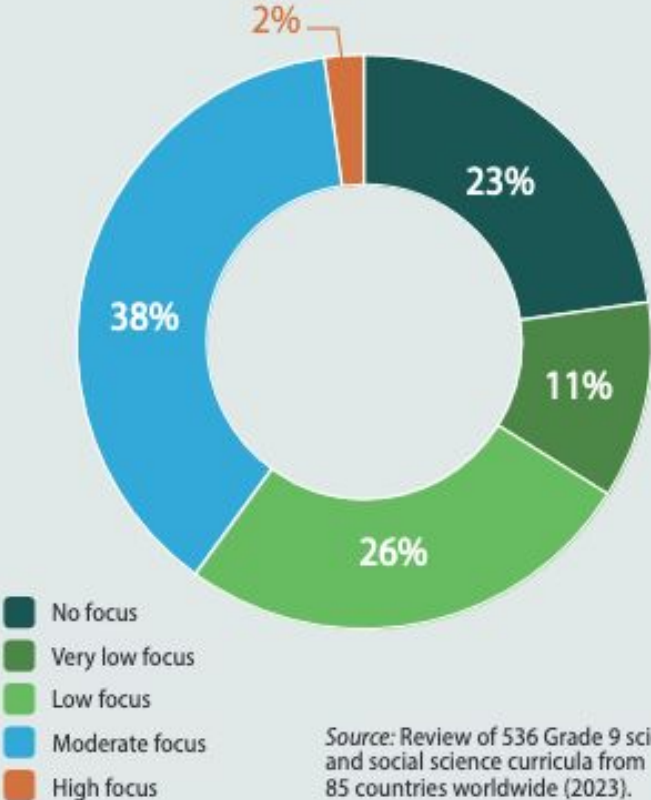




# Environment, Sustainability, & Climate Change Content

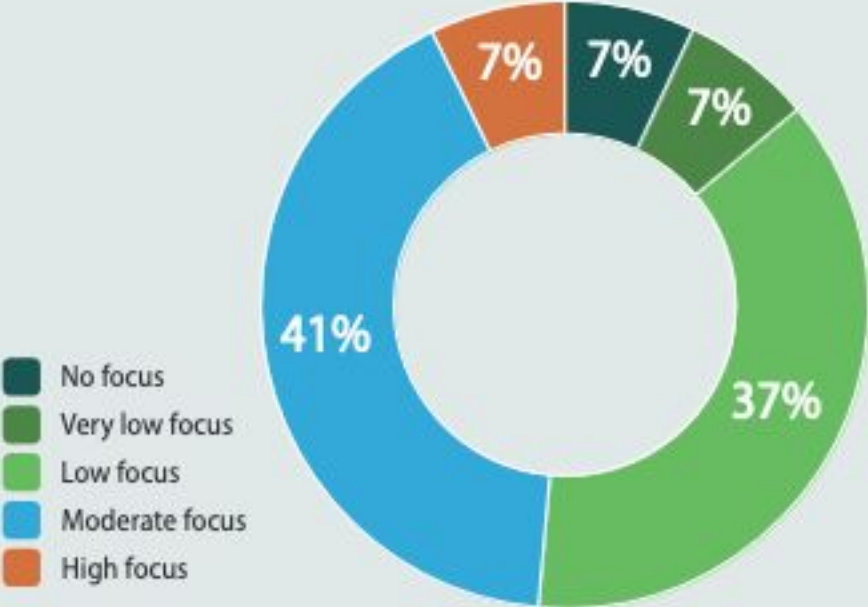
## Grade 9 Science & Social Science Curricula

### Worldwide (85 Countries)



Source: Review of 536 Grade 9 science and social science curricula from 85 countries worldwide (2023).

