



# Energy & Climate Innovations Summer Institute



## Program Themes

- **ALBERTA'S CLIMATE CHANGE ACTION PLAN**
- **OILSANDS RESEARCH AND DEVELOPMENT**
- **CARBON CAPTURE AND STORAGE**
- **ENERGY INNOVATION: BIG IDEAS AND BIG PROJECTS**
- **THE ROLE OF RENEWABLES**
- **SCHOOL-BASED CLIMATE INITIATIVES**

## Edmonton - Halkirk - Lacombe July 5-8, 2016

Inside Education was lucky to celebrate our 25th summer teacher professional development program with an incredible group of dedicated and enthusiastic teachers from across Alberta! The Energy and Climate Innovations program was designed to showcase how the private, public and academic sectors are creating exciting technical innovations to address the complex challenges brought by climate change and greenhouse gas emissions.

The 27 teacher participants met with experts and participated in eye-opening tours, including the University of Alberta's Institute for Oil Sands Innovation, NAIT's Alternative Energy Lab, the Shell Quest Carbon Capture and Storage Project, Enerkem Alberta's Biofuel facility, and Capital Power's wind farm in Halkirk. The many success of this program reflect a growing interest in Alberta's energy and climate future. The dedication of the teachers along with the eagerness of the tour hosts, expert guests and program partners signals a united effort to empower Alberta's young people with current, accurate and meaningful energy and climate education.

## THE PROGRAM

Over the course of three days, teachers uncovered the important work being done in academic labs, private companies, and small-scale start ups to advance Alberta as a leader in climate innovation.

Our program brought current, relevant and meaningful context to the classroom and will inspire the next generation of stewards by:

**EXPLORING** current and best practices in the energy sector.

**DISCOVERING** new and developing technologies aimed at mitigating and preventing climate change.

**PARTICIPATING** in on-the-ground experiences and opportunities to ask questions directly to experts in the energy sector.

**CONNECTING** teachers and sector stakeholders.

**INSPIRING** thoughtful and creative discussion on Alberta's climate future.

### Day 1: Inspiration

- Alberta's Climate Change Strategy - Karen Young, *Alberta Climate Change Office*
- University of Alberta Institute for Oil Sands Innovation Tour
- Tour of the Mosaic Centre
- Keynote: Haley Todesco, *2016 Emerald Award winner - Youth*

### Day 2: Big Ideas and Big Projects

- Innovation Panel - Jason Toner, *Alberta Energy*; Dr. Brett Purdy, *Alberta Innovates*, David Dodge, *Green Energy Futures*
- Access to Energy & Classroom Connections - *Inside Education*
- Tour of Shell's Scotford facility and Quest Carbon Capture and Storage Project
- Tour of Field Upgrading's De-sulphurization and Upgrading test facility - Western Hydrogen

### Day 3: The Role of Renewables

- Overview of Renewables in Alberta by *BluEarth Renewables*
- Tour of NAIT's Alternative Energy Technology laboratory
- Tour of Enkern Alberta Biofuels facility
- Tour of Capital Power's Halkirk wind facility

### Day 4: Beyond the Blue Bin - Climate in the Classroom

- Tour of Lacombe Composite High School's award-winning EcoVision Club projects
- Education Workshop featuring Little Green Thumbs, Canadian Geographic Energy Floor Map, and Inside Education





