Solar PV in Mi'kmaw Communities in Mi'kma'ki (Nova Scotia)

Ecology Action Centre Research Report

Index

In the electronic form of this report, the words, phrases, or titles that appear in blue are hyperlinks that lead out to other electronic resources.

Introduction
Renewable Energies and Mi'kmaw Communities: Where Have We Been, and Where Are We Now?

In April 2011, the Kwilmu'kw Maw-klusuaqn (AKA the Mi'kmaw Rights Initiative or the KMK) Negotiation Office for the Assembly of Nova Scotia Mi'kmaq Chiefs produced a summary report entitled *A Mi'kmaq Renewable Energy Strategy*. The report drew attention to some important trends in Mi'kmaw energy consumption on reserve, and it also highlighted some of the remarkable energy initiatives that Mi'kmaw communities have undertaken across the province. Importantly, as it pointed out promising possibilities for renewable energy projects in Mi'kmaw communities, the *Renewable Energy Strategy* emphasized that transforming our energy consumption isn't just about being greener and more eco-friendly: it also has practical implications for communities' wellbeing and security.

The *Renewable Energy Strategy* summary report summarized the situation in April 2011 like so:

"Challenges due to longstanding, pervasive cultural and socio-economic patterns have resulted in Mi'kmaq communities in the Province struggling inordinately with the impacts of rising energy costs. At present the Band Councils directly bear premium costs for energy, which are likely exacerbated by the age and quality of housing, housing conditions which include overcrowding, and the structure of community, which is generally small, rural and dispersed. A review of the electrical energy usage indicates residential electrical energy use is significantly higher in First Nation communities than it is in a typical Nova Scotian household."[1]

The summary report then drew attention to some of the implications of energy use in Mi'kmaw communities, and it also drew some troubling inferences about some possible consequences:

"As a result of these circumstances, Mi'kmaq spend a disproportionate share of scant Band, community and personal resources and federal funding on energy. Residents are ill positioned to take advantage of the benefits of home retrofits and installation of energy saving technologies because of long standing issues with housing quality, employment and home ownership. Because of all these factors, the Mi'kmaq will be among the least resilient and hardest hit by rising costs and least able to respond in the development of a renewable energy industry and energy secure future."[2]

In the years since the publication of *A Mi'kmaq Renewable Energy Strategy*, some of the report's most troubling projected hurdles for the communities are already being overcome. Mi'kmaw communities throughout Nova Scotia have engaged in a number of impressive renewable-energy projects and initiatives during the past six years, and there is obviously great potential for further growth in this area. Mi'kmaw communities have also been working to review and reduce their energy consumption. In 2014, close to two thousand households in Mi'kmaw communities throughout the province worked with Efficiency Nova Scotia to install energy-efficient upgrades

[1] *A Mi'kmaw Renewable Energy Strategy*, p. 3.
[2] *A Mi'kmaw Renewable Energy Strategy*, p. 3.

in their homes.[3] That project also resulted in thirty-six Mi'kmaw community members being trained to install energy-efficient upgrades, and the project was expected to result in more than three hundred thousand dollars' worth of savings for First Nations in Nova Scotia (as a grand total, shared between the participating communities) each year.[4]

Mi'kmaq throughout Nova Scotia are making impressive strides as they work to create energy security in their communities, and ongoing developments in solar energy technologies mean that solar photovoltaic (PV) projects are becoming attractive choices for some communities. Notably, Appendix B of *A Mi'kmaq Renewable Energy Strategy* suggests that community solar PV projects may not be economically viable for Mi'kmaw communities in Nova Scotia, and it gives three main reasons why:

(1) the high cost of solar PV projects, and the absence of tariffs that would offset the costs;

(2) the fact that Nova Scotia's COMFIT program (now concluded) offers no support for solar PV projects; and

(3) "barriers regarding return on investment."[5]

However, thanks to plummeting solar equipment costs and promising policy changes on behalf of the Government of Nova Scotia, today the barriers that *A Mi'kmaq Renewable Energy Strategy* identified are not as imposing as they were six years ago. Solar PV projects are now very attractive investments in Nova Scotia, and Mi'kmaw communities are well positioned to reap the benefits.

How Can Band-Owned Solar Arrays Benefit the Whole Community?

As noted above, *A Mi'kmaq Renewable Energy Strategy* includes some troubling projections about the consequences that rising energy costs will produce in Mi'kmaw communities, predicting that "the Mi'kmaq will be among the least resilient and hardest hit by rising costs."[6] Given the fact that Mi'kmaw communities already bear disproportionate burdens when it comes to energy costs, renewable-energy projects that help to lay foundations for long-term energy security will benefit communities on the whole.

Even when a renewable energy project is owned by the community rather than an individual householder, the benefits of that project can flow to individuals too. In 2012, the Atlantic Aboriginal Economic Development Integrated Research Program produced a summary guide entitled *More than Wind: Evaluating Renewable Energy Opportunities for First Nations in Nova Scotia and New Brunswick.* According to the summary, solar PV technologies create more jobs

[3] http://mikmaqrights.com/mikmaq-communities-develop-skills-save-energy-and-lower-costs-through-efficiency/
[4] http://mikmaqrights.com/mikmaq-communities-develop-skills-save-energy-and-lower-costs-through-efficiency/
[5] *A Mi'kmaw Renewable Energy Strategy*, p. 24.
[6] *A Mi'kmaw Renewable Energy Strategy*, p. 3.

than comparable renewable energy technologies.[7] Similarly, in *Aboriginal Power: Clean Energy & The Future of Canada's First Peoples*, Chris Henderson demonstrates that a number of Indigenous communities throughout Canada created training and employment opportunities for community members as renewable energy projects were being developed. As Henderson argues, renewable energy projects in Indigenous communities have the potential to foster transferable knowledge, skills, and employment experience for individual community members—even if those individual members do not own the renewable energy projects themselves.

One case study that illustrates the potential to create training and employment opportunities through the contracting process is the story of Lutsel K'e Dene First Nation's solar PV array. When Lutsel K'e Dene First Nation decided to develop a renewable energy project, it did so with the specific intent "of building knowledge and skills in renewable energy."[8] With that intention in mind, when the community chose its project partners—Northwest Solar Inc. and the Canadian Solar Institute—not only did it make arrangements for the design and installation of a solar PV array, but it also negotiated a week of training for members of the community.[9] A summary that appears on the website of Bullfrog Power notes that "[f]our community members completed the training," and "two of these assisted with the installation of the system."[10] The community also arranged to have the solar installer visit the local school and speak to students about renewable energies. Although the jobs created by this project seem to have been temporary, Lutsel K'e Dene First Nation's story is just one example of the kinds of training and employment opportunities that could be created through contractual negotiations.

