

GreenLearning Canada Foundation
2017 Annual Report

“We at GreenLearning understand that education is crucial to raising awareness about and solving some of the most complex environmental issues of our time.”

Message from the Executive Director



As science and technology expands into every area of our lives, we at GreenLearning understand that education is crucial to raising awareness about and solving some of the most complex environmental issues of our time. Hence, our overarching goal has always been to equip youth with the tools they need to become responsible stewards of the environment while creating a low carbon and sustainable future.

By shaping the attitudes and behavior of young people in the areas of energy, climate change and green economy, we know that we can make difference in their lives. This year alone, our programs involved the participation of many teachers and students across Canada from a variety of different subjects and grade levels who were all keen, conscious and interested in protecting the environment.

This year, Canada marked its 150th birthday—a celebration of hope for the future of all Canadians. To commemorate this major event, over 600 youth from across the country participating in the Climate Action 150 project researched the impacts of climate change in their communities and wrote Calls for Action in a report to mitigate and adapt to the effects for the next 150 years.

At the helm of the Climate Action 150 project was the launch of over 50 action projects by the students in their school communities—from creating the “Sila and the Land” book geared towards creating learning experiences for younger kids in Indigenous communities about climate change to an entrepreneurial project from JH Bruns Collegiate’s in Winnipeg, Manitoba involving the manufacture of sustainable whiteboard erasers in partnership with Metis youth.

Another major milestone we have achieved this year that we are particularly excited to share with you is receiving the UL Innovative Education Award that was presented to Re-Energy for embracing E-STEM to inspire the next generation of business leaders, engineers, inventors, researchers and scientists.

I invite you to read this report as we roundup some of our greatest accomplishments of this year with you. Thank you for supporting GreenLearning!

Mary McGrath
Executive Director

About GreenLearning Canada Foundation

GreenLearning is a registered charitable, not-for-profit organization incorporated federally in 2010. As a leader in 21st century approaches to teaching and learning, GreenLearning creates free online education programs about energy, climate change and green economy.

Mission

To develop innovative teaching tools and rich educational experiences that empower young Canadians to effect positive social and environmental change in their own lives, schools and communities.

Vision

Our vision is a generation of young Canadians who are informed and inspired to actively create a sustainable and just world.

Our Core Beliefs

Objective and Balanced—providing students with objective and balanced information from varied perspectives so they can think critically and act collaboratively.

Deeper Understanding—educational resources should offer students a deeper understanding of issues.

Action and Solution-Focused—learning must be solution- focused, with action components so students can shape their vision of the future.

Free and Accessible—educational resources should be free and accessible to all.

**“Developed
by teachers,
for teachers,
our tools are fun,
easy to use,
and always free.”**

Our mission is achieved by:

1. **Responding to teacher needs** with resources developed by teachers to accommodate students' varied learning styles.
2. **Addressing complex and controversial issues** to provide students with opportunities to explore, test and participate in solutions.
3. **Direct work with stakeholders** through our open module development process for educational resources.
4. **Multifaceted learning techniques** such as critical thinking, curiosity and collaboration are integral to our activities.
5. **Building action components in our lessons** gives students an opportunity to make a difference.
6. **Alignment with provincial curricula** for easy classroom integration.
7. **Online accessibility** removes barriers to rich educational experiences.
8. **Supporting teachers** through professional development opportunities.
9. **Collaboration** with related organizations and agencies.

Programs at a Glance

CLIMATE ACTION 150

An extension of our Climate Change Where I Live program, Climate Action 150 is a national youth dialogue on climate change in which young Canadians investigated the challenges and opportunities of climate change in their communities and launched action projects.

ENERGY REVEALED

Youth across Canada explore what it takes for their schools and communities to become more energy efficient. Gathering baseline data on real-time energy consumption at school using innovative technologies, students undertake key actions to achieve energy savings.

