



"This was hands down the best PD session I have attended in my 5 years of teaching."

Shaun Potvin



ENERGY FUTURES EDUCATION TOUR

**April 24-26,
2014**



Program Goals:

1. To learn how development of Alberta's vast energy resources is changing
2. Get a first-hand look at some of the emerging technologies around energy and electricity generation
3. Gain teaching tools and ideas to enhance energy programming in the classroom



"Thank you so much for all the time you put into this tour. It was phenomenal and it inspired me to renew my passion for teaching. This is the purpose of PD for me, and you totally achieved excellence in engaging us."

Chrissy Crebas-George, John
Wilson Elementary

PROGRAM SUMMARY

What is the future of energy in Alberta?

With this daunting question, thirteen teachers from across Alberta piled into a charter bus and headed on the *2014 Energy Futures Education Tour*.

Examining current and emerging technologies, we dared to dream of what the world might look like for our students in twenty to thirty years. Starting the tour in Calgary, a hub of the oil and gas sector in Alberta, teacher participants trekked across southern Alberta for three days exploring processes and technology designed to reduce our ecological impact and increase our energy efficiency. Conversations were sparked around the influence of the social and cultural spheres on the hard technologies used in resource development and the electricity sector. From considering the power of words in First Nations consultation to learning how a smartphone app controls a biogas plant, the future of energy in Alberta was a lightning rod for learning.



PARTICIPANTS

Gillian Buchan

Dr. Gordon Higgins School
Calgary

Chrissy Crebas-George

Ecole John Wilson Elementary School
Innisfail

Carmen Fearnley

Brownfield Community School
Brownfield

Brydie Fee

Nickle School
Calgary

Jaycee Doolittle

Substitute Teacher
Taber

Mandi Dushanek

Byemoor School
Stettler

Bani Gour

Foothills Academy School
Calgary

Kirsty Hansen

Substitute Teacher
Lethbridge

Paul Oberhauser

St. Gregory School
Calgary

Shaun Potvin

Our Lady Queen of Peace
Airdrie

Delia Reitsma

Wolf Creek School Division
Blackfalds

Dan Reitsma

Glendale Sciences and Technology School
Blackfalds

Mike Tyler

Woodman School
Calgary



13 participant teachers from
8 different communities
teaching
7 different grades
12 speakers
4 facility tours
10 stops
589 km traveled



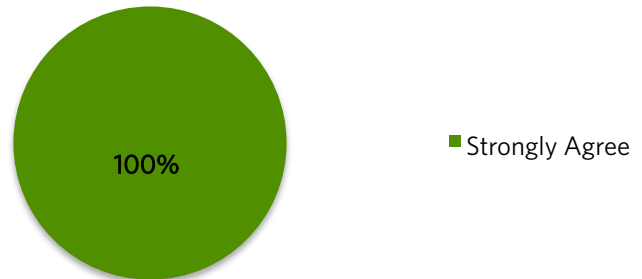
“Meeting the other participants was an experience in itself. Every educator brought their own ideas and perspectives and it felt renewing and energizing to participate in an energy discussion with so many passionate and informed individuals.”

Gillian Buchan,
Dr. Gordon Higgins School

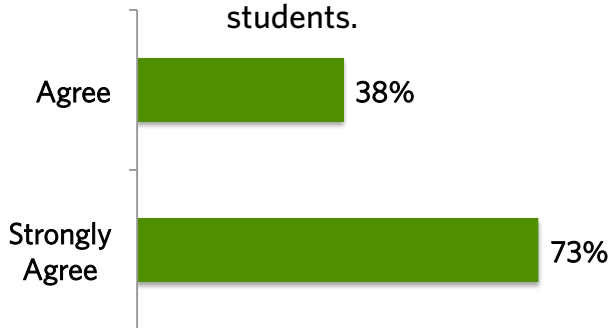
EVALUATION

Inside Education continually strives to improve our education programming. Using several different methodologies, we gather both quantitative and qualitative feedback from our participants. Without a doubt, we can confidently proclaim the Energy Futures Education Tour a success! Resounding positive feedback from participants demonstrated that the program met its objectives. A highlight of our results was that 100% of participants would strongly recommend Inside Education professional development programs to their colleagues.

