



Climate Change Showdown 2011/12 Final Report-City of Terrace

By: Renate Sitch, Program Manager

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Thanks to the generous support of \$2800 from The City of Terrace the BCSEA was able to deliver 9 Climate Change Showdown (CCS) workshops to elementary schools in the City during the 2011/12 school year. The City funded 7 workshops and our private supporters funded 2. This funding also attracted vital support from other funders.

The CCS program took a fun-filled 90-minute workshop into the classroom to educate students on climate change and energy conservation. Grade 4 to 7 students and their teachers were engaged with a story telling adventure traveling to the future in a time machine to imagine a positive green future that they are involved in creating, followed by a 20-minute animated video and playing the BCSEA-designed climate change quiz show and skits. After learning about climate change and brainstorming how they can reduce their own impact, the students took home the Climate Change Showdown Contest and worked with their parents for four weeks to reduce their greenhouse gas emissions (GHGs).

Results

The BCSEA delivered **230** Climate Change Showdown workshops to **6073** students in schools in B.C. from November 2011 to May 2012 as follows:

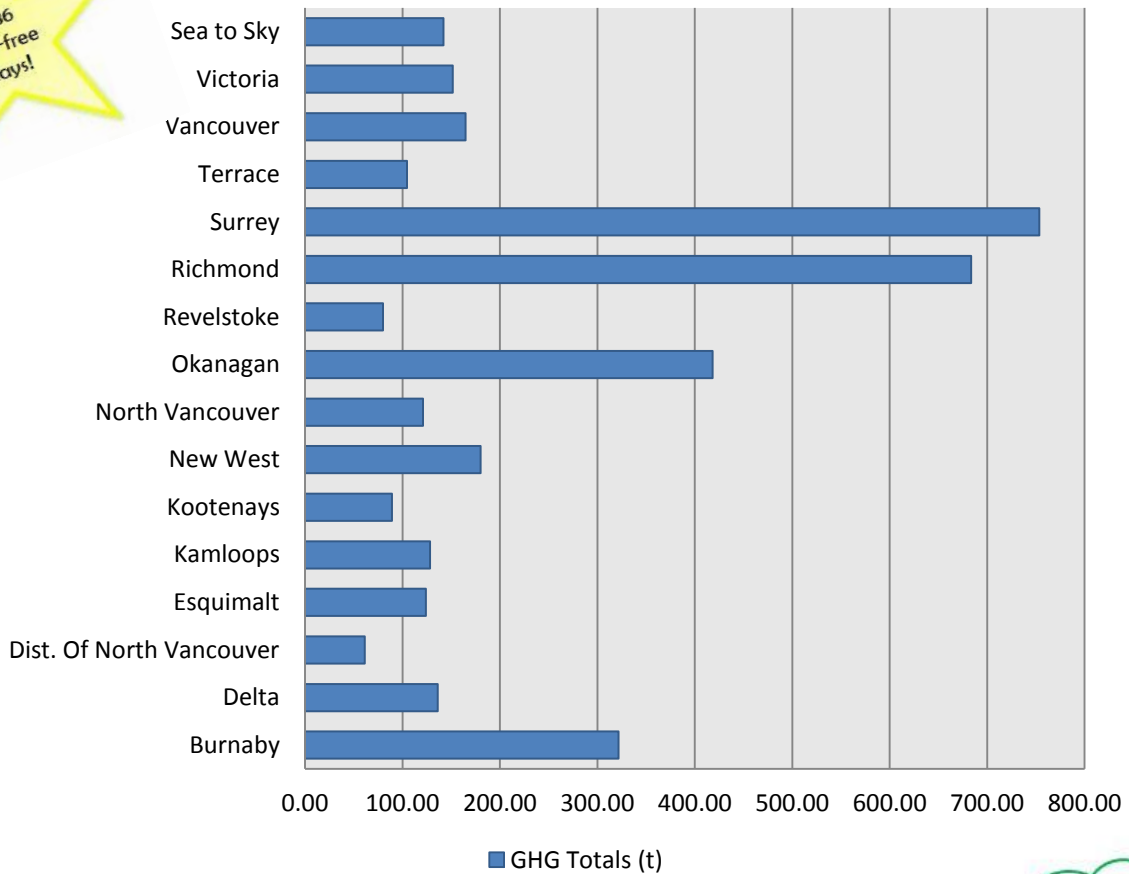
CCS 2011/12 City/Region	# of Workshops	# Students that Received Workshops	Estimated GHG's (tonnes)
Burnaby	15	436	322
Delta	11	294	136
Dist. Of North Vancouver	3	82	61
Esquimalt	8	227	124
Kamloops	7	191	128
Kootenays	6	161	89
New West	8	213	180
North Vancouver	13	329	121
Okanagan	24	633	418
Revelstoke	8	171	80
Richmond	48	1300	684
Surrey	41	1054	754
Terrace	9	247	105
Vancouver	7	171	165
Victoria	10	244	152
Sea to Sky	12	320	142
Totals	230	6073	3662



