CONSERVATION COUNCIL OF NEW BRUNSWICK SPRING 2016

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Énergie NB Power

editorial

BY LOIS CORBETT

Commission throws down the gauntlet for N.B.'s clean energy transition

The report from the *New Brunswick Commission on Hydraulic Fracturing* gives us more evidence that our government made the smart policy decision by putting a moratorium in place. The Commissioners also throw down the gauntlet for us to start transitioning to a thriving low-carbon economy.

On Feb. 26 the three-member Commission — which described itself as citizen-led — released its report. The Commission had been given a year to complete a fact-finding mission in order to assess whether the province could meet the conditions it placed on the fracking moratorium that was signed into law in June 2015.

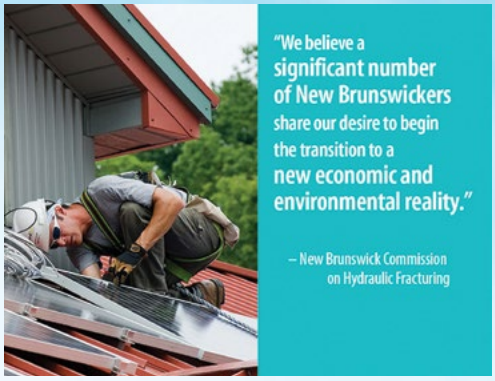
In preparing their report, the Commissioners met with 228 people (including yours truly and Stephanie Merrill on behalf of CCNB) and received 135 submissions from the public and groups.

The Commissioners rightly point out in their report that the world shifted with the signing of the first universal climate agreement and that the best opportunities for jobs and economic growth are now coming from clean energy and energy efficiency. Energy efficiency, especially, has long been recognized as a tool for creating jobs and keeping electricity affordable.

We agree with the Commission that, in order to fulfill our duty to the rest of Canada and the world on climate change, New Brunswick must transition away from the old-world economies of resource extraction and into a new era built around new technology and driven by clean energy.

Solar is one renewable technology that is gaining some serious ground. Just last month the **American Solar Energy Industries Association (SEIA**) announced that new solar power capacity outpaced the new generating capacity of natural gas in 2015 in the U.S.

Interestingly enough, the **International Energy Association** — not your average left-wing think tank — also took note of the rise of renewable technologies. Its October 2015 annual markets report said that renewable energy will represent the largest single source of electricity growth over the next five years, driven by falling costs and aggressive expansion in emerging economies. IEA Executive Director Fatih Birol said at the time that



"Renewables are poised to seize the crucial top spot in global power supply growth, but this is hardly time for complacency. Governments must remove the question marks over renewables if these technologies are to achieve their full potential, and put our energy system on a more secure, sustainable path."

The Commission's report should help N.B. turn the page on the tired fracking discussion and get the real work, building the components of a clean energy transition, underway.

The report also makes it clear that New Brunswick's system for protecting the environment and regulating energy projects is prone to conflicts of interest, both real and perceived. The Commissioners say Nation-to-Nation relationships with First Nation communities are sorely lacking and that the public has low confidence in government's regulations and ability to protect drinking water. They say they believe a significant number of New Brunswickers share the Commissioners' desire to "begin the transition to a new economic and environmental reality."

The moratorium, enacted in law in June 2015, was the smart public policy decision then and it will remain the right public policy well into the future. The Commissioners outline the crossroads our province — and the world at large — is facing, and it's hard to imagine a future for new shale gas development in a world committed to protecting our families from climate change.

Our best bet for creating jobs right now in New Brunswick is through energy efficiency and clean power technology. That's the road we need to take, and it's the road that doesn't put our drinking water or communities' health at risk.

LOIS CORBETT is Executive Director of the Conservation Council of New Brunswick

Marine Protected Areas: Working for everyone

The Fundy Baykeeper explains how new protections for the Bay of Fundy can preserve this critical ecosystem while also supporting the sustainable activities that coastal communities rely upon

Story by Matt Abbott, on patrol for Fundy Baykeeper.

Photo: Nick Hawkins CCNB

The Bay of Fundy is on the list to receive Marine Protected Area status.

The federal government plans to increase protected marine and coastal areas in Canada from the current coverage of **1.3 per cent to 10 per cent by 2020**.

Establishing new MPAs in the bay can play a part in protecting this dynamic ecosystem and sustaining our coastal fishing and tourism economies. By heading off harmful future industrial activities and protecting productive areas, we help ensure these important spaces continue to produce the food and nutrients that are critical for the greater Gulf of Maine ecosystem and that sustain hundreds of coastal communities in the Maritimes and New England.

The Bay of Fundy is a special place. Walking on a long beach at low tide; poking around tide pools to see what critters are hiding within; the sight and sound of a whale coming up for a breath; watching an impressive tidal bore running right through Moncton and Dieppe; the sight of seabirds fishing at sea or shore birds enjoying the bounty of the coastal mudflats; the taste of scallops, lobster, or dulse plucked fresh from the water – all these things attest to the bounty and beauty of the bay. The celebrated ecosystem has sustained communities in what is now New Brunswick, Nova Scotia and Maine for thousands

of years, and it can continue to do so for generations to come.