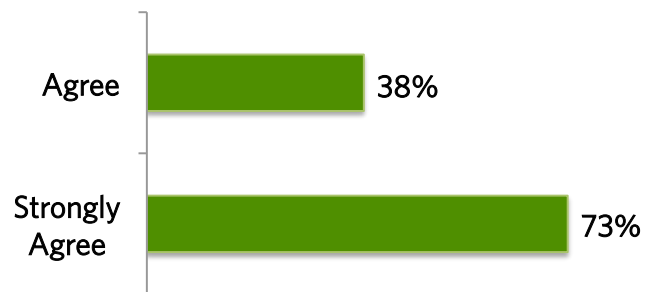
I would recommend an Inside Education Professional Development Tour to my colleagues.



This education tour will enhance my teaching and help me to provide informative, accurate, and high-quality learning experiences for my students.



This education program increased my understanding of the current context of energy development and electricity generation in Alberta.



"The educational opportunities always include a broad perspective of speakers and things to see. The tour, the speakers were well versed and presented an organized yet diverse approach to future energy concerns."

Mike Tyler, Woodman School

PROGRAM PARTNERS

Our program partners opened their doors, rearranged their schedules, and dreamed big in order to make this program a success! Thank you to all of the organizations that provided speakers, hosted facility tours and provided resources for the *2014 Energy Futures Education Program*.

The time and support allowed us to offer a truly valuable professional development opportunity for teachers across Alberta.

A special thank you to the partners who provided the financial support that made this program possible:





"I especially appreciated seeing some of the cutting-edge technologies because information isn't always readily available. I am excited to bring it back to my kids."

Brydie Fee,
Nickle School

"It was great to discuss renewable resources at the base of a wind turbine, talk about new ways to turn waste into energy at the new biogas plant and challenge development practices at an energy efficient home. Being here and experiencing first hand makes all the difference."

Gillian Buchan, Dr. Gordon Higgins School



"There is still so much I want to learn. I feel "renewed" myself and excited to take all this information to my students and school."

Bani Gour,
Foothills Academy School



"Keep up the great work at inspiring teachers to then inspire students. Your work will be far-reaching."

Dan Reitsma,
Glendale Sciences and Technology School



APPENDIX: DETAILED PROGRAM

Energy Futures Tour April 24-26, 2014

Thursday, April 24th

What you need for the day:

- camera
- notebook and writing utensil (optional)
- closed-toe shoes

Welcome Breakfast and Registration

COAST PLAZA HOTEL CALGARY (7:45 AM)

Introductions

Get ready for a fun introduction to Inside Education, the program, and each other! We hope to SPARK your curiosity for the program and provide the information and context you need to make the most of our ENERGI^{ZING} PD tour.

Facilitator: **Inside Education**

Energy 101

Meet Jason, a fun and enthusiastic instructor from the Department of Physics & Astronomy here specifically to introduce us to the important issues and facts around energy in Alberta...and what to expect in the future.

Presenter: **Jason Donev, University of Calgary**

MEET OUR TRUSTY COACH BUS AND HEAD TO THE ENMAX DISTRICT ENERGY CENTRE IN DOWNTOWN CALGARY.

Smart Energy Systems

In order to reduce our greenhouse gas emissions, we know we need to get smarter about our energy consumption and coordinating our energy systems. Find out what a Smart Energy Community looks like and meet some of the folks working to ensure that, in the future, every Canadian community is a Smart Energy Community.

Presenter: **Simon Knight, C3**

HANDS-ON TOUR: ENMAX District Energy Centre

Combined Heat and Power, or cogeneration, is a way to use the heat traditionally lost in the production of electricity via natural gas. Learn how ENMAX is trapping their waste heat and using it to heat other buildings in the downtown core using district energy. We'll get a behind-the-scenes tour of this Smart Energy System.

Presenter: **Patrick Bohan, ENMAX**

EXPERIENCE THE JOYS OF RIDESHARE AS WE TRAVEL ON OUR BUS TO THE CALGARY ZOO FOR SAFARI LUNCH AT THE ENMAX CONSERVATORY.

Waste to Energy in Alberta

In a natural system, the needs of one part of the system can be met by the outputs of another part of the system. Find out how Alberta Energy is working to turn waste into energy using exactly that principle.

Presenter: **Charlotte Vimtrup, Sustainable Energy Branch, Alberta Energy**

Overview of Alberta's Electricity Market

Alberta's deregulated electricity market is unique to Canada. We'll find out how the market influences the natural resources we use to generate electricity, and how our individual decisions around electricity can influence the market.