### Canada

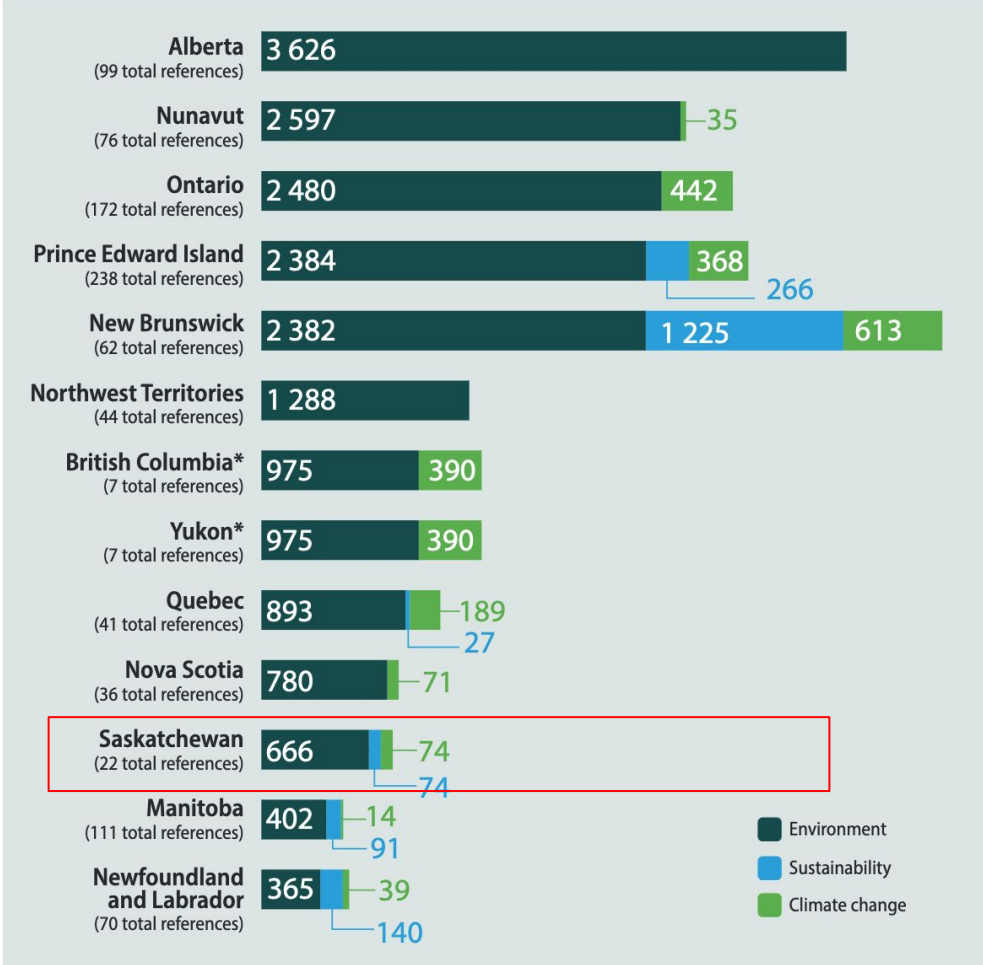


Source: Review of Grade 9 science and social science curricula in five federal or devolved countries (2023).

