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The road to locally-made clean energy

Standing beside Canada's Prime Minister Justin Trudeau at November's Asian-Pacific Economic Cooperation forum, American President Barack Obama used a great metaphor to describe how he sees a transition away from polluting energy sources to a low-carbon economy unfolding, so that globally we can help avoid devastating climate change.

"This is going to be a messy, bumpy process worldwide, but I am confident that we can get it done," Obama said. "And the fact that we now have a very strong partner in Canada to help set up some global rules around how we approach this, I think, will be extraordinarily helpful."

Having "Canada, climate change, and helpful" as words all in the same sentence hasn't happened for more than 10 years now. And the bumpy road metaphor could serve well as advice to all premiers, our own Brian Gallant included. After all, good national plans to reduce pollution almost always, at heart, contain key actions taken by provincial leadership.

No one should be fooled by claims that because our country's pollution is a small part of the global carbon emissions equation there is little we can or should do. The fact is that **Canada is the ninth largest contributor to the greenhouse gases that cause climate change**, pumped out worldwide when we burn oil, gasoline, coal and natural gas. That, and the additional statistic that puts Canadians well ahead on a carbon pollution-per person basis when compared to other citizens worldwide, means every step we take will help. **New Brunswickers rank third in per capita carbon pollution in Canada, after Albertans and people living in Saskatchewan**, mostly because of our dependency on coal-fired electricity and oil for heating.

If I can borrow President Obama's bumpy road metaphor, the New Brunswick government can demonstrate it is serious about tackling carbon pollution with these three elements of mapping the road toward a carbon-free energy future.

We need to get the destination right

We must limit the ratio of carbon dioxide in Earth's atmosphere to **350 parts per million** (compared to all the other molecules) to keep global warming to below 2 degrees Celsius by 2050 to avert the worst impacts of climate change. That tight reduction budget — we are at about 400 ppm today — means we need plans now to de-carbonize our economy — moving quickly and with ambition beyond burning coal, oil and natural gas to using 100 per cent renewable energy sources by 2050 at the latest. That's our destination.

We need to build a better road

Clean electricity is going to become the backbone of the new economy, and in NB, the key to a low-carbon future is to phase out coal and commit to getting all new electricity supply from renewable energy sources over the next 10 years. Environment Canada's 2013 greenhouse gas inventory report pegged N.B. coal-fired electricity at almost **three million tonnes**, the single largest source in the province.

To give some credit where credit is due, NB Power's plans to reduce electricity demand over time, increase renewable energy sources, and invest, if somewhat cautiously, in energy efficiency and a smart grid, are all good ideas. At issue is how long their plan will take to get us to our destination. Our utility's timeframe to get rid of coal is 2045, a full **30 years slower** than Ontario, **20 years later** than all of Britain and a **decade longer** than even Alberta.

A clean electricity system that derives all of its energy from renewable sources like solar, wind, tides and hydro can serve not only home and business heating needs but also help fuel the transition in transportation — where we can rely on this century's electric batteries instead of last century's combustion engines.

The new road isn't all shiny bells and whistles like solar panels and tidal turbines. It needs to include boring things like better windows and insulation in basements and attics. The good news about government investment in energy efficiency for industry and building retrofit programs is the immediate jobs it creates — for every dollar spent on efficiency, four dollars are returned to the provincial economy.

We need a traffic cop

Much as we'd all like it — our roads aren't governed by voluntary actions. Just like we need speed and vehicle safety laws, so too do we need new laws and rules to guide our economy. We have voluntary targets now — a **10 per cent carbon reduction by 2020**, for example, and between **35-45 per cent reduction by 2030**. The provincial government needs to introduce new legislation that sets firmly in place targets and timelines for carbon reduction, includes provisions for caps on large polluters, and guides new building developments toward net-zero energy use. Progressive legislation would also examine how to charge for pollution — right now it rides free — whether through a carbon tax, like British Columbia, or through a cap and trade system, like Quebec and Ontario.



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

Louise Comeau: Charting the course for a renewable energy economy in Canada

By Jon MacNeill

Louise Comeau likes to picture a different sort of living.

Imagine, she says, your roof is topped with solar panels that power your lights, heat your water and help recharge your zero-emission car. You step onto the street, and it's the same story at every home and business in your community: an integrated renewable energy system that cuts pollution and creates rewarding jobs.

Pie in the sky stuff? Not a bit. Comeau, the Executive Director of *Climate Action Network Canada*, says Canada can create a renewable energy economy in the next 10 years — we just need the courage, and will, to make it happen.

The Path Forward

In November, with the United Nations climate change conference on the horizon, **Climate Action Network Canada** released a roadmap for seeing its vision into reality. *Three Big Moves Toward A 100% Renewable Energy System for Canada* lays out how we can create a renewable energy economy that is accessible to all Canadians, respects indigenous rights, and makes oil sands expansion unnecessary.

The big three? Eliminate carbon-based fuels like coal and oil from the electrical grid; ramp up the uptake of electric and hybrid vehicles; and retrofit (and regulate)



"These steps give us the opportunity to cut pollution and engage Canadians as full participants in their energy system, which I think is really exciting and important if we want to get the job done," says Comeau, who helped author the report and runs the national climate network from her home office in Keswick Ridge.

"Our homes, vehicles, and way of life become part of the solution, no longer prolonging the problem."

commercial and residential buildings to zero-emissions standards.

Why 100% Renewable?