Climate Change Showdown Totals 2011-2012:



GHG Totals (t)



Wow- 1151
homegrown
vegetables!



8675 Appliances
turned off & 939
Power Bars used!!



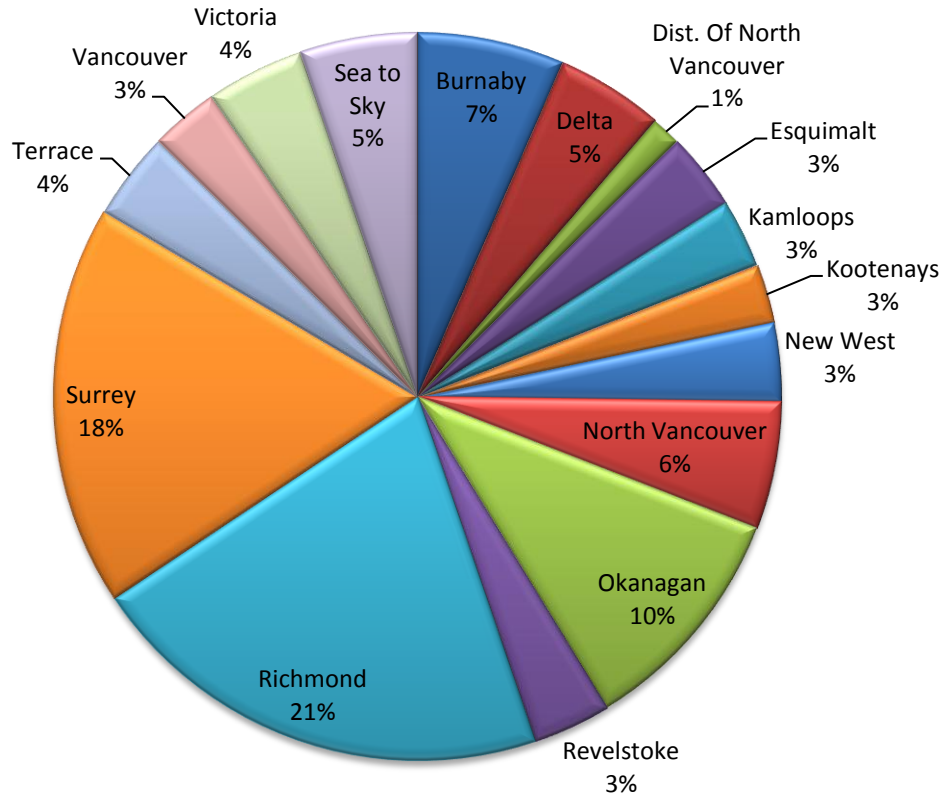
2908 Eco-
friendly products
purchased!