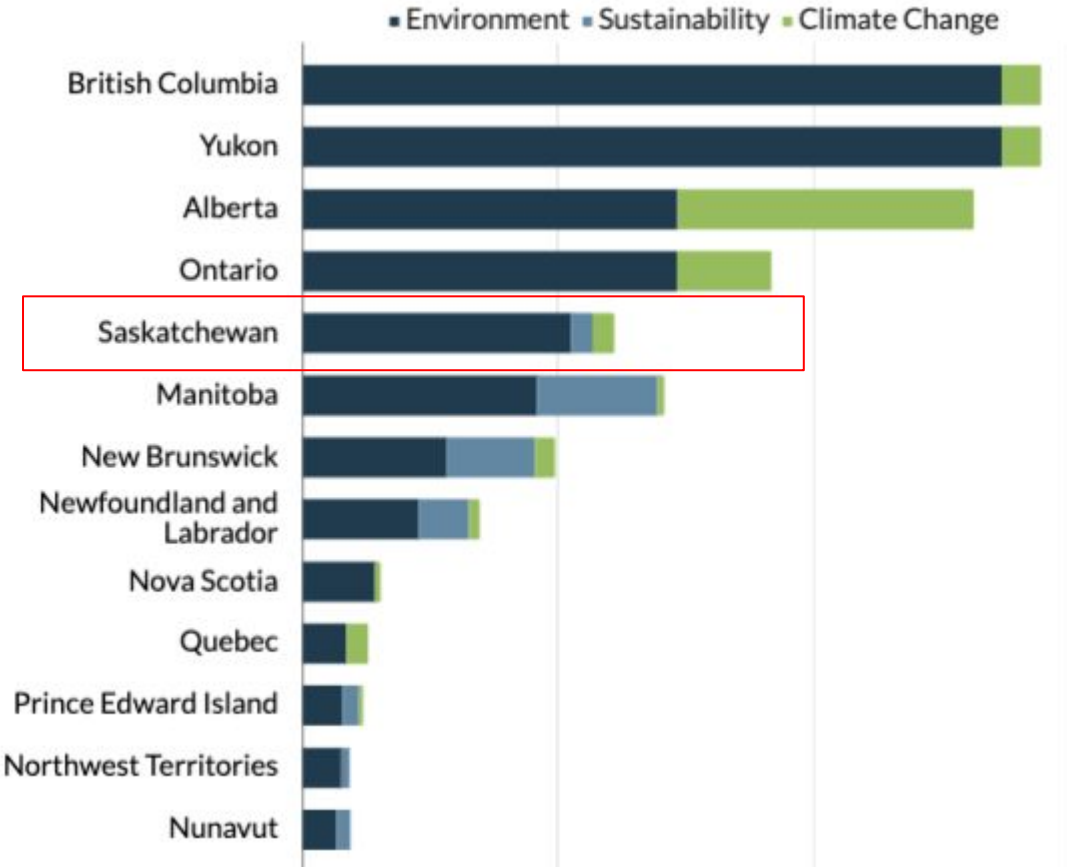


# Environment, Sustainability, & Climate Change Content

## Grade 9 Science and Social Science Curriculum



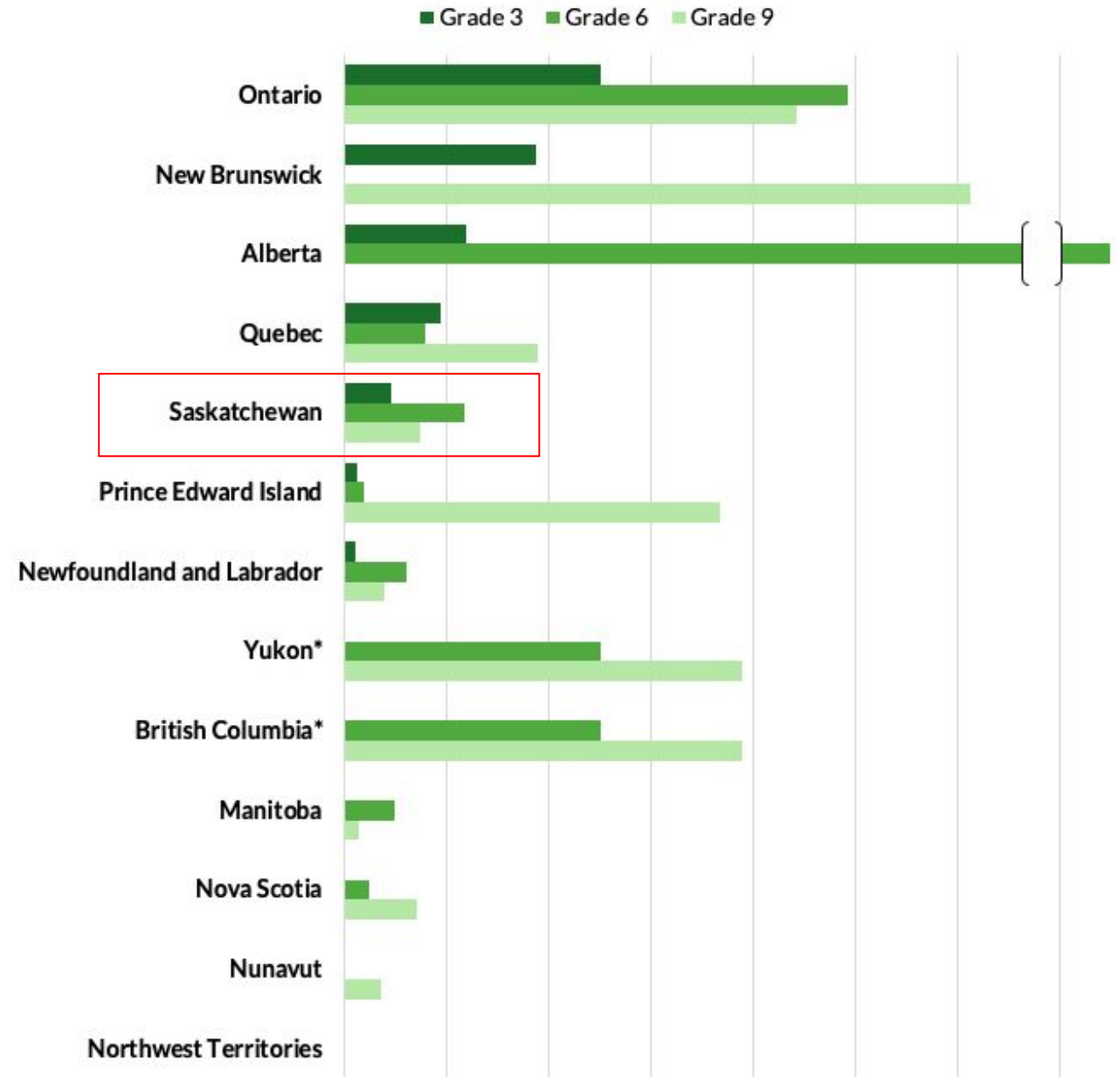
## Grade 3 & 6 Science and Social Science Curriculum



