Coalition for Responsible Energy Development in New Brunswick
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Submission to the NB Power Review

Introduction to CRED-NB

The Coalition for Responsible Energy Development in New Brunswick (CRED-NB), a volunteer community-based organization formed in May 2020, provides education to the public and advocates for responsible energy development to address the climate crisis. CRED-NB represents more than 20 citizen groups and businesses and more than 150 individuals across New Brunswick, listed on our website: https://crednb.ca/about/

Summary: recommendations

1. Plan to replace the Mactaquac hydro plant and Belledune coal plant with variable renewable power and energy storage.

2. Plan to shut down the nuclear plant when the operating licence expires and replace it with variable renewable power and energy storage.

3. Support the province-wide deployment of variable renewable power sources by implementing a strategy to install large-scale energy storage capacity and to upgrade the connection to the hydro reserves in Quebec.

4. Develop strategic partnerships prioritizing First Nations and local suppliers.

5. Support the development of power generation owned and managed by local communities.

6. Promote electricity use for building heating and for transportation.

7. Quickly phase out the “Large Industrial Renewable Energy Purchase Program.”

8. Re-establish Efficiency NB as an arms-length agency to develop, provide and manage all efficiency and retrofit programs.

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CRED-NB Recommendations

1. Plan to replace the Mactaquac hydro plant and Belledune coal plant with variable renewable power and energy storage.

- Return NB Power to its mandate to provide clean, safe, reliable power at the lowest possible cost by transforming NB Power into a renewable energy public utility.

- Set a long-term goal to keep the benefits of harvesting public resources such as wind and sun public by developing publicly-owned renewable infrastructure held in a portfolio of NB Power and community-owned assets.

- Reevaluate existing plans to refurbish and develop hydro and biomass in the context of the new reality of wind power ($60-70/MWh), solar power ($80/MWh), and affordable energy storage solutions. New Brunswick has a staggering amount (more than 40GW) of untapped wind energy and a good amount of untapped solar energy. Adding these renewable energy sources to the provincial grid would reduce power generation costs and increase NB Power's profit on energy exports.

- Wind & solar power are cheap compared to the estimated costs for NB Power's existing plans[1]:
    - $180/MWh for the Belledune biomass conversion
    - over $200/MWh for a refurbished Mactaquac
    - over $400/MWh for the proposed Tantramar gas-fired power plant
    - $300-450/MWh for nuclear SMRs

- Support the change in NB Power's focus from fossil fuels, biomass and nuclear power to variable renewable energy by adding experts in renewable energy and storage technologies to the NB Power board and the executive management team.

- Establish programs to train local and Indigenous workers with the skills needed to build and operate renewable energy and storage sites.

[1] Reference: NB Power 2023 IRP and LCOE Calculations by Energy Futures Group

- As part of the decommissioning of the Mactaquac power plant, consult with First Nations to discuss what steps they would consider as constituting reconciliation over the Mactaquac Dam which was constructed without their free, prior and informed consent. For example, would First Nations consider as acceptable constructing a fish ladder to restore passage to migratory fish species such as the endangered Atlantic Salmon?

2. Plan to shut down the nuclear plant when the operating licence expires and replace it with variable renewable power and energy storage.

- End the financial drain, the radioactive contamination from emissions of radionuclides during operations, and the production of more radioactive waste by phasing out and closing the Point Lepreau nuclear power generating station in 2032 when the current operating licence expires.

- Nuclear energy is now the most expensive way to produce electricity. Existing plans to refurbish the Point Lepreau nuclear plant and develop new nuclear on that site should be refocused on the new reality of wind power ($60-70/MWh), solar power ($80/MWh), and increasingly affordable large-scale energy storage.

- End the nuclear management and facility upgrade contract with Ontario Power Generation and replace it with a team focused on laying the groundwork to decommission the Point Lepreau plant as soon as possible after the plant shutdown in 2032.

- Include the Peskotomuhkati Nation and the Wolastoq Grand Council on the team working toward the shutdown and decommissioning of the reactor and developing plans for the long-term storage of legacy radioactive waste.

- In the interim, ensure that the high-level waste currently stored in aging concrete silos is moved to attack-resistant, above-ground vaults pulled back from the Bay of Fundy and freshwater sources using the framework of rolling stewardship and institutional memory for transmitting knowledge and best practices across generations to isolate these radioactive contaminants from humans and the biosphere in perpetuity.

- Transition nuclear workers to jobs in nuclear reactor decommissioning and radioactive waste management in perpetuity.