The potential for job creation is just one way that Band-owned renewable-energy projects can produce benefits for individual community members. Band-owned renewable-energy projects can also bring in revenue that can then be distributed within the community according to the community's needs. For example, according to a case study that appears on the Efficiency Nova Scotia website, the solar PV panels that were installed on Membertou First Nation's new elementary school are expected to provide roughly $12,500 to $15,000 of annual revenue for the community, which will sell the electricity that is generated during the summer months to Nova Scotia Power.[11]

In *Aboriginal Power*, Henderson suggests that one way to get an entire community excited about a renewable energy project is to draw attention to the communal benefits that can be created through renewable energy revenue. He argues that "[a] community needs to prioritize its interests when deciding how to best distribute earnings from clean-energy projects," and he offers the following list of community needs that could be addressed through project revenue:

(1) "Community services including healthcare, transportation assistance and more";

---

[7] *More than Wind*, p. 16.
[8] http://www.bullfrogpower.com/wp-content/uploads/2015/09/Lutsel_Ke-Solar.pdf.
[9] http://www.bullfrogpower.com/wp-content/uploads/2015/09/Lutsel_Ke-Solar.pdf.
[10] http://www.bullfrogpower.com/wp-content/uploads/2015/09/Lutsel_Ke-Solar.pdf.
[11] https://www.efficiencyns.ca/smart-energy-business-idea/case-study-membertou-school/.

(2) “Housing”;
(3) “Economic development including hotels, ecotourism facilities, construction or an economic investment fund”;

(4) “Youth services including recreational services and facilities”;

(5) “Women’s services including a crisis centre, birthing facility, post-natal unit and more”;

(6) “Education including teachers’ salaries or college or university bursaries”;

(7) “Community infrastructure including high-speed Internet, cable television, water, waste and more”;

(8) “Seniors support including transportation, a seniors’ centre, retirement home or homecare”; and,

(9) “Pension funds.”[12]

Because Henderson focuses heavily on large-scale projects throughout *Aboriginal Power*, many of the things that he lists here are beyond the scope of the revenue that could be generated through the Nova Scotia Community Buildings Solar PV Pilot Project. The most useful point to take away from this section of Henderson’s book is that even though the revenue from band-owned solar arrays may create direct financial benefits for individual members of the community, there are many different ways in which revenue could be used to address community needs.

To summarize: Band-owned renewable-energy projects can play an important role in helping Mi’kmaw communities lay strong foundations for more security and resilience as the costs of non-renewable energies continue to rise. Band-owned renewable energy projects can also result in job creation, and can create opportunities for education and training. Finally, when communities come together to design and support Band-owned renewable-energy projects, those projects can generate benefits for many different sectors of the community, depending on the community’s unique priorities and needs. Ideally, individual community members will play active roles in choosing how the revenue generated by renewable energies will be used to benefit the community at large.

Considering Nova Scotia’s Solar Electricity for Community Buildings Pilot Program

In the Government of Nova Scotia’s most recent electricity plan—which is entitled *Our Electricity Future: Nova Scotia Scotia’s Electricity Plan, 2015-2040*—the provincial government committed to creating a program that would “promote installation of solar panels on community buildings such as town halls, fire halls, and community centres.”[13] This program is the Solar

[12] Chris Henderson, *Aboriginal Power: Clean Energy and the Future of Canada’s First Peoples* (2013), p. 147.
[13] *Our Electricity Future*, p. 9.

Electricity for Community Buildings Pilot Program (or Solar for Community Buildings Program, for short), and it is intended to foster new power purchase agreements between Nova Scotia Power and communities throughout Nova Scotia.

Broadly speaking, the Solar for Community Buildings Program is one aspect of the provincial government's commitment to meeting more of Nova Scotia's energy needs through renewable energy resources. The program has not been designed to support First Nations specifically; however, Mi'kmaw communities throughout Nova Scotia are in a good position to benefit from it. Although *Nova Scotia's Electricity Plan, 2015-2040* does not make any formal guarantees to First Nations throughout the province, it does state that the program "will promote the installation of solar panels on Mi'kmaq band-owned community buildings and create a new revenue stream for communities."[14]

Essentially, the program will work to incentivize the development of community-owned solar arrays by "streamlining" power purchase agreements between Nova Scotia Power and the communities who make successful bids.[15] In other words, the program will not provide funding for the solar arrays themselves (not in terms of awarding funding for their upfront costs, that is), but will instead guarantee that Nova Scotia Power will buy electricity from the projects that are selected to take part in the program. Ideally, the communities that participate in the project will see returns on their investments over the long term, through the revenue gained by selling solar energy to Nova Scotia Power.

The program will award funding on a competitive basis, using a model that is very similar to the conventional tendering model that is used for development contracts. Communities that wish to participate in the project will need to name the prices at which they would like to sell solar energy to Nova Scotia Power, and, as in conventional development contracts, the most competitive bid prices will be most likely to succeed. This means that communities will need to make careful preparations before submitting their project proposals.

The Solar for Community Buildings Program launched just recently, and the first deadline for applications will be in late Spring or early Summer. You can find an overview of the program in the Solar Electricity for Community Buildings Pilot Program Workbook, and more detailed information about the legal and technical aspects of the program can be found in Nova Scotia's amended Renewable Electricity Regulations. Information that will be most important in the early stages of project planning has been summarized in the paragraphs that follow.

Prior to the launch of the Solar for Community Buildings Program, solar installations that were to feed into the grid were negotiated through the Nova Scotia Power Net Metering Program. Communities acting as solar project proponents could not install more solar power than they require in their facilities and the proponents could not influence the price of the electricity generated. Through the Solar for Community Buildings Program, the communities are able to

[14] *Our Electricity Future*, p. 23.
[15] *Our Electricity Future*, p. 23.

propose the size of their solar array (up to 50 kW) and the price that they receive for their solar generated electricity..

What kinds of Mi'kmaw groups or businesses can participate in the Solar for Community Buildings Program?

Subsection 37B(1)(a) of Nova Scotia's amended Renewable Electricity Regulations states that "an NS Mi'kmaw band as defined in the *Indian Act* (Canada), or a body corporate, partnership, or other business association that is wholly owned by 1 or more bands" is eligible to participate in the program.

Subsection 37B(1)(d) of the Regulations states that "a not-for profit body corporate, or a body corporate, partnership or other business association that is wholly owned by a single not-for profit body corporate," which also suggests that a Mi'kmaw-owned not-for-profit enterprise would also be eligible to participate in the program.

If my community wishes to participate in the Solar for Community Buildings Program, what will we need to include in our application?

The Solar Electricity for Community Buildings Pilot Program Workbook offers a clear, step-by-step guide to the kinds of information that will need to be included in your application. That information is summarized briefly in the list that follows, but you should consult the Workbook itself for more details.