According to the *Intergovernmental Panel on Climate Change*, Canada has already warmed at nearly twice the global rate since 1950. Canadians in the far North are worse

off, dealing with melting permafrost and vanishing sea ice, not to mention coastal erosion, which is becoming a problem in New Brunswick and on the East Coast as well.

Severe forest fires, droughts and flooding events are happening at higher frequency. Alberta's Ministry of Agriculture and Forestry released data in early November showing that the 2015 season saw wildfires cover more than **492,000 hectares** — double the 25-year average. Unseasonal rainfall across New Brunswick in late September caused more than 100 incidents of damaged infrastructure, from washed out roadways to culverts becoming entirely exposed. Across the country, homeowners and businesses are having to manage new levels of flooding and extended power outages from extreme weather, while hunters, fishers and farmers struggle to adapt to the the negative effect this is having on crops and animal behaviour.

There is a consensus among climate scientists that human activity — specifically the burning of greenhouse gases — is driving climate change. *Climate Action Network Canada* estimates that Canada will have to **cut one third of its carbon pollution by 2025** in order to do our fair share in preventing dangerous levels of global warming. That means finding ways to remove about **250 million tonnes** of greenhouse gas emissions.

How We Do That – Three Big Steps

Electricity from renewables



Comeau says the key to building a 100% renewable energy system is to phase out coal and require that all new generating stations use renewable energy sources.

A fair carbon tax will help in both these efforts. Comeau says the federal government should work with provinces and territories to establish a consistent carbon tax and require the industrial sector to meet minimal standards of performance.

Carbon pricing initiatives — such as the cap and trade deal in Ontario and Quebec, and carbon taxes in British Columbia and (just recently announced) in Alberta — will help curb emissions in our homes, businesses, industrial operations and on the roadways.

According to the recent report *Pathways to Deep Decarbonization in Canada*, switching to electricity generated from renewable sources is the single most significant way to achieve deep reductions in global carbon pollution. And the effort is already well underway — the *International Energy Agency's (IEA)* latest energy outlook shows that almost half of the world's new power generation capacity came from renewable energy in 2014.

Progress is being made in Canada, too. A 2015 report from *Clean Energy Canada* shows that investment in clean power generation increased by **88%** over the previous year in 2014, totalling some **\$10.7 billion**. The organization states that almost 27,000 people now work in the clean energy sector in Canada, surpassing the number of people employed in the oil sands.

The *Canadian Solar Industries Association* reports that the solar energy market is growing each year by 50% and that renewable energy is expected to make up one third of global electricity output by 2035. The association states that between **25,000 and 41,000** solar manufacturing and installation jobs could be created in Canada by 2025 with the right federal leadership.

Efficient and zero-emitting buildings



One of the best ways to save energy and reduce pollution is by not wasting the energy we've already generated. That's why, Comeau says, we need stringent building codes that create plenty of employment and drive down pollution.

The deep decarbonization report describes some key components of a proactive building code, such as: requiring the use of zero or near-zero emission technologies in all new buildings and retrofits, and; mandatory energy and greenhouse gas intensity regulations for buildings, vehicles and appliances.

The *Climate Action Network* says government could drive the uptake of technologies such as solar thermal, photovoltaic systems, and heat pumps for heating and cooling homes by writing zero-emission building standards into our building codes. The network says we could see the energy consumption of buildings fall between **53-73%** by 2050 by embracing these technological and efficiency improvements.

For Lois Corbett, the state of housing stock in New Brunswick presents what she calls “a happy problem.” Corbett, — a founding member of *Climate Action Network Canada* — says zero-emission building code standards in our province would keep a lot of contractors busy for a long time.



“Our homes are among the oldest in the country — creaky, cold and drafty in the winter, wicked hot in the summer,” says Corbett. “If we fix that, we not only save New Brunswickers a pile of money in heating and cooling costs, but we create a lot of jobs for carpenters, plumbers, all sorts of trades.”

Efficient and zero-emitting transportation



Environment Canada's 2014 Greenhouse Gas Inventory report shows that transportation is responsible for 28% of carbon pollution in Canada. The most efficient way to trim that number is encouraging more Canadians to make sure their next vehicle is a hybrid-electric or electric.

Comeau says the federal government can accelerate the uptake of hybrid and electric vehicles by following California's lead and establishing requirements for zero emission vehicles (ZEV). According to the *California Air Emissions Board*, the latest version of its ZEV regulation will help get more than 1.4 million of them on the road by 2025.

By regulating personal and commercial vehicles to zero or near-zero standards, the deep decarbonization report projects Canada could remove **45 megatonnes** of emissions by 2025.

Climate Action Network Canada says we can cut carbon pollution by **one third** in 10 years and reach full decarbonization within **35 years** by setting our sights on a **100% renewable energy system**.

“Canadians support this transition full-stop,” says Comeau. “Recent polling commissioned by our group shows the majority of Canadians believe protecting the climate is more important than building new pipelines and expanding our use of fossil fuels.”

“It's time for Canada to be bold and courageous — beginning at the UN climate conference in Paris, and then following through at home — to make sure we're moving toward becoming the country our citizens want us to be.”

climateactionnetwork.ca



Student leaders champion the fight for climate justice

By Najat Abdou-McFarland

Just as students were drivers of social change in the divestment campaign to end apartheid in South Africa, one of the key fights for climate protection today is also being blazed on college and university campuses across the world, including here in New Brunswick.