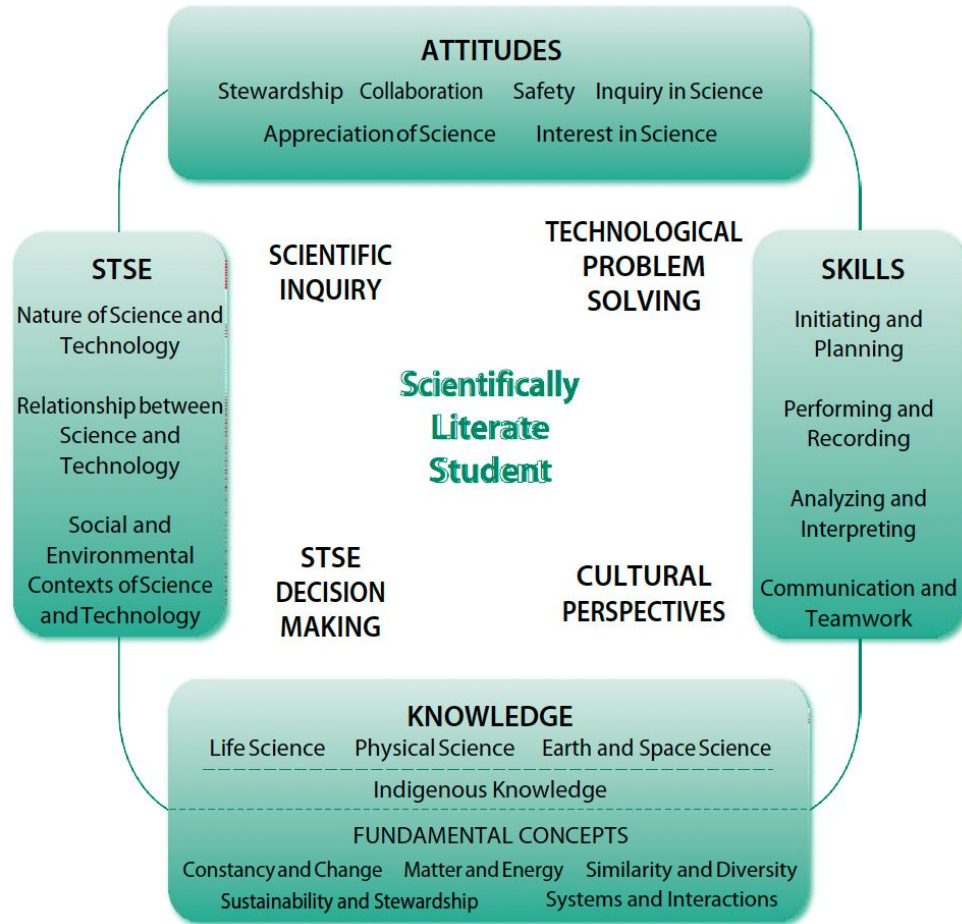


# Climate Change Content in Grade 3, 6, and 9 Science & Social Science Curriculum

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# Sustainability & Climate Change in the SK Curriculum



Source: Grade 3, 6, & 9 Science Curriculum

## Outcome

**RW6.2** *Contribute to initiating and guiding change in local and global communities regarding environmental, social, and economic sustainability.*

## Indicators

- Represent through visual art, music, dance, writing, or other representation the contribution of individuals and communities to initiate change that supports sustainability.
- Investigate how individual local consumer choices may affect people elsewhere in the world (e.g., child labour, enslavement, sweat shops, consumption of scarce resources, prosperity through employment).
- Develop an action plan for harmonizing one's personal lifestyle with collective needs regarding social, environmental, and economic sustainability.

