# CLIMATE LEADERSHIP

WITHIN CANADIAN SCHOOL BOARDS:

2023 REVIEW



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Social Sciences and Humanities Research Council of Canada Conseil de recherches en sciences humaines du Canada

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#### Acknowledgements

We would like to acknowledge that Indigenous people have led the fight to protect Land, water and climate, and they continue to do so. If climate policy was able to look seven generations ahead, instead of barely half-a-generation, we would not likely be in a climate crisis. With this, we respectfully acknowledge that Indigenous peoples have cared for this land for over 5000 years. The university campuses, from which this research was undertaken, are located on the traditional lands of Indigenous peoples. Lakehead Orillia is located on the traditional territory of the Anishinaabeg. The Anishinaabeg include the Ojibwe, Odawa, and Pottawatomi nations, collectively known as the Three Fires Confederacy. Lakehead Thunder Bay is located on the traditional lands of the Fort William First Nation, Signatory to the Robinson Superior Treaty of 1850.

This research is supported by the Social Sciences and Humanities Research Council of Canada through an Insight Development Grant and through Lakehead's Year of Climate Action Research Awards. Without the support of these organizations, this type of research would not be completed. We would also like to acknowledge and thank Dr. Muhammad Asaduzzaman, Assistant Professor in the Department of Computer Science and Md Anaytul Islam, a graduate student in the Department of Computer Science, for their work on developing a web-scraping protocol which was used for data collection across school board websites.

#### Suggested citation:

Field, E., Howlett, S. (2023). *Climate Leadership within Canadian School Boards: 2023 Review.* <u>https://climatechangelearningcanada.org/2023-review/</u>

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# Introduction

In the face of escalating climate impacts, the need for climate leadership within educational institutions has become paramount. School boards play a critical role in shaping the educational landscape and have the power to set goals for student achievement, well-being, and equity, monitor progress against the board's strategic goals, and allocate resources towards priorities. Notably, in Canada, over 490 municipalities have declared a climate emergency (Climate Caucus, 2022), and more than 52 municipalities have developed comprehensive climate action plans (Urban & McElhone, 2021). These local governments have taken significant steps to address the climate crisis, showcasing that meaningful climate action is happening in the public sector and at the municipal level. This report explores the significance of climate leadership within school boards, emphasizing their pivotal role in aligning education systems with the imperative of responding to the climate crisis.

Educational institutions, particularly school boards, hold a unique position to drive action on climate change. By taking a proactive stance on climate leadership, school boards can set priorities, professional development, green school infrastructure, and allocate funding support towards climate change education. Schools are also important actors in engaging with parents, community members, and local community organizations. Ministries of Education also play critical roles in improving climate change education within regional jurisdictions in terms of identifying and mandating education priorities, as the governing bodies with the responsibility of caring for children and youth administering publicly funded elementary and secondary education under the Education Act. Other research has investigated and evaluated climate change policy at the Ministerial level (Aikens & McKenzie, 2021; Bieler et al., 2017; Field et al., 2023; Wynes & Nicholas, 2019); the current research focuses on the policies and practices of school boards.

This report explores a range of interconnected themes surrounding climate leadership within school boards. It examines school board leadership across several criteria and benchmarks sites of leadership and lack of action. The report identifies which boards have climate action plans, have declared a climate emergency, have mentioned climate change or greenhouse gas [GHG] emission reductions in strategic plans or environmental sustainability plans, or have a designated sustainability position. This document is a living document, so if you know of existing policy or practices that are not reflected, please upload relevant links here: https://climatechangelearningcanada.org/contribute/

By providing this benchmarking study of school board practices, this report aims to provide a snapshot of climate leadership across school boards in Canada. It serves as a resource for school administrators, educators, policymakers, and community members, outlining key strategies and best practices that can be adopted for bolder climate change education policy and practice to mitigate climate impacts and strengthen community resilience.

# The Need for Climate Action within Schools

The global climate emergency is the paramount societal issue we face in the 21st century. The Paris Climate Agreement put forward necessary steps to keep global warming below 2 degrees Celsius, and to pursue efforts to limit warming to 1.5 degrees (UN, 2015). To maintain this ceiling on global heating, quick and effective mitigation strategies are needed to cut down greenhouse gas emissions across all sectors, alongside adaptation strategies to ensure communities and infrastructure can withstand current and anticipated climate impacts. In the policies of the Intergovernmental Panel on Climate Change (IPCC) and the United Nations Framework Convention on Climate Change (UNFCCC), education is identified as a crucial tool for enabling the transition of societies and economies towards carbon neutrality and resilience (refer to Article 12 of the Paris Agreement or Action for Climate Empowerment as per UNFCCC). It plays a pivotal role in encouraging individual behaviour changes and cultivating public backing for climate policies at a systemic level.