****For more details on contest action #'s see Appendix A.**



of Workshops 11/12



Comparison of Results

Annual Totals	# of Workshops	# of Students that Received Workshops	Contest Return Rate	% Classes Returning Contests	Contest GHGs (t)	GHGs surveys (t)	Total GHGs saved (t)	GHGs saved (t/student)	GHGs Saved (t/contest participant)
2011/12	230	6073	48.8%	90%	3661.71	N/A	3661.71	0.60	1.23
2010/11	298	7650	29.9%	62%	3955.75	N/A	3955.8	0.52	1.73
2009/10	340	9414	31.5%	63%	5070.00	2324	7394	0.78	N/A
2008/09	609	14,665	23.7%	53%	3944.00	7238	11230	0.77	N/A
2007/08	555	14002	20.8%	N/A	N/A	N/A	9815.2	0.70	N/A
2006/07	77	2,000	N/A	N/A	N/A	N/A	1150	0.58	N/A
Program Totals	2109	53804			16631.46		37207	0.66	



Terrace funded workshops:

In the City of Terrace 9 workshops were delivered to 247 Students saving an estimated 105 tonnes of Greenhouse Gases from the atmosphere. Over 8 students and their families participated in the “Do your Part” (start recycling at depot) during the take-home contest. The winner of this year’s contest was determined by total percentage of contest points possible based on the class size. The winning class this year was Ms. Judy Koven’s Grade 7 class at Uplands Elementary. Mr. Koven’s class was able to save an estimated 38 tonnes of GHG’s. The winning class was awarded an in-class pizza party and visited a City Council meeting to be awarded by the mayor and council.

There were also 15 top students who were able to score over 3000 points on the contest. These students were all awarded and presented with certificates.

This year we were able to see an increase in contest returns in from 29% last year, to 49% this year. Instead of having teachers mail the contests back we collected them directly from schools. This created more accountability with the teachers and students, and allowed us to visit some classrooms to follow-up with the actions and gather feedback from students as to what they did at home to participate with their families. Next year we will be changing the format for all workshops to include this format given the success of our trial this year.

Terrace-Climate Change Workshops			
School Name	Teacher Name	Grade	GHG's
L'Ecole Mountainview	Mr. Gary Peden	6/7	14.22
Centennial Christian	Ms. Kelsey Horlings	6/7	7.75
L'Ecole Mountainview	Mrs. Maxine Champion	5/6	17.10
Cassie Hall	Ms. Kelly Scott	6/7	0.13
Cassie Hall	Mr. Roy Vick	4/5	0.88
Uplands	Ms. Judy Koven	7	38.16
Uplands	Mr. Edward Gray	3/4	8.91
Uplands	Ms. Heidi Siebring	4/5	10.86
Uplands	Mr. Dhaliwal	5	6.69
Total GHG's			104.71

Congratulations: Ms. Judy Koven’s Grade 7 Class at Uplands Elementary-Climate Change Superheroes!!



Measuring Green House Gas Reductions

The program estimates GHG savings resulting from contest forms* and the actions within using a GHG calculator tool. For each activity it is assumed that a given saving will result from that activity over the period of the contest. It is then assumed that the students newly learned behaviour will continue for the year. Savings are measured in kWh of electricity and gas, litres of water, km traveled by car and so forth. The resulting GHG savings are calculated using emissions factors for electricity produced in BC (BC Hydro) and standard emissions factors for natural gas, and gasoline.

The GHG calculator tool was updated for the 2011-12 school year. In previous years, emissions savings per action were borrowed from the federal government's One Tonne Challenge (2004). As the Challenge had not been revamped recently we choose to review the emissions savings for each action in house, resulting in a more detailed and transparent calculator.

We applied a BC relevant emissions factor to electricity data, which is lower than the Canadian average that was used by the One Tonne Challenge. Therefore, emissions savings from reduced electricity use are now lower on the contest. Some other actions have slightly higher savings but overall the total savings are less. The core actions now save 2.7 tonnes GHGs compared to 3.3 tonnes last year. The newly added "additional" actions are worth 0.6 tonnes (making a total possible saving of 3.33 tonnes on this year's contest).

Other new features of the GHG calculator include the ability to measure savings per replaced light bulb, rather than assuming a bulk number of light bulbs is replaced by each student completing the action. The latest data for eating meat free meals is taken from the Environmental Working Group's Meat Eaters Guide (2012). Gasoline savings were estimated using the 2009 Canadian Vehicle Survey. Other sources included guides produced by BC Hydro and Fortis BC, the Capitol Regional District and the One Tonne Challenge.