The **Fossil Free Divestment movement** calls on individuals, public institutions and corporations to pull financial support from fossil fuel enterprises and invest in the clean, renewable energy sector. Led by organizations such as **350.org** and **Divest-Invest**, it has become the fastest-growing divestment campaign in history, with 800 entities (comprising educational institutions, faith organizations, health institutions, charitable foundations, and municipalities) pledging to divest a combined **\$50B** from oil and gas companies over the next four years.

University and college campuses are at the heart of this movement. **GoFossilFree.org** lists student groups active on five continents, with hundreds registered in the U.S. and more than 20 groups operating across Canada, including at the University of New Brunswick (UNB) Fredericton campus and Mount Allison University (Mt. A) in Sackville.

The Mt. A group had humble origins — beginning as a student project for an Environmental Action course in 2013. From there, the *Mount Allison Student Divest Group* formed into a full-fledged campaign to uproot any fossil-fuel related investments in the university's endowment fund investment portfolio.

The group prepared a report laying out the case for fossil fuel divestment at Mt. A. It was submitted to the university's Board of Regents (similar to a board of governors) with much student-made fanfare in the campus publication, *The Argosy*.



In laying out its case, the students argued that Mount Allison's reputation as an exceptional post-secondary institution compelled the board to use its privilege and position to influence global affairs for the better. The report outlined the imperative to act on the potentially catastrophic impacts of climate change, and illustrated how global forces are pressuring financial players to realign their activities in order to contain global warming.

The report also touched on the strides being made toward the development of an international framework on climate change mitigation — such as the UN conference in Paris. With the rapid growth taking place in renewable energy technology and clean energy markets, the report cautioned that investments in fossil fuels risk becoming stranded assets in the near future, arguing that the continued spending of capital expenditure on destructive and reckless fossil fuel reserves is not only devastating for the environment; it is financially and economically wasteful.

The group distributed small orange square patches — a symbol for the fossil free divestment campaign — to show the Board of Regents that their campaign had the support of students, faculty and community members in Sackville.

The campaign saw its first victory in the winter of 2015 when the faculty union voted to support its divestment initiative. At the same time, the Mt. A student council voted down a motion to support the initiative, however Clay Steell, a member of the divestment group, said the council is now reconsidering its decision.

A setback came later in the winter when the group approached the Board of Regents' Finance and Investment Committee and was told the committee didn't have the capacity to consider its proposal. Steell said this shows the university needs a better mechanism in place to give students the ability to influence the outcomes of the school's investment decisions. He said the group will continue to place pressure on the administration to carry through with

divestment and encouraged readers to check for updates on their progress in the university newspaper.

Both the Mt. A group and the Fossil Free group at UNB held events on their respective campuses for the first-ever *Global Divestment Day* in

February 2015. They are expected to hold events again this year, and we encourage you to attend if possible.

Visit the Conservation Council conservationcouncil.ca for more links about the divestment movement and how you can take carbon pollution out of your own investments.

Making Your Personal Climate Pledge

World leaders are meeting in Paris right now to hammer down each nation's commitment for curbing climate change. What better opportunity, then, for you to chart out your own plan for living more environmentally-friendly. Here are some ideas and tips to help you along.

by Larissa Verhoeven

Energy Efficiency

What does energy efficiency really mean? It means we want our homes cozy in the winter and cool in the summer. It's a lot easier to achieve this when our homes are properly sealed and insulated. Prevent unwelcome drafts by making sure the weather stripping around doors and windows is in good condition. Consider using a window kit to add some extra insulation — you'll notice a difference. Remember to turn your thermostats down at night but you can save some money if you try not to adjust them too much throughout the day — find a setting that's comfortable for your family and stick with it. And those fuzzy slippers and wool sweaters are in your closet for a reason — don't be afraid to let that thermostat be and layer up instead.

Renewable Power



On top of efficiency, your heating source is also important. Traditional means of oil and gas heating can be expensive — and certainly have a big environmental impact. Consider adding or switching to renewable energy to help offset your carbon footprint and the cost of your power bill. For example, homeowners with a grid-tied solar system can 'bank' excess energy they generate during peak times and use those credits during lulls in generation. Given how long winter lasts in New Brunswick, you might not think solar panels would be an effective power source. But New Brunswick's position on the globe actually gives us some of the sunniest winter months in Canada, and solar panels actually generate more electricity in colder temperatures. Winter winds are often stronger than in other seasons, increasing the output of windmills and windfarms. Beyond the environmental benefits, perhaps the greatest perk of incorporating renewable energy into your home is the satisfaction you'll have when the traditional power grid suffers its inevitable outages. Last winter, as severe winter storms caused a spate of outages across the province, New Brunswickers were tantalized by a newspaper article about a family in Tracy who were oblivious to it all. Powered entirely by renewable energy, the home became the unofficial gathering spot for neighbours when the traditional grid went down. So, if you do bring renewables into your home, maybe don't be surprised if a few nippy neighbours come knocking on your door during those harsh winter storms.



Local Food

There are many benefits to buying locally and growing your own food — both for your own health and the health of our planet. Don't let

a small lawn (or no lawn at all) keep you from producing wholesome, nutritious foods. Wooden raised garden beds on your lawn or deck don't take up too much space but give you plenty of room to grow yourself some cucumbers, tomatoes, greens or other produce. And the compact size means less time tending to the crops, making it easier to fit into your schedule.

If growing your own food is not an option, consider making the conscious effort to buy local and purchase in-season goods. There are so many reasons to start buying local: your money stays in the local community and provincial economy; local goods travel fewer distances and so cause less carbon pollution from transportation; you're being proactive with your health by eating healthier, more nutritious foods (often pesticide-free); food tastes better, and you can develop real relationships with the people growing your food and raising livestock.