We have missed the chance to live without climate impacts; they're here and will be with us. However, every fraction of a degree of warming has impacts on future generations' quality of life. So, the more we do today to mitigate climate impacts, the less suffering will be experienced by future generations. This figure from the latest IPCC AR6 Synthesis report (2023) shows how degrees of warming, based on different emission scenarios, will impact those born in 2020,1980, and 1950.



*Figure 1.1 shows the observed and possible future average global temperature changes, shown for those born in 1950, 1980 and 2020. (United Nations Intergovernmental Panel on Climate Change, AR6 Synthesis Report ).* 

We are past the point that leaders – in any organization – can decide not to take climate action within their institutions. The next seven years will be crucial in deciding how severe climate impacts will become and what quality of life future generations will experience. According to climate modeling (IPCC, 2022), we need to reduce GHG emissions by 43% by 2030 to avoid massive loss and reduce the danger that we will pass tipping points that will lock in irreversible and catastrophic climate impacts.

Schools and education systems are often overlooked in policy planning as leverage points for reducing climate emissions. This is a missed opportunity since research has shown that quality climate education can lead to a reduction in carbon emissions similar to other large-scale mitigation strategies such as rooftop solar or electric vehicles (Cordero et al., 2020). Beyond this, schools are central sites within any community, so the potential reach of a school goes well beyond the students who attend and extends to families, staff, and community partners. While the climate crisis poses an existential threat to our society, economy, health, and environmental stability, if we take action, it offers an existential opportunity to move toward a better, cleaner, healthier and more equitable world.

In Canada, youth climate anxiety has become a burgeoning concern. Nearly 80% of young Canadians (aged 16 - 25) identified that climate change affects their overall mental health and four out of ten responded that it takes a daily toll on their well being (Galway & Field, 2023). On top of that, 73% find the future frightening; 39% are hesitant to have children; and 71% feel angry about the Canadian government's response to climate change (Galway & Field, 2023).

It is important to highlight that having climate anxiety or other negative climate emotions is a normal response to understanding the existential threat of climate change (Clayton et al., 2017; Pikhala, 2020). If adults want to help mitigate youth climate anxiety, adults need to be doing everything they can to support strong climate policies and reduce greenhouse gas emissions in their respective spheres of influence. Providing mental health services that address youth climate anxiety is helpful, but it only treats the symptom, it does not address the root cause of their anxiety – inaction. Young people seeing adults take climate change seriously is powerful. Young people having authentic learning opportunities to engage in climate action in their schools will reduce the dissonance many young people feel between what they see on the news and what they learn about in school and in turn may reduce their levels of climate anxiety.

Previous research has shown that formal education policies have a shallow engagement with climate change and an overwhelming focus on operations (Hargis & McKenzie, 2021) and energy efficiency upgrades (Bieler et al., 2017). Climate leadership is most often seen in schools among those who are motivated and who are often not in positions to make educational policy decisions, such as teachers, students, and concerned citizens (Field et al., 2019, LSF, 2022). More action is needed from the top-level leadership, as educational leader Karen Acton (2023) highlights, "Without formal assistance from school board directors, superintendents and trustees advocating for accountability and taking action at the local level, climate change education will never become a priority."

# **Strategic Climate Action Planning**

Strategic planning is a fundamental aspect of any successful organization or institution, as it establishes clear goals, objectives, and the means to achieve them. It helps in determining the direction of the organization, allocating resources effectively, and preparing for potential risks and opportunities. Strategic planning allows organizations to anticipate change rather than simply reacting to it and creates a road map to guide decision-making, resource allocation, and operational alignment in accordance with the organization's goals.

Climate action planning is crucial for mitigating the impacts of climate change and orienting organizations to be prepared for future scenarios. It involves identifying ways to reduce greenhouse gas emissions, as well as adapting to changing climate conditions. With the increasing threat of climate change, the need for comprehensive, effective, and immediate climate action plans is more significant than ever before. Climate action planning is an organization's attempt to act in accordance with the internationally agreed-upon limits of warming in order to minimize severe climate impacts.

This is key to ensuring the health and well-being of populations, safeguarding biodiversity, and securing the natural resources on which human survival and development depend. We recognize the importance and need for emergency preparedness and disaster risk reduction in schools related to extreme weather and climate disasters. This benchmarking does not review emergency preparedness or disaster risk reduction in schools in Canada.

#### **High-Impact Climate Action Planning**

We suggest that any organization that is undertaking climate action plans starts by considering how their organization is acting in alignment with the Paris Agreement; that is, is the organization aiming to approximately halve greenhouse gas emissions by 2030 in order to keep warming to 2 degrees Celsius or ideally 1.5? As organizations engage in developing Climate Action Plans, we suggest that they consider Project Drawdown's Framework for Climate Solutions as a way to guide their strategic planning. Using this framework as a waymark, a climate action plan should first focus on reducing sources of greenhouse gas emissions (aim to bring emissions to zero), second support carbon sinks (uplift nature's carbon cycle), and third prioritize how to improve society (foster equity for all). Within each area of action are sectors and subgroups of diverse solutions. The darker circle in the figure below represents the minimum impact, and the lighter outer circle represents the maximum potential impact of sector actions.



