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March 2018



Leon de Vreede, Bridgewater's Sustainability Planner, holds the Globe Climate Leadership Award in the Small Municipal Trailblazer category. Photo Credit: Andrew Rankin, Chronicle Herald

The (usually) bi-monthly Solar Nova Scotia newsletter brings you:

- Solar Nova Scotia news from the past two months;
- announcements of upcoming Solar Nova Scotia courses and events;
- links to other solar and net zero news for Nova Scotia;
- links to examples of solar energy and the changing context for solar across Canada and, as space and time permit, around the world. This includes links about the increasing urgency to limit climate change by increasing the generation of electricity from renewables, including for vehicles of all kinds. The links lead to excellent sources of information about what the rapid development and spread of solar energy could promise for Nova Scotia.

The banner for this issue recognizes the [Global Climate Leadership](#) award to

The banner for this issue recognizes the [Global Climate Leadership](#) award to Bridgewater in the Small Municipal Trailblazer category. Congratulations to both Bridgewater and to Leon de Vreede, Bridgewater's Sustainability Planner. Since de Vreede's arrival in Bridgewater ten years ago, [Bridgewater has reduced its municipal energy consumption by 23 per cent](#). Bridgewater's long-term plan is for a local energy economy that cuts greenhouse gases by 80 per cent by 2050.

**Solar Nova Scotia's AGM** will be held on Thursday, Jun 21, the Summer Solstice. "We are looking for a Stonehenge-like venue" and a wise druid to speak. Suggestions welcome! Look for further details in the newsletter at the end of May, [on our website](#), or [on our Facebook page](#).

**Solar Nova Scotia's Atlantic Solar Industry Survey** of the state of the solar industry in Atlantic Canada is proceeding apace. Information is being collected from both solar technology customers and businesses. We hope that results will be publicly available within the next three months. You can learn more about the project and find links to participate in the survey [here](#).

**Solar Nova Scotia will be at the Spring Home Show April 6 – 8.** Visit our booth there at the Halifax Exhibition Centre, 200 Prospect Road.

Members are invited to volunteer at our booth. This will give you free admission. More details from [daniel@bonmot.ca](mailto:daniel@bonmot.ca).

If you haven't yet had a chance to hear Don Roscoe speak about passive solar design, the Home Show will be your chance. Don speaks:

Friday 11:00 AM to 1:00 PM and 3:00 PM to 5:00 PM

Saturday 11:00 AM to 1:00 PM

Sunday 11:00 AM to 1:00 PM and 2:00 PM – 4:00 PM

### **Up-coming Solar Nova Scotia Courses**

[The Passive Solar Home Design Course taught by Don Roscoe](#) will be offered this spring in Bridgewater and Halifax.

In Bridgewater it will be offered at the Bridgewater High School. Tuesdays

6:45 PM - 9:45 PM., April 17 – May 21. Register at 902- 541-4367.

In Halifax it will be offered at the Nova Scotia Institute of Technology, Leeds St., Thursdays 7:00 PM - 10:00 PM, April 19 – May 24. Register at 902-852-4758 or solardon.ns@gmail.com.

**Solar Books:** A member in Halifax is looking for a good home for some solar books she bought when she was an Environmental Studies student

Solar Heating Design by the f-chart Method. Beckman, Klein, Duff;  
Designing & Building a Solar House, Your Place in the Sun. Donald Watson;  
The Solar Home Book. Anderson with Riordan;  
The Energy Book. Hanley and Mitchell;  
Vermont Guide to Solar Heating. Bryan.

If you would like any or all of these books please send a message to [KateDunlay@eastlink.ca](mailto:KateDunlay@eastlink.ca).

## Solar News



### Nova Scotia

Tomi Alen presented [“Tree of Dreams: A Solar Concert for a Sustainable Future”](#) at the Halifax Central Public Library in early February.