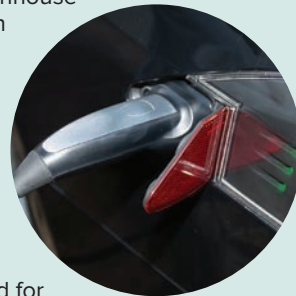
When local goods are not available at the grocery store, remember to shop for fruits and vegetables that are in season and came from as nearby as possible, support meat and produce growers that are committed to organic practices, and avoid food produced with pesticides or with a lot of packaging.

With the holiday season coming upon us, consider buying a locally-raised turkey (you can find one using our **BuyLocalNB App** — buylocalnb.ca).

Alternative Transportation

The benefits of alternative transportation are often twofold: they get your heart pumping, and they keep the vehicle exhaust fumes from flowing. Need to visit the corner store to pick up a few things for dinner? Get your partner and walk there once or twice a week — you'll enjoy the extra time it takes. Do the kids want to go play at a friend's house? Get them to hop on their

bikes and ride if there is a safe route. We're often quick to jump in the car and go, but there are opportunities to leave the gas-guzzlers in the garage. According to the *Live Earth Global Warming Survival Handbook*, typical drivers use **340 gallons** of gasoline annually, which equals around **6,100-lbs of CO₂**, per person. If walking or biking isn't an option, an easy way to trim that number is carpooling to work or play. Commute with neighbours, co-workers, your spouse or friends on a regular basis, and, if possible, strike an arrangement with your employer to work from home one or two days a week. Passenger vehicles represent a significant chunk of our overall greenhouse gas emissions in New Brunswick, so the more we can walk, pedal or carpool, the better off we'll all be. And even better still — consider purchasing an electric or hybrid for your next vehicle.



Best and the Rest: Climate Plans Leading-up to Paris

By Pascale Lea Ouellette

There's certainly a lot of media and, to a lesser degree, public attention focused across the pond on Paris, France, where world leaders from 195 countries, both rich and poor, will sit down from November 30th to December 11th and try to hammer out shared actions in a united attempt to keep global warming to less than **2 degree celsius** by the middle of this century. But what will the heads of state really be doing there, and why should any of us expect that the conference will make a real difference?

Our answer to the first question — well, a lot, really. And the second? We certainly hope so.

What makes this, the **21st Conference of Parties (COP)**, where the parties are the countries that signed the original UN climate change treaty way back in 1992) different is that for the first time, all countries are expected to come forward with legally-binding plans, called **Intended Nationally Determined Contributions (INDC)**, which for brevity, we'll refer to as the countries' plans in the rest of this article.

The first global agreement on climate change, in 1992, was voluntary, not legally binding. The next significant development, in Kyoto, Japan, in 1997, did introduce the

concept of 'legally binding' into the treaty mix, and negotiators were able to get reduction commitments from the world's rich nations. But, the **Kyoto Protocol** had



The History of Climate Accords: A global effort to reduce our impact

By Olivia DeYoung



no constraints on carbon pollution from the poor, or developing nations, a criticism that prevented the U.S. from ever signing the *Kyoto Protocol* and which led, critics say, to justification for Canada's previous government to withdraw its assent.

Back to the countries' plans. After years of back and forth among negotiators at various COPs from Montreal to Peru, the terms of reference for country plans were hammered out. To meet the UN sniff test, the plans are supposed to be "fair in light of the countries' situation and capabilities, transparent in intent, and, ambitiously working towards a low-carbon society and economy." The plans may include mitigation efforts to increase resilience and adaptation components to address the impacts of climate change.

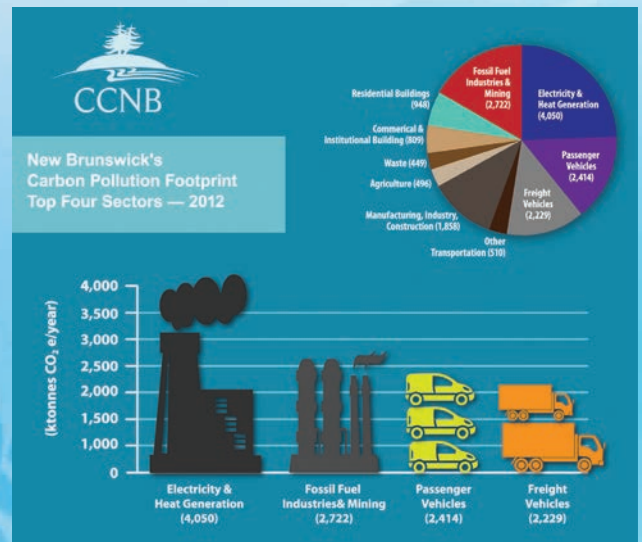
Most of the world's countries have stepped up before the Paris conference. According to the *UN Climate Change Newsroom*, 131 plans have been submitted, which, taken in total, account for roughly **91.1 per cent** of global greenhouse gas (GHG) emissions. All developed countries have submitted their pledges. Other good news? Many countries

put forward pledges that are detailed and with targets exceeding their previous commitments.

Let's look at some of the countries' plans, starting with the positive news from the big players.

Over half — 53 per cent, in fact — the world's entire carbon pollution came from China, the European Union and the United States in 2012, ensuring that their plans, still drafted pre-Paris, come under intense scrutiny.