# DRAWDOWN FRAMEWORK FOR CLIMATE SOLUTIONS

# Reduce sources of GHG emissions:

- For electricity, this means how is the organization shifting energy reliance from fossil fuels to renewables? And in what ways are energy efficiency technologies being used?
- For food, agriculture and land use, this area raises questions such as: how is the organization addressing food waste? How can the organization promote plant-based diets? How can the organization endeavour to protect ecosystems and source food that is not grown with the use of nitrous oxide (synthetic fertilizers)?
- When it comes to industry, have all refrigerants been updated; that is, hydrofluorocarbons have been removed, and new refrigerant systems have been installed?
- In terms of transportation, have fleets, such as school buses, moved to electric? Where possible, are walk or bike to school programs in place? Does the school run an anti-idling campaign?
- In terms of buildings, can the buildings be shifted from reliance on fossil fuels to renewables? Where possible, can they be enhanced with energy efficiency technologies?

# Support Sinks:

How is the school board and its schools working to shift agricultural practices? Protecting
or restoring ecosystems locally or globally? Or focusing on using degraded land for
development?

# **Improve Society:**

 How is the school board or schools centring justice, equity, diversity, inclusion and decolonization in its climate action planning? How are schools learning with and from First Nations knowledge keepers? How are schools working to lower GHG emissions while also supporting justice initiatives to ensure that those who are the most impacted or vulnerable to climate impacts are supported?

#### Methodology

This research benchmarks publicly available information on school board websites on climate change actions and leadership. The main objective is to show the number of school boards that have climate change policies across Canada. The second objective was to develop a web-scraping protocol that collects URLs of school boards and then extracts the text content of their climate change policies. The web-scraping protocol automates data collection so that the review can be completed in a timely fashion and at set intervals for reviewing how school boards are responding to the climate crisis.

#### Data collection

Web scraping involves collecting web pages and fetching content from those pages; in this instance, school board websites. A web-scraping protocol is a specialized program designed to accurately and quickly extract data from a web page.

In order to develop a web-scraping protocol, we consulted with Dr. Muhammad Asaduzzaman, Assistant Professor in the Department of Computer Science at Lakehead and Md Anaytul Islam, graduate student in the Department of Computer Science. Every school board website in Canada (that we had at the time of data collection, 354 in total) was entered into a database. Using a custom search-engine search through Google to identify target web pages containing the key words: "climate action" or "climate change", all school board websites were scraped with any relevant hits using an API key and custom search engine to extract the data. Tests were done on several different keyword search terms; however, the terms "climate action" and "climate change" were the most accurate for scraping data related to climate policies found within school board websites. A larger review could be conducted considering the terms "environmental" and "sustainability" to see what actions are posted as environmental or sustainability and that could also be categorized as climate actions; however, this step was outside of the parameters of this research project. The data collection with the terms "climate action" or "climate change" resulted in 1834 files from 354 school board websites. The data was collected between April 26th - May 4th, 2022. There were approximately 600 files that were

collected that did not have extension files, so to address this, another program was written to identify the file formats, which allowed the team to collect 97% of the files. This document is also a living document, so if you know of existing policies or practices that are not reflected, please upload relevant links here: <u>https://climatechangelearningcanada.org/contribute/</u>.

# Accuracy check

As a follow-up on the web-scraping data collection that was conducted between April 26th - May 4th, 2022, a manual check by our research team was conducted. Each province and territory's website was checked for school boards, districts or authorities and 26 were added to the list. Between June 5, 2023 and July 27, 2023, our research team manually checked each of the total 380 school board websites and entered the search terms "climate action" and "climate change" into the search field within the site. Any new files that were found were added to the inventory and categorized accordingly.

# French web-scrape

In February, 2024, a second web scrape of 95 French School Boards was conducted following the same method. The key words used in this second web scrape are: "changement climatique" and "action climatique". This resulted in extracting 1088 files from these French School Boards and these files were analyzed according to the following protocol.