## THE PARTICIPANTS

Gregor Campbell, *St. Margaret's School, Victoria, BC*

Jay Doolittle, *St Mary's School, Taber, AB*

Jaycee Doolittle, *Magrath Elementary School, Magrath, AB*

Shelley Dyrland, *West Country Outreach, Rimbey, AB*

Elana Fedorak, *École Mountain View School, Hinton, AB*

Kaaren Finlay, *Langevin School, Calgary, AB*

Joann Gallucci, *Calgary Board of Education, Calgary, AB*

Susan Giesbrecht, *Roland Michener Secondary School, Slave Lake, AB*

Abi Henneberry, *Keenooshayo Elementary School, St. Alberta, AB*

Paula Huddy, *St Joseph School, Calgary, AB*

Eric Hugill, *Brooks Junior High School, Brooks, AB*

Kim Hula-Hetu, *W.P. Wagner School, Edmonton, AB*

Laura Loria, *St Joseph School, Calgary, AB*

Amanda Milot, *St Joseph's Collegiate, Brooks, AB*

Leith Monaghan, *Calgary Girls School, Calgary, AB*

Roger Moore, *NorQuest College & University, Edmonton, AB*

Leanne Pretula, *Fox Creek School, Fox Creek, AB*

Shelby Primmatt, *Seven Oaks Adult Learning Centre, Winnipeg, MB*

Susan Reynolds, *Hughenden Public School, Hughenden, AB*

Jacinth Salmon-Brissett, *Calgary Board of Education, Calgary, AB*

Margo Savage, *Crossing Park School, Calgary, AB*

Cathy Schneider, *Mary Butterworth School, Edmonton, AB*

Penny Stone, *St. Joseph School, Calgary, AB*

Mark Turner, *George McDougall High School, Airdrie, AB*

Charles Walker, *Crescent Heights High School, Calgary, AB*

Corinne Webb, *Simons Valley School, Calgary, AB*





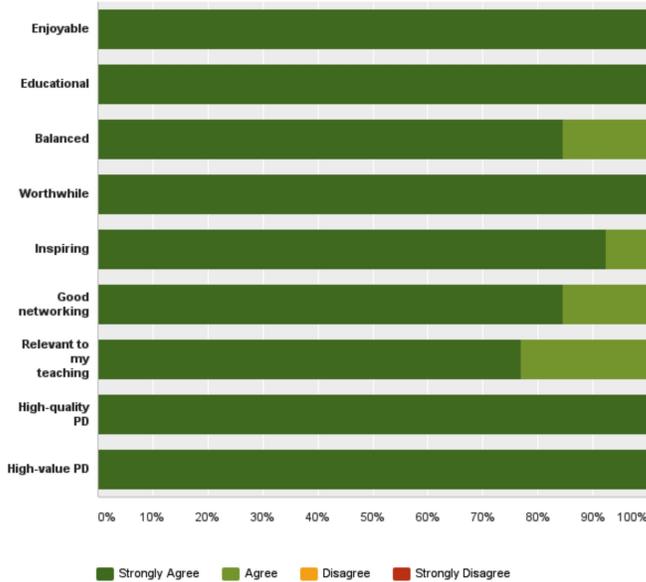
## IMPACT & FEEDBACK

*"There are many opportunities to take off on 'teachable' moments that come up in class. I feel better equipped to lead more of these. Thanks!"*

- Susan Reynolds, Hughenden Public School



**In my opinion, the 2016 Energy Innovations and Climate Change Program was:**



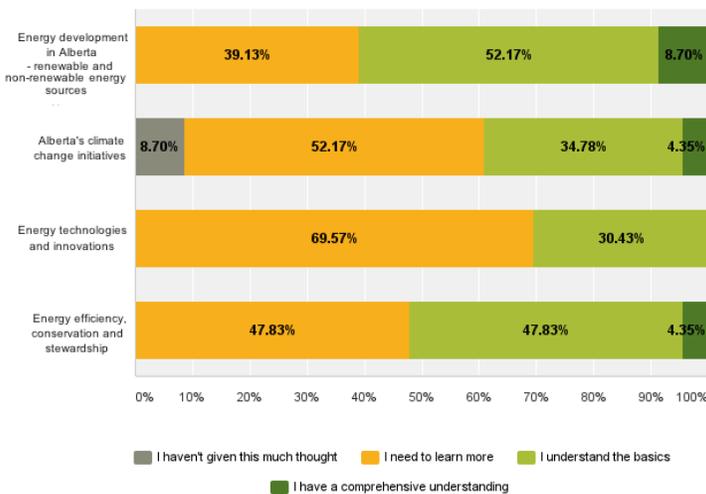
From post-survey results, first hand conversations, and letters to Inside Education, the Summer Institute was a great success! Participants were asked to complete a pre-program and a post-program survey and preliminary results were very positive.

Teachers reported a notable shift in understanding energy development, Alberta's Climate Change Strategy, energy technologies and energy efficiency. All participants noted an increase in confidence in bringing energy topics to their classrooms, and all would recommend future Inside Education PD programs to their colleagues.

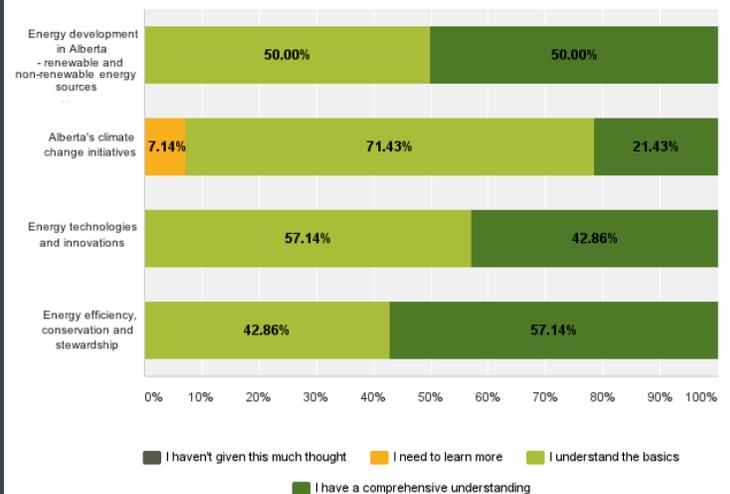
*"The past four days have dispelled many myths, opened many new questions, provided solid facts, and fed my imagination. The best learning happens in-situ, hands-on, and directed by the participants. Your program hit all the notes!"*