Your application will need to include:

(1) a solar site assessment completed by the supplier whom you have chosen to supply and install your solar array;

(2) a summary of the installation costs, taking into consideration the prices of the equipment, installation, building renovation permits (if applicable), and property insurance (if your insurance will be affected by the installation of the solar array);

(3) a projection of the annual operating costs associated with the solar array;

(4) the most recent financial statement of the group or organization that proposes to install the solar array;

(5) a summary of the funding and financing sources that will be used to pay the upfront and ongoing costs of the solar array;

(6) a statement of the maximum output of energy that your solar array is expected to produce;[16]

[16] Importantly, subsection 37C(2)(b) of the Regulations states that the nameplate capacity of your proposed solar

(7) the price at which you plan to sell the energy that your solar array will produce.

How will project proposals be evaluated?

Section 35B(4) of Nova Scotia's amended Renewable Electricity Regulations states that "[t]he primary basis for evaluating bids […] is the price for the proposed electricity." This language suggests that naming a competitive bid price would be the best way to create a successful proposal. On the whole, the Solar for Community Buildings Pilot Program Workbook confirms this suggestion, as it notes in numerous sections that communities that can name lower bidding prices will have an advantage in the application process. With that said, this section of the Regulations also seems to leave some wiggle room for other factors to be taken into account as well, as the use of the phrase "primary basis" suggests that other bases could possibly be taken into account.

The next section of the Regulations, section 35B(5), also seems to give procurement administrators (that is, the people who will be evaluating the project proposals and selecting the winning bids) some discretion when evaluating bid prices. It states:

"A procurement administrator must not award a contract to a bidder under a request for proposals for the solar program if the bid price is too high, taking into account the relative amounts of the bid prices received from all other bidders who responded to the request for proposals and any other factor the procurement administrator considers appropriate."

Here the phrase "and any other factor the procurement administrator considers appropriate" suggests again that factors other than the bidding price could possibly be taken into account.

Because communities with fewer resources could be underbid by communities with greater resources, it would be worthwhile to speak to a representative of the Solar for Community Buildings Program to determine just how much leeway procurement administrators will have to take various bidding factors into account. Even though the Regulations do not indicate that the program will treat bids from lower-income and higher-income communities differently, it would still be helpful to know if the provincial government will allow procurement administrators to make policy decisions that could help to level the playing field.

Will the proposed solar array need to be located on a band-owned building, or could it be a free-standing array?

Subsection 37C(2)(e) of Nova Scotia's amended Renewable Electricity Regulations states that the proposed solar array will not need to be located *on* a band-owned building. However, if the array is not located on a band-owned building, a number of conditions will apply. The most

array cannot be greater than 50 kW.

important of these is that the array would have to be located "wholly within" one hundred metres of an appropriate band-owned building.

How much of the Solar for Community Buildings Program's budget is likely to be directed towards Mi'kmaw communities in Nova Scotia?

Subsection 37E(4) of Nova Scotia's amended Renewable Electricity Regulations states that "no more than 30%" of the Solar for Community Buildings Program's annual budget "may be paid to 1 or more owners who fall into the same category of participant in a clause in subsection 37B(1)."

Subsection 37B(1) is the subsection that identifies the kinds of communities that are eligible to participate in the Solar for Community Buildings Program, and subsection 37B(1)(a) is the subsection that relates specifically to Mi'kmaw communities in Nova Scotia. As noted above, 37B(1)(a) states that "an NS Mi'kmaw band as defined in the *Indian Act* (Canada), or a body corporate, partnership or other business association that is wholly owned by 1 or more bands" is eligible to participate in the Solar for Community Buildings Program.

If we take all of these subsections together, their literal meaning is that *no more than 30%* of Nova Scotia Power's annual budget for the Solar for Community Buildings Program will go to Mi'kmaw bands (or corporate bodies, partnerships, or business associations that are wholly owned by bands) in 2017, 2018, and 2019. Importantly, this language does not offer an explicit guarantee that *at least 30%* of Nova Scotia Power's annual budget for the program will go to Mi'kmaw band bidders.

From a law student's perspective (and please note that this is an inexpert perspective that should not be interpreted as offering legal advice), the language of the Regulations has probably been drafted in this way to protect Nova Scotia Power from having to pay unnecessarily high costs to very few bidders. For example, if the Regulations *guaranteed* that 30% of Nova Scotia Power's annual budget for the program would go to Mi'kmaw band bidders, and if, hypothetically, *only one* Mi'kmaw band applied, Nova Scotia Power might be legally bound to divert the full 30% of its annual project budget to that single bidder (and, in doing so, to pay extraordinarily high prices for the solar power being generated by one community). The language of the drafted regulations has probably been tailored to preclude this kind of scenario.

What could stand in the way of a successful proposal?

Subsections 35C(2)(a) and 35C(2)(b) of Nova Scotia's amended Renewable Electricity Regulations state explicitly that a proposal will not be successful if the procurement administrator "is not satisfied of any of the following":

(1) “that the proposal is technically feasible”; and

(2) “that the bidder has the financial capacity or support to construct and operate the proposed generation facility.”

These subsections illustrate how important it will be to develop a detailed project proposal that takes all costs and operational factors into account.

A Comparative Case Study: Pictou Landing First Nation’s New Band Office

The details of the Solar for Community Buildings Program contain many other pieces of information that will shape any project proposal that a community wishes to develop. Rather than continuing to address important elements one-by-one, it will now be more helpful (and more interesting!) to imagine how a solar PV project developed through this program would compare to the development of Pictou Landing First Nation’s impressive new band office.

Pictou Landing First Nation’s new band office was developed through a partnership between two private companies (MacGregors Industrial Group and PoleCo), the Pictou County Chamber of Commerce, the Government of Canada (through the Atlantic Canada Opportunities Agency (ACOA) Business Development Program), and Pictou Landing First Nation itself.

The ACOA Business Development Program awarded nearly sixty thousand dollars to the Pictou County Chamber of Commerce, which acted as the official lead on the project.[17] MacGregors Industrial Group, PoleCo, and Pictou Landing First Nation also contributed financially.[18] Notably, the project was pitched as an exciting business venture right from the start, which—as we’ll see in the paragraphs that follow—creates some important distinctions that need to be drawn between the Pictou Landing First Nation development and any project that a Mi’kmaw community would like to develop through the Solar for Community Buildings Program.