# Analysis

The extracted files were analyzed both inductively and deductively. To begin with, the authors reviewed the extracted files and began to qualitatively analyze them, looking for emergent codes (inductive analysis), such as "acknowledge school climate strikes" or "extra-curricular groups / student-led initiatives". These organizing codes were used to identify files and begin to look for themes across the types of data. A second approach to analysis was then followed in which the files were deductively coded according to policy domains identified by Henderson et al., (2017), in their institutional policy analysis of climate change within higher education institutions: climate action plan, climate change or greenhouse gas emission reduction in strategic plan, or climate change or greenhouse gas emission reduction in environmental /sustainability plan. As we were reviewing the extracted data files, we also added a category for mandatory accountability reports, such as energy savings reports, as well as whether the board has a designated sustainability position. Thus the following categories were used for benchmarking climate change leadership across school boards:

- Climate Action Plans
- Climate Change or GHG reductions in Strategic Plan
- Environmental / Sustainability plan mentions Climate Change or GHG reduction
- Mandatory Accountability Reports
- Designated Sustainability Position\*
- Climate Emergency Declaration

\*School board positions data was pulled from Beveridge et al., (2019) due to the rigour of that data and the limits of this research study.

#### Limitations

The web search was conducted in English and therefore does not accurately represent French-speaking school boards or schools. Many school boards have privacy walls which means that if a climate action plan is only available to those with access to the school board documents, then it was not collected by the web scraper protocol or by the manual search within the school board website. We encourage all school boards to make public policy documents to inform students, teachers, and the public about climate action within schools.

Our research prioritizes climate mitigation action planning, that is, reducing greenhouse gas emissions, rather than adaptive capacity building, such as greening schoolyards to help cool school grounds, or improving biodiversity. While some schools may engage in projects that improve ecological resilience such as tree planting, improving local biodiversity, etc., often these initiatives have been undertaken as general sustainability projects and these initiatives are more effective as adaptive climate strategies and have limited impact for reducing greenhouse gas emissions.

Province	Number of School Boards	Climate Action Plans	Climate Change or GHG reductions in Strategic Plan	Climate Change or GHG reductions in Environmental/ Sustainability Plan	Mandatory Reporting	Climate Emergency Declaration	Designated Sustainability Position
BC	60	2	7	3	60	5	7
AB	63	0	0	2	0	0	2
SK	27	0	0	0	0	0	1
MB	38	0	0	1	0	0	1
ON	85	3	1	3	60	5	12
QC	72	0	0	1	0	0	2
NB	7	0	0	0	0	0	0
NS	8	0	0	0	0	0	0
PE	0	0	0	0	0	0	0
NL	2	0	0	0	0	0	0
YT	2	0	0	0	0	0	0
NT	10	0	0	0	0	0	0
NU	6	0	0	0	0	0	0
Total	380	5	8	10	120	10	25

#### Results

## **Climate Action Plans**

Of the 380 school boards in Canada, only five have published Climate Action Plans; <u>Toronto</u> <u>District School Board</u> (2010), <u>Trillium Lakelands District School Board</u> (2020), and <u>Greater</u> <u>Essex County District School Board</u> (2023) in Ontario, and <u>Richmond School District</u> (2021) and <u>Greater Victoria School District</u> (2023) in British Columbia. Additionally, the analyzed files revealed a series of motions that have been proposed and/or endorsed, urging school boards to develop Climate Action Plans. This indicates an emerging trend among Canadian school boards to address climate change, a sector where climate leadership is presently lacking, given there are only three that have published Climate Action Plans.

The Climate Action Plans that are available are ambitious and provide a holistic, intergenerational approach to climate action. The <u>Trillium Lakelands District School Board</u>'s Climate Action Plan was developed by their G7 Student Senate as a living document (Whitnall, 2020), which could be enhanced by setting quantifiable emission reduction targets aligned with the Paris Agreement. Demonstrating their commitment to implementing the systems-level action needed to limit global temperature increase to below 2°C, the <u>Toronto District School Board</u>, as well as the School Districts of <u>Richmond</u> and <u>Greater Victoria</u>, have established clear targets to achieve net-zero emissions within their buildings by or before 2050.

Aligning with UNESCO's (2014) priority area to focus on whole-institution approaches to sustainability, School Board Climate Action Plans also prioritize goals, initiatives and engagement beyond operations and energy efficient upgrades, where they are typically found (Bieler, Haluza-Delay, Dale, McKenzie, 2017; Hargis & McKenzie, 2021). A synthesis of international, whole-institution approaches to sustainability in education identified six highly integrated areas of action for K-12 institutions, including governance, curriculum, campus, community, communication, and capacity building (Holst, 2022). While each School Board approached the domains in a unique manner, all of the areas of action have been addressed through dimensions such as leadership, learning, engagement, waste, water, mental health, and student advocacy. For example, the Climate Action Plans are situated within broader institutional contexts, such as strategic plans or government policy, and aim to engage a variety of stakeholders, including administrators, operations staff, teachers and students. This suggests that despite current and future challenges, such as inadequate funding, these four school boards demonstrate inspiring leadership and a strong commitment to a whole-institution approach to climate action, laying the groundwork for others to follow.