NEWSPARKS

The aim of Newsparks is to improve media literacy amongst youth by distilling the news into a format that easily enables classroom discussion. With each topic, students engage more fully with current affairs and become critical and perceptive consumers of media.

RE-ENERGY

A hands-on program rooted in science, technology, engineering and math that teaches youth about renewable energy technologies by enabling them to build working models of a solar oven, wind turbine, hydro generator and biogas generator.

E-CARDS

E-cards enables a youth voice in decision-making and policy development to positively impact the environment. E-cards empowers youth to take action by creating an info-packed e-card about an environmental issue and emailing it to family, friends and decision-makers.

LENDING A HAND

Students are introduced to the world of green economics as they engage in critical thinking and collaboration while learning about microfinance. Students connect to experts and become lenders as they select borrowers from around the world and witness the impact of their lending activities.

OIL SANDS EDUCATION DIALOGUE (OSED)

OSED teaches students about the oil sands from a variety of perspectives. They learn about oil production processes, how oil prices are set, and examine the environmental, social and economic impacts of an oil sands project through a simulated hearing and consultation.

ClimateAction150

This year's edition of the Climate Change Where I Live program was called ClimateAction150 to sync with Canada's 150th birthday. It was aimed at equipping young Canadians with the tools they require to create a low carbon and prosperous future for the next 150 years and to create best practices for educators to teach youth about climate change, while engaging youth in research-based and solutions-oriented action.

The program started with a call out for teachers via a newsletter that was sent out to over 9,000 educators across Canada to encourage entries for participation. Over 80 teachers applied to be involved—both a challenge and an opportunity because GreenLearning could only work directly with 28 teachers.

In total, we had 21 schools from all regions of Canada, 44 teachers (28 teachers in full project and 16 in parts of the project), 25 classes with an estimated 688 students in the full project with an added 300 students in parts of the project. An additional 1,625 students were engaged by

participating classes within their schools.

The students met in a series of webinars to share their research findings and collaborate on developing their recommendations. There were eight virtual seminars in total—six with interaction between students, scientists and policy makers and two in collaboration with Connected North with indigenous youth leaders and schools participating.

GreenLearning selected 10 students and hosted them as part of a "Writers Weekend" in Ottawa where they

wrote the final report. All these events then culminated in a Virtual Town Hall meeting with Minister McKenna during which the students presented their report and recommendations.

Please visit climateaction150.ca to view the student research and presentations as well to read the final report called "Canadian Youth Call for Action on Climate Change," which profiles recommendations for climate change mitigation and adaptation as well as a selection of 17 out of the over 50 action projects that students launched.



Indigenous Youth Perspectives

Throughout the Climate Action 150 project, the voice of First Nations, Inuit and Métis youth in Canada was prominent. GreenLearning and Connected North collaborated on the project to capture the ideas and perspectives of Indigenous youth leaders on climate change and bring them to students across Canada. Some of the themes explored include Indigenous people's connection to the land and the effects of climate change upon their practices including the helpful roles that youth advocacy or allyship plays in supporting the rights of these peoples and protecting their environment.

Sila and the Land

As a result of Climate Action 150, four young Indigenous women collaborated to write and illustrate a children's book called "Sila and The Land" that shares perspectives on sustainability and the land common across First Nations, Métis and Inuit communities.



“ClimateAction150 pushed me to re-imagine how I teach about climate change and, in the end, provided students with more meaningful learning opportunities. I know that moving forward I will continue to teach about climate change and encourage students to take action!”

Rosanne Massinon

Teacher at Carman Collegiate, Manitoba

“I have done inquiry [method of teaching] before but the ClimateAction150 inquiry was most comprehensive and student led—this pushed me and was good for my students too.”

Torie Gervais

Teacher at Runnymede CI, Toronto



“ADLC students can feel very isolated [because they are not in a physical classroom] and feel isolated on climate change issues in Alberta, so ClimateAction150 was a powerful experience as they had a voice.”

