



A Climate Action Plan for New Brunswick is a Clean Energy Plan

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The Government of Canada today indicated its intention to advance phase-out of coal to generate electricity while being sensitive to regional concerns and potential impacts on the middle class through higher power rates. The Conservation Council welcomes the federal commitment to clean power and encourages New Brunswick and NB Power to collaborate with governments regionally and nationally to achieve coal phase-out over the next 15 years.

The electricity sector has a critical contribution to make to climate protection.

New Brunswick generated about 15 million tonnes of greenhouse gas emissions in 2014 with 31% of these emissions coming from burning coal to generate electricity at Belledune and oil at Coleson Cove.¹ Along with New England Governors and other Atlantic Premiers, New Brunswick has agreed to a regional goal of 35% to 45% percent below 1990 levels by 2030. A target of 35% to 45% below 1990 levels by 2030 implies New Brunswick should aim to lower its emissions to between 9 and 11 million tonnes by 2030. That means we need a climate action plan for the province that cuts approximately 6 to 7 million tonnes from our inventory.

The first place to look is where our emissions come from now. Figure 1 shows that electricity is a big part of the problem (as well as the solution!), followed by industry and transportation. Buildings relying on natural gas also have a contribution to make, as does cutting waste and making agriculture and forestry more sustainable.

¹ Environment Canada. (2016). *National inventory report: Canada's greenhouse gas sources and sinks 1990 - 2014*. Ottawa.

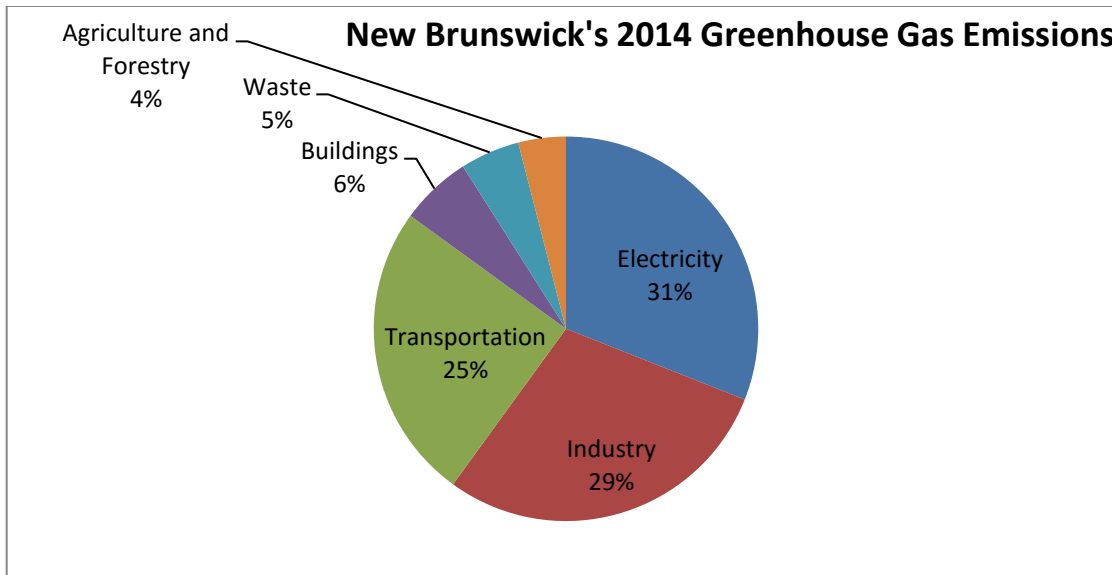


Figure 1:
New Brunswick's greenhouse gas emissions come from burning coal at the Belledune Generating station (2.8 million tonnes in 2014) and heavy oil at Coleson Cove (half a million tonnes) to make electricity; oil and natural gas to process natural resources and manufacture products in the industrial sector; and oil and diesel fuel to run vehicles, trucks and buses.²

New Brunswick lags behind Eastern US states in investments in energy efficiency, renewable energy and coal phase-out risking potential job creation, but also the opportunity to supply demand for green electricity. Tables 1 to 3 summarize where New Brunswick ranks, compared to other Atlantic and Eastern US jurisdictions.