* **Contest Forms:** this measurement tool is an action-based contest that awarded points to students who completed actions related to saving energy, water, fuel, reducing waste, eating locally, and trying meat free meals over a four week period (as verified by their parent's signatures).

Contest Actions and GHG Savings

The overall provincial contest participation rate was 48.8%. The percentage of classes that returned some contests was 90%. From a greenhouse gas perspective, the program reduced GHG emissions by over an estimated 3661.7 tonnes, the equivalent of taking 651 cars off the road for a year, the use of electricity for 414 homes for a year, and the equivalent of carbon sequestration of 708 acres of pine or forests.

To engage the students, there was space to write or draw their own GHG saving ideas; 1070 ideas were submitted and the best ideas will be posted to our Facebook page or can be seen below. (See Appendix B)



Rewarding Showdown Participants

For the winning classes that achieved the highest average of GHG's in each region a Pizza Party was organized and sourced from locally owned businesses were feasible. Additional prizes and certificates for **346 top students** provincially and **15 in the City of Terrace**, prizes included: a tour for 4 at Grouse Mountain, 2 Casio solar watches, Green Science toys, Solar Keychain flashlights, recycled aluminum carabineers, various books related to climate change, Grow your own food kits/pods, re-usable bags, seed packets and various regional donated prizes and gift certificates. Over 230 Teachers (9 in Terrace) played a key part in motivating students and those with high class participation rates (**134 provincially, 2 in Terrace**) received thank-you cards and incentive prizes.

Looking Forward

With six successful years of the Climate Change Showdown, we are happy with our success and grateful for the funding from our supporters who have made it all possible. In an effort to ensure future success and growth the program staff and advisory committee hosted a strategic planning session on July 6th, 2011, to assess the program and prioritize some needed enhancements for the short and long term. Much of the feedback collected from stakeholders was taken into consideration while formatting this year's program format and materials. Due to these changes we have been able to **increase our return rates** from 29% to 48% for participating students and from 62% to 90% per class!

The introduction of a follow-up visit to the classrooms to collect contests and recognize the students hard work as well as to ensure accountability with teachers is likely a major reason for this. We piloted the follow-up visit in most regions and, given our results, we intend to role this out to all regions next year.

We are very excited to be continuously redeveloping the program and will continue to schedule time and resources for future improvements.

Challenges:

Although we were able to increase our program results this year - we had to work for it! With the BC Teacher's strike ongoing throughout the year we had some difficulties communicating with teachers to book workshops and had to be more aggressive in our efforts. Also, due to some funding cuts as compared to last year we delivered approximately 70 less workshops in BC.



Recognition of Terrace's Support

The City of Terrace was acknowledged for their support of the Climate Change Showdown as follows:

- The City of Terrace was featured as a funder on the Climate Change Contest form taken home by students
- A City of Terrace logo (hyperlink to The City of Terrace website) and name on the sponsor's page of BCSEA website (www.bcsea.org/ccshowdown)
- Students were directed to drop off recycling at a local depot as part of a contest action on the contest form
- Presenters were instructed to acknowledge The City of Terrace during workshops

The BCSEA would like to thank The City of Terrace for its partnership in achieving the shared goals of increasing awareness and making real behaviour change possible in relation to energy conservation and GHG reduction among students and their families in BC.

Thank-you, we look forward to 2012/13 and beyond!