Jessica Luciuk

Teacher at Alberta Distance Learning Centre, Alberta

“The student experience was great. They get that climate change is not just a concept that is “way out there”—but is real. The project sparked their interest in learning more about climate change.”

Warren Lake

Teacher at Robert Thirsk High School, Calgary



Lending a Hand

Spanning over three years as part of the Education for a Green Economy initiative, GreenLearning has partnered with Servus Credit Union and the Centre for Global Education to bring the Lending a Hand program to schools across Alberta. Lending a Hand educates youth about how credit unions and micro-lending can help contribute to sustainable development in countries all over the world.

Lending a Hand was created with a response to the needs of teachers and students through a survey of 300 educators. The survey was designed to provide feedback on the classroom topics youth should be learning about in relation to financial literacy and sustainability. Through the survey, six topic areas were identified including micro-finance, cooperative business models, socially responsible investing, and philanthropy.

To date, Lending a Hand has engaged over 500 youth in schools across Alberta. The students were especially inspired to raise their funds with the knowledge that Servus was offering to match their funds up to \$500—

allowing them to deepen their impact. As part of the annual Lending a Hand Challenge, and with Servus' support, these students have raised over \$12,800 in small loans (\$25-\$50) to over 40 entrepreneurs in developing countries around the world.

A major component of this module was interactive webinars in which students were connected to experts. This experience gave the students an opportunity to interact with their peers from other schools and ask the experts their questions about lending. Kennedy Yeboah, of Ramseyer Credit Union in Accra, Ghana and Debbie Neddow of Servus Credit Union participated in these webinars to

explain how credit unions operate and provide real life examples of the positive impacts of micro-finance.

Many schools such as Robert Thirsk High School have made a commitment to making the Lending a Hand experience a "legacy project" in their school, which allows them to participate from year to year with a goal to raise and lend a certain amount of funds by a particular date.

At Robert Thirsk High School, the students learned about micro-finance over several weeks and then did a bottle drive to raise funds:

"As a collective class we went through the communities of Royal Oak, Arbour lake, Hawkwood, etc collecting bottles. Overall, just by going door-to-door we collected the sum of around \$400 CAN to help our cause, which proved to be even more beneficial than we predicted it would be. By going door-to-door asking for bottle donations we educated people on what we were trying to accomplish and even advertised the website in case others were looking for opportunities to give back to others. Furthermore, in class we were able to handpick who we wanted to help and were able to spread our money over multiple projects. This was the outcome of our months of hard work and with the positive outcome we can confidently say we made an impact somewhere in our world."



“Thank you for allowing my class to participate in the project. More than just learning about poverty and interest rates, my kids learned about people! They learned that when we work together, and understand a little about finances in the process, we can actually make a difference on this planet!”

Jason

Student at Pembina North Community School, Alberta

“Another great project! My kids came out of this transformed! They learn best when they teach themselves and that’s what they did. Not only did it change their perspective on the world but they also reached out to our community and impacted hundreds of kids.”

Chad

Student at Queen Elizabeth High School, Alberta



“Before we did the project, I thought we had to do something big, like go to Africa, to make a difference. After this project, I realized that the solutions are much more complicated. The work we are doing with Zidisha, empowering local people to do something they are passionate about actually has more of lasting impact.”

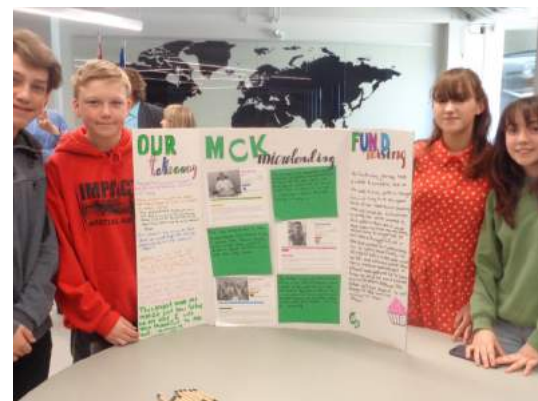
Mike

Student at Jasper Place School, Alberta

“This project has changed the way I think about people in Africa. I used to think that they were all poor and just needed food. Now, I realize they are a lot more like me. Our class chose to sponsor a farmer and with our money, they are going to buy more cows.”