² http://www.ec.gc.ca/ges-ghg/donnees-data/index.cfm?do=results&lang=en&year=2014&gas=all&fac_name=Belledune&prov=all&city=&naics=all&submit=Submit; Environment Canada. (2016). National inventory report: Canada's greenhouse gas sources and sinks 1990 - 2014. Ottawa.

Table 1

Jurisdiction	Coal-fired Electricity Generation
	<i>Millions of Watts (MW)</i>
New Brunswick	450 MW closing 2043
Nova Scotia	1253 MW closing 2019 to 2044
Prince Edward Island	None
Newfoundland/Labrador	None
New York	1300 MW phase out by 2020
Massachusetts	1505 MW closing May 2017
Rhode Island	None
Vermont	None
Maine	165.5 MW at paper mills
Connecticut	***400 MW Combined Cycle
Delaware	1082 MW converting to gas
New Hampshire	539 MW, some wood chips
Maryland	4333 MW, 1/3 retiring 2020

Sources: *Multiple including Utility Board and Government information documents*

*Required by law to acquire “all cost-effective energy efficiency”

** Required by law to achieve “all reasonably available, cost-effective energy efficiency”

***Plans to convert to natural gas

****”budget constrained”

Table 2

Jurisdiction	Renewable Portfolio Standards
	<i>% of Total Supply</i>
New Brunswick	40%: 2020, large hydro, imports
Nova Scotia	40%: 2020, large hydro
Prince Edward Island	30% wind, under review
Newfoundland/Labrador	None, small biogas, net metering
New York	50%: 2030, no large hydro
Massachusetts	11% 2016; up 1% /year, no large hydro
Rhode Island	38.5%: 2035, no large hydro
Vermont	55%: 2017, 75% 2032, no large hydro
Maine	10%: 2017; 8,000 MW wind 2030
Connecticut	27%: 2020, no large hydro
Delaware	25%: 2025, no large hydro
New Hampshire	24.8%: 2025, no large hydro
Maryland	20%: 2022 no large hydro

Table 3

Jurisdiction	Energy Efficiency
	<i>% of Annual Sales</i>
New Brunswick	****.4 to .6% to 2018
Nova Scotia	1.3 to 1.5%, last 4 years
Prince Edward Island	.65% to 2020, under review
Newfoundland/Labrador	Programs, no target
New York	1.3% to 2030 in buildings
Massachusetts	*2.94% to 2.95 2016 to 2.95%
Rhode Island	*2.5% to 2.6% 2015 to 2017
Vermont	**2.5% 2015 to 2017
Maine	*2.2% 2015 to 2017
Connecticut	1.5% by 2018
Delaware	Voluntary, 2% potential
New Hampshire	Voluntary .98% potential
Maryland	2% by 2020

To position New Brunswick among leaders in energy efficiency and renewable energy, we need strong regulations and mandates to stimulate innovation.

Where will the reductions come from?

Almost 40% of the reductions required to meet a 2030 target of 35% to 45% below 1990 levels should come from phasing coal out of our electricity system³ like Ontario has already done and Alberta will do by 2030. Phasing out coal from the New Brunswick electricity system is a big challenge and one not to be taken lightly. The Conservation Council of New Brunswick takes seriously both climate change and the need for a reliable and sustainable electricity system that keeps bills reasonable for consumers.

Any talk of coal phase-out or other changes to the electricity system generally is met with the response that change will increase power rates. The Conservation Council believes federal funding is available to support coal phase-out and that this funding is intended to support the transition to clean energy without big increases in monthly power bills for families and businesses.

The federal Government established in its 2016 budget a \$2 billion Low Carbon Economy Fund and promised to create a national system for carbon pricing with all monies raised in a province being returned to that province for investment in greenhouse gas reductions. If we assume that the national floor price for carbon will be in the range of \$20 to \$30/tonne initially, then a 6.5 million

³ If we assume 6.5 million tonnes of reduction (splitting the 6 to 7 Mt requirement down the middle) is required then 2.8 million tonnes which are from burning coal to make electricity contributes 40% to the overall goal.

