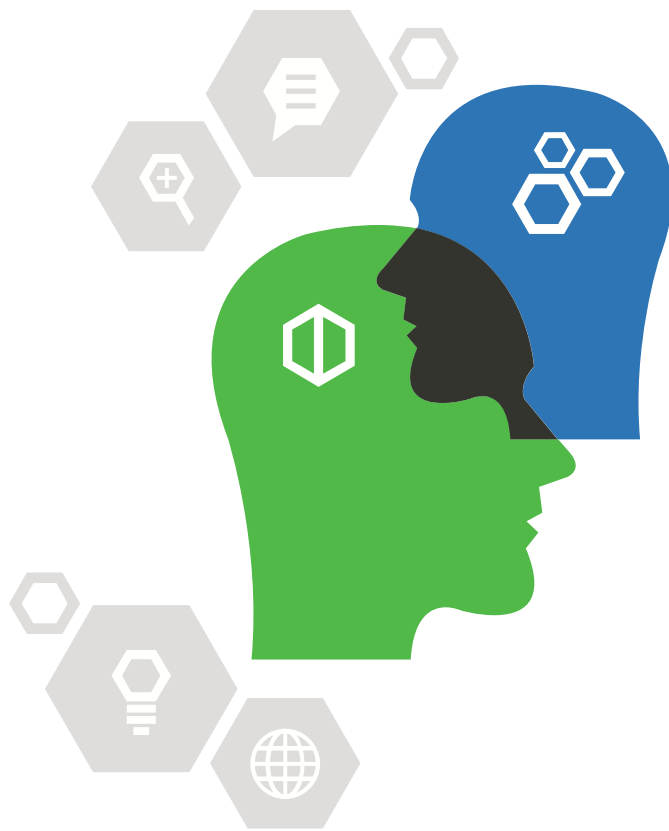




**CLIMATE
ACTION
150**

**Canadian Youth Call for Action
On Climate Change**



Youth taking action
towards a low-carbon
and prosperous
Canada for the next
150 years.

Engaging and
empowering the next
generation of leaders.

Inquiry-based teaching
and learning.

Sponsors

This project was undertaken with the financial support of:
Ce projet a été réalisé avec l'appui financier de :



Environment and
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Message from the Executive Director



Dear Reader,

Canadian youth are concerned about climate change, how it is currently affecting their lives and how it will change their future. They are aware of the urgent need to address climate change and they want to be part of the solution.

GreenLearning's Climate Action 150 project enables students to investigate climate change in their community, encourages them to brainstorm solutions and engages them in taking action. In this report, over 500 youth from across Canada have developed a plan for a clean and prosperous future for the next 150 years.

This report, and the recommendations contained within, are an incredible achievement and represent the perspective of hundreds of youth from coast to coast. But an even more exciting aspect of Climate Action 150 is the efforts that students have made to 'walk the talk.' They are using their interests, talents, skills and entrepreneurial spirit to dream up action projects that address their own recommendations.

For example, students at J H Bruns Collegiate in Winnipeg Manitoba are manufacturing "green" white board erasers, partnering with a Metis designer, and using organic materials — they will provide these to all schools in the Louis Riel school division. It's part of integrated learning including a business course. And, students at North Hastings in Bancroft Ontario - concerned about their aging school building - focused their inquiry on green school design. They sold trees to raise money to hold a community meeting on a new green school and to purchase technology to enable students to do design work.

These are just some of the examples of how Canadian youth are leading the way on climate action, starting with the places and spaces they know best - their homes, schools and communities. Their recommendations are inspiring and teach us all the power each one of us holds to make a difference for a healthy, sustainable future.

On behalf of GreenLearning, I would like to acknowledge and applaud the dedication and hard work of these young people, and their teachers, who showed great leadership in the classroom. We will continue to support them by sharing resources and facilitating their action projects for creating a low-carbon and prosperous Canada.

Mary McGrath

Executive Director,
GreenLearning Canada

Project Description

On May 18th, 2017, 500 students from St John's to Vancouver Island met with the Government of Canada to voice their ***Calls for Action*** on climate change. It began in January 2017 with 26 high school classes, both French and English, in a variety of subjects. Each class conducted inquiries into climate change in their communities.

Students chose the focus of their inquiries and directed their investigations. They teamed up with experts and local community groups. From this, students gained a deeper understanding of how climate change was affecting them, their communities and their country, and began to identify actions needed to address these changes: personal actions as well as actions for corporations, communities, government and schools.



Virtual Seminars

In March, preparations for the Virtual Seminars began. Students summarized their findings in video and slideshow presentations. GreenLearning trained student leaders from each class to assist in running the Virtual Seminars.

In April, students gathered in six Virtual Seminars - online collaborative seminars for clusters of five or six classes across Canada. In each, students shared their findings with each other and dialogued with experts. Then, in a series of break-out groups, students worked collaboratively to synthesize the issues and solutions and start to draft calls for action for their report.

Writer's Weekend

May 5th to 7th, ten Student Writers traveled to Ottawa to draft the student report. They worked hard, worked bilingually and achieved a great deal.

Virtual Town Hall

Students participated in a Virtual Town Hall on May 18th, 2017 with the Honourable Catherine McKenna, Minister of Environment and Climate Change, to present their work and dialogue with her on action to address our changing climate. The Town Hall ended with students asking the Minister to create a Youth Council on Climate Action; she responded favourably.

Taking Action

Youth engagement as change agents for real action began on day one of the project and continues — initiating school compost programs, publishing articles on extreme weather and climate change in the local paper, being asked by the municipality to serve as its youth council on climate action, and many more. Students used a calculator to track their actions that would reduce greenhouse gas emissions by an incredible **643,286 kg!**

This is just the beginning. Climate Action 150 students have created many exciting and entrepreneurial projects that will build on their learning, their skills and passions, and their communities' assets. The remainder of 2017 will see the rollout of many of these projects, which are profiled online at www.climateaction150.ca.



“The Climate Action 150 project was valuable because it taught me the value of reducing carbon emissions in order to preserve a better lifestyle for humans, animals, and the environment.”

— **Mary A.**
Mount Baker Secondary School
Cranbrook, BC

“After this project, I have a broader understanding of how climate change works and what we, as Canadian citizens are doing to protect our environment, our health and our economy.”