As described above, the Bay of Fundy produces and sustains marine life on an exceptional scale. Its famous tides act like a giant nutrient pump sending vast quantities of plankton to the greater Gulf of Maine system. This nutrient-rich ecosystem attracts several species of large whales, porpoises, dolphins, seals, and many kinds of fish, sharks, birds, scallops, clams, and crustaceans such as lobster and krill. It's also under a lot of pressure.

Just like the Gulf of Maine, the Bay of Fundy is facing severe stress from climate change. Cold water currents, and the small feed animals they bring with them, are not as predictable as they once were; big rains lead to big runoffs of "tea-coloured" water from rivers that starve important marine plants of sunlight; and puffins, whales, and other animals have not been able to find the food they have relied on for eons. Productive coastal regions such as the Bay of Fundy and Gulf of Maine are more important now than ever in an ocean that is changing fast in the face of climate change.

It is critical that we act now to help the bay remain resilient and productive in the face of these changes. We have seen rivers like the Petitcodiac and St Croix opened to allow fish passage; we've seen impressive cleanups of underwater debris — especially "ghost traps" (lost fishing gear); and we've seen cities like Saint John clean up its waste management system to keep sewage out of our coastal waters. We've also seen significant efforts from within the traditional fishery, including conservation measures like a seasonal closure for scallop dragging to protect lobster nursery areas, and a policy requiring fishers to throw back egg-bearing (berried) and small lobster.

Marine Protected Areas are another key way governments, environmental groups, and other stakeholders can help protect important ecological areas. Indeed, after conducting research that showed the Musquash Estuary (just west of Saint John) is the last relatively intact and

pristine estuary in the Bay of Fundy, CCNB, along with the Fundy North Fishermen's Association, proposed Musquash Estuary as a *Marine Protected Area*. The MPA was officially established in 2006, and will celebrate its 10th anniversary this year.

Marine Protected Areas (MPAs) can take many shapes. There can be one large MPA in a given area, or there can be a series of smaller MPAs designed to protect particular habitats or animals. While MPAs can prohibit fishing, many don't or only have small closed areas. For example, the Musquash MPA, currently the only MPA in the Bay of Fundy, includes provisions to allow commercial fishing and other activities in specific areas. An MPA isn't necessarily a no-go zone, it is rather a tool to protect special and important places.

With its rich biodiversity, there's no question the Bay of Fundy is a candidate for more protection. If this is going to happen, though, it must be done in a way that protects the bay from emerging threats such as increased fossil fuel exports and climate change while maintaining sustainable economic activities like inshore fisheries and marine tourism.

For this to happen, it is critical that DFO rely on scientific knowledge as well as traditional knowledge from First Nation and fishing communities. It is also critical — and this is a tricky part — that powerful players such as the oil and gas sector and the under-regulated aquaculture industry be welcomed to the table (as actors in the Bay), but not be allowed to weaken protection to the point that it is meaningless.

As a champion of the Bay of Fundy for decades, CCNB remains right in the thick of things on MPAs. We see great opportunity, and we understand the concerns of traditional fishers that MPAs could end up hurting the people most invested in protecting the bay. New MPAs should be designed in such a way that they don't unduly harm small local businesses and that they don't allow large industrial players to carry on with business as usual.

First Phase of Small-Scale Renewables Program Underway

Here's an update to our December article on NB's new renewable energy regulations.

As required by the new law, NB Power issued its first call for locally-owned small-scale renewable energy projects.

First Nation communities were invited to submit plans to NB Power under the *Community Renewable Energy – First Nations Opportunity*, which is the first phase of the government's *Locally-Owned Renewable Energy Small Scale (LORESS) Program.*

NB Power will issue another call, this one for municipalities, co-operatives and not-for profits, in January 2017. First Nations are invited to submit their proposals by 3 p.m. on April 29.

Energy and Mines Minister Donald Arseneault

Energy and Mines Minister Donald Arseneault said the announcement was "an important step in creating the conditions for sustainable economic development in New Brunswick and its First Nations communities." The Minister said the projects, up to 40 megawatts in total, will provide a foundation from which the province can meet its goal of seeing 40 per cent of energy generated in the province come from renewables by 2020.

In December, New York Governor Andrew Cuomo directed the state's regulators to come up with a plan to reach 50 percent renewables by 2030.

Details about NB Power's request for expression of interest can be obtained from the **New Brunswick Opportunities Network website** at **onbcanada.ca** or **https://nbon-rpanb.gnb.ca.**

Talking about the importance of water

CCNB Comms Director Jon MacNeill sits down with Stephanie Merrill and Lois Corbett to talk shop about water protection in New Brunswick

By Jon MacNeill

I need to start by telling you this story. On Feb. 29, our executive director, my boss, came to that sweet spot on the second floor at Conserver House — in the hall right between my office and our Freshwater Program Director, Stephanie Merrill's office, with that classic Corbett, 'ooh I got some great news' smile.

