



### ANNUAL REPORT — YEAR 2022

### Land Acknowledgement

GreenLearning's head office is located on Treaty 6 territory, the traditional meeting grounds, gathering place, and traveling route to the Cree, Saulteaux, Blackfoot, Dene and Nakota Sioux and home to the Métis Nation of Alberta, Region 4.

# Letter from the Leadership

In 2022, schools were in a rebuilding phase – restarting programs and rebuilding their community. By supporting educators and students with workshops, sessions, and resources we helped them build on their foundations and to also forge new pathways and opportunities. Pathways that make sense of new innovations and systems that will be part of students' future such as net-zero, carbon capture, hydrogen, electric vehicles, circular economy, flood resilience and much more.

Our programs engage students in learning using simulations, building working models and participating in leading-edge pilot projects that help them be the innovators in creating solutions and making a difference in their communities. The launch of GreenLearning's latest initiative — Re-energy: Electrifying the Future is a shining example of building community connections and new pathways.

Our partnership with Crescent Heights High School and the Career and Technology Centre of the Calgary Board of Education, including community partners, is opening doors for new career pathways as teachers and students work to convert two gasolinepowered cars into electric vehicles. This project is paving the way for automotive programs in high schools and fostering new career pathways through innovative programming and partnerships.

We couldn't do this without the support of our many collaborators, funders and of course, the many teachers and students that engage in these new learning pathways. Thank you for your continued support and please consider joining our community @GreenLearning or providing a donation to allow students to build a hopeful future.



Kathy Worobec Executive Director

GREENLEARNING ANNUAL REPORT 2022

## **Overview of the Organization**

GreenLearning creates free education programs about energy, climate change and green economy that engage and empower students to create positive change for our evolving world. Our programs include both hands-on and critical thinking activities to equip teachers with the educational tools they need to help students understand complex environmental issues.

To create our programs, we combine input from national surveys and consultations with teachers and education professionals to inform our program development and delivery. All of our lessons are reviewed with teachers and school boards and revised based on their feedback before we make them available.

**Mission:** To develop innovative teaching tools and rich educational experiences that empower youth to effect positive social, economic and environmental change in their own lives, schools and communities.

**Vision:** A generation of youth who are informed and inspired to actively create a sustainable and just world.



## **Our Philosophy**





#### **Inspire Educators**

We have designed our materials to meet a broad range of curriculum expectations using an inquiry driven approach and an emphasis on leveraging technologies to meet learning outcomes.



## 2022 Main Highlights



#### The Challenges

Young learners are key catalysts for a more sustainable future. Recognizing this, GreenLearning uses its annual challenges to empower students to take climate action.

By participating in a challenge, they can take their learning about the environment and apply it to tangible sustainability projects in their schools. These projects are not only practical and personally meaningful but also beneficial and great for the larger community.

This year, we hosted a series of environmental learning challenges: Re-Energy, Energy Revealed, Decoding Carbon, Flood:ED and Eco 360. You can learn more about each challenge by reading project stories from participants and browsing the pictures at our Challenge Submissions Showcase.

"We felt very supported and are thankful for the quick responses in communication. This has been an incredible experience for all of us. We look forward to joining again next year!" — Elizabeth Urban, Teacher, Manitoba.

### CHALLENGE IMPACT

From September 2021 to June 2022



12,613+

Learners participated in a program



1,116+

Educators participated in a program

6

91,260+ g

Greenhouse gas (GHG) emissions reduced



#### **Challenge Student Work**











#### **GREENLEARNING ANNUAL REPORT 2022**

#### Workshops

Life-long learning continues all year round at GreenLearning with our range of insightful webinars, workshops and presentations led by industry experts, education leaders and environmental professionals.

This year, we invited educators to discover a variety of learning and professional development opportunities to enhance their knowledge and better prepare themselves for teaching about the environment.

Our workshops and presentations were delivered in-house and at external conferences where we covered various environmental topics. Some examples include For the Love of Trees with Emily Carr, Harnessing the Wind with Learning for a Sustainable Future, both the World Water Day Conference and <u>World Food Day</u> event with OceanWise, Taking It Global and Centre for Global Education and much more!

#### **TESTIMONIALS:**

"Some of the ideas we came up with were pretty cool and it actually felt like we could have an impact for once. Usually people think more like "there's a problem but there's no way that I could just fix it myself it's too big" — Grade 10 Student Participant.

"Thank you so much for all the support and for facilitating such a helpful and engaging lesson this week! The kids really loved it and had lots more questions and ideas that

have been coming up! We are going to spend some time with the resources you sent out to us and I think this is going to be an inquiry focus for us this year!" — Lauren Keen, Grade 4 Teacher, British Columbia. WORKSHOPS IMPACT

From September 2021 to June 2022



Workshop and presentation sessions



## **Projects and Partnerships**

#### **Turning Learners into Energy Managers**

Through funding from TD Friends of the Environment and Enbridge, we partnered with Calgary Board of Education, Peel District School Board and Grand Erie District School Board to deliver the Turning Learners into Energy Managers series using materials from our Energy Revealed program. We also worked with facility managers to provide energy consumption information for their school (if available).