— **Jordon S.**
Mount Baker Secondary School
Cranbrook, BC



Greenhouse Gas Calculator

The Greenhouse Gas Emissions Calculator (GHG Calculator) allowed students to explore the carbon emission reductions of actions they take on a daily basis. Based on these explorations, Climate Action 150 students made commitments to reduce their carbon footprint. Here are a few highlights:

As of May 31st 2017, students had committed to actions that would reduce GHG emissions by an incredible **643,286 kg!**

Reductions pledged by CA150 classes, by province:

Alberta	66,653 kg
British Columbia	14,798 kg
Manitoba	130,138 kg
Ontario	347,608 kg
New Brunswick	12,897 kg
Newfoundland	287 kg
Quebec	8,487 kg
Saskatchewan	62,417 kg

The Total GHG emission reductions for selected actions that students committed to:

Reduce shower time	117,555 kg
Use green bin to compost	85,884 kg
Turn TV off	68,838 kg.
Turn off computer	56,251 kg
Turn up air conditioner	38,177 kg
Plant a tree	19,964 kg
Eat local food	18,157 kg
Reduce hair dryer use	7,306 kg
Unplug chargers	2,407 kg

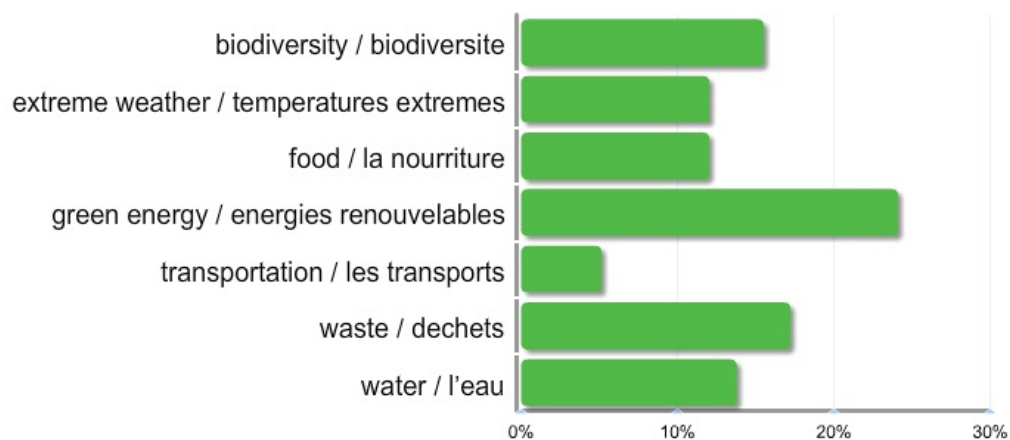
Link to GHG Calculator: <http://www.greenlearning.ca/ghgcalculator/>

Opinion Polls

Polls conducted during the Climate Action 150 events provided data-based insights into the understanding of students on climate change and their priorities for action.

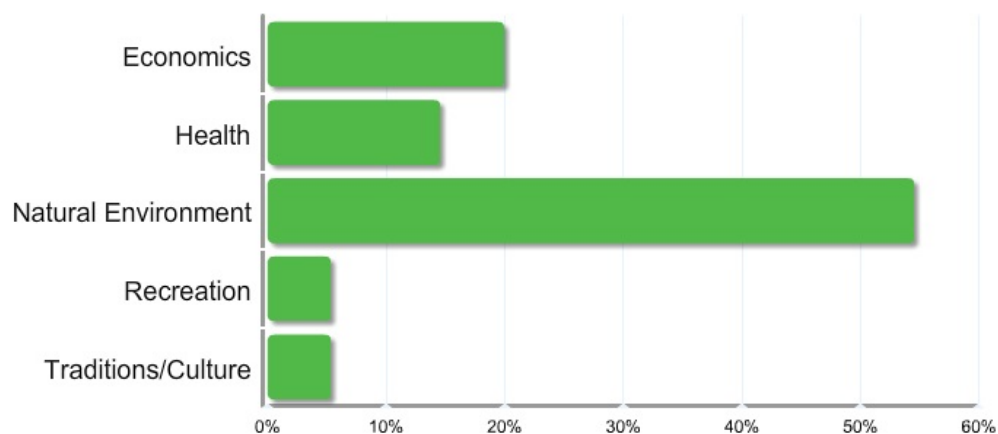
During the Virtual Town Hall with Minister McKenna, students responded to *'which of the following actions are high-priority for all Canadians to act on?'* and the results were as follows:

Action for all Canadians / Actions pour tous les Canadiens:

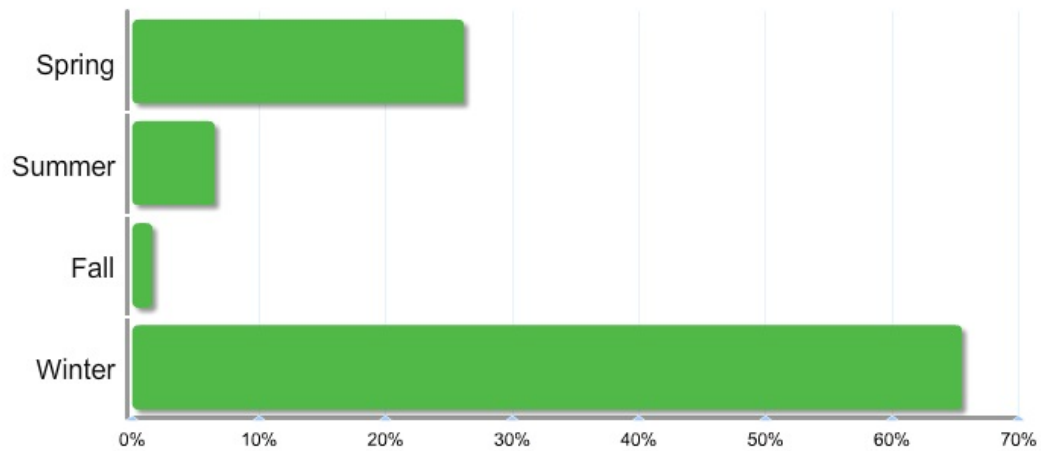


In the collaborative Virtual Seminars, students were polled on the following questions:

In what way will climate change affect you and your community the most?



In your community, which season is most affected by climate change?