China pledged to cap its CO₂ emissions; a fifth of those reductions are from phasing out oil and coal in favour of low carbon energy sources. China has also pledged to reduce its carbon intensity (that's the ratio between GHG units and Gross Domestic Product) by **60-65% below 2005 levels by 2030**.



That's a very good start for the world's most populous nation and an economic superpower, **Climate Action Tracker** says. On the negative side of the balance sheet, the think tank says China's carbon intensity target is "more consistent with allowing a global average temperature change of 3-4°C," missing altogether a contribution to hitting the <2°C bullseye.

Continued on page 8...

Overall, the first phase of Kyoto failed to slow global carbon emissions. The Protocol didn't even become international law until more than halfway through the first commitment phase. Some countries and regions, notably the European Union, were on track to meet or exceed their Kyoto goals, but other large nations were falling short. Two of the biggest emitters — the United States and China, pumped out enough extra GHG emissions to erase all the reductions made by other countries. Canada had committed during the first phase to cutting its greenhouse gas emissions to 6 per cent below 1990 levels by 2012, but by 2009 emissions were 17 per cent higher than they were in 1990.



2009: Copenhagen, Denmark

The **Copenhagen Accord** is created, recognizing the need to limit the global temperature rise to 2 degrees Celsius, protect forests, and establish a framework for a **Green Climate Fund** to deliver financial aid for mitigation and adaptation actions in developing countries. More than 130 nations, including Canada, agreed to the **Copenhagen Accord** at the meeting the following year.



2013: Warsaw, Poland

COP 19 is held in Poland. Here, parties were expected to create a roadmap for the **2015 COP** in Paris (where a legally-binding treaty for GHG reductions after 2020 would be struck). The talks fizzled, and parties agreed to resume negotiations in Peru the following year.



2015: Paris, France

Countries, armed with their national climate action plans, gather for **COP21** in Paris to establish legally-binding commitments to reduce GHG emissions after the year 2020.



2004: Moscow, Russia

The Russian Federation votes in favour of the **Kyoto Protocol**, giving it the 55 per cent threshold needed to enact it. It enters into force as a legally-binding document in 2005, and by 2007 it had been voted on and approved by 177 countries.



2012: Doha, Qatar

The **Doha Amendment to the Kyoto Protocol** is adopted, which established the second phase for the Protocol. Canada did not commit to these new targets, and was the first country to announce its withdrawal.



2014: Lima, Peru

Countries resume negotiations with an eye toward Paris and adopt the **Lima Call for Climate Action**, setting in motion the discussions needed to reach an agreement for what would be done in 2020 and beyond.

Source: Survey, *Canadian Perspectives on Climate Change, Energy and Policy Priorities for Climate Action and the Paris Climate Negotiations*, November 2015

The countries that make up the European Union have pledged to reduce overall emissions by **40% of 1990 levels by 2030**. Critics of the EU plan say that while it has a good target, how the final calculation in carbon pollution reduction will be calculated is, well, fuzzy. Carbon Brief experts are worried that EU nations will overestimate carbon stored in nations' forests, for example, and pay too little attention to GHG emissions from industrial sectors like cement, steel, coal and oil. Within the EU, some countries' plans are better than others — Norway and Switzerland, for example.

Still on the good moves front, the United States' plan contains better targets than previous drafts. This mega-carbon polluting nation (coal plants, cars and trucks, and large industry are key sources) says it will reduce emissions by **17 per cent by 2020** and by **26-28 per cent by 2025** from 2005 levels.

We also found Brazil's plan interesting. It's ambitious, and to date, the only major developing country plan that contains an

absolute (as opposed to intensity-based) emission-reduction target. The pledge also has an adaptation component.

As we put this edition of *EcoAlert* to bed, analysts point to Canada and Australia as the stinky plans in the pre-Paris pile. Please remember that Canada's plan was prepared by the previous government, and we, like the rest of Canada, have taken note of the new Prime Minister's approach.

Analysts point to Canada and Australia as the stinky plans in the pre-Paris pile.

According to our friends at The Climate Institute, Canada and Australia's plans will mean that for all the people on the planet, Canucks and Aussies should be allowed to pollute

the most in 2030. As if that wasn't bad enough, that set of experts also gives Canada and Australia's plans big fat F grades, primarily for missing the point of the exercise — contributing fairly to meeting the < 2°C target.

Bad enough that Canada's plan is compared to Australia when rated on the "who, me?" scale. But here's what the renowned *World Resources Institute* says: Canada and Russia have the lowest annual GHG reduction rates from 2020-2030 based on their targets. The Russian pledge is conditional on the outcome of the Paris agreement and on the commitments of other developed countries.



What's up in Canada?

Climate change regulations vary by province and are ever-evolving. The following are highlights of climate change initiatives in Canada:

- *Clean Energy Act* in British Columbia aims for **93%** renewable energy and self-sufficiency by 2016
- *Green Energy Act* in Ontario phased out coal-fired power by 2014 and is the first to do so in North America. The *Act* also promotes renewable energy development and according to the *David Suzuki Foundation* has created over **20,000 jobs**
- Quebec cap and trade system limits company emissions and makes use of the province wide carbon market
- Efficiency Nova Scotia states that energy efficiency incentives have reduced electricity demand by **5.5%**



2030

Canada's plan is to cut 30% of emissions based on 2005 levels by 2030.