#### **Sustainability Plans**

Sustainability or Environmental Plans represent a diverse set of board strategies to address challenges related to the environment. While the components and depth of a Sustainability Plan vary by school board, they generally serve different purposes and levels of ambition than Climate Action Plans. Ten school boards have Sustainability Plans that mention climate change

or reducing greenhouse gas emissions, including the <u>Winnipeg School Division</u> in Manitoba, the <u>Edmonton School District</u> and the <u>Calgary Board of Education</u> in Alberta, the <u>Conseil des écoles</u> <u>publiques de l'Est de l'Ontario</u>, the <u>Conseil des écoles catholiques du Centre-Est (CECCE)</u>, and <u>Thames Valley District School Board</u> in Ontario, the <u>Commission scolaire de Montréal</u> in Quebec, and the <u>Burnaby School District</u>, <u>Nanaimo Ladysmith Public Schools</u>, and <u>Vancouver</u> <u>School Board</u> in British Columbia.

Within Sustainability Plans, the engagement with meaningful climate action varies among school boards. The Calgary Board of Education's Sustainability Framework 2030 and the Nanaimo Ladysmith Public School's Environment Stewardship Action Plan commit to 2030 emission targets that are aligned with the Paris Agreement and address the highly integrated areas of action for K-12 institutions (Holst, 2022). The Edmonton School District's Energy and Environment Strategy has committed to carbon reduction targets of five percent by 2025, and 45 percent by 2035 as part of the Corporate Climate Leaders Program through the City of Edmonton. The Conseil des écoles catholiques du Centre-Est's Ecological Footprint Reduction Plan has reported a 10% reduction in CO2 emissions over 2015 levels, however, does not outline clear targets for future reductions. The Commission scolaire de Montréal aims to reduce emissions by 30% per square meter by 2025 over the 2010 levels. The Burnaby School Division's We Mean Green: Sustainability Strategic Plan, the Conseil des écoles publiques de l'Est de l'Ontario, and the Vancouver School Board's Environmental Sustainability Plan all aim to reduce their GHG emissions; however, they have not yet outlined specific, time-bound commitments. The Winnipeg School Division's Education for Sustainable Development Plan does not specifically outline a reduction in GHG emissions. To enhance their Sustainability Plans, school boards can acknowledge the urgency of the climate crisis by creating specific Climate Action Plans and establishing commitments to align their institutional efforts with the goals of the Paris Agreement.

Climate Action Plans are needed to reduce greenhouse gas emissions aggressively, integrate multifaceted climate considerations into policies, and promote adaptation strategies. As schools play a pivotal role in educating children and young people and can inspire community action, having Climate Action Plans, instead of or in addition to Sustainability Plans, ensures that school boards take the necessary measures to mitigate the impacts of climate change and align with global climate goals.

# **Strategic Plans**

Establishing a clear direction for school boards to set ambitious emission targets, plan climate action initiatives, and secure the means to achieve them relies on the essential step of prioritizing climate action through strategic planning. This is a critical piece for school boards to demonstrate responsiveness to their communities and provide a focal point to organize actions around. With a wide variation in the extent of detail provided around timelines and initiatives, 8 school boards, primarily from British Columbia, mention climate change or greenhouse gas reductions in their strategic plans (Nanaimo-Ladysmith School District, Kootenay Lake School District, West Vancouver School District, Renfrew County District School Board, New

<u>Westminster School District</u>, <u>Richmond School District</u>, <u>Burnaby School District</u>, and <u>Gulf</u> <u>Islands School District</u>). Additionally, climate change has been mentioned in some draft strategic plans, such as by the <u>Pacific Rim School District</u>, suggesting that this is a growing priority among school boards in Canada.

Within strategic planning, the approach to climate action varies among school boards, reflecting differing levels of commitment and initiative. Satisfying part of their strategic plan, Richmond School District has developed a Climate Action Plan, which aligns their board's goals and emission targets with the Paris Agreement. Likewise, within their current strategic plans, the Nanaimo-Ladysmith School District and the Renfrew County District School Board have committed to the development of a climate action or greenhouse gas reduction plan. Some school boards, such as the Gulf Islands School District, outline their commitments to climate action in their strategic plan, such as striking a climate action working group. Some remaining school boards who mention climate change or greenhouse gas reductions had shallow engagement, lacking specific and measurable targets, concrete initiatives, or holistic integration beyond awareness and education, challenging the commitment of these school boards to take meaningful climate action. It is important that all school boards prioritize responding to climate change and reducing greenhouse gases within their strategic plans. By doing so, they can contribute to a more comprehensive and effective response to the climate crisis, aligning educational efforts with global goals and demonstrating systems-level action to inspire hope within their communities.