Protecting Biodiversity



THE CHALLENGES

It is no secret that changes in our climate are wreaking havoc on Canadian fauna and flora. Climate change is directly related to the amount of greenhouse gases emitted into our atmosphere every year. Through our research, we have identified the various impacts that climate change is having: warmer weather means that birds and butterflies are returning from their winter migrations earlier, leading to decreased food availability.

Furthermore, due to the rise in temperatures, there is an increased incidence of disease in vegetation - this is happening because the temperature is not as cold as it would normally be to kill these diseases. Another consequence of climate change: warmer water temperatures are making it impossible for certain species of fish, like trout, to survive.

Lastly, deforestation (particularly in the Boreal Forest) is eliminating habitats for birds as well as large mammals. This is a problem because the Boreal Forest has an outstanding ability to store carbon; 208 billion tons of carbon, to be precise.¹

OUR SOLUTIONS

In addition to reducing our greenhouse gas emissions to slow the rate of climate change, we must also revise and adapt our forestry management practices to be more sustainable and ecological, and to take into account the changes that are occurring in our climate.

OUR CALLS TO ACTION

1. General actions to reduce greenhouse gas emissions

- Compost applicable waste items and use the compost to grow a garden which creates habitat

"Mount Baker Secondary School has really shown the importance of bees for us and the effect climate change has on them."

— **@BrittneyDoerks1**
(Brittney D.) via Twitter

Yes, bees are the most important insect in agriculture! Without bees, we will have no more crops! Such a great topic to discuss."

— **@CalendiaZ** via Twitter

"Many disagree but it's 100% true, trees are shrinking"

— **@maxwell_1118**
(Jerry M.) via Twitter

"Conserving natural resources is the common key for all of our issues"

— **@qmsgeo1** via Twitter

"Save the bees! I can't wait to hear your take on that subject. So important."

— **@SaskLorax (Sean)** via Twitter

"The 'edge effect' is resulting in an overpopulation of deer in many parts of Canada, specifically, Manitoba. We can fix this problem by implementing a "population management" program to decrease the deer population and restore balance."

— **Carman Collegiate**
Carman, Manitoba

- Reduce use of personal vehicles and opt for public transport options to save habitats from roads and pollution
- Buy local, organic food or plant your own organic garden, which supports pollinators like bees.

2. Forestry management practices

- Find safer and more environmentally friendly ways of logging, like selective cutting:
 - Identify and protect natural areas from development
 - Plant native species and let them grow naturally, without root trimming or mulching.
 - Fast-track plans to protect Boreal Forest species at risk, particularly woodland caribou.



Transition to Green Energy



THE CHALLENGES

The extraction, processing and consumption of fossil fuels are a primary source of greenhouse gas emissions. Canada's oil sands are just one component of the oil and gas industry in Canada; the greenhouse gas emissions from oil sands are projected to increase by 124 per cent² (or 64 megatonnes) between 2010 and 2030, to reach about 115 megatonnes (Environment Canada). The burning of fossil fuels has an impact on climate, the environment and human health.

At the same time, the oil and gas sector and the oil sands in particular are a significant component of the Canadian economy. The oil and gas sector contributed about 20% of Alberta's gross domestic product³ but this sector does not just benefit Alberta. The Canadian Association of Petroleum Producers states that there are more than 3,400 companies in Canada that supply Alberta's oil sands industry, about one-half of these are in Ontario. The oil sands provided direct employment for 151,000 people in Canada in 2015.⁴

OUR SOLUTIONS

We recognize that the way forward is to transition to clean energy technologies while ensuring economic growth. We are calling for a 50-year plan to transition from fossil fuels to green energy and have identified three broad areas of action that will help achieve this; educate youth for jobs in a green energy economy, promote growth in the green energy sector and support the development of net-zero energy homes, the greater use of public transit (non-personal vehicle) and the development of electric vehicles.

OUR CALLS TO ACTION

- 1. Educate youth for jobs in a green energy economy.**
 - Adapt school curricula to better prepare young people for careers in the green energy economy,

"We think the key to climate change is renewable energy."

— @_marissaaa7
(Marissa C.) via Twitter

"Canada is a huge country that requires a mix of green energy sources, depending on location."

— Leamington District
Secondary School,
Leamington, ON

"I want to see renewable and other forms of green energy become easily accessible and the main form of energy used in the world; I want to see Canada become the leader in this."

— Robert Thirst High School
Student

"For individuals, a greener lifestyle is the key to improve the efficiency of energy use in the community."

— Queen Margaret's School
Duncan, BC

"Create more solar power farms around Saskatchewan, our province gets the highest average of sunlight time in Canada."

— Warman High School,
Warman, SK

and better empower guidance counsellors to offer options in this area.

- Provide scholarships and grants to encourage and support young people to go into green careers.

2. Promote growth in the green energy sector

- Canada's green energy sector has become such an important part of the economy that it now employs more people than the oil sands.
- Provide tax-breaks, incentives and funding (from carbon tax funds) to environmental start-ups, innovation and initiatives (existing) in green energy and related fields.
- Provide training in green energy and green economy jobs.

3. Support the development of net-zero energy homes, the greater use of public transit (non-personal vehicle) and the development electric vehicles.

- Support development of net-zero energy homes such as the Landmark Homes Pisa House in Edmonton.
- Encourage the use of other forms of transportation other than the personal gasoline-powered vehicle through funding the development of public transit, increased parking rates, and supporting cycling.
- Provide consumer incentives and infrastructure for electric cars.



"I think since we put so much effort and time into this project, it has resonated with a lot of people in the class, and they are more educated on climate change in Canada and are also more willing to make the changes to prevent negative effects of climate change."

— Samantha T.
Mount Baker Secondary School
Cranbrook, BC



WATCH THE VIDEO

North Hastings Secondary School's
narration of their Moonshot Dream School

<https://www.youtube.com/watch?v=Eg7WzL5hc8Y>

Adapting to Extreme Weather



THE CHALLENGES

Climate change has exacerbated both the intensity and frequency of extreme weather events, including flooding, droughts, winter storms, and wildfires. These changes represent some of the most visible effects of climate change in our everyday lives. We can see the extraordinary damage that these disasters inflict on our homes, schools, businesses, community buildings, and infrastructure. If these events continue to occur unabated, repairing these damages will only grow costlier.