Source: Grade 6 Social Science Curriculum

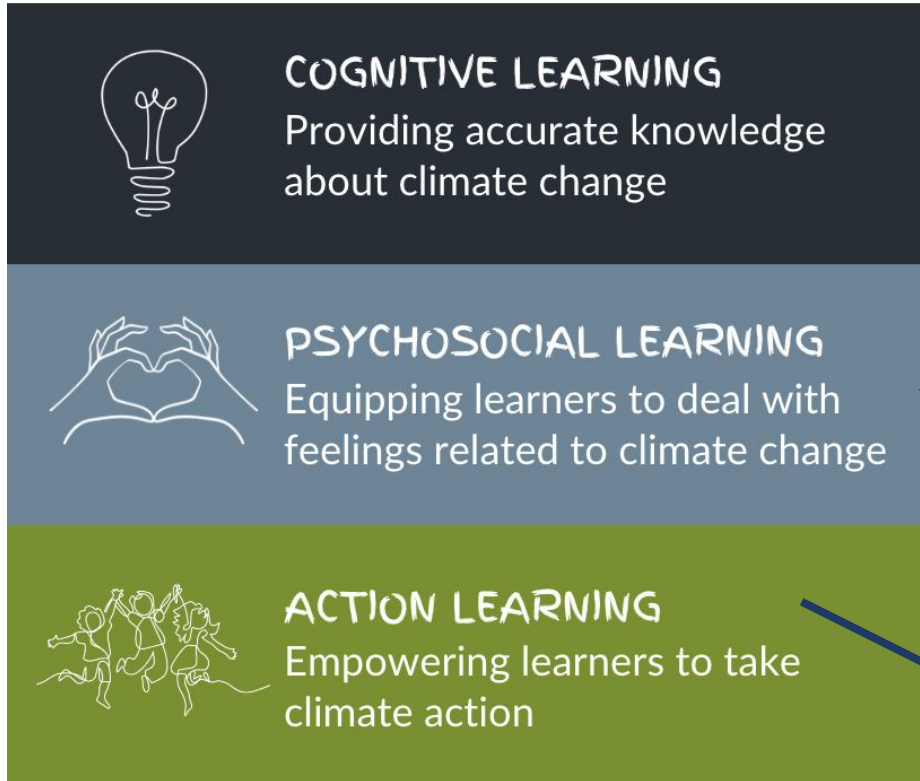
**CE9.4** *Critique impacts of past, current, and possible future methods of small and large scale electrical energy production and distribution in Saskatchewan.*

- Describe scientific, technological, societal, and environmental perspectives related to past, current, and proposed large-scale methods of electrical energy generation in Saskatchewan (e.g., hydroelectric dams, coal and natural gas-fired plants, wind turbines, solar energy, geothermal, biomass, and nuclear plants).

Source: Grade 9 Science Curriculum



# Learning Dimensions



## Broad Areas of Learning

### Building Engaged Citizens

Citizenship involves the ability and willingness to contribute to collective well-being through personal and collective decisions and actions. Students will explore historical and contemporary issues and ideas related to citizenship to develop an understanding of citizenship in the local, national, and global contexts. Students will engage in discussion, negotiation, consensus building, and conflict resolution. As students interact and explore diverse perspectives, they will build the competencies required for active and responsible citizenship in the Canadian context. Values and attitudes that support active and responsible citizenship are central to social studies learning.

Source: Grade 3, 6, & 9 Social Science Curriculum

- IN 3.3 Illustrate examples of interdependence of communities.**
- b. Provide examples of ways in which student choices and actions may affect people elsewhere in the world (e.g., charitable donations, consumption of goods, recycling).

Source: Grade 3 Social Science Curriculum

# Relational Approach to Sustainability Learning

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- Quality sustainability and climate education focuses on relationships
- Relationships with the places we are in and how they are being affected by climate change
- Relationships among people in and across communities
- Relationships with the stories we tell about the past and our possible futures





# Indigenous Knowledge & Justice

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## Aim and Goals

The aim of K-12 science education is to enable all Saskatchewan students to develop scientific literacy. Scientific literacy today embraces Euro-Canadian and Indigenous heritages, both of which have developed an empirical and rational knowledge of nature. A Euro-Canadian way of knowing about the natural and constructed world is called science, while First Nations and Métis ways of knowing nature are found within the broader category of Indigenous knowledge.