Lucky (for me), Stephanie was on a conference call — dealing with a watershed caucus meeting. So I got the news first.

Corbett told me that on the very next day, the provincial environment minister would be releasing his government's new discussion paper, which lays out the vision and guiding principles of a provincial water protection strategy. Its contents align so very closely with what CCNB has been recommending for years.

She also told me to drop everything I was doing, get ready to respond, use Facebook and our Twitter account to help inform New Brunswickers immediately about what the government was up to and why it was so important.

I've heard this from her before, of course. But this time it seemed special. Both Corbett and Merrill were analysing every sentence, breaking apart every paragraph, looking for both positive steps forward or possible pitfalls.

Dear reader, it was like watching an intense hockey game. Corbett would yell from her office, 'Look at fourth paragraph, page 10.' Merrill would say, 'Yeah saw that...' Then Merrill would go into Corbett's office and two minutes later I'd hear the classic, 'MacNeill — get in here.'

Yelp.

This is backing into my story. As a journalist, I always want to give you the who, what, where, when, and especially the why, part of environmental news. This time I depart. I wanted to ask these two fantastic water policy experts what they think about this new strategy. I know you are as interested in their responses as me. (P.S.: I did not give them these Qs in advance)

— Jon MacNeill, Editor

MacNeill: What's good about what you see in the government's draft document, Working Together to Build a Water Strategy for New Brunswick? And, what don't you like?

Corbett: The vision is strongly worded. The principles it proposes to guide future decision-making with respect to protecting watersheds in N.B. are sound, although we may need a couple of additional ones. Finally, the Department has laid out results and outcomes it hopes to achieve once the strategy gets approved.

Merrill: I like the way it addresses protecting water at a watershed level. We've had pieces of integrated watershed management over the years — including protecting drinking water, a failed attempt at science-based river classification, lake classification and some thoughts on coastal and wetland protection — but they've all been pieces. Imagine if, at the end of this policy development era, the government agreed to work with communities and watershed groups to develop integrated watershed protection plans — that should be considered as a final, and great, outcome of this policy process.

MacNeill: You mentioned that the principles to guide water protection decision-making may not be adequate yet. What do you mean?

Corbett: Two areas I think can easily be addressed through public consultation and direct conversation between governments — and in the latter case I mean First Nations and the government of N.B. One is the concept of **precaution**. Everyone is familiar with the oath that doctors take — first, do no harm. The precautionary principle is a similar approach and quite usual in governments working to protect water. It means that despite not knowing everything (in this case, aspects like environmental flow regimes, the impact of climate change on water chemistry, or the cumulative impact of pollution loading), the government will use precaution — err on the side of doing no harm — in making decisions.

I have been looking at the five draft principles and have been weighing how consultation and dialogue with First Nations will guide water decision-making. On one hand, you could argue that it is embedded in each. On the other hand, you can argue that this principle is so important it deserves

to stand alone, or alternatively, it should be incorporated into the vision statement. We'll be consulting with First Nations to see how they want to approach it.

Merrill: I'm also interested in whether or not it is possible to "drill down" on exactly what the government means when it states these broad goals and principles. Is it merely a re-affirmation of where we were about 10 years ago, or is it new thinking, incorporating the best in Canada to date? And then big question is — *what's next?*

MacNeill: So – what is next? If this is a good foundation, what do you think makes up the next steps moving forward to build a good watershed protection strategy for N.B.?

Merrill: CCNB recently completed a review of water strategies in nine Canadian provinces and two territories. We believe a comprehensive water strategy for New Brunswick will:

- **be science-based**, involving baseline data, cumulative impacts, e-flows (the minimum amount of water required to sustain aquatic life in rivers and streams) and be tailored to each of the 13 watersheds in N.B.
- **set goals** for water quality objectives
- **be enforceable**, within a modern legal framework
- **be transparent**, involving consultations with First Nations and citizens
- **be accountable**, involving monitoring and regular reporting to the public on the progress of goals and objectives outlined in the water protection strategy

Find a link to the full discussion paper **on our website**.

Corbett: The test of the discussion paper will really be in its next chapter — which will no doubt summarize what the government heard from its residents, clearly detail the extent to which rivers, lakes and groundwater is threatened, and point out what other data it needs (groundwater mapping, for example) to fully protect it. We then move into the the legislative phase — how the government proposes to enshrine its strategy in modern law.

Policy Talk

- We met with Minister of Natural Resources Jim Carr in January to discuss the job opportunities for New Brunswick through energy efficiency, the federal government's plans to improve the office of the National Energy Board, and issues with the management of NB's Crown Forest.
- We met with Environment Minister Brian Kenny in March to discuss ways NB can *"punch above its weight class"* on climate protection, especially on job creation from investments in energy efficiency and clean energy, and adapting to our changing climate.
- We met with officials from the Premier's Office, the Dept. of Environment and Dept. of Intergovernmental Affairs several times between January and March to move New Brunswick's climate change file forward in the lead-up to the First Ministers Meeting in early March.
- Our Science Advisor and Fundy Baykeeper each wrote letters to Minister of Fisheries, Oceans and the Canadian Coast Guard Hunter Tootoo asking him to repeal the controversial *Aquaculture Activities Regulations (AAR)* which were implemented by the previous federal government despite overwhelming opposition from marine stakeholders across Canada.