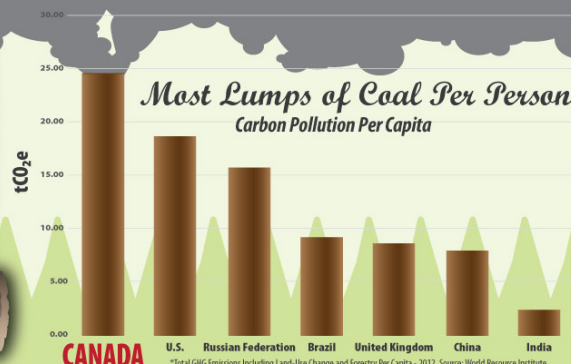
THINK CANADA ONLY CONTRIBUTES A LITTLE BIT TO CLIMATE CHANGE?

Naughty List

Top 10 CO₂ Emitters in the World

1. China
2. United States
3. European Union
4. India
5. Russian Federation
6. Indonesia
7. Brazil
8. Japan
9. **Canada**
10. Mexico

*Source: World Resource Institute - 2011



It's time for Canada to get back on the *Nice List* and cut its carbon pollution by creating rewarding jobs with Clean Energy



A strong Canadian climate plan will grow the economy – not sink it

By Karyn MacPherson

Energy efficiency

A 2012 report by the *Acadia Centre* shows that investments in energy efficiency not only optimize energy consumption and demand, they lead to economic growth and job creation. According to the report, *Energy Efficiency: Engine of Economic Growth in Canada*, New Brunswick could see a net increase in GDP of between \$3-6 for every dollar spent on programs that reduce home and business energy use, with the most aggressive scenario seeing \$5.9 billion in GDP over the study period (2012-2040). We've already seen the benefits of energy efficiency programming in New Brunswick. The crown agency *Efficiency NB* (whose programming was rolled into NB Power last fall) helped **30,000 homeowners, 402 commercial buildings and 42 industrial facilities** improve their operations since it launched in 2005. The modest incentives offered through its programs resulted in \$7 of economic activity for every \$1 invested by government, and reduced provincial greenhouse gas emissions by **210,000 tonnes**.

Pricing carbon

Canada's **Ecofiscal Commission** describes provincial carbon pricing as the most practical way to reduce greenhouse gas emissions at a feasible cost. The commission highlights British Columbia's carbon tax as an example for others to follow. The B.C. tax gives polluters the flexibility to reduce emissions and generate revenue that is used to fund other economic and environmental

measures, such as investments in clean technology innovation and public infrastructure.

Investing in Clean Tech

In a recent interview in *The Guardian* newspaper, Prof John Schellnhuber, one of the world's most influential climate scientists, said the move toward a global low-carbon economy would gain unstoppable momentum if enough big countries act on their new climate plans, noting that "ultimately, nothing can compete with renewables." A report released by **Clean Energy Canada** says governments could take advantage of the emerging demand for clean energy and cleantech by encouraging growth in these sectors through tax breaks for power storage and solar technology. According to the report, Canada accounts for 2.5% of global trade, but only 0.4 % of the global clean energy market.

Health savings

A recent study conducted by Harvard University's school of public health shows that switching to renewable energy is just as good for public health as it is for the climate. The researchers determined that **regional health benefits worth hundreds of millions of dollars per year are attributable to renewable energy and energy efficiency projects** (mainly by displacing the use of dirty, coal-fired electricity). According to the study, wind farms built near Cincinnati and Chicago produced **\$210 million** in annual health benefits, while energy efficiency projects in Cincinnati produced **\$200 million** in benefits during off-peak hours and **\$20 million** at peak times.



The old dichotomy of jobs versus the environment is dead. The imperative to act on climate change, paired with the advancements made in clean energy technology, gives us the opportunity to create rewarding jobs, wealth and prosperity while also protecting the environment and doing our part to fight climate change.

Policy Talk

CCNB is regularly invited to offer policy advice on issues that matter to you

- ▶ We are a member of the *Lower St. John Hydro Community Liaison Committee* hosted by NB Power and we participated in the Open House public engagement series on the Mactaquac Project
- ▶ We offered positive feedback on the draft regulations for the Province's new *Electronics Waste Recycling program*
- ▶ We submitted comments to the *Environmental Impact Assessment* for a duck and fish farm on Grand Lake
- ▶ We sit on the *Marine Debris Stakeholder Advisory Committee* advising on a marine debris reduction strategy for southwest New Brunswick.
- ▶ We gave positive feedback on the Province's new draft regulations to develop small scale renewable energy projects
- ▶ We sent congratulatory letters to all new NB Members of Parliament and new Federal Cabinet Ministers
- ▶ We met with the Minister of Education to give input on sustainability education issues and outdoor learning curriculum
- ▶ We continue to participate in the *Musquash Advisory Council* in support of DFOs ongoing management of the *Musquash Estuary Marine Protected Area*.

Coal-free in the UK... And Alberta?

The UK's Energy Secretary Amber Rudd announced on November 18 that her country would close all coal-fired electricity plants by no later than 2025, making it the first major global economy to commit to such a plan.

The announcement was welcomed, with some cautions of course, by leading environmental organizations in Britain. "We welcome that UK wants to close all coal-fired power plants by 2025," Dipti Bhatnagar, climate justice & energy co-ordinator for *Friends of the Earth* (FOE) International, told Common Dreams. "But the UK needs to do much, much, much more. They have huge responsibility for climate change, and they need to end all

fossil fuels completely. They cannot move to fracking nor nuclear. They need to completely transform their economy away from dirty energy."