The development of Pictou Landing First Nation’s new band office demonstrates the importance of collaborating with multiple partners in order to secure funding and/or financing. Given the parameters of ACOA’s Business Development Program, which is designed to support business ventures specifically, Pictou Landing First Nation would not have had access to the Business Development Program funds if it had simply proposed to build a new band office without partnering with commercial enterprises like MacGregors Industrial Group, PoleCo, and the Pictou County Chamber of Commerce.[19]

Somewhat similarly, because the Solar for Community Buildings Program has not been designed to fund the purchase or installation of solar arrays, Mi’kmaw communities that wish to take part

[17] http://www.acoa-apeca.gc.ca/eng/Agency/mediaroom/NewsReleases/Pages/4476.aspx.
[18] http://www.acoa-apeca.gc.ca/eng/Agency/mediaroom/NewsReleases/Pages/4476.aspx.
[19] http://www.acoa-apeca.gc.ca/eng/ImLookingFor/ProgramInformation/Pages/ProgramDetails.aspx?ProgramID=2.

in the program may find it worthwhile to partner with businesses or other organizations that can contribute funding or financing.

It is worth noting that some of the financing for Pictou Landing First Nation's new band office came from the very companies that took part in constructing the building itself. The businesses had a strong commercial incentive to help finance the project, because now that the building has been finished, it can be used as a demonstration building that will bolster the businesses' marketing and promotion.[20]

Subsection 37C(2)(e)(iv) of Nova Scotia's amended Renewable Electricity Regulations states that a building cannot qualify for the solar program if it is "constructed or provided with electricity solely to qualify for the solar program." Whereas Pictou Landing First Nation's new band office was designed and developed from scratch, the Community Solar Program exists exclusively for buildings that already exist, and that are already connected to a public utility's power grid. MacGregors Industrial Group had a big incentive to develop the Pictou Landing First Nation band office because it could use the finished product as a demonstration building, but a band that wishes to participate in the Solar for Community Buildings Program will not be able to offer incentives quite like that one to the businesses it wishes to attract. If a band wishes to partner with private businesses in order to finance proposed solar arrays, it may need to think creatively about other kinds of advantages and incentives those businesses would gain from taking part in the project.

Summary

The Solar for Community Buildings Program comes with potential risks as well as potential benefits. At heart, the program has been designed to facilitate business arrangements, and those arrangements come with the kinds of risks that attend most business ventures. For example, participation in the program would require you to pay (or to find partners who can pay) the upfront costs of procuring, installing, and maintaining your solar arrays. The power purchase agreements that the program facilitates are intended to last for twenty years. It is probable that the during the first ten years of operating your solar array, all of the money generated by selling your solar energy will go directly to repaying the debt that you will have to take on to pay the upfront costs. In other words, it may be ten years or more before the solar array begins to generate financial assets that your community can keep and distribute as it chooses.

On the whole, the Solar for Community Buildings Program is a program that requires long-term planning and follow-through. It has the potential to generate substantial benefits for Mi'kmaw communities, but, as with other kinds of long-term investments, communities will have to be both patient and diligent before the project bears fruit. The program materials that are available online give very helpful summaries of the risks and benefits associated with the program, and will be useful tools for facilitating informed discussions in your community.

[20] http://www.acoa-apeca.gc.ca/eng/ImLookingFor/ProgramInformation/Pages/ProgramDetails.aspx?ProgramID=2. See also http://thechronicleherald.ca/novascotia/1263413-pictou-landing-first-nation-to-get-green-office.

Existing Renewable Energy Projects in First Nations in Nova Scotia

Millbrook First Nation: Millbrook owns its 6 MW wind energy project with Firelight Infrastructure Partners and juwi Wind Canada. The project was approved in November of 2014 under the Community Feed-In Tariff (COMFIT) program, and was developed by juwi Wind Canada. Partnership involved educational internships, apprenticeships, and post-construction employment to operate and maintain the development. Millbrook also established a solar PV project for its local gym, and that project was funded by the now-concluded ecoENERGY program.

Eskasoni First Nation: In partnership with Millbrook First Nation, Eskasoni partnered with juwi Wind Canada to access the now-concluded Community Feed-In Tariff (COMFIT) program. Eskasoni also established a solar PV project for its Cultural Centre through the ecoENERGY program.

Potlotek First Nation: Solar PV developed for Mi'kmawey school with ecoENERGY funds.

Membertou First Nation: In 2014, the Membertou K-6 elementary school underwent Energy efficiency upgrades completed by Efficiency Nova Scotia in order to reduce energy costs to less than $40,000 per year. Solar PV system installed with ecoENERGY funds in order to further offset energy costs.

Whynotts Mi'kmaq Wind Project: This 4 megawatt project was completed in 2014. Two wind turbines are situated about 5 km east of Bridgewater, Nova Scotia.

What Has Been Working In Other Provinces Across Canada?

Alberta

- Alberta Indigenous Solar Program (AISP)
    - Introduced in 2016, the AISP provides grants covering up to 60 per cent of the cost (no more than $200,000) of installing solar panels on community buildings on First Nations, Métis Settlements and indigenous organizations.

- Alberta Indigenous Community Energy Program

British Columbia

- B.C. Indigenous Clean Energy Initiative
- Community Energy Leadership Program

- W Dusk Energy Group

Nova Scotia

- COMFIT program (concluded)

Ontario

- Independent Electricity System Operator's Energy Partnerships Program
- Aboriginal Renewable Energy Fund
- Aboriginal Community Energy Plans

Manitoba

- Aki Energy

Case Studies

Case Study 1: T'Sou-ke Nation

T'Sou-ke Nation is located on Vancouver Island in British Columbia, and has a population of 250. Energy autonomy was identified as a community priority during a community planning process, which led T'Sou-ke Nation to become a "Solar City." The total budget for the community's solar power infrastructure was over 1 million dollars, and the project was funded by the BC Ministry of Energy's Innovative Clean Energy Fund as well as 15 other private and public sources. T'Sou-ke now has:

(1) a 75 kW solar photovoltaic installation made up of three projects (administration buildings that produce as much, or more, electricity than they use; solar power generation at the Fisheries Building that makes the building "off-grid"; and, an installation that sells solar power to BC Hydro through a feed-in tariff);

(2) about half of the community's homes fitted with solar hot water systems; and,

(3) an energy conservation program.

Throughout the installation of the solar hot water systems, members of T'Sou-ke were trained by the Canadian Solar Installers Association and became certified installers. The nation has complete legal and financial ownership of their solar power developments, and it has become an eco-tourism destination where visitors can learn about its infrastructure and process. The nation has also partnered with Colwood City to retrofit 1000 homes there.

Case Study 2: Rainy River First Nation

The Rainy River First Nation's Solar Limited Partnership is a 25 MW solar project involving three special-purpose subsidiaries. The Manufacturers Life Insurance Company and Sun Life Assurance Company of Canada agreed to $132.5 million non-recourse construction and term project financing. Additional investors involved are Connor, Clark & Lunn Infrastructure, and Terma Capital Corporation—Rainy River First Nation's financial and operating partner.

Electricity generated by the solar project will be sold under three different twenty-year Feed-in-Tariff agreements with the Ontario Power Authority.