Source: Grade 3, 6, & 9 Science Curriculum

*ES3.2 Analyze the interdependence between soil and living things, including the importance of soil for individuals, society, and all components of the environment.*

- a. Suggest ways in which individuals and communities value and use soil, including the importance of Mother Earth for First Nations and Métis peoples.

Source: Grade 3 Science Curriculum

## Cross-curricular Competencies

### Developing Identity and Interdependence

- understanding, valuing, and caring for oneself
- understanding, valuing, and respecting human diversity and human rights and responsibilities
- understanding and valuing social and environmental interdependence and sustainability

Source: Grade 3, 6, & 9 Social Science Curriculum

### Outcomes

*DR9.3 Assess the relationship of the natural environment in the development of a society.*

### Indicators

- f. Analyze the influence of the natural environment on the territorial expansion, colonization, or empire-building in the societies studied.
- g. Analyze the effects of colonization, territorial expansion, and empire-building on the natural environment.

Source: Grade 9 Social Science Curriculum

## Teaching & Learning

Sustainability and climate change are addressed in curricula and academic programs, inside and outside the classroom

- Creating a school-wide student-produced radio show that explores sustainability and climate change issues
- Telling stories through song, poetry, performance, and animation to understand and inspire action on climate change
- Undertaking experiential learning in local wild spaces to explore climate impacts
- Establishing partnerships with Indigenous groups to provide land-based learning for students
- Using digital storytelling to shift narratives about climate change
- Having intergenerational conversations to learn about how traditional knowledge is adapting to a changing climate
- Creating art using litter found in local parks







[bit.ly/3JFbSnh](https://bit.ly/3JFbSnh)

- **Discussion**
  - **What inspires you in each domain?**
  - **What creative ideas do you have?**
  - **How might you overcome implementation hurdles?**
  - **What will you do take to increase sustainability and climate action in your school?**