Susan

Student at Pembina North Community School, Alberta



Energy Revealed

In 2017, GreenLearning launched Energy Revealed—an energy efficiency and climate action program that is groundbreaking! Designed for youth across Canada, this program will completely revolutionize the way that youth understand and interact with energy and change the face of energy education.

Energy Revealed will provide engaging and powerful learning opportunities for students that better prepare them for skills and careers in the 21st century's clean tech and innovation economy – while also contributing significantly to regional and national goals of achieving a low carbon, sustainable, and prosperous future for all Canadians.

Teams of youth across Canada will gather baseline data on energy consumption at school, identify key actions to achieve the greatest energy savings, measure the impact of their actions using real data, and share their stories widely online and in local media.

Energy Revealed is grounded in research, backed by science, and is data driven. By making energy visible, it will turn youth into expert energy managers, and will result in measurable reductions in greenhouse gases in the short term, creating a new generation of responsible and innovative energy users over the long term.

The program encourages entrepreneurship, innovation, and leadership. It will meet curriculum requirements across many grades and subject areas. Participating schools will model behaviour and actions for their communities, serving as demonstration centres for excellence in energy efficiency and progress toward community sustainability and resilience. The success of this program is going to be instrumental to Canada's clean energy future.

The project has three overlapping phases and is a four-year timeline which will enable us to design, develop and deploy this education and action initiative in schools across Canada. GreenLearning has partnered with the Alberta Council for Environmental Education (ACEE) to develop and pilot this program in Alberta, and with the Toronto and Region Conservation Authority (TRCA) to develop and pilot the program in Ontario. The program is being supported by GreenPlanet Energy Analytics, who are providing in-kind research and development support, as well as access to technology at discounted rates.

How does the program work?

Students will be provided with opportunities to leverage a new technology to “make energy visible.” This technology via real-time data will show the usage of energy in their school on electricity, water and natural gas consumption. It will show the usage of individual appliances or circuits and the information will be presented on an online dashboard that allows students to access and use the data to make their own hypothesis.

Our lesson plan activities will then enable students to understand the challenges and opportunities of how the energy is being used and they will be able to come up with innovative solutions on how to increase energy efficiency.

Finally, students will be matched with experts —professional energy managers who will serve as mentors and coach along this process. The Impact Centre will then allow participating classes across Alberta and the rest of Canada to showcase their action projects and celebrate their achievements.



Energy Revealed benefits...

GreenLearning conducted a scan of organizations and agencies in Canada who are providing energy efficiency education materials and services (K-12), as well as a selective summary of online energy education materials (grades 7-12) relating to energy efficiency and electrical energy efficiency; calculating cost-benefit and paybacks of energy efficient retrofit projects and measurement and quantification of GHG reductions from energy efficiency. There are few programs that support educators to work with students through practical education experiences to become tomorrow's energy managers, creating opportunity for this project. The Energy Revealed project fills a real gap in addressing energy literacy at the secondary level, and creates an enormous opportunity to shape the future by engaging today's youth.

Energy Revealed will help students...

- Engage in collaborative, expert, and relevant project-based learning;
- Demonstrate leadership as they take positive hopeful action to help the environment;
- Contribute a valuable voice for innovation, creativity and solutions relating to energy consumption;
- Obtain skills and experience relevant to new careers for the 21st century economy;
- Contribute to measurable actions on climate change;
- Build skills and competencies as defined by Alberta Education in its 2013 Ministerial Order: "think critically; identify and solve complex problems; innovate; work cooperatively; and demonstrate global and cultural understanding."

Energy Revealed will help schools...