Canada's electricity system has seen some provincial governments take major moves to phase out coal, too. In 2014, a year ahead of schedule, the Ontario government shut its last coal power plant in Thunder Bay — converting it to run on biomass instead of coal. It was one of five big plants in Ontario that a little over ten years ago produced **25 per cent** of the province's electricity. And just a few days after the UK announcement, Alberta's Premier Rachel Notley followed suit — saying that province will phase out coal-fired electricity by 2030.

Burning coal to make electricity is highly polluting, especially in comparison with wind, solar or

other forms of renewable energy. When you burn coal, not only do you release large amount of greenhouse gases — the pollution that causes climate change — but other pollutants as well, like sulphur dioxide and nitrogen oxides, which contribute to local air pollution and acid rain, and mercury, which is highly toxic to people and which concentrates in fish and other mammals.

NB Power's coal-fired electricity plant in Belledune was opened in 1993. In 2013 it released about **4,430 tonnes of SO₂** and **2.8 million tonnes of greenhouse gases** (Department of Environment NB and Environment Canada). The utility's long term plan does schedule its shut down, but not until a 2038-45 time frame (*Environment Canada and NB Power*).



Taking the pulse of New Brunswick's estuaries and Tracing the true decline of the Atlantic salmon

Salt Marsh, Musquash Estuary Marine Protected Area, New Brunswick. Nick Hawkins / Conservation Council of New Brunswick

Research pioneered by **CCNB Science Advisor Inka Milewski** more than a decade ago was recently expanded and published through a collaboration with Dalhousie University.

The team, including researchers *Heike K Lotze* and *Reba McIver*, looked at the health of seven estuaries in eastern New Brunswick by examining the level of nitrogen found in eelgrass — an important habitat for many animals, including migratory birds such as the Canada Geese. Milewski says it's important we understand where the nitrogen in our estuaries is coming from in order to properly manage watersheds and keep these crucial salt marsh habitats healthy.

The researchers found the greatest contributor of nitrogen in six of the seven

estuaries came from airborne pollution that was man-made and likely originated out of central Canada and the U.S., while other contributors came from a nearby seafood processor and sewage treatment plant.

Whereas airborne pollution can't be controlled by our province alone, Milewski says it's important we maintain healthy riparian buffer zones and protect provincial wetlands to ensure the health of our estuaries. She says this research will help decision-makers in our province manage these ecologically-sensitive areas more effectively. You can read the complete research paper on our website.

This fall, as the province's English daily newspaper concluded a series on the decline of the Atlantic salmon population in New Brunswick, Milewski published a

commentary reminding New Brunswickers what really started the decline: the knock-out blow that millions of pounds of pesticides had on wild salmon stocks. Milewski explained the impact the **40-year DDT aerial spraying campaign** had on salmon and offered its story as a lesson for today's decision-makers. "*Failing to acknowledge the long-term, persistent effects that pesticides have had, and continue to have, on wildlife and humans is a recipe for history repeating itself.*" Milewski wrote. "*The large-scale aerial spraying of the herbicide glyphosate, recently classified as a carcinogen, should stop. Pesticides used to kill the chronic plague of sea lice in salmon farms should be prohibited. And, the cosmetic pesticides used to kill spiders, ants and cinch bug in our lawns, recreational areas and schoolyards should be banned.*"



The ultimate lesson from the history of salmon's decline is, in the words of Rachel Carson, "*what we do to wildlife we do to ourselves.*"

Files from CCNB's Science Advisor



Leading groundwater expert says stay the course on moratorium

The provincial government's decision last fall to place a moratorium on hydraulic fracturing has the support of one of Canada's leading groundwater monitoring experts.

Dr. John Cherry, the chair of the 2014 *Council of Canadian Academies'* panel on hydraulic fracturing, was in Fredericton in November to meet with the New Brunswick Commission tasked with reviewing the NB moratorium. He also gave a public lecture about the scientific review his panel conducted on shale gas fracking for Environment Canada.

Dr. Cherry said that after extensively researching the literature, the science and the experts' review around hydraulic fracturing, he concluded there is a worldwide lack of scientific monitoring on shale gas extraction that would enable any science-based decisions to justify development in Atlantic Canada.

In his presentation, Dr. Cherry noted that "when the industry started approaching the places where we live" — as opposed to operating in isolated areas, far from people or their water supplies — "this changed everything." He assured the crowd

that New Brunswick isn't alone in having a moratorium. "A moratorium on shale gas fracking is the norm. New Brunswick is not an exception."

When asked what advice he would offer the NB Commission and the provincial government, Dr. Cherry said, "given where New Brunswick is at, given there is currently a moratorium policy, it makes sense to continue that moratorium into the future. The east coast, and New Brunswick, is not suitable for experimentation."

Dr. Cherry, a distinguished and widely-published expert on groundwater monitoring, chaired the 2012-2014 panel of 16 North American experts on a wide range of issues related

to shale gas development.

In concluding his presentation, Dr. Cherry said he would like to have an opportunity to review shale gas fracking impacts in the context of a whole energy strategy for the country, noting none of the expert panels ever convened on shale gas fracking, or their reports, has ever been tasked with reviewing or laying out the full gamut of energy options and their impacts for public discussion.

"A moratorium on shale gas fracking is the norm. New Brunswick is not an exception."