2014

N.B.'s moratorium on fracking: It was the smart public policy decision.

Leaders in New Brunswick voted for a moratorium on hydraulic fracturing exactly ***one year ago*** this March. And good thing. In the months since, we've only seen more scientific evidence and new public health problems that prove our government made the responsible decision by protecting our health and drinking water from fracking. **Here are 10 of those reasons.**

By Jon MacNeill

1

New Yorkers say **no to fracking** on Dec. 17, just one day before N.B.'s moratorium was announced. Governor Andrew Cuomo declared the state-wide ban on hydraulic fracturing based on two reports: the Health Commission's review and the Department of Environmental Conservation's seven-year process to fully and exhaustively evaluate the environmental impacts of this activity. State officials formally sign the ban into law in June, stating "*there are no feasible or prudent alternatives that would adequately avoid or minimize adverse environmental impacts and that address the scientific uncertainties and risks to public health from this activity.*"

2

The EPA weighs in with the definitive finding that fracking has caused **"impacts on drinking water resources, including contamination of drinking water wells"** in its long-awaited draft study on the relationship between hydraulic fracturing and drinking water, released in June. The study's general finding that no widespread contamination took place is now being refuted by the EPA's own 31-member Science Advisory Board, who issued a statement in January saying that conclusion was ***"inconsistent with the observations, data, and levels of uncertainty."***

3

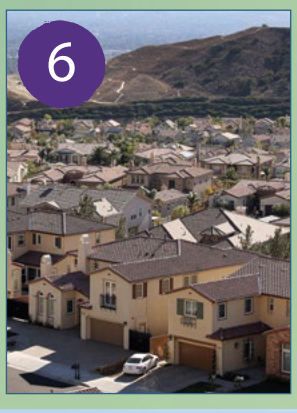
The economic-benefit argument of shale gas in N.B. **bottomed out** in January when SWN Resources, the Texas-based shale gas operator with the bulk of exploration rights in N.B., laid off **1,100 workers** as the price of natural gas sank to its lowest mark in more than a decade. The company had already laid off 102 people in August. As of the beginning of this year, SWN has no drilling rigs in operation. On March 16, the company shuttered its Moncton office, citing "uncertainty over the timetable" for gas development in N.B. Officials said SWN will now oversee N.B. operations from Houston.

4

The environmental case for shale gas got a **whole lot shakier** in August when the B.C. Oil and Gas Commission confirmed that a **4.6-magnitude earthquake** felt in the province the previous summer was caused by fluid injection during hydraulic fracturing, making it one of the world's largest earthquakes triggered by fracking. In January of this year, a 4.8 quake near Fox Creek, Atla. prompted Alberta's energy regulator to indefinitely shut down a nearby hydraulic fracturing operation.

5

Smart N.B. became open for **renewable energy** business in September when the provincial government unveiled new regulations for community renewable energy projects. The regulations will help make sure we get at least 40 per cent of our electricity from clean, renewable sources by laying out the criteria for how co-ops, First Nations, non-profit groups and local communities can lead the charge to create jobs and reduce carbon pollution with solar, wind and tidal installations. In January, Bloomberg New Energy Finance issued 10 years of data that concluded renewable investments have outpaced investments in fossil fuel infrastructure world-wide.



One of the largest gas leaks in US history turned the world's attention to the **pollution and health hazards of natural gas operations.**

In October 2015 a massive gas well leak began in a vast underground storage field in Porter Ranch, on the outskirts of Los Angeles. The governor declared a State of Emergency and more than **6,000 families** were forced from their homes after residents reported headaches, nausea, nosebleeds and dizziness. The leak was permanently sealed on Feb. 19, 2016. The *California Air Resources Board* estimates **94,100 metric tonnes of methane** escaped during the four-month leak, equal to burning more than 862 million gallons of gasoline and pushing up the state's total annual methane emissions by around six per cent. As of this writing, the resource board says it will be several weeks before final figures are known. The disaster prompted the governor of California to direct state agencies to study the long-term viability of natural gas storage facilities, both from a safety and climate change perspective.