Renate Sitch
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Appendix A-Summary of number of students completing Contest Actions

Contest Actions	Total students completing this action
Light bulbs (Number of CFL light bulbs fitted)	14012
Bonus-shower (Number of low Flow shower heads fitted)	721
Car Free Day (number of car-free journeys)	6786
Go Bio (number of biodegradable products purchased)	2908
Footprint (calculate family's ecological footprint)	1051
Turn It Off (number times electrical appliances turned off)	8675
Tire Trick (number people who checked tire pressure)	654
Local Food (number of meals)	1402
Grow your own (number of new vegetable plants grown)	1151
Idle Free (ask parents not to idle)	4904
Cool Clothes (number of people started washing on cold)	1255
Be Cool (number of students who turned the thermostat down)	1763
Meat Free (number of times students had a meat-free day)	5209
Bc Hydro Fortis (number people who visited these sights)	2650
Compost (number new bins)	449
Bye-bye Standby (number power bars purchased and used)	939
Curtains closed (number of nights if not all month)	3030
Curtains closed (number students closed curtains all month)	912
Wood Stove (number students researched efficient fires)	426
Energy Saving Ideas (number of students with an idea)	1070



Appendix B-"Your Turn" Student contributions:

YOUR TURN 100 PTS!

Come up with your own energy saving or eco-friendly idea. Write/draw about your idea in the space. We'll put the best ones on our website to share with others plus you have a chance to win a prize!

bucket recycled plastic wind turbine Power light bulb

YOUR TURN 100 PTS!

Come up with your own energy saving or eco-friendly idea. Write/draw about your idea in the space. We'll put the best ones on our website to share with others plus you have a chance to win a prize!

This is a eco friendly car. instead of gas it uses water & old garbage and the fumes don't pollute the work

YOUR TURN 100 PTS!

Come up with your own energy saving or eco-friendly idea. Write/draw about your idea in the space. We'll put the best ones on our website to share with others plus you have a chance to win a prize!

Theres a string connected to the pedals of the bike which is connected to the light bulbs wires.

YOUR TURN 100 PTS!

Come up with your own energy saving or eco-friendly idea. Write/draw about your idea in the space. We'll put the best ones on our website to share with others plus you have a chance to win a prize!

What if there were pedals under drains that ~~there~~ produced hydroelectricity.

YOUR TURN 100 PTS!

Come up with your own energy saving or eco-friendly idea. Write/draw about your idea in the space. We'll put the best ones on our website to share with others plus you have a chance to win a prize!

A garbage powered robot

YOUR TURN 100 PTS!

Come up with your own energy saving or eco-friendly idea. Write/draw about your idea in the space. We'll put the best ones on our website to share with others plus you have a chance to win a prize!

*Use a rain barrel to catch water for your garden.

YOUR TURN 100 PTS!

Come up with your own energy saving or eco-friendly idea. Write/draw about your idea in the space. We'll put the best ones on our website to share with others plus you have a chance to win a prize!

YOUR TURN 100 PTS!

Come up with your own energy saving or eco-friendly idea. Write/draw about your idea in the space. We'll put the best ones on our website to share with others plus you have a chance to win a prize!

ski x school

YOUR TURN 100 PTS!

Come up with your own energy saving or eco-friendly idea. Write/draw about your idea in the space. We'll put the best ones on our website to share with others plus you have a chance to win a prize!

Moon Power Panels just like solar panels but works at night

YOUR TURN 100 PTS!

Come up with your own energy saving or eco-friendly idea. Write/draw about your idea in the space. We'll put the best ones on our website to share with others plus you have a chance to win a prize!

My idea is to have a wind turbine device on the back of a truck which will make energy and power your car.

YOUR TURN 100 PTS!

Come up with your own energy saving or eco-friendly idea. Write/draw about your idea in the space. We'll put the best ones on our website to share with others plus you have a chance to win a prize!

YOUR TURN 100 PTS!

Come up with your own energy saving or eco-friendly idea. Write/draw about your idea in the space. We'll put the best ones on our website to share with others plus you have a chance to win a prize!

Solar Panel car

YOUR TURN 100 PTS!

Come up with your own energy saving or eco-friendly idea. Write/draw about your idea in the space. We'll put the best ones on our website to share with others plus you have a chance to win a prize!

Hang clothes instead of using the dryer

YOUR TURN 100 PTS!

Come up with your own energy saving or eco-friendly idea. Write/draw about your idea in the space. We'll put the best ones on our website to share with others plus you have a chance to win a prize!

Solar Power car to save gas and power