- Reduce their utility bills and associated costs of the provincial Carbon Levy;
- Demonstrate their contribution to provincial and national sustainability goals;
- Deliver more efficiency gains with less reliance on expensive consultants and auditors;
- Develop leaders and entrepreneurs who are at the forefront of future innovation;
- Deliver on educational goals and contribute to lowering energy costs for communities.

Energy Revealed will help the environment...

- Through effective and meaningful greenhouse gas emissions reductions that are measurable and verifiable, both from behaviour changes and technology retrofits;
- Responsibly develop and conserve Canada's natural resources;
- Through low carbon innovation solutions that enhance economic prosperity and environmental health.

UL Innovative Education Award

GreenLearning is very excited to have won a \$25,000 UL Innovative Education Award that was presented to Re-Energy, which inspires and engages youth as the innovators and architects of a green energy future.



Re-Energy engages youth in learning by discovery about renewable energy technologies. The program features a suite of four modules, each one focused on harnessing a different kind of renewable energy—solar, wind, water and biogas. Together, the modules educate youth about

renewable energy technologies by enabling them to build working models of a solar oven, a wind turbine, a hydro generator and a biogas generator.

Many organizations applied for the UL Innovative Education Award, but only five programs were selected to win - including GreenLearning. Each one demonstrated innovation in the tackling real environmental problems with the use of e-learning in STEM education. In order to win, organizations needed to meet the key priorities of having a focus on e-STEM, environment, engineering, innovation, replicability and scalability and finally, audience reach.

The winners were also given opportunities to travel, network and collaborate with both their peers and the UL employees at conferences in Brookfield, Chicago and through on-going communication for one year. This experience has afforded GreenLearning a chance to learn about effective ways of promoting the program and enhancing both outreach and engagement within our community of teachers and students. The UL Innovative Education Award has added credibility to our organization and opened up opportunities for more stable funding, which will continue to have benefits long into the future.

“Based in fossil fuel focused Alberta, we consider Re Energy to be a very brave, innovative program that engages youth with sustainable sources of energy. Their creative approach to E-STEM comes through a hands-on exploration of renewable energy where their students are able to see concrete application of science and technology for some of today’s most important environmental issues. We think they are doing exemplary work in using E-STEM as an entry point to environmental literacy. We love the annual solar oven challenge, and the way it promotes teamwork, creativity, and experimentation (and yummy treats!). We’re impressed by the ways that the program is both challenging students and teaching them to enjoy the tough work of building working models. Through encouraging the use of everyday materials in the student challenges, it provides an innovative and highly accessible platform to guide a new generation toward sustainable ways of living and thriving. We also appreciate the scalable nature of Re Energy’s work—many educators can use these materials in Alberta and beyond.”

People for Energy & Environmental Literacy (PEEL)

PEEL works to equip today's educators with the science, teaching tools and support they need to ensure Alberta students are fluent in climate change science, clean energy technologies, and sustainability principles.



The PEEL project was developed and piloted in 2015 by two teachers and an industry expert. This team desired to develop student understanding of current energy and environmental trends in Alberta through a collaborative approach and interaction with experts in the field. Working with grade four students over a full school year, over 25 different organizations and individuals collaborated on the project through campus visits, an outdoor classroom and off campus field trips.

PEEL provided students with the understanding, knowledge, and key

concepts to conduct an energy audit, make practical changes in their school and within their circles of influence. Students considered different forms of energy through the lens of maintaining balance of the triple bottom line: people, the environment and the economy.

The team of teachers and experts who created PEEL, are pleased to provide training and curriculum ready lesson plans that enable teachers to bring the best of PEEL to their specific classroom context. PEEL lessons are globally aware, Alberta focused and personally empowering. In addition to training, PEEL provides ongoing

support to educators tackling climate change education in their classrooms. Free support is available online, by phone, or in person from PEEL trainers.

In 2017-2018, PEEL has trained approximately 70 teachers through in-school, teacher convention sessions and other professional development venues, as well as 15 University of Calgary Faculty of Education students. PEEL has engaged with numerous other like organizations in an effort to strengthen each program's impact. PEEL is available online at www.teachpeel.ca and on Twitter @teachpeel.