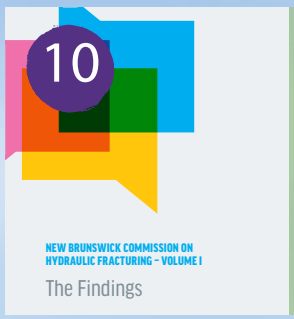
N.B.'s **fracking moratorium makes sense** — that was the key message

from one of Canada's leading groundwater monitoring experts when he delivered a public lecture in Fredericton this November. Dr. John Cherry, who was Chair of the Council of Canadian Academies' panel that evaluated the environmental impacts of shale gas extraction for Environment Canada, told New Brunswickers that there isn't enough evidence to justify a science-based decision to proceed with fracking in Atlantic Canada. ***"It makes sense to continue the moratorium into the future,"*** Dr. Cherry said, concluding that ***"the east coast, and New Brunswick, is not suitable for experimentation."***

Paris is the **new black.**

Countries around the world are now cooperating like never before to protect our families from climate change with the signing of the first-ever universal climate agreement at the UN Climate Summit in Paris last December. Hundreds of world leaders, including Premier Brian Gallant, attended the summit, where nearly 200 nations agreed to ***"hold the increase in the global average temperature to well below 2 °C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 °C above pre-industrial levels."*** This means Canadian provinces must join our global allies in launching ambitious plans to begin the low-carbon transition.

No other industry could get away with **putting drinking water at such risk** — that's one take-away from a February 2016 study from Stanford University on the potential for fracking operations to contaminate local water supplies. *"We have found a number of homes near active wells with very high levels of natural gas in the tap water,"* lead author Robert Jackson said of the findings. Jackson said most documented cases of groundwater contamination were caused by poorly constructed wells, adding, *"we found a surprising number of places where companies are fracking directly into shallow freshwater aquifers. In no other industry would you be allowed to inject chemicals into a source of drinking-quality water."*



"We believe a **significant number** of New Brunswickers share our desire to begin the transition

to a new economic and environmental reality." That's how the ***New Brunswick Commission on Hydraulic Fracturing*** threw down the gauntlet for NB to get serious about creating a low-carbon economy in its long-awaited report on fracking, out February 2016. ***"The world is shifting,"*** the commissioners wrote, saying, *"New Brunswick needs to increase its use of renewable energy, practise greater energy efficiency and reduce carbon emissions"* as we transition towards *"integrated energy systems that will be supported by a variety of advanced technologies, most of which will not require fossil fuels."*

2016 It's still the smart decision today.

Winds of Change

Naveco Power opening door for New Brunswickers to invest in renewable energy projects in their community

Amit Virmani has a vision for New Brunswick, and he wants you to be part of it.

The Fredericton entrepreneur launched Naveco Power in December to become the province's first Community Economic Development Corporation (CEDC) aimed at building large-scale renewable energy projects in New Brunswick.

"No one has done this here yet," Virmani says over breakfast one recent morning in downtown Fredericton.

"It's been done in Ontario. It's been done in Alberta, in Nova Scotia, in Quebec. But here, no one had created a way for all New Brunswickers to invest in a multimillion-dollar megaproject to build something like a wind farm or solar farm, and then be able to say, 'I was a part of that big dream, of changing New Brunswick.'"

Enter Naveco Power.

There are two sides to the business: a development company looking to create community-owned wind farms, solar farms and other large renewable projects, and a venture capital fund for investing in renewable technologies that will be developed, designed and built in New Brunswick.

Right now Virmani is seeking investors for his first project, a vertical-axis wind turbine dubbed the 'Quantum' that Naveco helped develop and commercialize by partnering with a New York-based inventor.

Virmani is seeking investors for his first project, a vertical-axis wind turbine dubbed the 'Quantum' that Naveco helped develop and commercialize by partnering with a New York-based inventor.

He's looking for 10 New Brunswickers who share his vision for jumpstarting renewable projects in the province to put $50,000 each in the company as founding investors. The investment would also net them a Quantum turbine for their home, camp or cottage.

The founding investors also make it possible to reach the long-term goal of lowering the minimum investment to $5,000, allowing for broader community participation.

If he can attract these visionaries by the end of the year, Virmani says he'll be able to take Naveco from its current workforce of three people (which is impressive on its own for a three-month-old company) and employ upwards of 16 people in manufacturing the turbines here in New Brunswick and in research and development at our universities to continuously improve the technology and scale it up from residential to utility-level power generation.

Virmani is confident this model will work here because it has proven successful already in Canada. In Ontario, for example, co-operatives used similar models to drive renewable investments from individuals, with one group, Solar Share, raising $15-million in bonds and launching 34 solar systems since founding in 2011.

Here's the rub: Virmani says groups like Solar Share have been so successful because Ontario is offering a high power purchase agreement (PPA) rate, meaning early investors get a solid 7-10 per cent return.

New Brunswick isn't offering a high rate, but, because Naveco is being set up as a CEDC, New Brunswickers who invest can claim 50 per cent of every dollar against their provincial taxes.

Even though the likely PPA is poor here, Virmani says the math has been done (based on the investor tax credit offered by N.B.) to show that what New Brunswickers will save from the tax break is comparable in value to the high rate of return offered in Ontario.

"We're asking these founding shareholders — help us get started manufacturing the turbine we already have right here in N.B., and do more R&D, create even better and bigger versions — and then let's just go conquer the world with it, based out of New Brunswick," Virmani says, adding that anyone earning more than $50,000/year would see a tax benefit from investing in Naveco.