For communities in which the economy relies heavily on tourism, the effects of extreme weather events are especially pronounced, with an increase in extreme weather events leading to fewer visitors and less revenue for government and local businesses. An uptick in these extreme events is also disrupting our everyday lives as youth, including increasing the frequency of school cancellations caused by inclement weather. Climate change is threatening not only the way we live in society, but also how wildlife lives and survives in their natural habitat.

OUR SOLUTIONS

Our strategy toward minimizing extreme weather events should encompass both adaptation and mitigation. Raising public awareness and promoting education about climate change and its link to extreme weather events is also essential.

OUR CALLS TO ACTION

Establish emergency preparedness programs so that communities are aware of what actions to take should disaster strike.

1. Education and Awareness

- Include information about climate change and its link to extreme weather events in the K-12 curriculum.

“In recent years, as the temperature continues reaching and breaking higher records, the Cowichan watershed is at its third consecutive year of drought.”

— **Queen Margaret’s School
Duncan, BC**

“The amount of snow we had was astounding and that was 3 weeks ago, and now when I look outside, I see slush and the tracks of climate change.”

— **@jdogg123macdad
(Justin M.) via Twitter**

“In The winter of 2015/16 we had barely any snow. Because of this no one was coming here to snowmobile. Small businesses in our town like our hotels struggled with the lack of money coming into their business.”

— **North Hastings High School,
Bancroft, ON**

“Snow is usually frequent in [Warman, SK] during winter but it’s melting really quickly this year.”

— **@BrittneyDoerks1
(Brittney D.) via Twitter**

2. Adaptation and Mitigation

- Provide incentives for the creation of green buildings.
- Improve infrastructure and building designs to be more resistant to extreme weather events.



Making Food Sustainable



THE CHALLENGES

Agriculture has impacts on the environment and our climate. The UN Food and Agriculture Organization states the greenhouse gas emissions associated with livestock production are 14.5% of all human-caused greenhouse gas emissions.⁵ Climate change, in turn, is affecting agriculture with more extreme weather such as droughts and flooding, and increases in pest populations. Climate change is also affecting fisheries as changes in water temperatures impact fish habitat and decrease fish populations.

Climate change is affecting traditional ways of gathering food and this has many implications for coastal fishing cultures and northern hunting communities. The cost of food is high in remote communities, and families must make choices between less expensive but less nutritious foods and more expensive but more nutritious foods. For young children, the result is often a diet that provides inadequate nutrients for normal growth and development, which can cause many problems later on in life.

OUR SOLUTIONS

We identified three broad areas of action that will help make food production and consumption more sustainable; improve farming practices to reduce impacts on environment and climate, support local, community-based agriculture and educate consumers to make climate-friendly food choices.

OUR CALLS TO ACTION

1. Improve farming and fisheries practices to reduce impacts on the environment and climate

- Provide grants and/or tax breaks to help farmers choose a greener way of producing food.
- Support alternative methods to the use of chemical pesticides and herbicides such as the greater use of native plants that are more resistant to diseases and pests and the use of organic pesticides and herbicides.

“New microgreens ready to display at our open house. Growing food locally to tackle climate change.”

— **@wkclam**
(Sustainable Living Academy of Manitoba) via Twitter

“Eating natural food to protect our environment. Bought from our local market!”

— **@nhhs_science**
(North Hastings High School) via Twitter

“An aquaponics system in every classroom could help reduce our carbon footprint by up to 5%”

— **@nerdnewzz**
(Yakomo J.) via Twitter

“I could go for a locally grown salad right now”

— **@Wiensthegreat**
(Mr. Lucas W.) via Twitter

“@MillikenMHS talking about our hugelkultur garden as a local approach to less water to help keep plants and environment healthy” -

— **@coachy8326**
(Christopher W.) via Twitter

- Regulate farming practices so that bees and other pollinators are not harmed.
- Regulate fisheries and support development and use of better fishing practices.
- Promote and support development of Aquaponics (a combination of Hydroponics — growing plants in water and Aquaculture — raising fish in a controlled environment), combining the two to make a self-sustaining micro-ecosystem, which can even be done in schools.

2. Support local, community-based agriculture and food production

- Support community and family gardens and roof-top gardens; these practices not only reduce one's carbon footprint but also make nutritious food more accessible to many people who otherwise wouldn't be able to afford or access it.
- Support development of community facilities to include greenhouses, community gardens and food markets.
- Support Northern and remote communities to develop local food systems and reclaim traditional knowledge and practices.

3. Educate consumers to make climate-friendly food choices

- Educate consumers on eating less meat, eating local, and growing their own food.
- Educate students and youth on how to grow their own gardens or plants in their homes.

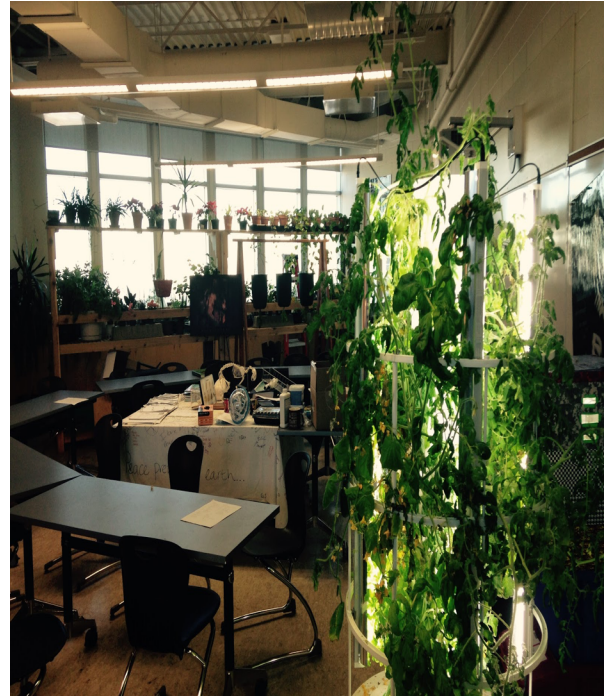


Photo: Aquaponics system at Robert Thirsk High School, Calgary, AB.

Reducing Waste (Food Waste)



THE CHALLENGES

Over half of our waste consists of organic material—like food that we could compost and turn into valuable products. But instead, we often throw out our food waste and overwhelm Canada's over 10,000 landfills. ⁶

The rotting organic waste releases harmful greenhouse gases, such as methane, which is stronger and traps more heat than carbon dioxide. This is contributing to greenhouse gases that are already raising the earth's temperature, and wasting valuable resources that we could use to create healthy, rich soils for farms and gardens.