Case Study 3: Lutsel K'e Dene First Nation

Lutsel K'e Dene First Nation is a remote fly-in Dene First Nations community of about 350 people, and is located in the Northwest Territories (east of Yellowknife). It is the first independent solar power producer there. The nation worked with Arctic Energy Alliance to issue a request for proposals in 2014. It selected Northwest Solar Inc. in partnership with the Canadian Solar Institute to design and install the system. Some community members also received training related to the installation, and youth in the community learned about it at school from those involved in the project.

Lutsel K'e received financial support from the EcoENERGY for Aboriginal and Northern Communities program, the government of the Northwest Territories, and Bullfrog Power. The nation itself also provided significant in-kind contributions of time and resources. The 35 kW solar photovoltaic array is owned and operated by the nation, and is grid-tied to the Northwest Territories Power Corporation by a Power Purchase Agreement that provides revenue for the nation.

What Resources Exist to Help with Training?

Nova Scotia Community College: Energy Sustainability Engineering Technology (ESET) program: This two-year program aims to equip graduates with knowledge and skills to work in the fields of alternative energy, sustainability, and energy systems management. Applicants need to have completed a high-school diploma, and the course is offered in the Annapolis Valley and Dartmouth Harbourfront Campuses.

Solar Energy International (SEI): SEI offers a wide range of online courses starting from the basics of solar energy systems up to more complex topics such as understanding the energy code and advanced system design. This organization is based in Colorado; however, it offers courses to people across the world.

Students can also sign up for the Solar Professionals Program in which they undertake several 100-, 200-, and 300-level courses followed by a week-long training program at the SEI campus in Colorado. SEI also offers many excellent solar resources such as textbooks and curriculum. Their trainers are available to deliver training courses to organizations around North America.

Canadian Solar Institute: CSI offers several solar training courses at locations across Canada. Courses available include 5-day design and installation, as well as a 2-day course on the Canadian Electrical Code as it relates to solar PV.

North American Solar Academy: The NASA is an Ontario-based organization providing training on solar PV and thermal systems. They have a mobile training team that can travel to locations across Canada for training sessions. They offer business planning and consulting services for people and organizations interested in starting a solar business.

The Economics of Solar Power in Mi'kmaw Communities in Nova Scotia

Funding vs Financing: What's the Difference?

Funding refers to sums of money that do not need to be repaid. Funding is awarded by, for example, funding agencies, foundations, and governments, and usually has to be applied for. There are also typically reporting and administrative needs (e.g., reports on what the money was spent on, spending deadlines, etc.).

Financing, on the other hand, refers to sums of money that that must be repaid, usually with interest. Unlike funding, which does not need to be repaid, financing is usually given by banks, shareholders, or business investors with the hope that these lenders will gain future profits from their investment.

Potential Funding Sources

1. *Bullfrog Power*

Bullfrog Power is a Canadian social enterprise that has been operating since 2005 with a mandate to bring renewable energy to homes across Canada. To date, it has funded more than 60 green energy projects across the country. Bullfrog's previous and ongoing work with First Nations communities throughout Canada include the following projects:

(1) Lubicon Lake Band Piitapan Solar Project: An 80-panel solar installation with "support from Bullfrog Power community."

(2) Partnership with First Nations Power Authority: Saskatchewan's First Nations Power Authority is a non-profit organization that facilitates First Nations-led power projects, and it has partnered with Bullfrog Power to support solar projects in remote First Nations.

(3) Tsleil-Waututh First Nation Community Centre: A 40-panel solar tracker with support from Bullfrog Power that is responsible for 90% of the band's daycare centre's power.

(4) Xeni Gwet'in First Nation: Bullfrog is supporting increased solar energy generation capacity within this community.

(5) Vuntut Gwitchin First Nation: Bullfrog Power is providing financing for the planning phase of a new solar project.

(6) Kluane First Nation: A 275 kW wind project receiving funding from Bullfrog Power.

(7) Lutsel K'e Dene First Nation: A 35 kW solar project (144 solar panels) with "support from Bullfrog Power community."

(8) Montana First Nation: A 20 kW solar installation developed in partnership with Bullfrog Power and Green Arrow (a Montana First Nation renewable energy company). This project also involved a solar training program for youth.

(9) Kitasoo/Xai'Xais First Nation: A 23 kW solar installation on the roof of the Kitasoo Community School in Klemtu. Kitasoo/Xai'Xais First Nation partnered with Bullfrog Power, ELSE, Tides Canada Initiatives Society, Vancouver Foundation, and Great Bear Initiative to develop its solar project.

As of yet, there have been no partnerships between Bullfrog Power and Mi'kmaw communities in Nova Scotia.

Questions that are helpful in determining whether BullFrog Power will be interested in your project are:

(1) What stage is the project at? What work has already been done to bring the project online?

(2) Who are the partners working on the project?

(3) Who will be the final owner of the installed equipment and the power generated?

(4) What is the intended size (kW's) and generation type (solar, wind, micro-hydro, tidal)?

(5) When do you expect the project to be complete?

(6) Do you have the engineering and legal approval for the project?

(7) What amount of money do you need?

(8) What form of funding do you require? Grant, loan, equity?

(9) Will Bullfrog Power have the right and ability to share the story of the project and the community with the public and its customers?

(10) Why is the project in need of funding?

(11) How does this project demonstrate a unique or potentially leading-edge example of community-based renewable energy development? How will this project help encourage other communities across Canada to use renewable energy as well?

(12) Is there an experiential element to the project?

2. *Environment and Climate Change Canada EcoAction Community Funding Program*

While the funding opportunity closed on December 23, 2016 (after being extended from December 12th due to some technological complications during the submission process), it may be opened again. The program supports action projects in the following areas: clean air, clean water, climate change, and nature. Projects in the area of climate change are to reduce greenhouse gas emissions or to reduce the impacts of climate change. There is an Applicant Guide and application form available online. Eligible grant recipients, according to the website, include: environmental, community, and youth and senior groups; Aboriginal organizations; community-based organizations; and, service clubs. Four success stories are listed from 2013.

The Atlantic regional office is in Dartmouth, and is located at 45 Alderney Drive, Queen Square. This is where applications would need to be submitted. The office can be reached by phone (902-426-8521 or 1-800-663-5755) and email (ec.ecoactionnationale-ecoactionnational.ec@canada.ca).

Environment and Climate Change Canada recommends that the project idea be shared with their Regional Program Officer at least two months before a deadline so that it can be reviewed for its eligibility and so that an Officer can provide feedback to strengthen the proposal.

3. *Green Municipal Fund*

The Green Municipal Fund (GMF) offers funding and knowledge services to municipalities, including First Nations, and partners for sustainable community development. It funds three stages of initiatives:

(1) plan development;

(2) feasibility studies and pilot projects; and,

(3) project implementation.