The Quantum is a 6KW vertical-axis turbine with an innovative design. Most vertical-axis turbines are effectively working against themselves half the time. But the Quantum3 is equipped with diffusers that funnel the wind into the blades in such a way that they never work against themselves. The diffusers also mean it generates power efficiently from low or strong winds blowing from any direction, without making a sound.

One of the turbine's best features is how scalable it is. Right now, Naveco is focusing on selling the 6KW version, but that's only a stepping stone to developing a utility-scale megawatt version.

"When it gets to that point, then we're talking about a workforce that could easily

Photo: Jon MacNeill

be 100-150 people building these things in New Brunswick."

In December, Virmani unveiled the Quantum for the first time in New Brunswick through a partnership with Falls Brook Centre and The Ville Cooperative. The turbine is up and running producing clean energy at The Ville's building on Canada Street in Fredericton.

The unit can be grid-tied and also has a built-in battery bank allowing for about 12Kwh of storage. Virmani notes there are lots of opportunities to create different versions, too, such as a net-metered model without the need for storage, or integrating newer storage technologies such as lithium ion batteries.

Virmani says the current model is ideal for New Brunswickers who want to displace the use of a diesel generator at their hunting camp, cottage, or as a back-up at home.

He recently secured a conditional purchase order for several units after taking the Quantum to the Globe 2016 Conference & Innovation Expo in Vancouver.

Back at the cafe, it takes Virmani about an hour to polish off a small breakfast — he's too distracted talking about what Naveco Power is today and what it could be 12 months from now.

He comes from entrepreneurial stock — Virmani's father, who emigrated to Canada with his grandfather in 1967, launched Interactive Computer Systems Ltd. out of Fredericton, a business that's been going strong for nearly 40 years and employed some 40 people at its peak.

Seeing the potential of Naveco Power, his family has invested upwards of $250,000 into the company to date. Now, Virmani is turning to the people of this province to join his vision and take it to the next level.

"The team I've built, all of us come from across the political spectrum, but we can all get behind this because it makes economic sense," he says.

"It's not often that you get to invest in your community in something you really believe in, where there is actually a real shot of making the changes you want to see in your community."

New Brunswick

Who else is in the renewables game in N.B.?

Here are just a few of the companies in New Brunswick working to spread renewable energy across the province.

- **MJM Solar Solutions** is a solar energy company led by Marc McCann. Their most popular product is smart micro-inverter systems which allow individual monitoring for each panel to ensure maximum solar energy capture. Learn more: **mjmsolar.com**
- **Fundy Solar** in South-East New Brunswick, is a solar energy company. The solar installer behind the company, Woody Thompson, has led solar power workshops through the environmental NGO, Eos Energy. The workshops were built on bulk buying, so that workshop participants were able to complete solar hot water installations at a reduced rate. Learn more: **fundysolar.com**
- **Energy Systems and Designs Ltd** is a small micro-hydro manufacturing company in the Sussex area. The company generally sells to off-grid and rural homes. Learn more: **microhydropower.com**
- **Clear Power Solutions** is a Saint John-based corporation which has products in solar panels, off-grid inverters and accessories, solar charge controllers, solar hot water and grid-tie inverters. Learn more: **clearpowersolutions.com**
- **Laforge Bioenvironmental** is a biogas plant near St. André. The plant is comprised of two biodigesters converting agricultural waste into methane, which is then converted into electricity. The operation has two grids that produce a total of 1.6 MW. The operation sells 95 per cent of its power back to the grid at a rate of a little over 10 ¢ Kw/h through a 20-year power purchase agreement. Learn more: **completesenergy.com**

Check out the **Renewables Solutions NB** project on our website to learn how we're helping New Brunswick communities make the clean energy transition. Find inspiration for your own project at **RenewablesNB.ca**, an initiative of CCNB and our partners to profile small-scale renewables projects in the province.

Behind the Scenes At Conserver House

We're pleased to report that we've been able to secure funding for a new climate change-related project. Through generous funding from the *Intact Foundation* we will work with residents of Fredericton to increase awareness about climate change and adaption to our changing climate. The foundation's charitable mandate is to ***"help make our cities, communities and infrastructure resilient to extreme weather"*** by investing in programs that help Canadians adapt to the long-lasting effects of climate change.

What goes around comes around

When Conserver House was first retrofitted in the early 1980s, a young Joe Waugh led the project team — an enthusiastic collection of trades people and educators — and turned the old Press Club building at 180 St. John St. in Fredericton into a top-drawer demonstration of energy efficiency for business and homeowners. Thirty years later Joe is helping us again — we're readying a plan to not only re-invest in Conserver House's efficiency, but also build out using new green and locally-sourced building materials and renewable energy technologies — and help demonstrate the cost savings to the community once again.

Photo: Jon MacNeill CCNB

Karyn and Olivia

CCNB Interns Connect with their Neighbours

With support from the province's ***Youth Employment Fund***, we employed Karyn, Olivia and Pascale (aka KOP) to survey Capital City residents about their awareness of energy efficiency, climate change and their municipality's approach to environmental issues, including waste reduction. While here, our intrepid threesome also built Conserver House's first pollinator garden, (with generous funding from the *Fredericton Community Foundation*) and received on-the-job training about the non-profit sector, interviewing techniques and data analysis. NB Power also contributed funding for this important project, and we thank all of our sponsors.