Despite an increase in the use of renewables, more than 50% of Nova Scotia’s electricity is still generated from coal. (Coal accounts for over 40% of the world’s greenhouse gas emissions.) The Maritime Link, to deliver electricity from Muskrat Falls, has had its first test run. [Because of delays, however, electricity from Muskrat Falls isn't expected until 2020.](#)

[Emera’s “Smart Energy 2018” will be held from April 24 to 25](#) at the Canadian Museum of Immigration in Halifax. The program includes a workshop on wind energy (but not one on solar).

Quebec’s Nova Bus will be there [with](#)



[information about its quiet electric buses](#). [Ontario's Northand Power may have information to share about some of its solar projects](#). There will be project updates from Maritime universities and the NSCC. [Post-secondary students may apply for complimentary registration](#)



After persistent pressure from its student representatives, [Dalhousie's Board of Governors approved a motion to hire a third-party financial consultant to figure out a viable fossil-fuel-free investment strategy](#). We hope this will include recommendations for investing in solar in Nova Scotia.

[Nova Scotia Power's Intelligent Feeder Pilot Project](#) has installed a [Tesla Powerpack](#) at its Elmsdale substation to test how it can help with the storage challenge of renewable intermittent energy like wind turbines and solar. The equipment is now in place and ready to go.

Nova Scotia Power will receive some federal funding to help install [12 Level 3 fast chargers from Yarmouth to Sydney](#) this spring, without ratepayer funding. It takes 15 – 30 minutes for a level 3 charger to power up an electric vehicle. Nova Scotia's government will install 12 slower Level 2 chargers at the same locations for plug-in hybrid vehicles that can't use Level 3 chargers. New Brunswick now has both fast and slower chargers at 10 locations along the Trans-Canada Highway and five in northern New Brunswick. Tesla will have [7 chargers for its electric vehicles in New Brunswick and Nova Scotia](#) by the end of 2018.

[Applications are due May 4 for the Nova Scotia Department of Energy \(DOE\) university and community college \(NSCC\) scholarships for the study of energy-related subjects](#). The university scholarships are for students graduating from Nova Scotia high schools who have been accepted to a bachelor's degree program in business, science, or engineering at an accredited university. Preference will be given to those entering Nova Scotia universities. The NSCC scholarships are for students graduating from Nova Scotia High Schools and mature students entering their first year.

DOE also offers a Master's level Energy Innovation Grant for studies in earth sciences, environmental sciences, business or engineering. Applications for 2019-2020 will open in Fall 2018.

Kentville's Solar Scotia Energy has announced [a second CEDIF \(Community Economic and Development Investment Fund\) share offering](#) to finance installation of solar photovoltaic (PV) systems on residential properties in Nova Scotia. Solar Scotia Energy will also be making available for sale solar hardware for those in the Nova Scotian solar industry.

"EfficiencyOne is seeking a candidate [for a Program Manager position](#), in anticipation of funding for a new Solar program. While funding has not yet been confirmed, EfficiencyOne wishes to post the position in preparation. Interviews may take place prior to a funding commitment, however, EfficiencyOne will not make a formal job offer unless funding has been secured."

The Antigonish Community Energy Cooperative (ACE) has [information sessions coming up in Margaree \(April 9\), Truro \(April 19\), Sydney \(April 26\), and Stellerton \(May 5\)](#). Join them to find out how to be part of the solar revolution!

[Lawyer raises issue about Nova Scotia Power net-metering contract.](#)



**Canada**

[Canada is keeping its Paris Agreement promise to help developing countries deal with the impact of climate change.](#)

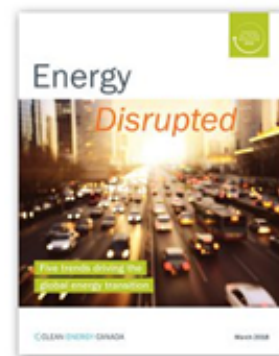
The Federal Government will fund [VIA Rail Canada to purchase up to 32 train sets able to operate under electric or diesel power](#). The new equipment will be used in the Quebec City-to-Windsor corridor. This will be VIA Rail's first new procurement in many years. Delivery is expected from the spring of 2022.