OUR SOLUTIONS

In accordance with the UN *Sustainable Development Goal* of reducing food waste by 50% by the year 2030,⁷ we are calling for real action to meet this goal and have identified three strategies to do so: educate and engage young people on the issue of food waste, provide composting programs in communities, and ban supermarkets from throwing away food. With these strategies, we can transform food waste to benefit, rather than harm, the earth.

SPECIFIC CALLS TO ACTION

1. Educate and engage youth

- Many of the Climate Action 150 schools are leaders in food waste reduction — we are showing it can be done.
- Educate and engage youth in reducing waste, especially food waste in their schools.
- Implement waste free lunch days in schools.

2. Provide composting programs

- Educate citizens to improve their shopping habits, reduce food waste, and use home compost bins.
- Fund municipal curbside compost pick-up and processing programs – Winnipeg is one city that is yet to do so.

“Here at Robert Thirsk High School we have solar power garbage bins but just two is not enough”

— @Kathleen_102
(Kathleen) via Twitter

“We have to get compost bins to be regulated in all the cities and homes”

— @falloutgaming32
(William M.) via Twitter

“I’m working on removing single use coffee pods from the environment.”

— @lauraprokop34
(Laura P.) via Twitter

“Thrilled to learn the government dedicated \$400 million to green tech – could be used reduce the impact of food waste on climate.”

—@LDSSEco
(Leamington District Secondary School Eco Team) via Twitter

“@GreenLearning Food waste solutions for schools: extend lunch 5 min, schedule recess BEFORE lunch, send leftovers and waste home.”

—@LDSSEco
(Leamington District Secondary School Eco Team) via Twitter

- Make it mandatory for companies and corporations to compost their waste, especially restaurants.

3. Ban food waste in supermarkets

- Regulate supermarkets from throwing away or destroying unsold food. Such a ban has been successfully introduced in France.
- When food nears its best-before date, it must be marked down in price and/or sent to food banks and homeless shelters.
- Educate consumers to buy produce that is less than perfect.

4. Use reusable or recyclable containers and bags

- Install waste free options in schools such as reusable utensils and water bottle filling stations to reduce the use of plastic bottles daily.
- Instead of buying plastic bottles you can buy a filter that filters your tap water so you do not need the use of plastic water bottles.
- Put a reverse vending machine in every school. These vending machines are designed to recycle bottles to limit and reduce the waste of plastic and encourages recycling. The whole idea is to pay a surcharge for the drink and when you return or recycle the bottle you get the amount of money that you spent back.



“I have to speak to the school board and ask if they would consider to stop selling plastic water bottles in our servery.”

— @madisondeschamb
(Maddy) via Twitter

“Learning about food waste reduction strategies to reduce GHGs in our community today

@GreenLearning

We can do more and we have ideas.”

—@LDSSEco

(Leamington District Secondary School Eco Team) via Twitter



Protecting Water



THE CHALLENGES

The UN defines water security as: “The capacity of a population to safeguard sustainable access to adequate quantities of and acceptable quality water for sustaining livelihoods, human well-being, and socio-economic development, for ensuring protection against water-borne pollution and water-related disasters, and for preserving ecosystems in a climate of peace and political stability.”⁸

Climate change is directly related to water *in*security for Canadians across the country. Extreme weather phenomena, such as flooding and droughts, affect our economic well-being and disrupt our ecosystems.

For instance, Lake Winnipeg is ranked among the most threatened lakes in the world since 2013,⁹ because it has been exposed to numerous flooding events that wash phosphorus into the lake and increase the rate of blue-green algae blooms, which are toxic for species that live in the lake.

Water also has an impact on Canadian agriculture. Droughts could lead to large losses of crop for our farmers in the Prairies. Furthermore, synthetic fertilizers have harmful chemicals that affect wildlife in and around the water, including fisheries.

OUR SOLUTIONS

In order to create water security for all Canadians, and mitigate the harmful effects of climate change on our water, we are recommending three categories of actions to take: using natural fertilizers, holding polluters accountable and reducing water consumption.

OUR CALLS TO ACTION

1. Use natural fertilizers

- Provide incentives for farmers to use only natural fertilizers and pesticides to avoid contaminating our waterways.

“Reducing the amounts of industrial waste released into water can also effectively prevent the water pollution (eutrophication).

— **Queen Margaret’s School**

“Algal blooms in Lake Erie are made worse by climate change; makes water unsafe to drink, swim and fish in Leamington, ON and Pelee Island.”

— **@LDSSEco (Leamington District Secondary School) via Twitter**

“Holding the bigger companies accountable is important to ensure they are monitoring their water consumption.”

— **Queen Margaret’s School**

“Instead of using fresh water from your tap to water your plants, get a rain barrel and use that to water your plants.”

— **@falloutgaming32 (William M.) via Twitter**

“Although fisheries can result in negative impact on water quality, it cannot be eliminated. Therefore, we should find a balance between this industry and environmental protection.”

— **Queen Margaret’s School, Duncan, BC**

2. Hold polluters accountable

- Reducing industrial waste that goes into our waterways is important; we should be monitoring and charging corporations and industries that don't follow the rules.

3. Reduce water consumption

- Replace toilets in public and private institutions with pressure-assisted toilets that use less than 5 litres per flush.
- Reduce personal water consumption and hold corporations accountable for large amounts of water waste.



Photos: "Our wetlands centre here at Tantramar! The people in the picture are teaching other students from other schools about our wetlands!"

—@Env120 (Tantramar Regional High School, Sackville, NB) via Twitter

Green Transportation



THE CHALLENGES

We are all aware that our modes of transportation pollute the atmosphere, and release greenhouse gases that are harmful for our environment. In the world today, there are approximately 1.2 billion cars, and experts are predicting that by 2035, there will be 2 billion.¹⁰ The average car releases about 4.7 tonnes of greenhouse gases per year.¹¹ That means cars produce about 5.6 billion tonnes of carbon dioxide per year in the world.