Equip This!

Mountain Equipment Co-op has generously funded a capacity-building project for the Conservation Council. Usually more rare than the Canadian Lynx in NB — capacity funding, that is — MEC's support funding will help CCNB modernize its communication and outreach capability in both official languages.

Pro-Bono never looked so good

We love our volunteer lawyers-in-training. The Conservation Council has benefited over the past three years from assistance from the national Pro-Bono Students Canada. PBSC has chapters at all 21 law schools in Canada. Its law student volunteers serve communities from coast to coast, working to increase access to justice by offering high quality, professional legal assistance. PBSC has three key objectives:

1 To provide law students with volunteer opportunities to develop their legal skills

2 To have a positive impact on the legal profession by promoting the value of pro bono service to the next generation of lawyers

3 To increase access to justice across Canada.

This year, Alana, Matthew and Trisha helped us slog through the National Energy Board filings from TransCanada with respect to the Energy East pipeline, paying special attention to liability and emergency response issues.

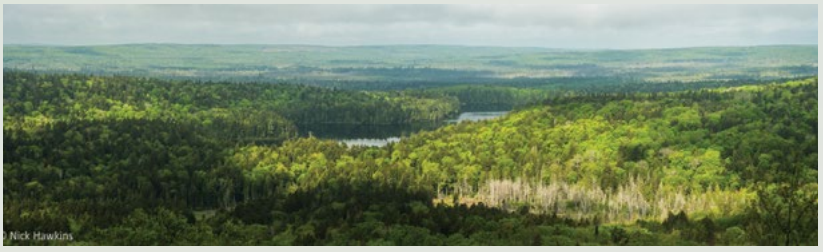


Photo by Nick Hawkins

Spraying the Crown Forest

Conserver House played host to two important planning meetings in February. Members of the New Brunswick Environmental Network's Crown Forest Caucus steering committee joined us to plan next steps in our quest to develop new legislation guiding decision-making for our shared public forest. Later in the month, citizens concerned about the impact of spraying the Crown Forest met to exchange information and lessons learned from other jurisdictions that have already banned the practice.

Rail vs Pipeline: The Wrong Debate

By Pascale Lea Ouellette

There is a debate playing out across Canada right now in coffee shops, around boardrooms and at dinner tables: what is the best way to move oil over long distances? The thing is, the high profile rail accidents and pipeline spills in recent years that sparked this discussion fail to support one side of the argument or the other — instead, they only show us that both modes of transportation are dangerous. Too often lost in this debate is the real question Canadians should be asking: How do we reduce our need for moving dangerous fossil fuels in the first place?

There are three key factors to keep in mind when considering the rail vs. pipeline debate. First, that transporting fossil fuels such as bitumen is dangerous because the product being moved is dangerous; second, that the economic case for further investments in fossil fuel infrastructure is only going to get weaker in a world committed to tackling climate change; and third, that the best opportunities for job creation and economic growth in the 21st century are coming from the clean energy sector.

No matter how you slice it, moving oil — especially unconventional oil such as diluted bitumen from the oilsands — is risky business. Shipping by rail tends to result in a greater frequency of accidents and spills, while pipeline leaks tend to involve much larger volumes. New Brunswick experienced three tanker car derailments between January 2014 and April 2015, two incidents in Edmundston and one in Wapske, near Plaster Rock. They involved several derailed tanker cars carrying crude oil and propane which caught fire. No one was injured. There have been no pipeline accidents over mainland New Brunswick because there are no pipelines shipping oil through the province (TransCanada's Energy East pipeline would be the first). Yet the spill at Kalamazoo River in Michigan in July 2010 provides a good example of what could happen. More than one million gallons of diluted bitumen from the oil sands spilled into the river, resulting in the costliest onshore cleanup in U.S. history, with a pricetag of $767-million — upwards of $29,000 per barrel.

The economic case for further investment in fossil fuel infrastructure has lost momentum. The low (and still dropping) price of oil, the rapidly dropping cost of renewable energy technology, and the imperative to act on the new global climate agreement signed last December in Paris all point toward a much different, less centralized, more diverse and resilient energy system in the near future. Statistics Canada's 2015 payroll survey shows that Alberta had lost approximately 63,500 jobs approaching October. Unemployment rates hit a two-year high in January as another 5,700 jobs were cut.

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The silver lining is that we could get those people back to work at good paying jobs in the energy sector — just a different kind of energy. While fossil fuel companies are shedding jobs, renewables have posted back-to-back record-breaking years in terms of money invested in the sector and new renewable capacity coming online, according to a 2016 report from Bloomberg Business. Blue Green Canada says 15 jobs are created for every $1-million invested in renewable energy compared to only two jobs created from the same investment in the fossil fuel sector. Clean Energy Canada's 2014 report, *Tracking the Clean Energy Revolution*, confirmed that the number of people working in clean energy jobs in Canada surpasses those working in the oil sands, at 23,700 people in renewables compared to 22,340 in the patch — and those figures are from before the recent spate of fossil fuel-related job losses in Alberta.