**PASSIVEHOUSE**

[Passive House Canada will be holding several different training programs in BC, Yukon, and](#)

[Passive House Canada will hold its 2018 National Conference November 7 – 8 in the Vancouver Convention Centre.](#) The UN Economic Commission for Europe (ECE) Committee on Forests and the Forest Industry, the World Business Council for Sustainable Development, and the Canadian Wood Council will hold their annual conferences the same week in the same facility. There will be conference-related tours on November 9, including tours of Vancouver-area Passive House buildings.

Clean Energy Canada’s report, “Energy Disrupted” identifies five trends that are accelerating the global transition to clean energy. [The Report can be downloaded here.](#)



## **Alberta**

The Edmonton school district could [save \\$4 million a year by installing solar panels on 25% of its school roofs.](#)

The Westmount Presbyterian Church in Edmonton has partnered with the Right at Home Housing Society, tearing down its old church and putting up a smaller one to make space for a daycare and 16 affordable town homes for immigrant families. [The new church and the townhomes are Net-Zero, which helps make both more affordable.](#) The North Glenora neighbours who are helping the families settle in have coined the phrase ‘YIMBY’— Yes In My Backyard”. The project is presently using grid electricity, but hopes in the summer to be producing enough solar power “so the electricity that we’re producing will get used in the neighbourhood,” says Peter Amerongen, the director of Habitat Studio, project builder.

## **B.C.**



The Upper Nicola Band will have a referendum in April about building [a 5 MW solar farm on its Quilchena reserve near Merritt](#). It would be the largest solar farm in the province. Fortis BC would be providing part of the funding and help with construction and operation of the solar farm. The power generated would be sold into the provincial grid. Negotiations with BC Hydro over a price for the electricity are underway. Construction could start next spring.

The BC government has announced a [Charging Incentives and Solutions Program](#), administered by Plug In BC. It will provide incentives towards the purchase and installation of electric vehicle (EV) charging equipment and support services for workplaces and multi-unit residential buildings (MURBs). The Program is for buildings completed before Jan. 31, 2018. Incentives will be offered on a first-come, first-serve basis. Consideration will be given to geographic distribution of incentives throughout BC. The province already has [a rebate program for individual electric vehicle owners for installing home charging stations](#).



The District of Summerland in the Okanagan Valley, one of five BC cities that owns its own electric utility, [has received a federal grant from the Gas Tax Fund to build a 1 MW solar array with 2 MW of battery storage](#).

## Ontario

[Electric ferries are coming to Ontario!](#) Two new electric ferries, funded by the federal and provincial governments, will be the first fully electric, non-cable vessels in Canada. They will be plying routes between Kingston and Wolfe and Amherst Islands. Ontario has contracted design and production from Damen Shipyards in the Netherlands.

“In five years”, says Gleb Nikiforov, CEO of Autochargers.ca, “a building without a charging station will be like a building without a toilet!” [Autochargers.ca has opened a factory in Markham for manufacturing charging stations](#). Employing 100 workers, it will produce about 40,000 charging stations a year. Parts will later be replaced with those made in Canada, and the charging stations will be replaced with those to be made in Canada. Then the charging stations will be a

fully “Made in Canada” product.

Ontario Power Generation (OPG) has demolished the stacks of the former Nanticoke Generating Station (GS), the largest coal-fired generating station in the world. In its place, OPG and the Six Nations of the Grand River Development Corporation [will create the 200,000-panel, 44 MW Nanticoke Solar Project](#). This will be OPG’s fourth partnership with Ontario’s First Nations.

Toronto’s clean tech exporter, Clear Blue Technologies Inc, is [controlling, monitoring, and maintaining off-grid power systems in 33 countries](#).