Energy is one of the areas the fund focuses on. Funded plans include neighbourhood action plans that build on municipal plans, community brownfield action plans, and greenhouse gas (GHG) reduction plans. These plans fund 50% of eligible costs, up to $175,000. Only municipal governments and municipally-owned corporations as partners to a municipal government are eligible for "plans" funding. Funded studies can receive 50% of eligible costs, up to $175,000 for feasibility studies and up to $350,000 for pilot projects. Applications for capital projects have a deadline of March 1, 2017. GMF will fund municipalities and their partners via a loan of up to $5 million and a grant that is 15% of the loan. Partners to municipal projects require a credit risk assessment. Loans (in combination with the grant) are available to fund 80% of a capital project.

First Nations may apply for the program with equivalent standing to "municipal government applicants" *if* the nation has the status of a municipality and the nation is a "legal entity capable of entering into contracts." First Nations can also partner with municipalities, municipally owned

organizations, for-profit enterprises, and nonprofit organizations, if advantageous, to obtain funding.

Energy sector funding supports energy efficiency in new construction of a municipally-owned building and retrofitting of municipal buildings that reduces energy consumption by 30%, with 20% of that arising from improved efficiency and retrofitting in communities (e.g., homes) that results in a minimum of 10% reduced energy use. Stand alone renewable energy production sites are not eligible unless they occur on a brownfield site.

The following are some examples of energy-sector partnerships between municipalities and First Nations throughout Canada. The China Creek Micro Hydro Project was developed by the Hishinski Economic Development Corporation Inc., the Hupacasath First Nation, and the City of Port Alberni, who came together to co-develop a mini-hydroelectricity to power 950 homes. In Ontario, Curve Lake First Nation and Hiawatha First Nation are part of a collaboration between ten municipalities that are developing a climate action plan in and around Peterborough. The plan will contain goals, actions, and greenhouse gas emissions targets that will address the needs of each municipality and First Nation. Finally, Northern Sunrise County, Alberta, in partnership with the Village of Nampa and Woodland Cree First Nation, received a capital project loan and grant to build a LEED Silver water treatment plant.

Contact information: 613-907-6208 or 1-877-997-9926. Application resources and forms are available here.

4. *Indigenous and Northern Affairs Canada First Nation Infrastructure Fund*

The Indigenous and Northern Affairs Canada (INAC) First Nation Infrastructure Fund (FNIF) supports a range of infrastructure projects on reserve and Crown land, or land set aside for use by First Nations. The program's targets include projects falling under the categories of "planning and skills development" and "energy systems."

INAC identifies eligible projects based on what is in the First Nation Infrastructure Investment Plan, but each project's eligibility is based on having a Band Council Resolution that aligns with "Canada's objectives towards sustainable growth and climate change," having a strong and justified budget proposal that is below $10 million dollars. The plan has not yet been released for 2016-2017, but the 2015-2016 plan did include renewable energy developments.

The Atlantic Regional Office can be reached by phone (1-800-567-9604 or 902-661-6237) and is located at 40 Havelock Street in Amherst, Nova Scotia.

5. *Infrastructure Canada Small Communities Fund*

As part of the 2014 New Building Canada Fund's Provincial-Territorial Infrastructure Component-Small Communities Fund (PTIC-SCF), Infrastructure Canada has set aside $1 billion for communities of 100,000 residents or less. Projects must improve economic growth, provide

for a cleaner environment, and strengthen communities. “Green energy” is an eligible category.

Eligible recipients include band councils or a government/authority established via a Self-Government Agreement or Comprehensive Land Claim Agreement. On-reserve projects must demonstrate how their benefits will extend beyond the reserve.

6. *Leonardo DiCaprio Foundation*

The Leonard DiCaprio Foundation (LDF) has six focus areas that include climate change, innovative solutions, and Indigenous rights. It was founded in 1998, and it has supported over seventy projects across fifty countries. The focus areas of its grants program are:

(1) protecting wildlife;

(2) saving our oceans;

(3) restoring wildlands; and,

(4) empowering communities.

The fourth focus area, “empowering communities,” may be the most relevant for renewable energy developments in Mi’kmaw communities.

The LDF highlights five project values that it looks for in project, all of which arguably apply to renewable energy development by Mi’kmaq in Nova Scotia. The foundation prioritizes protecting key species and biodiverse ecosystems, empowering local communities, supporting Indigenous leaders and nations in being land stewards, illustrating the benefits of environmental protection and successful intersectoral partnerships, and implementing appropriate financing processes.

The foundation recently awarded a number of grants, and there do not seem to be current and open calls on the foundation’s website; however, there will certainly be open calls again. To date, the foundation has awarded $59.6 million dollars. The LDF team is comprised of six people, but their contact information is not available online. The foundation can be contacted directly via its website.

6. Nova Scotia Office of Aboriginal Affairs: Aboriginal Community Development Fund

The Aboriginal Community Development Fund (ACDF) supports community-led projects and initiatives that will economically benefit Mi’kmaq in Nova Scotia. It is meant to be used to leverage further support. There are four streams:

(1) community and economic development planning (e.g., business planning, conceptual designs, feasibility);

(2) strategic capacity building (e.g., start-up support, revenue development);

(3) conferences, workshops and event support (e.g., event planning, facility rental, facilitation fees); and,

(4) Aboriginal / Mi'kmaw innovation (i.e., pilot project, demonstration project).

The fourth category may be best-suited to financing solar projects in Mi'kmaw communities.

Eligible applicants include Mi'kmaw band councils as well as Aboriginal organizations and provincial- or federal-led initiatives that serve Mi'kmaq. Under the ACDF, 10% of the budget for a proposed project must be cash contributions from elsewhere. Proposals must include a project description, objectives, outcomes, and budget. Guidelines are available online.

For more information, Clary Reardon (Director of Policy) can be reached by phone (902-424-4931) and email (clary.reardon@novascotia.ca). Heather Ternoway (Policy Analyst) can also be reached by phone (902-424-4339) and email (heather.ternoway@novascotia.ca).

7. *Tides Canada Clean Energy Canada Program*

Tides Canada is a non-profit organization focused on "social change philanthropy," and it is committed to supporting "a healthy environment, social equity, and economic prosperity." The organization has offices in Vancouver, Toronto, and Yellowknife. Its projects include clean energy, but it appears that funding commitments are required to join the organization's "shared platform," and that projects become a part of Tides Canada when benefiting from this shared platform.

To discuss potential opportunities of working together, the organization's contact person is Todd Jacques (Director of Strategic Initiatives).

Comment [1]: Is this program relevant?