Presenter: **Dan Fipke, Alberta Electricity System Operator**

HANDS-ON TOUR: ENMAX Conservatory

This beautiful building at the Calgary Zoo is more than just a nice place to have lunch; it is the first building of its kind in North America to achieve LEED® Gold Certification. As we tour the facility, see if you can spot the five alternative energy technologies used to supplement the electricity supply!

Presenter: **MMM Group**

TRAVEL TO LETHBRIDGE. THROUGHOUT OUR TRIP ON THE BUS, WE WILL HAVE NUMEROUS ARTICLES AND TALKING POINTS TO KEEP THE CONVERSATIONS ELECTRIFYING AS WE MOVE FROM POINT TO POINT ON OUR TOUR! ASK ABOUT THE BIG BLUE BINDER!

DELICIOUS DINNER AT 6:00 PM AT MOCHA CABANA, LETHBRIDGE

Friday, April 25th

What you need for the day:

- camera
- day pack
- water bottle
- dress for the weather as we will be outdoors in the afternoon (closed-toe shoes)

COMPLIMENTARY BREAKFAST SERVED IN THE BOTANICA RESTAURANT AT THE LETHBRIDGE LODGE. PLEASE MEET IN THE LOBBY AT 8:30 AM TO BOARD THE BUS. WE LEAVE THE HOTEL AT 8:40 AM.

HANDS-ON TOUR: Lethbridge Bio Gas Cogeneration facility

Alberta is one of the largest oil producing regions in the world, yet sustainable projects like the Lethbridge Bio Gas facility are bringing international attention to renewable technologies. This unique privately-owned off-farm facility uses manure and other organic wastes to produce gas and generate electricity. Hard hats will be provided!

Presenter: **Thane Hurlburt, Lethbridge Bio Gas**



TRAVEL TO THE LETHBRIDGE LODGE. MEET IN THE POPLAR 1 ROOM.

First Nations

Hard technologies are the physical stuff: those that can function without being enacted on by a person. Soft technologies are those enacted by people; be they tools or processes of citizen engagement. A challenge in the future is how we engage and involve citizens in decisions around energy. First Nations are uniquely impacted by energy development in Canada and are an essential voice in the conversation around improving soft technologies. We'll hear from a speaker who is not only a member of the Blood tribe, but who is also a Engagement and Relationships Advisor with the Government of Alberta.

Presenter: **Paulette Fox, Blood Tribe**

Alberta's Perspectives on Renewables

There are no perfect methods to process energy or create electricity; from fracking to wind turbines, each one has both negative and positive impacts on ecosystem and human health. Listen to the Pembina Institute discuss the role media plays in crafting the public's perception of renewables, as well as chat about how that perception might influence our electricity mix in the future.

Presenter: **Ben Thibault, The Pembina Institute**

HANDS-ON TOUR: Taber Wind Farm

An opportunity to tour Alberta's largest wind energy operation! Dress warm - the tour will be outside.

Host: **Paul Solkowski, ENMAX**

TRAVEL TO COALHURST.

HANDS-ON TOUR: 97 Energy Star Home

We've learned about the market, we've toured different facilities, but how does all this information translate in our daily lives? Meet the Home of the Future, a high efficiency home with an impressive 97 EnerGuide rating.

Presenter: **Dave Wolfe, Greener Homes**

DINNER TIME! TRY THE DELICIOUS FOOD AT THE OWL ACOUSTIC LOUNGE.

Saturday, April 25th

Checking out of the hotel:

With the fast track process, simply turn your room key into the front desk and load your luggage on to the bus.

COMPLIMENTARY BREAKFAST SERVED IN THE BOTANICA RESTAURANT AT THE LETHBRIDGE LODGE.

MEET AT 8:00 AM IN THE POPLAR 3 ROOM, LETHBRIDGE LODGE

Education Workshop & Wrap-up

An opportunity to reflect on what we've learned over the program, and how we can bring this new learning back to classrooms and students. We'll highlight existing programs that can help you inspire and delight your students...or at least keep them from falling asleep in class. This session will also include resource showcases, action planning, and program evaluation.

Presenter: **Inside Education**

WE LEAVE THE HOTEL AT 9:30 AM TO TRAVEL BACK TO COAST PLAZA HOTEL, CALGARY

PROGRAM FINISHED ~12:00PM

HAVE A SAFE TRIP HOME!