# **Mandatory Reporting**

In Canada, each province is responsible for establishing policy for whether or not they require energy and greenhouse gas emission data to be publicly accessible. Unfortunately, only 2 Canadian provinces, including Ontario and British Columbia, require that plans and reports developed by school boards be accessible to the public. Here, we discuss the 5-year Energy and Demand Management Plans required in Ontario and the annual Climate Change Accountability Reports required in British Columbia. Required emission reporting for school boards was not required in other provinces and territories.

# Ontario

In Ontario, the Reporting of Energy Consumption and Water Use regulation of 2019 mandates that school boards with buildings exceeding 50,000 sq. ft. must disclose their energy and water consumption data. In addition, school boards are required to develop a 5-year Energy and Demand Management Plan describing previous, current and proposed measures for energy efficiency and conservation, and quantitative measures of the amount of water and GHG emissions produced.

School boards provided diverse amounts of data and descriptions in their Energy and Demand Management Plans. Though some were a component of larger strategies or webpages, the plans varied from single-page spreadsheets of required data, such as the <u>Keewatin Patricia</u> <u>District School Board</u>, to extensive narratives describing progress and initiatives, such as the

<u>Waterloo Catholic District School Board</u>. The majority of school boards publish a completed version of the provincial template, such as the <u>Ottawa Carleton District School Board</u>; however, many plans are densely packed full of technical terms, acronyms and numerical data with little to no contextual information. For example, there is no directory for climate change units, such as *ekWh/m*<sup>2</sup>, or terms, such as *Weather Normalized Consumption Values*, making these reports difficult for general audiences to understand. To facilitate community accountability, school boards need to ensure their Energy and Demand Management Plans are designed for and accessible to general audiences.

As part of the Energy and Demand Management Plan, each school board establishes its own target for decreasing annual greenhouse gas emissions, which fluctuate from year-to-year. Of the 54 school boards greenhouse gas conservation goals reviewed, the annual goals ranged from 0%, or no target set, for school boards such as the <u>Superior-Greenstone District School</u> <u>Board</u>, to 15.28% for ambitious school boards, such as the <u>Trillium Lakeland's District School</u> <u>Board</u> and the <u>Limestone District School Board</u>. On average, Ontario school boards are aiming for less than 2% (1.99%) annual greenhouse gas reductions, with the most frequent target being 1% annual GHG emission reductions. Despite these modest annual or five-year targets, school boards are inconsistent in achieving their goals and do not seem to be aligned with internationally-agreed upon climate targets.

With the current 5-year plans ending in 2023, there exists a pivotal opportunity to advocate for stronger, whole-institution approaches to reduce and adapt to the impacts of climate change. School buildings in Ontario collectively produce more than 650,000 tCO2e annually (data accessed from Energy use and greenhouse gas emissions for the Broader Public Sector, Ontario, 2020); equivalent to annual electricity use of over 430,000 homes according to Natural Resource Canada's Greenhouse Gas Equivalencies Calculator. The potential for the education sector to make a substantial contribution to greenhouse gas reduction goal in Ontario and nationally is therefore immense.

#### British Columbia

As part of British Columbia's Climate Change Accountability Act (2018), the province created a climate change accountability framework, which outlines 5 steps to achieve carbon neutrality; measure, reduce, offset, report, and verify. This requires all publicly funded school boards in the province submit an annual report on actions taken to reduce emissions and manage climate change risks. Through this provincial policy, all school boards in British Columbia have achieved carbon neutrality and are actively working to reduce their emissions across various categories, including stationary sources (e.g. buildings, power generation), mobile sources (e.g. fleet vehicles, off-road/ portable equipment), and paper consumption.

The ambition and level of detail provided by school boards in their Climate Change Accountability Reports varied greatly. Some school boards, such as the <u>Sunshine Coast School</u> <u>District</u>, provide the minimum required information about their climate action activities. Others, such as the <u>Comox Valley School District</u>, provided rich details of their ongoing and future initiatives, which include domains such as land restoration and student climate conferences. This suggests that some school boards are using the Climate Change Accountability Reports to track and communicate their whole-institution approaches to carbon neutrality, prioritizing dimensions beyond operations and energy efficiency, though others could be more transparent about their initiatives. Though relatively few, certain school boards, such as the <u>Greater Victoria</u> <u>School District</u>, have detailed their emission reduction targets within their reports, aligning them with British Columbia's climate objectives.

These findings suggest provincial policies can effectively drive positive change in educational institutions by enforcing accountability for climate change initiatives and providing leadership for targets and initiatives. Additionally, integrating accountability measures for school boards using whole-institution approaches to climate action could bolster greenhouse gas emission reductions of British Columbia's school boards, which collectively produce over 181,000 tCO<sub>2</sub> annually<sup>1</sup> (data accessed from the <u>Public sector Climate Action Accountability Reports</u>, 2021). This represents significant potential to progress towards the province's approaching 2030 targets.