Tracking Our Impacts: The Statistics

ClimateAction150 Stats



Distributed a newsletter to over

**9,000
EDUCATORS**

across Canada



600
students



44
teachers



21
schools



25
Classes



**OVER 50 STUDENT
ACTION PROJECTS**

17 of which are highlighted in the Student Report,
and are profiled on www.climateaction150.ca



#CLIMATE150

hashtag resulting in
1,184 tweets with 538,800 reach
& 4.2 million impressions.



Final report prepared by a selection of

**10 STUDENT
LEADERS**

during the Writer's Weekend



TRAININGS FEATURED

10 student training webinars for 125 student leaders and six virtual seminars between students and experts with two seminars for connecting indigenous youth to classrooms across Canada via Connected North

Tracking Our Impacts: The Statistics

Lending a Hand Stats



OVER 500
youth engaged (and counting)



New program based on a survey of
300 EDUCATORS



Funds raised were lent to
OVER 40
ENTREPRENEURS
in developing countries around the world



OVER \$12,800
*raised by students in small loans
(\$25-\$50) matched by Servus Credit Union*

Statement of Operations

REVENUE	2017	2016
Grants	\$332,707	\$229,923
Individual Donations	\$5,460	\$10,992
Interest	\$20	-
Tuition Fees	-	\$75,478
	\$338,187	\$316,393

EXPENSES	2017	2016
Contractor & Services	\$128,758	\$188,926
Wages & Wage Costs	\$128,189	\$36,848
Travel	\$14,728	\$39,828
Amortization	\$13,409	\$8,746
Computer Support	\$11,804	\$16,845
Rent	\$7,670	-
Office	\$5,767	\$3,722
Professional Fees	\$3,850	\$3,600
Unrecoverable GST	\$3,197	\$5,469
Insurance	\$2,562	\$2,757
Project Materials & Supplies	\$2,511	\$7,769
Advertising	\$1,245	-
Interest & Bank Charges	\$182	\$162
	\$323,872	\$314,672

Thank you to GreenLearning's Supporters and Partners!

GreenLearning would like to thank the numerous organizations and individuals that have made our online programs for youth possible through in-kind donations and other types of support.

FUNDERS AND SUPPORTERS

- Borealis Foundation
- Catherine Donnelly Foundation
- Cenovus
- Conoco Phillips
- Columbia Basin Trust
- Community Environmental Action Program/Province of Alberta
- Environment and Climate Change Canada
- Intact Centre for Climate Adaptation/University of Waterloo
- Intact Foundation
- Pembina Foundation
- Pembina Institute
- Servus Credit Union
- Suncor Energy Foundation
- Chisholm Thomson Foundation
- Underwriters' Laboratories Inc. (UL)
- United Nations Association of Canada (GreenCorps program)
- University of Victoria School of Environmental Studies
- Victoria Foundation

EDUCATION PARTNERS

GreenLearning works with school boards and schools to develop and implement programs, including:

- Toronto District School Board, on student inquiries into climate change in the GTA, and on teacher training
- Manitoba Department of Education, to identify and address a gap in climate change education
- Edmonton Public Schools, to develop and implement a service-learning project on green microfinancing
- Other school boards, to develop new courses and new inquiries based on our Climate Change Where I Live (CCWIL) program

COMMUNITY AND NGO PARTNERS

- EcoSpark
- TakingITGlobal
- Centre for Global Education
- Alberta Council for Environmental Education
- Sustainability in Education Policy Network
- Toronto and Region Conservation Authority
- People for Energy and Environmental Literacy (PEEL)

Contact GreenLearning Canada Foundation

General Email:
info@greenlearning.ca

Address:
P.O. Box 7019
Drayton Valley, AB
T7A 1S3

Ontario Office:
79 Joseph Street
Kitchener, ON
N2G 1J2