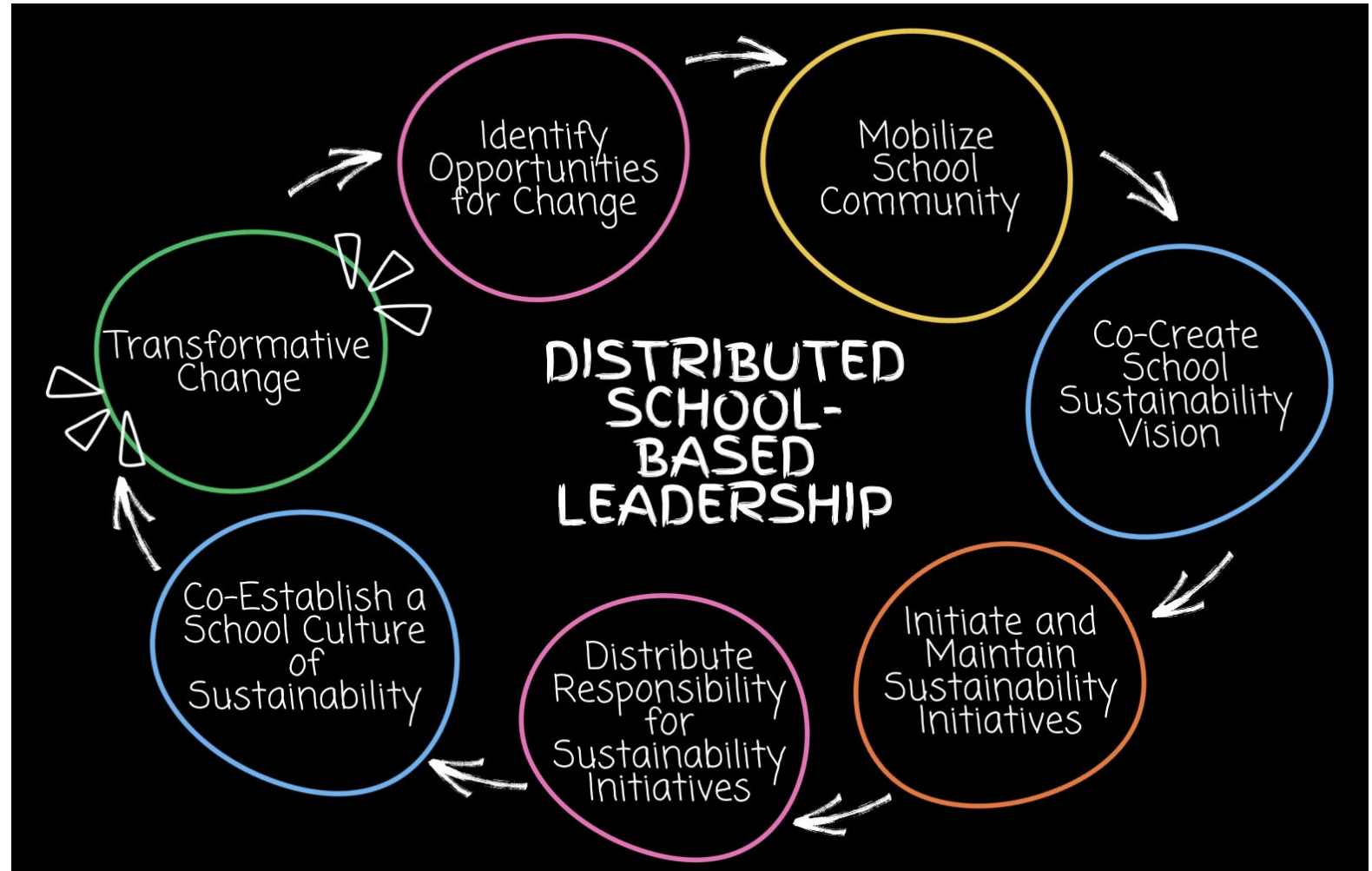




# **Sustainability Leadership in Schools**

# School Sustainability Leadership | Distributed Model

- Sharing responsibility across the school community
- The entire school becomes sustainability champions
- Transformative change helps to mainstream sustainability
- A school culture of sustainability has been created





## SUSTAINABILITY LEADERSHIP ROLES ACROSS THE SCHOOL COMMUNITY

### PRINCIPALS

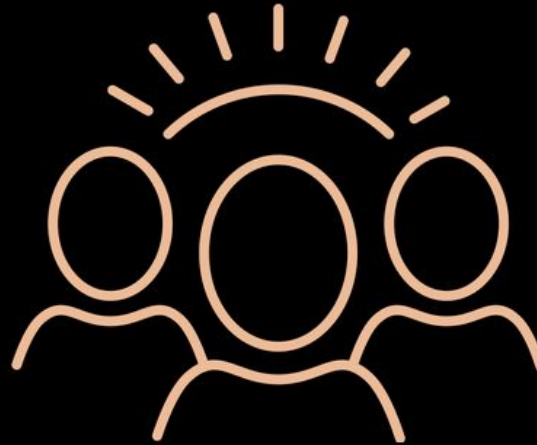
- Co-developing vision, mission, & values
- Co-developing sustainability policies & plans
- Using creative leadership approaches
- Supporting risk-taking
- Mobilizing the school community
- Distributing sustainability leadership
- Building partnerships with community
- Bridging the school & school division bureaucracies
- Accessing resources & supporting grant applications

### TEACHERS

- Co-developing vision, mission, & values
- Co-developing sustainability policies & plans
- Creativity & risk-taking
- Mobilizing the school community
- Building partnerships with community
- Accessing resources
- Developing grant applications
- Tailoring curricular content to local context
- Negotiating student-nature relationships

### BROADER COMMUNITY

- Local places
- Natural spaces
- Cultures, values, & politics
- Attitudes towards sustainability & climate change
- Indigenous knowledge
- Spiritual and religious beliefs
- Intergenerational conversations
- Livelihoods
- Justice for all



### STUDENTS

- Co-developing vision, mission, & values
- Co-developing sustainability policies & plans
- Creativity & risk-taking
- Mobilizing the school community
- Building partnerships with community
- Negotiating student-nature relationships
- Accessing resources
- Developing grant applications
- Carrying out sustainability projects



# Leading for Action

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“Some people say that we should study to become a climate scientists so we can 'solve the climate crisis.'

But the climate crisis has already been solved.

We already have all the facts and solutions.

All we have to do is to wake up and change.”

– Greta Thunberg (2018)



# Thank you

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