Our research found that 35% of all greenhouse gas emissions in Toronto are emitted by transportation,¹² mostly vehicles for personal use. Furthermore, vehicles continue to emit carbon dioxide even when they're not advancing (idling). In fact, if Canadian automobilists committed to reducing idling time by 3 minutes per day, we could cut greenhouse gas emissions by 1.4 million tonnes per year. This would equal savings of 630 million litres of fuel, or 320 000 vehicles off the road.¹³

OUR SOLUTIONS

To reduce emissions produced by vehicles, we have come up with four solutions: encourage use of public transit, more access for cyclists and pedestrians, eliminate idling, support innovation and green technology.

OUR CALLS TO ACTION

- 1. Encourage use of public transportation**
 - Invest in the improvement of public transit networks in towns and cities across Canada.
- 2. More access for cyclists and pedestrians:**
 - Widen sidewalks to encourage walking to school and work.
 - Integrate more cycling paths in cities: cycling paths that are safe and separate from road traffic.

"Instead of driving everywhere, we should take buses and do carpooling with friends. Warman needs public transit buses for around town."

— **@falloutgaming32 (William M.) via Twitter**

"The opportunity to ride a bus in the north provides carpooling which lessens the carbon footprint."

— **@KatieRyanne via Twitter**

"Let's use fuel efficient or electric cars to prevent global warming"

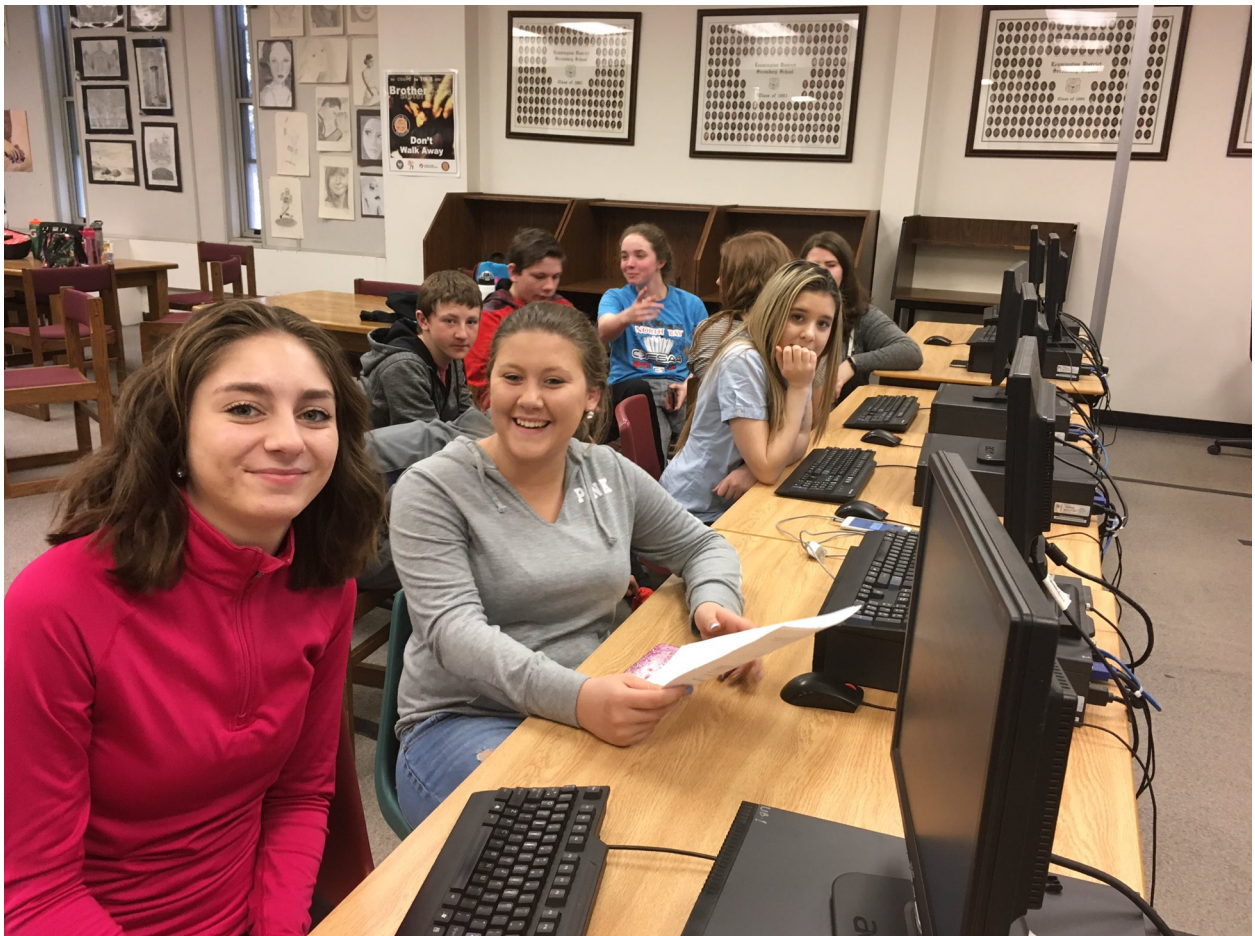
— **@LDSSEco Leamington District Secondary School Eco Team) via Twitter**

3. Eliminate idling

- Build our communities to prioritize roundabouts (and not traffic lights, which use electricity, cost more to maintain and are less safe than roundabouts).
- Prohibit idling in all Canadian provinces and territories.

4. Support innovation and green technology

- Install many more recharging stations along highways and in cities.
- Subsidize production and purchase of electric vehicles, in order to create jobs in the green sector and increase sales of electric cars.



Action Projects

As a result of Climate Action 150, the participating students conducted over 50 action and outreach projects. Some of these projects are on-going while others have already been implemented. Here is a small sampling of these initiatives outlined below with pictures.

Archbishop MacDonald High School in Edmonton, AB

A student is writing about his experience throughout the project, and what he has learned about climate change in Alberta. His article will be published with Radio-Canada in September 2017.

Carman Collegiate in Carman, MB

Carman's students planted white spruce trees beside the sports field and track to raise community awareness about climate change. White spruce trees are great at sequestering carbon.

Churchill Community High School in La Ronge, SK

Students at Churchill led the campaign against plastic water bottles and in February a water bottle filling station was installed in the school.

École Secondaire La Poudrière in Drummondville, QC

The students held a conference with the Mayor of Drummondville to talk about how climate change is affecting their community and what actions they are going to take to combat the effects.