10 teachers from each school board attended (or watched the recording) of a professional development session about energy management. Also, they each had a live,

in-class workshop for their students with our Engagement Manager.

Each teacher also received an energy education kit with five watt meters, a binder full of energy activities and some energy savings stickers.

#### Developing the Eco 360 for Junior Learners

With funding from Dow Canada we were able to take our popular Eco 360 program, which focuses on the circular economy for plastics, and extend the learning to grades 4-6 learners. We created 11 new learning activities, as well as updated the Eco 360 challenge allowing junior learners to invent new ideas and senior learners to implement an innovative plan.

#### **Ocean School — Plastic Interactive Resource**

GreenLearning partnered with Ocean School to develop a <u>plastic interactive</u> resource which focuses on lake systems, including how plastic moves through the water and carbon cycle to infiltrate our ecosystem. The plastic interactive is part of our Ripple Effect program and is also <u>available in French</u>.



#### Christie Lake Kids — Summer Programs

For the first time ever, GreenLearning was directly involved in summer camp programming with Christie Lake Kids. The programming, called 'Fun in the Sun' had campers learn about solar energy and climate change through activities like carbon tag. Campers also got creative by building and decorating their own solar oven and cooked everyone's camp favourite snack - s'mores!

#### Arts Canada Institute — Educator's Guide

GreenLearning collaborated with Art Canada Institute to create a guide that contains learning activities from three different artists. The Climate Change through History and Contemporary Art in Canada Educators' Guide is available in <u>English</u> and <u>French</u>. The guide features Canadian artists Emily Carr, Edward Burtynsky and Oviloo Tunnille and takes a look at how their work is inspired by natural elements that are at risk of being affected by climate change.





#### Introducing eCards

Thanks to our Waves of Change partnership with Ocean Wise, Taking it Global and Centre for Global Education, GreenLearning revitalized the eCards program. This hands-on environmental education and advocacy tool for grades 7-12 teaches about the importance of environmental issues—as well as educating to encourage informed and active citizens. eCards empowers youth to act for the climate by creating informed messages to send to decision-makers. At its core, the program blends arts, science and social studies to enable users to hold community decision-makers accountable on climate action.



#### **Re-Energy: Electrifying the Future of Transportation**

We launched the pilot of Re-Energy: Electrifying the Future with a contribution from Natural Resources Canada's Zero-Emission Vehicle Awareness Initiative, RBC Foundation through RBC Tech for Nature and the Calgary Foundation. This hands-on educational program focused on increasing awareness about the zero-emission vehicle, energy storage and charging industries for Canadian youth.

We teamed up with Calgary Board of Education (CBE) and in specific, teachers and students at Crescent Heights High School (CHHS) and the Career and Technology Centre to convert a gas-powered 1975 Volkswagen Beetle into an electric vehicle and install charging stations at the school. The pilot phase of this project supported both secondary and post-secondary youth in learning about internal combustion engines and zero emission vehicles. The project also included increasing awareness of charging infrastructure and a charging station will be installed at the school in 2023.

"As a school that is focused on climate learning and action, we are excited to be exploring the ways in which innovative science and technology could be used to reduce greenhouse gas (GHG) emissions and power Canada's clean transportation sector. GreenLearning's innovative program has provided the students from our automotive class and other classes an opportunity to apply and showcase their skills," says Tim Kitchen, Assistant Principal (now Specialist, Unique Pathways with CBE).

### **Re-Energy: Electrifying the Future of Transportation (continued)**

GreenLearning is pleased to have implemented this project, not only for its cutting edge and ambitious mission, as well as its intersectional approach; CHHS design, robotics, science and math students are all involved in the EV conversion, as well as students from the Career and Technology Centre for the restoration, body work and painting of the car. And, of course, we partnered with fantastic organizations that will help engage community.

With the help and expertise of our collaborators at <u>ChargePoint, SAIT, Relectric</u>, <u>ZENO</u> and <u>High Voltage Garage</u>, this project is helping us capture learnings, create additional learning tools that will be shared with schools across Canada to help the transformation of automotive classes.





### **From the Social Sphere!**

### Tag us in your conversations! @GreenLearning



A beautiful day to be outside as part of the @takemeoutside week of celebrations. Thank you @GreenLearning for the inspirational session today on how we CAN make a difference w/ climate change mitigation. Some Ripple Art to celebrate our respect for nature. Merci! HT-



1:12 PM · Oct 20, 2022

Ms. Pizzani Ĉ @PizzaniGVAN

Special thanks to @GreenLearning and Sidney Howlett for her awesome presentation called "Speak for the Trees." Students learned about energy, output of wattage and so much more! Wonder if they're at home changing lightbulbs 💡 😭 Channelling our inner #Lorax today! 🌑



7:52 PM · Apr 19, 2022

Carolina Dobrowolska @CDobrowolska

Facilitating with Sidney from @GreenLearning watt waste for #tcdsb #earthweek ! Already learned something new in the first few minutes! Had no clue #nuclear energy is where the majority of ontarios energy comes from!