tonne contribution to Canada's national climate change target is worth from \$130 million to \$195 million. New Brunswick should seek to sign a Memorandum of Understanding with the Government of Canada that commits the province to securing 6.5 million tonnes of reductions in exchange for a one-time payment of \$130 million to \$195 million to support greenhouse gas emission reductions. Of that total, \$56 million to \$84 million (based on \$20 and \$30/tonne and a contribution of 2.8 million tonnes from coal phase-out) would be allocated to support coal phase-out as follows to NB Power or a combination of NB Power and an independent agency with a efficiency and low-carbon economy mandate to invest in:

1. An economy-wide investment in energy efficiency through building retrofits in social housing, the residential, commercial/institutional/government (including municipal), and industrial sectors; and equipment and appliances. The goal would be to **advance NB Power's Reduce and Shift Demand objective of 609 MW by 2038 to between 2020 and 2025⁴**.
2. **Accelerate investments in the Smart Grid** (the Energy Internet) to give the electricity system the capacity it needs to significantly increase the supply of renewable energy (aiming for 100% renewable). The Smart Grid is central to managing a more distributed energy system, as well as providing load balancing services to Nova Scotia, PEI and New England. The electrification strategy, or roadmap, can build on work completed under the Atlantic Energy Gateway Initiative and take advantage of new federal support aimed at identifying opportunities for regional electricity cooperation⁵. Our electrification roadmap needs to be regionally focused, particularly because Nova Scotia will also need to phase out coal, and include a regional and long-term system investment plan (i.e. modernizing and integrating regional transmission networks, as well as regional targets for renewable energy to replace the loss of coal-fired generation. Acceleration of Smart Grid investments could advance installation of additional renewable energy technologies along with installation of next generation meters, hot water heaters and storage devices using telecommunications systems to manage a distributed load (including micro-grids; beyond what is already currently funded).
3. Expand regional investment in renewable energy, including accelerated solar rooftop targets. **A stretch target for New Brunswick could be 200,000 kilowatts (kW) of cumulative installed commercial and residential solar power by 2025** (100,000 kW each for residential and commercial, grid connected and off-grid), with NB Power working with suppliers to develop home equity loan and/or leasing programs, and power purchase agreements aimed at lowering payback periods from the current 13 to 15 years to between 5 and 10 years.⁶

⁴ <https://www.nbpower.com/media/102794/irpjuly2014-english.pdf>, p.128

⁵ <http://www.acoa-apec.ca/eng/publications/ResearchStudies/Pages/Home.aspx#aeg>; Federal budget 2016 provided \$5 million over two years to engage provinces and utilities in assessing regional electricity cooperation opportunities

⁶ <https://www.nbpower.com/media/169863/dsm-plan-2016-18.pdf>; represents stretch target for achievable potential

4. Accelerated scale-up of electricity transportation infrastructure and incentives to increase the sale of electric plug-in and low-emission hybrid vehicles. Québec has a legislated target of putting 100,000 electric vehicles on the road by 2020: that's about 1.2% of the total fleet of over 8 million vehicles registered or about 16% of new car sales in 2020.⁷ A similar scheme for New Brunswick would **set a goal of 10,000 electric vehicles on the road by 2020, with the number of electric car sales increasing each year so that by 2030 there would be 140,000 to 150,000 electric vehicles on the road.**⁸ A fossil-fuel vehicle driven 20,000 kilometres a year generates about 5 tons of greenhouse gases. A rough estimate of the emissions reduction potential is at least 500,000 tonnes.⁹
5. Community economic development and worker transition investments to maximize job creation from energy efficiency and renewable electricity investments.

Electricity-related investments would be complemented by a provincial investment plan. To see the Conservation Council's full climate action plan, go to: <http://www.conservationcouncil.ca/our-programs/climate-and-energy/>.

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⁷ <http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/econ58a-eng.htm>; assuming at 50,000 new car sales a month = 600,000 a year so 100,000 electric vehicles in 2020 would be equivalent to at least 16% of all new sales

⁸ Assuming at 5,000 new car sales a month or 60,000 a year that 16% would be 9600 vehicles so rounding to 10,000

⁹ Assuming 2017: 1k, 2018: 2k, 2019: 3k, 2020: 4k (cumulative = 10k), 2021: 6k, 2022-2030: 8k rising to 20k/year for a total of 140,000 to 150,000 electric vehicles on the road and declining greenhouse gas reductions from fleet fuel economy standards.