A mandate to combat climate change



Spoofed already by CBC's iconic comedy show, *This Hour Has 22 Minutes*, Canada's new Minister of Environment and Climate Change has a lot of tough work to do. Not

only is **Catherine McKenna** charged with leading Canada's delegation to the upcoming United Nations negotiations on climate change (alongside of the new International Affairs Minister, Stephane Dion) but she has been given the job of undoing **ten years of systemic deregulation of environmental protection laws**. The Minister's mandate letter, written by Prime Minister Justin Trudeau, lays out a list of job duties that includes everything from writing new laws to protect human health from dangerous air pollution, to restoring Canada's reputation on environmental stewardship and "restoring robust oversight and thorough environmental assessments."

According to the letter, her key priority will be to "ensure that our government provides national leadership to reduce emissions, combat climate change and price carbon." You can find a link to all the Cabinet Ministers' mandate letters and read CCNB Executive Director Lois Corbett's statement on the appointments on our **website**.



bullfrogpower bullfrogpowered®

Conservator House now powered by 100% clean energy

On Oct. 1 we joined more than **10,000 Canadians** who are helping to clean the energy grid by becoming 'bullfrogpowered.' *Bullfrog Power* is the country's largest clean energy provider. The Toronto-based company allows homeowners, businesses and organizations to start using 100 per cent renewable energy by investing in new clean energy projects across Canada. Since founding in 2005, Bullfrog Power and its customers have helped put more than **3-million MWh** of clean electricity and more than **4-million GJ** of clean biogas onto Canada's energy system. That much energy from fossil fuels would have contributed **1.1-million tonnes** of carbon pollution toward climate change.

We're proud our office at 180 St. John St. in Fredericton is supporting the growth of renewable energy in Canada! Learn more about Bullfrog Power and their partnership with us on our website.

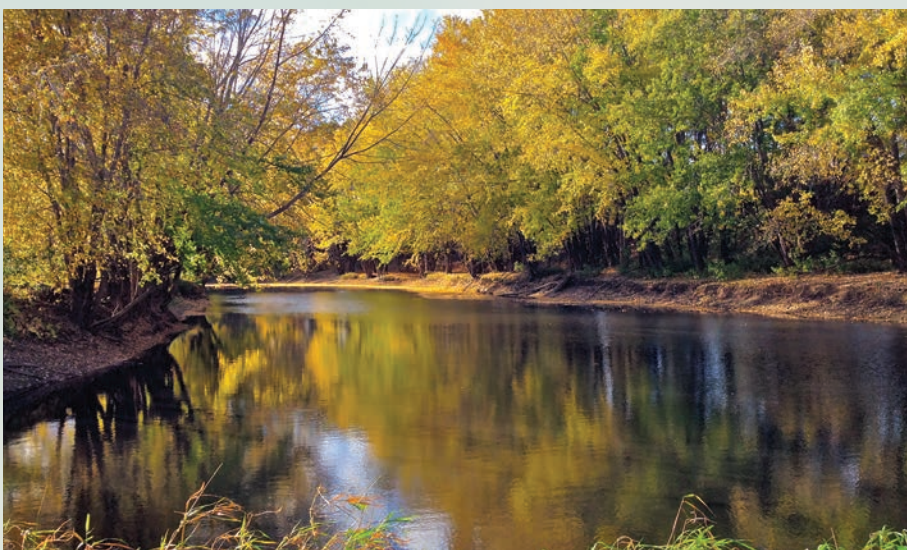
Bringing solutions to your community

We've been visiting communities across the province to talk to residents and local officials about the opportunities and advantages of starting their own renewable energy project. The latest stop in the '*Renewable Solutions NB Tour: Inspire Connect, Advance*' took our Executive Director Lois Corbett to Woodstock in late November, where she



met with renewable energy producers, local business organizations, elected officials and community members who want to see more solar panels, wind farms and geothermal systems cropping up across our province. Co-hosted by *Transition Woodstock*, attendees heard about the state of renewable energy production in the region and NB as a whole, what's new and exciting in the booming cleantech sector, and how renewable energy is meeting — and could be exceeding — the province's climate action targets while creating rewarding jobs right here at home.

Contact us at tracy.glynn@conservationcouncil.ca if you're interested in having the tour stop in your community. Head to our website to learn more about the **Renewables Solutions NB Tour**.



A candid call for leadership on water protection

Charles Murray, the provincial Ombudsman, gave a refreshingly candid presentation at the *Nashwaak Watershed Association* AGM in late November about his 2014 report on the province's **Water Classification program** and regulation. Our *Director of Freshwater Protection*, Stephanie Merrill, attended the presentation, and couldn't have agreed more with the Ombudsman's message: It's time to get this done.

The *Water Classification Program* and regulation was brought forth in 2002 — almost 14 years ago — as a progressive intention to set water quality standards in New Brunswick rivers and generate action plans to meet and enhance their protection. Of the **19 rivers** submitted for classification, **not a single one has been acknowledged and enforced by the regulation**.

Mr. Murray says that strong political will has been lacking on this file and that "a

focused minister with a strong agenda can push through these kinds of barriers."

The Conservation Council has met with Minister Kenny and discussed the opportunity many times. He's an avid fisherman and knows the cultural and economic value our waterways provide. He has an opportunity to move on years of stalling, to create a positive legacy as Minister of Environment.

Mr. Murray said it best: "He (Minister Kenny) has a tremendous opportunity. He has inherited an issue from various governments of different stripes. He's not the author but he can be the solution. If he does anything in this field, brings in any sort of regulation that has any actual effect, he can say, 'I'm the most effective Environment Minister this province has had in this millennium.' He can be the hero of this story — if he takes it to task."