## Québec

The Chinese firm, [Contemporary Amperex Technology](#), the world’s biggest battery maker, [has acquired a controlling stake in a lithium mine in Quebec](#).



## Around the World

The Washington Post provides some excellent graphic information on [carbon emission changes caused by use of fossil fuels since 1950](#) in G-20 countries, selected developing countries, and certain other countries critical to climate warming.

Clean Energy Canada [provides projections for what our future will be like if we don't reduce emissions quickly](#). It provides both the decrease in emissions needed to meet Paris Accord targets and what will be required to keep temperatures from rising more than 1.5 degrees celsius.

2018 Q1 Clean200™ provides [a list of the biggest 200 publicly traded companies ranked by green energy revenues](#). While fossil fuel stock stagnates, clean energy is taking off. Solar’s market share in power generation has doubled seven times. Scroll down to the bottom of the article for a full list of companies. China is at the top of the list with 68. Canada has only 5.



[RE100 is an association of over 130 multinational companies committed to renewable electricity.](#) They have operations all over the world. [VISA, a member, has committed to 100% renewables by the end of next year.](#)

Microsoft, a member, has recently signed a 315 MW agreement in Virginia, [for the single largest corporate power purchase of solar power ever made in the US.](#) In Singapore, Microsoft is buying up to [60 MW of solar energy from a rooftop solar project](#) to power its southeast Asia data centre

[It's all about lithium.](#)

## Australia



[Australia installed over 1GW of solar in small scale systems in 2017.](#) A fully installed 5KW

system costs, on average, less than \$6,000.

(The Australian \$ is currently 0.99 to the

Canadian.) Records of solar broker,

Solarchoice.net.au, show that in many state

capitals the price has roughly halved since 2012. Continued growth in rooftop installations and a large increase in the number of solar farms in 2018 could double Australia's solar capacity by the end of 2018.

Installation is planned for solar panels and batteries for [50,000 households in South Australia.](#) [Linked together with Tesla's help they will produce 250 MW of electricity, making them the world's largest virtual power plant.](#)

## China

Having promised to break "from the country's longstanding policy of putting economic growth over environment" at its 2014 National People's Congress, [China is now winning its battle to cut pollution.](#) In cities concentrations of fine particulates in the air have been cut by an average of 32 per cent in four years. In the process China has also become the world's largest manufacturer of solar panels.

With China focusing on solar and coal contracting at home [the country's huge](#)

With China leading on solar and coal contracting at home, [the country's huge coal sector is looking to make its money overseas](#). It is financing building or owning more than 200 coal projects in 31 countries where solar would be a more environmental choice and even make more economic sense.

## **New Zealand**

Volcopter, the company behind [an electric, self-flying air taxi](#) developed in New Zealand, hopes it will be operational within five years. "Cora", the air taxi's nickname, can travel at up to 180 km/h and do 100 km on a single charge. It uses "self-flying software combined with human oversight", taking off and landing vertically.



## **Norway**

Scientists from Norway and Romania are developing a more efficient and environmentally friendly solar cell. The solar cells are expected [to function well in countries where the sun is lower on the horizon](#), such as Canada!

## **Uganda**

The Kenyan solar energy company M-KOPA is entering into a partnership with MasterCard to launch a pilot project to apply its Masterpass Quick Response (QR) technology so that Ugandans without access to the grid can buy a solar panel to charge their phones, cook their food, and so on. They will be able to pay for it with flexible small payments on a daily basis without a banking relationship. [This is the first use of the Masterpass QR tech for solar](#).

## **U.K.**

"The challenge of climate change [requires us to radically shift the way we organise our economy ... to go green, we must take control of energy](#)," Jeremy Corbyn, leader of the Labour Party, told a party conference on "alternative models of ownership" in February. The ownership model he proposed for the future would be different from the state ownership model of the past. It would be "decentralised, flexible and diverse, with new sources of energy large and

small, from tidal to solar.”