# **Designated Sustainability Staff Position**

We were unable to do a comprehensive review of how many school boards have designated sustainability positions. We drew upon Beveridge et al.'s (2019) data that identifies 25 positions across Canada. We suggest further research among school boards be conducted to identify the number of positions and whether funding is needed for additional positions. A dedicated sustainability staff position can provide school boards with the necessary expertise, coordination, and capacity to implement urgent climate action initiatives at scale. In our review, these positions are often integrated within the operations and facilities team, such as an Energy & Sustainability Manager. According to research, school boards' climate action foci tends to be within the realm of energy and operations (Bieler et al., 2017; Hargis & McKenzie, 2021), instead of implementing a holistic approach that integrates initiatives beyond physical infrastructure. Larger school boards are more likely to possess the resources for a dedicated full-time sustainability role (Beveridge et al., 2019) or, like many, these responsibilities are integrated into existing positions. Allocating consistent staff time that is for the development and implementation of a Climate Action Plan demonstrates a commitment to actioning climate change commitments.

# **Climate emergency declaration**

A climate emergency declaration is an official proclamation made by institutions that recognize the urgent and critical nature of the global climate crisis. For school boards, this declaration signifies a commitment to taking immediate and transformative actions to address the causes and impacts of climate change. Declaring a climate emergency acknowledges and validates the severity of the climate crisis, sending a powerful message to young people, teachers, parents, and community members that school boards are serious about the issue and prepared to take

<sup>&</sup>lt;sup>1</sup>181,000 tCO<sub>2</sub> annually was calculated manually by adding up the total tCO<sub>2</sub> from the 2021 Climate Change Accountability Report of each school district in British Columbia.

urgent action. While many have acknowledged the severity of climate change, only 10 school boards in Canada, five from British Columbia and five from Ontario, have declared a climate emergency (Greater Victoria School District, Upper Grand District School Board, Toronto District School Board, Qualicum School District, Halton Catholic District School Board, Rainbow District School Board, North Okanagan-Shuswap School District, Surrey School District, Vancouver School Board, and Greater Essex County District School Board).

Encouraged by their local municipal climate emergency declarations, letters from students and the broader community, and the UN IPCC reports, these school board climate emergency declarations are not merely symbolic; they came with concrete commitments to address climate change within their schools and communities. Notably, the Halton Catholic District School Board approved the first Student-led Climate Emergency Declaration, showcasing the engagement and leadership of students in driving systems-level change.

# Recommendations

Internationally, the Greening Education Partnership within UNESCO has set the goal that 50% of schools will meet a quality standard of a green school (currently being defined) with a focus on preparing students to be climate-ready (<u>Greening Education Partnership - UNESCO, 2023</u>). The focus is on a whole-institution approach and thus will require policy at the school board level. If a climate action plan is the unit of measurement, currently only three school boards would meet this target in Canada.

School boards are in positions to develop climate action plans, even though they are not yet required from provincial governments. Beyond developing climate action plans, we also encourage school boards to advocate for improved leadership from Ministries of Education in terms of improving climate change curriculum (see Field et al., 2023), allocating funding for teacher professional development on climate change education, and additional funding and supports for school boards to develop climate action plans for mitigation of greenhouse gas emissions. We also encourage school boards to request funding to develop disaster risk reduction plans so that school leaders (principals, teachers, and staff) all understand climate emergency procedures for heatwaves, flooding, tornadoes, and fires. Arguably, the Canadian Education Act should include provisions on duty of care related to climate impacts.

The researchers recommend that all levels of the education system take responsibility for climate action:

School Boards, Districts, and Authorities:

- **Develop Holistic Climate Action Plans**: Create a whole-institution climate action plan that outlines clear greenhouse gas emission targets and climate action initiatives at all levels of school governance.
- Enhance Policy Transparency: Ensure that climate policies are readily accessible to the public, fostering transparency and allowing community members to engage and understand the board's commitment to environmental stewardship.

- Allocate Staff and Resources: Devote dedicated staff time and financial resources to the implementation and ongoing support of climate action initiatives.
- **Collaborate with Local Authorities**: Create collaborative partnerships with municipal authorities and climate policy experts to develop a climate action plan that aligns with regional priorities and leverages collective expertise.

Provincial and Territorial Ministries of Education:

- Mandate Environmental and Sustainability or Climate Action Plans: Direct every school board to establish mandatory environmental and sustainability or climate action plans outlining their commitments and initiatives to reduce their greenhouse gas emissions.
- **Mandate Accountability Reporting**: Make it mandatory for each school board to submit comprehensive energy and emissions reports, covering all structures above and under 50,000 square feet, in order to evaluate and track progress effectively.
- Allocate Funding for Sustainability Positions: Provide financial support to facilitate the creation of dedicated sustainability positions within school boards. Research by Beveridge et al. (2019) has revealed that only 25 school boards employ staff members specifically focused on sustainability engagement.