In January 2016, the Canadian Labour Congress updated its roadmap for tackling climate change and creating jobs. It states that by investing $23.3 billion in public renewable energy over five years, Canada could create 290,000 jobs, while reducing Canada's overall GHG emissions between 44-110 Mt. By investing $30 billion to increase the energy efficiency of Canada's building stock (i.e. residential, commercial, public buildings) over a five-year period, we could generate another 438,000 jobs, which, at the same time, would reduce the country's overall GHG emissions between 32 and 126 Mt. Paired with investments in public transportation and high speed rail, these four moves would create more than than one million clean energy jobs in Canada in just five years.

Considering these factors, it's clear that the pipeline vs. rail debate is missing the bigger picture. Canadians shouldn't be arguing over the best way to do the wrong thing — we should be working on innovative solutions to reduce our need for fossil fuels and the risky methods of transporting them in the first place, and focusing on how we can rapidly advance energy efficiency and renewable energy uptake across our country.

Myth Busting

FICTION: TransCanada claims that refineries in Eastern Canada import 86 per cent of their daily volume from overseas countries such as Saudi Arabia, Nigeria, Venezuela and Algeria. The company says its pipeline will allow Canadian refineries to replace these foreign imports with diluted bitumen from Alberta and Saskatchewan.

FACT: Statistics Canada's international trade data shows that only 14.1 per cent of Eastern Canada's oil imports come from the four countries TransCanada constantly recites: Saudi Arabia, Nigeria, Venezuela and Algeria. Data from Statistics Canada also shows that more than 50 per cent of the crude oil imported into New Brunswick and Quebec between January-August 2014 came from the United States. The vessel activity report for Canaport in Saint John shows a steady stream of tankers coming from the U.S. According to the activity report, between January and February 2016 the Saint John port received The Daytona from Corpus Christi, TX, The Genmar Elektra from Port Neches, TX, The Advantage Atom from New Orleans, and The Umlma from Port Neches, TX.

Live Wild
Together for New Brunswick Biodiversity

Live Wild – celebrating New Brunswick's natural heritage

The Conservation Council is proud to participate in a new collaborative to raise awareness and appreciation of the plants and animals that make New Brunswick beautiful and wild. ***Live Wild — Together for New Brunswick Biodiversity*** launched in January as an initiative of the New Brunswick Environmental Network. For more than 46 years, CCNB has advocated for nature and the wide diversity of life it supports in our province. We also work with teachers, schools and families through our ***Learning Outside*** project to help our children develop lifelong interest in nature through meaningful outdoor learning experiences. The ***Live Wild*** collaborative will support and enhance our effort in this important work.

Keep the signatures coming

The petition against herbicide spraying in our Crown forest has been extended. We are now submitting signatures in three batches due to scheduling changes at the Legislative Assembly. You can download copies of the petition to print, sign, and (if you'd like) circulate in your community on **our website**. The deadline for the first batch is April 10, which will be delivered to the legislature when it resumes sitting. The second batch deadline is May 7, and the deadline for the third and final batch is Aug. 31.

Banner year for renewables – but not in Canada (yet)

Clean Energy Canada has issued a "wake-up call" for Canada to keep up with its trading partners when it comes to renewable energy investments. In a report released Feb. 29, the advocacy group reported that despite bargain prices on oil, coal and gas not seen in a decade, 2015 was a record-breaking year for worldwide investments in clean energy, using figures from international agencies and business databases to determine $497-billion was invested last year — a seven per cent increase over 2014. However, the group says that while global investments were up, clean energy spending in Canada actually declined by about half last year. Merran Smith, Executive Director of Clean Energy Canada, told the CBC on Feb. 29 the reason for the decline is a lack of new government-set targets and regulations to spur renewable investments. "(Clean energy) doesn't need subsidies, it needs policies that commit to targets," Smith said. CCNB advocates for ambitious renewable targets here in New Brunswick through our **Renewable Solutions NB** project.

Quiet, reliable and cool – rise of the electric vehicle

Bloomberg News is calling it: the 2020s will be the decade of the electric vehicle. Bloomberg's New Energy Finance division released a new analysis in February showing that sales of electric vehicles (EVs) are on the rise and could wreck oil markets within the next 10 years. Their analysts say battery prices fell 35 per cent last year and are on track to make unsubsidized EVs as affordable as gas-guzzlers in the next six years. What's more, Bloomberg reports that many large tech companies and nearly every major carmaker are getting behind electric cars. Ford, Volkswagen, Nissan, BMW — even Apple and Google — are looking into how they can make the next generation of plug-in vehicles. Tesla and Chevy plan to sell electric cars in the next few years that hold a range of 200 miles (roughly 320 kilometres) and are priced around $30,000 US. Talk about a game-changer.