- Jay Doolittle, St. Mary's School

**Energy & Climate Innovations Pre-Program Survey**  
Rate your level of understanding about:



**Energy & Climate Innovations Post-Program Survey**  
Rate your level of understand about:



## CLASSROOM CONNECTIONS

Our teacher participants estimate they will bring this information to over 1400 students in the 2016-17 year!

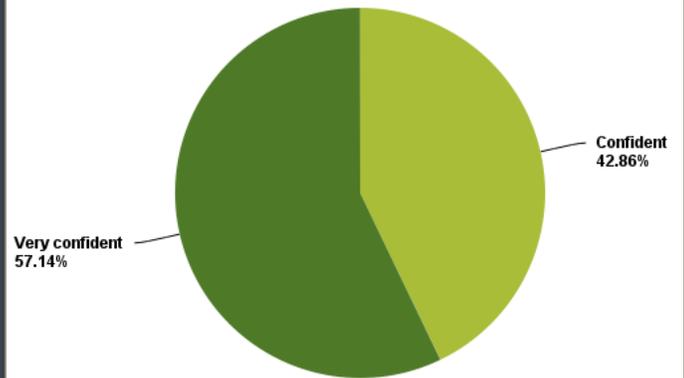
Methods include hosting mini-PD session with colleague teachers, a semester-long alternative energy project for Science 10 students, enhanced lessons plans and informed classroom discussions, and even a long term classroom project on action plans and policy analysis of energy strategies in British Columbia and Alberta.

*"I'm an optimist by nature but I have to admit I find myself struggling to honestly picture a bright future for my students. You gave me hope. I know what to do next. It will make a difference. I'll keep you posted. (Prepare to be amazed!)"*  
- Corinne Webb, Simons Valley School

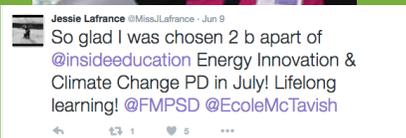
*"I hope to incorporate a trip to the NAIT Alternative Energy Lab with my bi-annual high school science field trip to Edmonton. This was an exciting stop on the trip and gave hope for the future."*  
- Susan Reynolds, Hughendon Public School

*"Up until this program there always seemed to be a fossil fuel vs. renewable fight and that supporting one hurt the other, and I feel that as a teacher I can show my students how that is not true, and that the two can both be successful and that all industries are doing what they can to combat climate change."*

After participating in the program, how confident are you in bringing energy related topics in your classroom?



- Margo Savage, Crossing Park School



## PARTICIPANT SPOTLIGHT: Taming the Beast

Summer 2016 will forever be marked by the Beast, the wildfire that raged through the Municipality of Wood Buffalo. Our summer institute was originally slated to bring teachers up to Fort McMurray, and while the wildfires caused us to reschedule and reconfigure the Summer Institute, one of our teacher participants, Jessie Lafrance, evacuating her beloved home in Fort McMurray.

Even though she wasn't certain there would be a school to go back to, Jessie wholeheartedly confirmed her participation in our program. Teachers like Jessie demonstrate the immense dedication to student learning that Inside Education aims to foster across the province.

*"Thank you for an amazing experience! Without your PD tours I would not have been granted access to such life changing and curriculum appropriate experiences...especially without shelling out tons of cash or spending days contacting people. I cannot begin to explain the value to my colleagues but I will try! I feel better equipped and knowledgable about the topics I teach on a daily basis to our future alternative energy leaders. Again, thank you greatly for allowing me to join you, can't wait to see you all up in Fort McMurray really soon!"*

- Sincerely, Jessie

## THE PARTNERS

Education opportunities like the Summer Institute would not be possible without the generous support of program partners. We would like to extend our gratitude to the our Partners for their commitment to high quality, meaningful teacher professional development. The Horse River/Fort McMurray wildfire became a major focal point for our partners, and yet they remained committed to our adjusted Summer Institute program and schedule.

Inside Education also appreciates the in-kind support provided by all of the expert guests, speakers and tour hosts who dedicated their time and enthusiasm to the program.

