

Inspiring, Hopeful, How-to, Educational Stories for Teachers

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October 19, 2018 – ATA Science/Math Session

I have travelled across Canada meeting, interviewing and learning from people who are leading the evolution to a clean energy economy. We have produced 204 documentaries as of today on the most inspiring technologies, people and projects we could find.

If you have any questions or suggestions or if you simply wish to contact me, please do so:

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Career Seekers - The New Energy Economy

[202. Brandon Sandmaier – Oilsands Mechanic to Solar Company Owner](#)

Brandon Sandmaier is one of the faces of the new energy economy. He left a six-figure job as a heavy-duty mechanic in the oil industry to study Alternative Energy at NAIT. Even before graduation, he started a company called Generate Energy.

[203. Rae-Anne Wadey – A Diesel Truck or a Career in Solar](#)

Rae-Anne Wadey grew up in Edson, Alberta and chose to study Alternative Energy in the first class offered by NAIT in 2012. She struggled to find work at first, but quickly became one of the most experienced solar installers in Alberta. She's a journeyman electrician and these days she teaches at NAIT. Faces of the New Energy Economy

[204. NAIT from the cutting edge to leaders of the energy revolution in seven short years](#)

We head back to the future to talk to Dr. Jim Sandercock, chair of the Alternative Energy Program at NAIT. This program was ahead of its time in 2012, but today is producing the leaders of the renewable energy industry.

[02. NAIT's new alternative energy program zeros in on solar, wind, geothermal and more](#)

NAIT's Alternative Energy Program is helping meet the increasing demand for professionals to design, build, install and maintain green energy systems. A two-year program, it teaches students the intricacies of solar, wind, geothermal and even fuel cell systems.

Meet the students and instructors who are helping to create the next generation of skilled green energy workers.

Energy Efficiency

[182. Top 10 Energy Efficiency Tips for the Home](#)

Green Energy Futures presents the Top 10 Energy Efficiency Tips for your home. We tag along with an EnerGuide for homes auditor and together create the ultimate list of things you can do to dramatically reduce energy use in your home.

[181. The Energy Detective](#)

When Ron Kube discovered his home was using nearly twice as much energy as the average home the energy detective was born. We can all learn from Ron's journey that led to him reducing electricity use in his home by more than half—through measures so simple they are clichés.

[185. Slow cooking lentil soup with almost no energy](#)

Ron Kube, the Energy Detective, discovers a better way to slow cook lentil soup that is five times more energy efficient than a conventional slow cooker!

Solar

[180. Solar 101 – everything you need to know](#)

Producing your own solar electricity, it's a cool idea right? But when is the right time to go solar? We talk to Ron Kube, who installed solar on his home and Clifton Lofthaug of Great Canadian Solar about everything you need to know before going solar.

Renewable Energy Myths

[135. Shining a light on solar energy myths](#)

Aren't we too far north for solar? I've heard solar doesn't work in the cold. And aren't solar modules only 15 per cent efficient? This week take an illuminating look at some pesky solar myths and help you sort myths from facts.

[133. A whirlwind tour of wind energy myths](#)

Ever hear the one about how it takes more energy to make a wind turbine than it will produce over its lifetime? This week we blow the smoke away, and delve into some of the more pernicious myths about wind energy. Bookmark this one, you'll want to use it later!

Really Cool Stories - Great for Science Teachers

Industrial Symbiosis

[187. Growing tomatoes with waste energy](#)

A greenhouse in Ontario is using waste heat from the stack of an ethanol plant to grow tomatoes and that's only the beginning of this amazing story of industrial symbiosis. Corn comes into the biorefinery and produces ethanol, industrial alcohol and corn oil and virtually all of the waste from the plant is also used as well in this virtuous cycle.

Building a net-zero energy home out of straw

[157. Straw-bale 101: A tale of two homes](#)

This is a tale of two straw-bale homes: one a standard energy efficient, environmentally friendly straw-bale home built for Nora Bumanis, the harpist for the Edmonton Symphony Orchestra; and second a net-zero, super energy efficient home built by Lance and Wendy Olson at Buffalo Lake, Alberta. See how a straw-bale home is built in our video!

50% Wind Power

[148. Summerside smart grid uses 46 per cent wind power](#)

Summerside, Prince Edward Island (PEI) replaced expensive diesel power with record amounts of wind power using a smart grid and simple energy storage in residents furnaces and hot water heaters.

Your waste food and cow pooh is producing electricity in Lethbridge

[134. Biogas: Brown waste – green power!](#)

Lethbridge Biogas takes the manure and food waste, mixes it together, heats it to 39 degrees Celsius and captures the methane to power twin 1.4-megawatt generators, producing enough power for 3,000 homes.

Amazing Green Building in Edmonton

[103. Welcome to the Mosaic Centre: Canada's biggest net-zero building](#)

Net-zero houses are almost old news here at Green Energy Futures. But a net-zero commercial building? Now that got our attention.

Alberta pulp mill (ALPAC) produces all of its own electricity with waste

[93. Big Biomass 101](#)

We head to one of the largest pulp mills in North America to check out how big biomass works up close.