Howe Sound Secondary School in Squamish, BC

A group of Climate Action 150 students presented their inquiries to the school board and administration staff at school. Their research touched upon how climate change is affecting Squamish.

Institute for Global Solutions in Saanich, BC

At the Institute for Global Solutions, students are researching the effects of spilled diluted bitumen on aquatic ecosystems, with the support of Simon Tudiver, Senior Policy Analyst at Environment and Climate Change Canada.



Students planting trees at Carman Collegiate.



New water bottle filling station at Churchill Community H.S.



Students at Milliken Mills H.S. working on a community garden.



Students making soup out of unmarketable food at Leamington District S.S.

J H Bruns Collegiate in Winnipeg, MB

The students have started a small business and they are working with a Metis designer, to design and manufacture whiteboard erasers to distribute to all schools in the Louis Riel School Division.

Leamington District S. S. in Leamington, ON

Students from Leamington volunteered at Southwestern Ontario Gleaners, processing unmarketable fruits and vegetables into a dehydrated soup mix that was then made available, free-of-charge to food banks and relief agencies.

Milliken Mills H. S. in Markham, ON

Participating students from Milliken Mills High School constructed a community garden at their school.

Mount Baker S. S. in Cranbrook, BC

At Mount Baker, the students constructed a bee garden to attract these important pollinators and beautify the school yard.

North Hastings H. S. in Bancroft, ON

Andrew Edgar's Class

Students compared the climate action plan of their municipality to cities across Canada.

Leaf Worsley's Class

Students from Ms. Worsley's class sold trees to raise money to host a community meeting on a new green school for Bancroft and to purchase design technology for students to use to make input into a new green school. They also made a video to talk about their Moonshot Dream School. Watch the video at this link: <https://www.youtube.com/watch?v=Eg7WzL5hc8Y>

Queen Margaret's School in Duncan, BC.

Queen Margaret's School's Climate Action 150 students worked with a local elementary school to host a community conversation on climate change.

Robert Thirsk H. S. in Calgary, AB

Students launched a Meatless Monday in their school cafeteria served with a "side" of climate literacy and weekly infomercials on climate change.



Bee garden at Mount Baker S.S.



A student speaks about their new green building at North Hastings High School.



Community conversation on climate change at Queen Margaret's School.



"Tye Wolverine – mascot at Sustainable Living Academy of Manitoba in a pile of trash produced in one day.

Sustainable Living Academy (SLAM) in Winnipeg, MB

Students launched a composting challenge. It went from a waste audit, to school assembly, to the challenge – when students diverted organics from the school trash to compost bins they got a draw ticket for neat prizes.

Tantramar Regional High School in Sackville, NB

At Tantramar, the students created a logo for their project. They also published information pieces for the school website and for the local newspaper about the environmental and economic impacts of more frequent and severe flooding caused by climate change.

Warman High School in Warman, SK

Warman's students hosted a Spring Festival for a nearby elementary school, a day of games and activities to increase awareness about climate change. There were many activities and presentations to educate youth about the changes happening in the environment and how to make a difference.

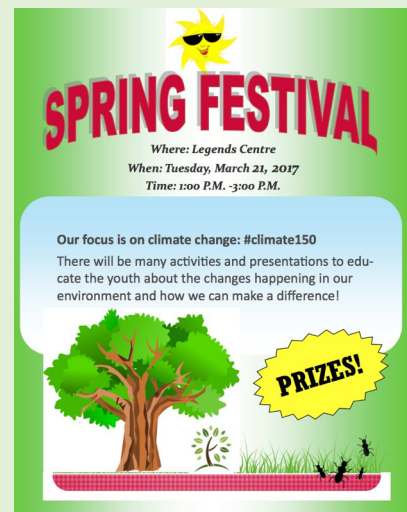
WATCH THE SPRING FESTIVAL VIDEO:



Warman High School's Spring Festival Event raised awareness about climate change.
<https://www.youtube.com/watch?v=oDn2VILN3SM>



Official project logo of the Environmental Science 120 class Tantramar Regional High School.



Spring Festival event flyer created to raise awareness at Warman High School.

Teachers & Schools

School	Teacher	Course
Alberta Distance Learning Centre, AB	Simran Bhatia / Jessica Luciuk	Several
Archbishop MacDonald High School Edmonton, AB	Rania Eshak	French Language
Carman Collegiate Carman, MB	Rosanne Massinon	Biology
Churchill Community H. S. La Ronge, SK	Gabe Andrews	Science 20
École Secondaire La Poudrière Drummondville, QC	Melanie Daigneault	English Language
Howe Sound S. S. Squamish, BC	Marie St Pierre, FR	French Language
Institute for Global Solutions Saanich, BC	Graeme Mitchell	Interdisciplinary Studies
	Mark Neufeld	Interdisciplinary Studies
J H Bruns Collegiate Winnipeg, MB	Norm Froemel	Geography
	Lisa Burton, Charlotte Turenne	English, Leadership
Leamington District Secondary School Leamington, ON	Lisa Jeffery	Science
Milliken Mills High School Markham, ON	Chris Williams	Alternative Education/Eco-club
Mount Baker S. S. Cranbrook, BC	Leigh Cormier	Geography

North Hastings High School Bancroft, ON	Leaf Worsley	Environmental Science
	Andrew Edgar	Geography
	Colleen Drew-Baehre	Geography
Queen Margaret's School Duncan, BC	Nicole Lorusso	Geography
Robert Thirsk H. S. Calgary, AB	Warren Lake	Science
Runnymede Collegiate Institute Toronto, ON	Torie Gervais	Science / Environmental Resource Management
St. Bonaventure's College St John's, NL	Chris Peters	Newfoundland & Labrador Studies
Sustainable Living Academy Winnipeg, MB	Heather Eckton / Kristin Erickson	Science Indigenous Studies
Tantramar Regional High School Sackville, NB	Matt Wheaton	Environmental Science 120
Warman High School Warman, SK	Sean Brandt	Science 20
	Peter Schmidt	Science 20
Woodland Heights Elementary London, ON	Scott Howe	Grade 7 and 8

Student Writers

Student	School
Catherine Priemer	Tantramar Regional High School Sackville, NB
Coralie Charland	École Secondaire La Poudrière Drummondville, QC
Grace Lew	Alberta Distance Learning Centre Calgary, AB
Hannah Petrie	Carman Collegiate Carman, MB
Jonny MacPherson	Warman High School Warman, SK
Keesha Steppan	Mount Baker Cranbrook BC
Liam Gale	St Bonaventure's College St John's, NL
Owen Spillios-Hunter	Archbishop MacDonald High School, Edmonton, AB
Tayjon Oge	Milliken Mills High School, Markham, ON
Victor Selby	Sustainable Living Academy (West Kildonan Collegiate) Winnipeg, MB

GreenLearning Team



Mary McGrath
Executive Director

Mary manages the day to day operations of GreenLearning and has a passion for creating positive environmental change. She is co-founder of Small Change Fund and has extensive experience working for sustainability organizations.