8. *Ulnooweg Development Group Inc.*

Ulnooweg's Nova Scotia office is in Truro, and the development group been in operation since 1986. It offers loans up to $250,000, as well as grants. Ulnooweg describes itself as an "Indigenized" development group that incorporates the "beliefs, customs, values, etc. of the Mi'kmaq nation," and it offers a range of interest rates and repayment schedules. It supports businesses that may not be eligible for other loans, and its staff is made up of business development officers that have experience working with Mi'kmaw partners.

It also has a Financial Education Centre as a resource for First Nations governments. Its youth loan and general loan programs would be a good fit for anyone or any community interested in starting up or further supporting a renewable energy-related business (e.g., installation, assessment, and/or production). Its Aboriginal Business Development Program assists from the stages of business planning and feasibility through to financial services and new process/product development.

9. *J.W. McConnell Foundation, National Association of Friendship Centres, and Indigenous and Northern Affairs Canada Indigenous Innovation Demonstration Fund*

Early stage and/or expanding social innovation and enterprise projects are encouraged to apply for funding provided by the partnership between the J.W. McConnell Foundation, the National Association of Friendship Centres, and Indigenous and Northern Affairs Canada. Expressions of interest were open until September 16, 2016 in two areas:

(1) "coaching," which provides $10,000-$20,000 for development; and,

(2) "impact," which provides funding up to $100,000 to scale up established enterprises.

To learn more about the current process and to find more information, visit http://nafc.ca/en/initiatives/iidf/. While the 2016 funding opportunity is closed, it may be important to keep these resources in mind for the future.

Comment [2]: I have sent an inquiry to the IIDF about any future opportunities.

Comment [3]: interested in knowing whether this will be available again!

Comment [4]: i wonder if a table can be made to compare these mechanisms easily with interest rates, and amount given, focus on FN, focus on solar, et c?

Potential Financing Sources

Lack of available financing creates a consistent challenge for First Nations who are looking to develop renewable energy projects. This situation is changing, however, as governments and lenders are creating innovative financing models to address the unique needs of First Nation communities.

Financing creates excellent opportunities for First Nation communities to begin the process of making cost-effective energy efficiency investments *before* solar equipment purchases. Depending on the type of upgrades being undertaken, initial investments in efficiency can significantly reduce purchase and installation costs of solar PV systems. This is especially true of off-grid systems, but it also results in a shorter pay-back period and greater return on investment for grid-tied systems.

Our recommendation is that communities assess their energy consumption patterns and identify areas for improvement. This process can be undertaken with technical support from Efficiency Nova Scotia. Efficiency upgrades will assist First Nation communities in reducing waste, maximizing available resources, and increasing the economic impact of any potential solar PV project.

2. *First Nations Market Housing Fund*

This organization is a registered not-for-profit created by the Government of Canada and tasked with increasing the supply of homes in First Nation communities. The fund helps First Nation communities access private financing for house loans with the best possible terms.

There are no fees charged when applying to the fund. The fund works by creating an alternative

form of security for housing loans made on reserves. The "Credit Enhancement" program seeks to give people on reserve the same opportunities as the rest of Canadians.

The 300 million dollar program works by guaranteeing loans to First Nation communities and reimbursing lenders in the event that the homeowner or the First Nation is unable to pay. The use of borrowed funds for home improvements, renovations, and energy efficiency upgrades could be beneficial for installing solar.

Doctor Solar is responsible for both residential and commercial solar installations in Nova Scotia, and has been for the last twenty years. Since 2008, it has been a subsidiary of Scotian Windfields Inc. (Scotian Renewables Inc.). Examples of projects can be found online.

The company installs both solar hot water systems and solar PV systems. It also has a partnership with Credit Union Atlantic that enables it to offer financing rates for people to purchase solar panels.

Doctor Solar advertises features that include rates as low as 3.99%, maximum amortization of ten years, a payment schedule that buyers choose for themselves, and fixed and variable rates that buyers can renegotiate if need be. Interested parties can contact Doctor Solar to discuss options that might suit their unique needs.
To work with Doctor Solar, begin by booking a solar assessment. The company will then carry out a solar assessment, and contractual negotiations will begin after that. Following this, the installation will be booked, and Doctor Solar will carry out the installation (which usually takes one day). The company will then review how everything works.

Doctor Solar can be contacted by phone (902-468-3132) and email (solar@doctorsolar.ca). The company's address 75 Akerley Boulevard, Unit 1A in Dartmouth.

To work directly with Credit Union Atlantic Canada you can visit its website here and find the nearest branch by searching here.

Comment [5]: Credit Union Atlantic can have its own section

4. *Scotiabank Scotia EcoEnergy Financing*

This financing program has been designed to develop renewable energy projects, including solar power. Financing is provided for developments incentivized by governments, and it can be used for 100% of the start-up costs. Features of the program include three term loan options with amortization up to 15 years and loan repayment that matches the loan repayment frequency of Nova Scotia Power.

The contact number for the financing program is 1-877-552-5522.

5. *Aboriginal Banking Unit at Bank of Montreal*

The Aboriginal Banking Unit at Bank of Montreal offers project financing for solar farms. The program also offers on-reserve home renovation loans for parties who are looking to implement energy-efficiency upgrades. These loans can range from $5,000 to $25,000.

6. *Stonebridge Financial Corporation*

In July 2016, Stonebridge announced a 21 million dollar long-term, fixed rate debt financing for two wind power projects in Amherst and Pictou County. The projects are owned indirectly by Natural Forces Wind Inc., Wind4All Communities III Inc., and Pictou Landing First Nation. According to Natural Forces Wind Inc., the project is currently under construction.

Stonebridge has offered project financing for many types of renewable energy developments (including solar), and it does so in ways that are project-specific. In general, the corporation offers limited or non-recourse financing that is repaid using the project's profits. Its features include fixed and variable rate options and fixed long-term interest rates.

The corporation has offices in Toronto, Oakville, and Quebec, and it can be reached by phone in Toronto at 416-364-3001.

7. *Innergex Group*

Innergex is an independent Canadian power producer that has done work in Ontario, Quebec, British Columbia, France, and Idaho, USA. They are a potential partner; however, they have not yet worked in Nova Scotia and have only developed one solar farm in Ontario.

8. *Innovacorp*

Innovacorp provides venture capital to start-up businesses in their early stages in Nova Scotia. The corporation aims to fund the province's technological entrepreneurs, and it provides advisory services more generally.

The corporation is based in Halifax, and can be reached by phone at 902-424-8670.

9. *Nova Scotia Cooperative Council*

The Nova Scotia Cooperative Council has a Renewable Energy Program that supports cooperatives that wish to finance renewable energy developments. If a cooperative is desired, business development officers throughout Nova Scotia can offer guidance around the program.

The staff person listed as the Business Development Officer is Jonathan McLelland, who can be reached by phone (902-245-8776) and by email (jonathan@novascotia.coop).