Council of Ministers of Education, Canada:

- **Standardized Reporting:** Sponsor the monitoring and reporting of pan-Canadian research in education-related statistics associated with climate leadership and climate policy.
- Make Climate Action a Priority: Add climate change as a strategic priority for CMEC, undertaking work to support data collection, best practices, teaching training, and ongoing dialogue on this issue.
- Educate and Empower: Contribute to the fulfillment of Canada's international treaty obligations by enhancing climate change education and awareness, aligned with Article 12 of the Paris Agreement.

Government of Canada:

- Allocate funding to Ministries: Provide funding to Ministries of Education to allocate for climate action planning and reporting.
- Allocate funding for monitoring and evaluation of climate policies: Liaise with and provide funding for the Council of Ministers of Education, Canada to monitor and evaluate formal education and climate policy.
- Enhance Policy Transparency: Develop a Canadian Action for Climate Empowerment strategy, in line with Article 6 of the UNFCCC and Article 12 of the Paris Climate Agreement, that reports on the formal education system's climate policies and environmental sustainability. Include reporting on formal education system climate policies and environmental sustainability with <u>National Determined Contributions</u> as required by the Paris Climate Agreement.

## Discussion

During the course of this review, the research team contemplated the absence of a dedicated entity responsible for conducting comprehensive national analyses of climate action in education. This report emphasizes the pressing need for a designated organization to take charge of the continuous monitoring and reporting of climate change leadership within Canadian school boards. Such a move would significantly enhance the transparency and overall efficacy of climate policy implementation throughout the education system.

In the following sections, we provide guidelines for developing Climate Action Plans that are in line with the Paris Climate Change Agreement:

Here's a step-by-step guide to developing such a plan:

1. Establish an Emission Inventory: The first step is to understand your baseline. Gather data on your current GHG emissions. Identify the major sources of emissions - these could range from energy production, and industrial processes, to agriculture or transportation.

2. Set Clear Goals: In line with the Paris Agreement, your goals should aim to limit temperature increase to well below 2°C and pursue efforts to limit it to 1.5°C. This generally implies aiming for a net-zero carbon footprint by 2050, with a substantial reduction (about 43%) by 2030 compared to 2010 levels.

3. Develop Strategies: Develop specific strategies for each sector contributing to emissions. For example, the energy sector might involve transitioning to renewable sources of energy, energy efficiency measures, etc. For the transportation sector, it could involve promoting electric vehicles, improving public transit, promoting active travel (cycling, walking), etc.

4. Create an Action Plan: With your strategies in mind, develop an action plan. This should include specific actions, responsible parties, timelines, and resources required. The actions should be prioritized based on their potential impact, feasibility, cost, and alignment with other community goals. Here are 3 plans we want to highlight as examples - read only doc

5. Engage Stakeholders: It's important to engage all relevant stakeholders in the process. They can provide valuable input, resources, and support.

6. Monitor and Report: Establish a system to monitor progress and report on it regularly. This will help keep everyone accountable and allow for adjustments as necessary. The reports should be transparent and made available to all stakeholders.

7. Review and Update: Regularly review and update the plan based on new scientific findings, technological advancements, policy changes, and progress made.

8. Promote Climate Resilience: While mitigation is crucial, it's also important to prepare for the climate changes that are already happening and expected to continue. This involves assessing climate risks and vulnerabilities, and integrating climate adaptation and resilience measures into your plan.

9. Finance and Implement: Identify potential sources of funding, including governmental funding, private sector investments, etc. Implement the plan and make sure there are enough resources for its full execution.

10. Integrate with Broader Policies: Integrate climate action with other social, economic, and environmental objectives.

# Conclusion

In conclusion, this analysis underscores a significant shortfall in the commitments displayed by school boards in addressing the multifaceted complexities of climate change. While the climate crisis necessitates leadership and action from all sectors, educational institutions, as community focal points, possess extensive reach across Canada, encompassing students, staff, parents, and the public. As places where young people spend most of their time, schools have a unique capacity to mitigate cognitive dissonance, alleviate anxiety, and demonstrate the responsiveness needed to safeguard their future wellbeing. Furthermore, changes within educational contexts can have far-reaching impacts, as seen in the potential for students to influence their parents' level of concern around climate change (Lawson et al., 2019). Recognizing the urgent climate crisis and their unique position to catalyze action, school boards have a responsibility to take immediate, comprehensive and measurable action to address climate change. Declaring a climate emergency, including climate change or GHG reduction targets in strategic plans or environmental and sustainability plans, and developing and implementing Climate Action Plans are just a few critical ways school boards can demonstrate their commitment and leadership to climate action, effectively contributing to a more just, sustainable world.

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