Gordon Harrison
Senior Education Specialist

Gordon infuses his love of nature and his background as an educator in his role at GreenLearning. He is the director of the Climate Change Where I Live Program and this year's edition, Climate Action 150.



Stephen MacKinnon
Consultant and Project Leader

Stephen has been GreenLearning's e-learning consultant since 2006, working on various online education projects. He is also a retired Information Technology teacher.



Dick Holland
Researcher, Writer and Facilitator

Dick is the lead teacher writer at GreenLearning. He is involved in researching and developing modules, as well as running workshops and in-service training.



Aian Binlayo
Program Manager

Aian leads the development of new educational modules on energy, climate and green economy. He has worked with several environmental non-profits in both Canada and the U.S., and brings a strong track record of engaging youth in environmental activism and education.



Jamila Kyari
Communications Manager

Jamila manages the brand, content and voice of GreenLearning Canada while developing a variety of response-generating communications material. She is a multi-faceted individual and brings years of experience in marketing and social media.

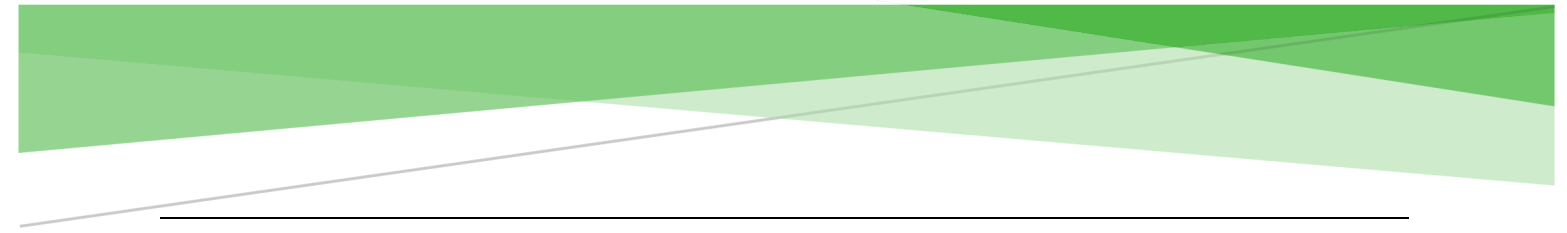


Jessica Karafilov
Program Assistant

Jessica is the program assistant for the GreenLearning team. She helps out behind the scenes on various projects. She has a background in education and passion for various environmental issues, particularly food security and urban agriculture.

Sources

- ¹ "The Carbon the World Forgot." *Boreal Songbird Initiative*. N.p., 13 May 2015. Web. 07 June 2017. <http://www.borealbirds.org/announcements/carbon-world-forgot>.
- ² Fekete, Jason. "Oilsands' share of GHG emissions to double by 2030." *Ottawa Citizen*. N.p., 29 Jan. 2016. Web. 07 June 2017. <http://ottawacitizen.com/news/politics/oilsands-share-of-national-emissions-set-to-double-between-2010-and-2030>.
- ³ "Alberta's Oil and Gas Exports in 2013." *Alberta, Canada*. Government of Alberta, 26 Mar 2014. Web. 7 Jun 2017. http://www.albertacanada.com/files/albertacanada/SP-Commentary_03-26-14.pdf.
- ⁴ "Canada's oil sands industry provides economic benefits to Alberta, Canada and across North America." *Canada Oil Sands*. Canadian Association of Petroleum Producers, Web. 07 June 2017. <http://www.canadasoilsands.ca/en/explore-topics/economic-contribution>.
- ⁵ "Key facts and findings. By the numbers: GHG emissions by livestock." *Food and Agriculture Organization of the United Nations*. Web. <http://www.fao.org/news/story/en/item/197623/icode/>.
- ⁶ "Waste Free Lunch Challenge: Waste Reduction and Recycling Facts." Web. https://stjude.cdsbeo.on.ca/wp-content/uploads/sites/61/2014/01/WASTE_FREE_LUNCH.pdf.
- ⁷ "Sustainable Development Goals: 17 Goals to Transform Our World." *United Nations*. Web. <http://www.un.org/sustainabledevelopment/sustainable-consumption-production/>.
- ⁸ *Water Insecurity Looms as a Major Global Issue*. Global Communities, Web. <https://www.globalcommunities.org/node/37493>.
- ⁹ *Lake Winnipeg most threatened in world in 2013*. CBC Manitoba, Web. <http://www.cbc.ca/news/canada/manitoba/lake-winnipeg-most-threatened-in-world-in-2013-1.1326764>.
- ¹⁰ *1.2 Billion Vehicles on World's Roads Now, 2 Billion By 2035: Report*. Green Car Reports, Web. http://www.greencarreports.com/news/1093560_1-2-billion-vehicles-on-worlds-roads-now-2-billion-by-2035-report.
- ¹¹ *Greenhouse Gas Emissions from a Typical Passenger Vehicle*. United States Environmental Protection Agency, Web. <https://www.epa.gov/greenvehicles/greenhouse-gas-emissions-typical-passenger-vehicle-0>.
- ¹² *Greenhouse Gas Emissions: By Source and Sector*. City of Toronto, Web. http://www1.toronto.ca/city_of_toronto/environment_and_energy/key_priorities/files/pdf/04-emissions_by_sector.pdf.



¹³ *Emission impacts resulting from vehicle idling.* Natural Resources Canada, Web.
<<http://www.nrcan.gc.ca/energy/efficiency/communities-infrastructure/transportation/cars-light-trucks/idling/4415>>.