10. *First Nations Finance Authority*

First Nations Finance Authority (FNFA) is a non-profit organization that operates under the *First*

Nations Fiscal Management Act, 2005 to provide capital to First Nations at lower rates than what would be available through a bank.

The capital that is provided through the organization is intended to develop infrastructure and to carry out activities with, for example, the ability for communities to amortize infrastructure for up to thirty years. It is governed by the First Nations communities that become "borrowing members."

In the past, FNFA has provided financing for solar power development. It has worked with a First Nation in Nova Scotia. Membertou First Nation refinanced a commercial loan with FNFA and saved over $140,000 each month in interest rates. Since 2014, FNFA has lent 297 million dollars to thirty-five First Nations.

In order to finance a project through FNFA, a First Nation must be certified by the First Nations Financial Management Board (FNFMB), which involves a letter of cooperation being sent to the FNFMB and a Band Council Resolution that gives FNFA access to five years of financial records. The full description of the FNFA's borrowing process is outlined here.

Comment [6]: was the financing provided to FN community in NS to do a solar project?

FNFA is based in Westbank, British Columbia and can be reached by phone (250-768-5253 and 1-866-575-3632) and email (info@fnfa.ca).

11. *Nova Scotia Department of Energy Community Buildings Solar PV Pilot Program*

Nova Scotia launched a Community Buildings Solar PV Pilot Program in the spring of 2017. The program aims to help communities throughout Nova Scotia take part in the province's transition to clean energy, determine the role that solar electricity could play in the province overall, and shape the narrative and strengthen education about solar power in Nova Scotia.

The program is designed to facilitate power-purchase agreements between Nova Scotia Power and individual communities that would like to generate and sell solar PV energy. As part of the application process, interested communities will need to name the price at which they would like to sell their solar power. The Ecology Action Centre estimates that bid prices will be between twenty and thirty cents per kWh.

The first application process is currently underway 2017, and two more application processes will occur in 2018 and 2019.

Because this program may be particularly promising, a more detailed summary is provided in the second half of this research report.

Indigenous-owned Renewable Energy Companies in Canada

TWN Wind Power Inc.

Green Arrow (Montana First Nation)

Supportive Organizations to Learn From and/or Connect With

3GEnergy: This company is based in Ottawa, Ontario, and has worked with over ten First Nations, including two Ontario First Nations, to create four solar projects. Among other services, it offers wind and solar resource assessments, budgeting and financing, help with government funding agencies, project management, and equipment procurement.

Antigonish Energy Cooperative: The Antigonish Energy Cooperative was established in 2015 as part of a community-based energy sustainability plan in the town of Antigonish. The program facilitates group purchases of solar equipment and coordinates the array installations by professionals. The group's initial goal is to install one megawatt of PV spread over approximately 100 homes, businesses, and organizations within the community.

The cooperative also seeks to help impoverished members of the community by raising money for installations. It currently operates a "gofundme" page, and is accepting donations online. Membership in the organization costs $5 and gives members a voice, as well as access to the facilitated group purchases and to discounted equipment.

This is not an external funding model, but rather is a community-organized purchasing program for solar equipment backed by installers. This model could work if multiple First Nation communities joined forces to make equipment purchases, and it could also coincide with training program with trainees from different communities.

Aki Energy: Aki is a non-profit Aboriginal social enterprise based in Manitoba. It has helped to develop geothermal energy in Peguis First Nation and River Cree Nation. It provides technical expertise, financing development, project management, and training and employment opportunities to members of the First Nations with whom it works.

Business Development Bank of Canada: Aboriginal Banking: This branch of the Business Development Bank of Canada offers financing and the Aboriginal Business Development Fund

Comment [7]: Put in alphabetical order and include contact information.

Comment [8]: Also add, Bullfrog Power, Ecology Action Centre, Beaubassin, and WDusk.

Comment [9]: Louis Joe was talking about starting a coop so that there can be a group buy in Waycobah. This would make the ACE Coop a great case study instead of part of this list.

Comment [10]: Also, check out the video I just made about ACE(it's short) https://www.youtube.com/watch?v=HhI-sOHJyOs&t=2s

Comment [11]: Great video!!

for entrepreneurs and new Indigenous-owned businesses.

Canadian Council for Aboriginal Business: Their tools and financing for Aboriginal Business connects entrepreneurs to resources, support, and potential partners across Canada.

David Suzuki Foundation: The current projects and ways to be involved do not outline particular funding or financing options, but the David Suzuki Foundation is a group that is interested in supporting Canada's transition to clean energy. It also aims to support the ability of Indigenous nations in Canada to lead the way.

Ecology Action Centre: The Energy Action Team at the Ecology Action Centre inspires Nova Scotians to prosper in a future that is free of fossil fuels, where energy is used as efficiently as possible. Through education, consultation and advocacy with the public and government, the EAC works for a just transition into this future.

First Nations Power Authority of Saskatchewan: First Nations Power Authority (FNPA) is a First Nations-governed, not-for-profit organization unlike any other in North America. Its role is to facilitate First Nations-led power projects and partnerships with SaskPower, the Crown utility for the province, based on a unique ten-year contract that it has with the utility.

JAZZ Solar Solutions: Based in Ottawa, this company works to design, develop, and install solar energy infrastructure for homes and more. It has worked with Pikwakanagan First Nation in Ontario to develop solar power in that community, and it also creates training opportunities and employment. Pikwakanagan First Nation's experience with the company is described here.

Joint Economic Development Initiative (New Brunswick): The Joint Economic Development Initiative's Workforce Development Program offers a potential model for developing training opportunities in Nova Scotia.

Lumos Energy: 20/20 Catalysts Program: The 20/20 Catalysts Program is an interactive three-month program that connects First Nations, Métis, and Inuit Catalysts to a network of Indigenous and non-Indigenous Clean Energy Project Mentors and Coaching Specialists involved in clean energy project development – including: energy efficiency, solar, wind, hydro, biomass, and geothermal, both on and off-grid.

MEMSKI Projects Inc.: This partnership project between Membertou and Eskasoni has the potential to facilitate employment for Mi'kmaq in the renewable energy sector.

People Power Planet (PPP) is a research partnership that spans across Canada. It is funded by the Social Sciences and Humanities and Research Council (SSHRC), and is led by Dr. J.J. McMurtry at York University and Judith Lipp of TREC Renewable Energy Cooperative. The partnership has produced a summary of Nova Scotia's electricity sector, renewable energy context and current developments, renewable energy resources, and more.

Transformation International: Transformation is an Indigenous-owned consulting business based in Vancouver, British Columbia that offers its services to First Nations (and businesses, governments, etc.). It offers support in four areas: lands and resource management, economic development, industry advisor/corporate engagement, and facilitation/training. Specifically, Transformation works with businesses, First Nations, and corporations to establish "integrative relationships," and to identify joint venture opportunities. It also provides taxation services, project management, and proposal writing.