The UK Energy Research Centre (Ukerc) has proposed that to reduce the burden on the poorest households [the UK's wealthiest households should pay more, through the tax system, for clean energy.](#)

## U.S.

EnergySage and NABCEP have released the results of the third annual Solar Installer Survey, the largest business survey of solar companies in the United States. Nearly one in three customers are interested in [solar-plus-storage](#). In some markets, 50% of those requesting quotes with storage are buying.

USAID's [Power Africa](#) is supporting legal experts, the private sector, and governments from around the world to increase access to 30,000 MW of energy for homes powered mostly from renewables in 26 countries in Africa .



180 mayors from 42 states have resolved [“to make solar power a key element of their communities' energy plans”](#). They are calling on other mayors to embrace clean energy from the sun. Environment America has released a new guide for local officials: [Ten Ways Your City Can Go Solar](#).

[For existing homes, installing PV at the time of roof replacement could lead to 55 percent in savings](#), says the Solar Energy Technologies Office of the U.S. Department of Energy. Savings opportunities relate to the supply chain, sales and marketing, overhead, permitting, inspection, interconnection, and installation labour.

[Community Solar involves one or more shared renewable solar energy plants owned by a community of people or a third party](#), with the energy shared among members. Over half of the states of the U.S. now have community solar installations. Colorado, California, Massachusetts, and Minnesota seem to be ahead in developing new capacity.

The Board of Certified Energy Practitioners(BCEP) has released [an updated](#)

[version of its Certification Handbook](#) with information about all North American Board of Certified Energy Practitioners (NABCEP) Certifications, including the new Specialist Certifications and the changes to the PV Installation Professional requirements.

[Heatspring](#) has listed a number of on-line introductory courses and courses to help prepare for certifications.



### **California**

Courts around the world are becoming a [frontline for climate action](#). An ongoing case in California has San Francisco and Oakland suing the world's biggest fossil fuel companies for damages related to global warming. This could [build a factual foundation](#) that could be cited in future suits.

### **Massachusetts**

Massachusetts could be the first US state to reach 100% renewable energy. A bill to be voted on by the Legislature before July would require "[all electricity in the Commonwealth to be sourced from clean energy initiatives like solar and wind by 2035; and heating, transportation, and others by 2050.](#)"

The [13th Annual North American Passive House Conference](#) (PHIUS) will be held at the Seaport Hotel & World Trade Center in Boston, September 19 – 23, 2018.

### **Mississippi**

"[Experts have long warned that the biggest challenge for clean coal power is affordability](#)". Southern Company's Kemper plant in Mississippi was to be the largest coal carbon capture plant ever built. But it will be too expensive to run the plant on "clean" coal power. It will be running on natural gas.

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## **Other news?**

**The next newsletter** will come out at the end of May. We welcome links to

information correcting or updating any of the solar news items above, new solar news, and announcements of coming events, particularly for Nova Scotia. Please send to [newsletter@solarns.ca](mailto:newsletter@solarns.ca). Thanks from your newsletter team: Alison, Michael, and Joy. p.s. we are looking for someone experienced with Mailchimp, is interested in the future of solar for Nova Scotia, and could help with newsletter layout. A small honorarium is offered. Please contact [newsletter@solarns.ca](mailto:newsletter@solarns.ca).

### **Solar Nova Scotia Membership**

*Solar Nova Scotia has three kinds of membership:*

Ordinary members receive the newsletter, may volunteer, and can attend and vote at the Annual General Meeting. Contributing members and Corporate members, in addition, provide important financial support for Solar Nova Scotia's work.

All members are welcome to join the solar conversation in Halifax on Friday evenings around 5:00 PM at the Lions Head Tavern and Grill, corner of Robie and Sullivan Streets.

You can renew or become a member of Solar Nova Scotia at <http://solarns.ca/About-Us/Become-A-Member>.

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