3. Support the province-wide deployment of variable renewable power sources by implementing a strategy to install large-scale energy storage capacity and to upgrade the connection to the hydro reserves in Quebec.

- Develop a vehicle-to-grid (V2G) strategy for leveraging the growing fleet of electric vehicles for cost-effective grid balancing using V2G technology.

- Develop battery energy storage systems (BESS) to provide power for balancing the grid and high-quality auxiliary services such as frequency regulation. A June 2025 auction in China reported the sale of BESS at as low as $US60 per kWh. The reduction in battery storage system prices means that it is now affordable to consider BESS for 8 to 12-hour configurations in New Brunswick.

- Note: Using battery electric storage systems would be less expensive than power from the dual fuel combustion plant NB Power is proposing for Tantramar. NB Power's 2023 IRP (page 53) lists the 2022 levelized cost of energy from a lithium-ion battery (12-hour) at $194/MWh compared to a dual fuel combustion turbine at $418/MWh. Since then, energy prices from battery storage systems have continued to fall. Not only would NB Power save money from the price difference, storage would also prevent losses from the curtailment of wind power during periods of excess generation.

- Develop long-duration storage solutions for more than 12 hours of storage. One example is isothermal or adiabatic compressed-air energy system technology which would be especially cost effective in the salt geology of many areas of New Brunswick. Another example is metal-air battery systems such as the 85 MW 100-hour iron-air battery system planned for Lincoln, Maine.

- Upgrade interties with Hydro-Québec's 176 TWh of hydro reserves to ensure power is available to balance solar and wind in New Brunswick, even during the longest periods of low wind energy. Potential interruptions caused by peaks in Quebec's own power demand can be mitigated by energy storage in New Brunswick. Upgrading provincial interties also supports the national priority for a strong east-west grid.

4. Develop strategic partnerships prioritizing First Nations and local suppliers

- Form partnerships with First Nations and municipalities for renewable energy generation and storage and other technologies to modernize the grid. Some examples of renewable energy partnerships include Burchill Wind Farm, Universal Kraft Solar proposed for Saint John, and the Shediac Community Solar Farm.

- Establish a supply chain for building out renewable energy, efficiency, storage and grid modernization prioritizing New Brunswick and local Indigenous supply companies, followed by Atlantic Canada and the rest of Canada. Engage foreign supply companies only if no local or domestic companies capable of filling the needs can be found.

- End partnerships with fossil fuel, nuclear and biomass companies, vendors of biomass for electricity generation, and vendors developing hydrogen for export.

5. Support the development of power generation owned and managed by local communities

- Support community wind farms and solar arrays to reduce the cost of electricity production and ensure that the benefits of harvesting these public resources remain in the public domain.

- Encourage communities to support community renewable power generation by ensuring residents participate from the outset in project planning, implementation and negotiation of community benefits.

- Establish a Renewable Energy Development program to help community representatives and project proponents navigate the development process and train local workers with the skills needed to build and operate renewable energy sources and storage sites.

6. Promote electricity use for building heating and for transportation

Increase NB Power revenue from electricity sales by promoting electricity use for building heating and for transportation.

- Encourage the purchase of heat pumps to reduce power consumption during the peak heating season and increase the use of power to cool in the summer.

- Encourage the purchase of electric vehicles including school buses, mass transit vehicles, commercial vehicles, and personal vehicles to increase year-round electricity consumption while increasing demand flexibility with smart charging.

7. Quickly phase out the "Large Industrial Renewable Energy Purchase Program"

- End the provincial mandate for NB Power to buy electricity from the forestry corporations at a higher rate and selling it back at a lower rate until a subsidy level is reached set by the provincial government (the Large Industrial Renewable Energy Purchase Program), that adds to NB Power's debt and contributes to rate increases for NB Power's other ratepayers.

8. Re-establish Efficiency NB as an arms-length agency to develop, provide and manage all efficiency and retrofit programs

- Invest in Efficiency NB to the level required to provide efficiency programs province-wide at the rapid pace that rising rates and the climate crisis demand to bring down emissions, save money and energy, and achieve affordable and stable rates that reduce energy poverty and enhance competitiveness.

- Set aggressive targets and timelines for energy efficiency and building retrofits that start with low-to moderate-income residents to enable them to reduce their consumption and save money. This would provide employment throughout the province, support local businesses, and keep money circulating within communities, all win-wins for New Brunswickers.

Ann McAllister, Chair, CRED-NB
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