The really cool story of a landscape architect who built his own super green neighbourhood in Calgary

[86. Echohaven: An environmentally friendly, energy efficient suburb](#)

Echohaven is a different kind of suburban development. It preserves natural landscapes, mandates energy efficient homes and guarantees solar access.

Your future home will produce all its own energy

[78. Chasing Net Zero: Net-zero 101](#)

The first episode of our four-part series Chasing Net-Zero. We dive into the history of net-zero homes and figure out you can build one of these comfortable, beautiful homes that also doubles as a mini-powerplant.

One guy builds EV highway across Canada

[52. Sun Country Highway](#)

Kent Rathwell, the co-founder of Sun Country Highway, a company that installs electric charging stations, drove a Tesla Roadster across Canada in the dead of winter just to prove it could be done.

[31. Biogas: Closing the loop on cow poop](#)

Cow poop isn't typically thought of as a valuable resource. But with a process called anaerobic digestion that cow poop can be turned into electricity, heat, a near odourless fertilizer and animal bedding.

[30. How it works: Run-of-river hydroelectric power](#)

More than 45 run-of-river projects have popped up in B.C. in recent years. We explore the Fitzsimmons Creek run-of-river project, a 7.5-megawatt powerplant that puts out enough juice to meet the annual demand of the Whistler Blackcomb resort.

First Nations Stories

[105. Judith Sayers, First Nations run-of-river hydro trailblazer](#)

Meet Judith Sayers, an incredible leader who got one of the first run-of-river hydro projects off the ground in B.C. that was majority owned by a First Nation.

[38. T'sou-ke First Nation goes all in on energy conservation and solar](#)

The T'Souke First Nation on Vancouver Island developed and implemented a plan that slashed 75 per cent of their energy use and installed solar PV to provide clean power. It turns out it's a lot easier to go net-zero when you drastically cut your energy use.

Education Stories

Alberta schools powered by 100% renewable energy

[151. Wind farm powers 500 Alberta schools](#)

Twenty six school districts in Alberta banded together to purchase 100 per cent renewable energy and have the Bull Creek Wind Farm, near Provost, Alberta to show for it. We talk to school trustees, the CEO of BluEarth Renewables, a farmer and a member of the Alberta Government on location at the Bull Creek Wind Farm.

Alberta students write the paper on climate change education and inspire government to put solar on schools

[150. Student white paper calls for climate change action in Alberta schools](#)

Alberta students present a white paper on Climate Leadership in Alberta Schools to the ministers of education and environment calling for climate change to be added to the curriculum and schools to become models of sustainability.

Premier Rachael Notley receives student white paper on climate change and takes it to Paris IPCC Conference

[142. Alberta students school Premier Rachel Notley on climate change](#)

This past March, students from around Alberta and beyond collaborated on a white paper that seeks to influence the future of climate change education in the province.

[118. Cochrane students install solar and get new town policy permitting renewable energy](#)

You could call it Sustainability High – since 2002 students in the Sustainable Development Committee at Cochrane High School in Alberta have raised almost \$150,000 and build more than half a dozen solar, energy efficiency and green projects around their school.

Very inspiring Grade 5 students in Chestermere, Alberta

[77. Classroom energy challenge](#)

This week we follow students at Prairie Waters school in Chestermere, Alberta to seek out and destroy energy vampires, increase energy literacy and save energy in the Classroom Energy Diet Challenge.

[22. The greenest little campus in Canada](#)

Université Sainte-Anne in Nova Scotia switched from fuel oil boilers to biomass, then added solar thermal modules to their dorms and even installed two wind turbines and are saving money on operating costs!

Inspiring Stories and Links from ACEE

- Inspiring stories at ACEE website: http://www.abcee.org/inspiring_stories
- Interactive Map Pembina's [New energy economy webpage](#)
- [Alberta Emerald Inaugural 2018 - Energy Efficiency Champion Award](#) presented by Energy Efficiency Alberta (we arranged this with Emerald through our EEA grant) - recipient Ecole McTavish LEAP – Solar Greenhouse and Community Garden Fort McMurray
- [Aurora Charter School](#) re: use of real time energy monitoring (launch of Energy Revealed in Alberta)
- [Video](#) on the [PEEL project](#)
- Youth video on ["What do Alberta students think about climate change"](#)
- Emerald Award winner ["Captain Nichola Goddard - green commuting"](#)
- Emerald Award winner 2018 - [Innovate](#)
- [Teacher Warren Lake's class](#) worked with the Arctic Institute of North America to transcribe whaling journals as a citizen science project and has been selected as [one of 25 finalists for the 2018 Governor General's History Award for Excellence in Teaching.](#)
- Climate Scientist Extraordinaire – Katherine Hayhoe – well respected scientist who knows how to communicate - <http://katharinehayhoe.com/wp2016/>
 - What is Climate Change – Cartoon – Narrated by Katherine Hayhoe - <https://www.facebook.com/earth/videos/1647869398820163/>
 - Katherine Hayhoe's YouTube lectures, webinars, short videos etc: <https://www.youtube.com/user/kathhayhoe/playlists>
 - Katherine Hayhoe's Global Weirder TV Show - <https://www.youtube.com/channel/UCi6RkdaEgRVKi3AzidF4ow>