CHPS Earth Hour-Platinum EcoSchool - Lights out ALL Day! Hallway lights out 🗸 Classroom lights out Classes working hard Reducing our Energy Use



3:07 PM - Mar 25, 2022

Hillview School

Our grade 6 students loved learning about Emily Carr and her love of trees. Thank you @greenlearning and @ArtCanInstEdu for the amazing webinar. #EarthDay2022 #TreesandForests #epsb #emilycarr #nat daveveryday #r arth @FPSBNews



7:20 PM - Apr 26, 2022



🚫 🗍 Earth Hour Challenge - Intermediate students: 📵 Friday. \*Class winners announced Monday! Challenge: at least 75% of our Intermediate Students will not use their phone 🗸

Success: 79% 🗸 We have the BEST students! 🗸 EcoSchoolsCAN @earthhou @GreenLearning @ChosMi



artist Emily Carr. We continue to work on perspective and more abstract fluid drawings of our favourite tree. #ka

Today, thanks to at @GreenLearning and @ArtCanInstEdu, we

experienced "For The Love of Trees" art lesson inspired by Canadian

Nicole Kaufmar

@teach msK



8:32 PM - Apr 21, 2022



Exploring energy @CrescentCowboys and ways that we can reduce our energy footprint. Talked with experts from @yyCBEdu and nLearning to learn about efficiencies and help us develop action itomel #MoAroC



6:57 PM · Mar 16, 2022

#### Ms. Fay @MsMFay R

Thank you @GreenLearning for an awesome energy workshop with @PeelSchools! @PDSB\_eco 💲 🎔 🝰



1:30 PM · Mar 30, 2022

## In the News

This year, our organization and some of our teacher and student participants were profiled in the news. We are thrilled to have been featured in media publications for our work and everything that we've accomplished during the school year. Click on the links below to read the stories!

**February 14, 2022** — <u>NRCan puts \$4.6 Million into Funding ZEV Adoption and</u> <u>Awareness Programs</u>

May 4, 2022 — WCI Students Advocate Energy Usage Awareness for Earth Week

June 2022 — <u>Crescent Heights High School Students Tackling Electric Vehicle</u> <u>Conversion - Page 8</u>

June 20, 2022 — <u>CTV News Calgary: Federal Plastics Ban Timeline Brings Opportunity</u> for Businesses

July 6, 2022 — <u>Scarborough Students' Innovative Solar Ovens Win First Place in STEAM</u> <u>Competition</u>

July 26, 2022 — Okotoks Teacher Revives Green Space, Takes Steps to Prevent Playground Flooding



GreenLearning Challenge student participant being interviewed by CTV News Calgary

### Financials



### **Supporters and Collaborators**

### **Challenge Judges**

- Cheryl Evans
- Courtenay L. Boyda
- Danielle Quenneville
- Daphne Austin
- Dave Mussell
- Nick Kendrick
- Paula Bustart
- Peter Nishimura
- Riley Smith
- Samantha Tascione
- Vicki Gagnon

### **Workshop Hosts**

- Alberta Council for Environmental Education
- BC Science Teachers' Association
- BC Digital Learning Symposium
- Brock University Faculty of Education
- Canadian Geographic
- Central Alberta Teachers' Convention Association
- Central Okanagan Teachers' Association
- Centre for Global Education
- Classrooms2Communities (C2C) Education Network
- Durham Catholic District School Board
- Endless Skies Teachers' Convention Association
- EnergiMedia
- Grand Erie District School Board
- Greater Edmonton Teachers' Convention Association
- Green Teacher
- Indigenous Clean Energy

- Inside Education
- Learning for a Sustainable Future
- North Central Teachers Convention Association
- OceanWise
- Outdoor Learning Store
- Peel District School Board
- South Western Alberta Teachers' Convention Association
- Surrey Teachers Association
- Taking It Global
- Ten Peaks Student Conference
- Waterloo Region District School Board

### **Funding Partners**

- Calgary Foundation
- Clean Foundation Science Horizon funded by Environment & Climate Change Canada
- Definity Insurance Corporation
- Dow Chemical Canada
- Electricity Human Resources
- Enbridge
- Environment & Climate Change Canada through our partnership with Oceanwise
- Government of Canada Canada Summer Jobs
- Indigenous Clean Energy
- Laidlaw Foundation
- Natural Resources Canada
- Outdoor Learning Store
- Peter Gilgan Foundation
- RBC Foundation through RBC Tech for Nature
- Suncor Energy Foundation
- TD Friends of the Environment
- Trottier Family Foundation

## Thank You!



**GREENLEARNING ANNUAL REPORT 2022** 



### **Donate to Support Environmental Education!**

As a registered charity, GreenLearning depends on the support from donors and sponsors like you to help us reach educators and young learners across Canada and the globe. With the current global climate crisis at hand, there has never been a better time to support young people in taking action to secure a sustainable future. If you believe in empowering youth with critical thinking skills for an evolving world, please consider making a contribution.



Donate Link: <u>https://greenlearning.ca/donate</u>

#### **Contact Us!**

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