

Growing Indigenous Power

A Review of Indigenous Involvement &
Resources to Further Renewable Energy
Development Across Canada

February 2018



PEOPLE POWER PLANET



TREC Renewable Energy Co-op is a non-profit organization that advocates for and supports the transition to a 100% renewable energy. Founded in 1998, TREC built the first co-operatively owned wind project and one of the largest solar co-ops in Canada. TREC believes our energy future must involve ownership by the people of Canada to build community resiliency and enable sustainable economic practices. TREC works closely with the co-op and environmental sectors as well as Indigenous groups to support their renewable energy goals. In partnership with our charitable sister organization TREC Education, we support knowledge sharing, skills development and training for Indigenous youth and leaders.

Authors

Judith Lipp, Research Director, TREC; Sarah Bale, Research Assistant, York University

Acknowledgements

TREC and the authors wish to thank the **People, Power, Planet Partnership (PPPP)** for supporting the research that contributed to this report, as well as the Social Science & Humanities Research Council for funding the PPPP.

We also wish to acknowledge, recognize and thank the many Indigenous community leaders (chiefs, economic development officers, technicians, etc) who shared their project experiences so we can begin to understand best practices and share information and lessons learned between all who believe in building a renewable energy future. Much of the information for this report was gathered from generous individuals who presented their project experiences at conferences, forums, and workshops, which the authors had the privilege of attending (see Appendix B), and who provided insight about common challenges and opportunities of Indigenous involvement. We thank all those individuals for sharing their perspectives and lessons learned so that those who follow in their footsteps of undertaking projects may benefit from past experiences and help shape effective policies and programs across Canada going forward.

With many thanks to contributions from:

Michael Bakaic, David Cork, Jason Latremaille, Meghan McMorris, Yvette Maiangowi, Stephanie Pinnington, Mumtaz Derya Tarhan, Linda Varekamp

We wish to acknowledge and thank the Chiefs of Ontario for their support in coordinating a peer review of this report, and for a successful collaboration on their **First Nations Electricity Report**, funded by the IESO's Education and Capacity Building program, which was used as a resource for this report.

A special thanks also to Dr. Heather Castledon, Robert Stefanelli and Alyssa Aiello from the **Health, Environment and Communities Research Lab** (Queens University) for their thoughtful review of this work.

Front page graphic created by Macrovector - Freepik.com

Disclaimer

This report should serve as a general reference only. It is not a legal interpretation of any policies, programs or regulations, nor does it intend to provide detailed program and eligibility criteria. Links to government legislation, policies and programs have been provided wherever possible, however the authors are not responsible for outdated information or changes to programs that have occurred since the writing of this report. We recognize that many of the issues discussed in this report are ongoing and may be politically complex. The information in this report is intended to help Indigenous communities, governments and potential partners in the understanding of the potential benefits of and challenges to renewable energy development, and should only be used as a supplementary guide when making a determination to devote time and resources toward developing a project. We respect the views of the original peoples of Canada, and support more opportunities for cross-community dialogue.

Executive Summary

As Canada generates an expanding proportion of its energy from Renewable Energy (RE) sources such as wind, solar, biomass and geothermal, First Nations, Inuit and Métis communities residing across Canada are playing an increasing role in these projects. “Indigenous Power” projects, as we call them in this report, are RE projects that include some level of ownership by an Indigenous community, where the community either leads the project themselves or participates as a majority or minority stakeholder in partnership with a commercial developer.

Throughout Canada’s history, there are many examples of energy projects that have caused damage to traditional territories and infringed upon the rights of Indigenous communities, including RE projects such as large-scale hydroelectric projects (McLachlan, 2014; Calder et al, 2016; Wilt, 2016). Both developers and governments are beginning to understand they will have greater success in building RE projects, if they engage Indigenous communities to participate meaningfully as stakeholders and beneficiaries. Further, many Indigenous communities are increasingly playing a leadership role in building RE projects that can generate revenue in a way that is consistent with cultural and environmental values. RE technologies allow for smaller scale and distributed installations, which, compared to traditional bulk generation, make them more accessible for community participation, especially if favorable policies and support programs exist to help communities compete with large developers.

This report attempts to highlight the current state of Indigenous Power across Canada, by exploring the potential benefits such projects can bring to communities, featuring examples of Indigenous Power projects, and outlining the various supportive policies and programs that exist in each province. We also present challenges, common themes and lessons learned from project practitioners, and provide some suggestions about policy considerations and areas for future research and discussion.

The information in this report is intended to assist both Indigenous proponents and potential partners in understanding the potential benefits and challenges to RE development, recognizing and celebrating the accomplishments that have already been achieved and considerations for addressing barriers to future development. Policy-makers will also benefit from the examples and lessons gleaned across Canada. Findings have been gathered mainly through online tools, complimented by information gathered at workshops, forums and conferences that the authors had the benefit of attending. The examples provided are not exhaustive, and we understand that projects move quickly and policy is always changing. Thus, the information presented should only be used as a supplementary guide when making a determination to devote time and resources towards a project.

Though benefits vary depending on the types of projects, level of involvement and types of supportive programs in place, Indigenous Power projects have the potential to provide positive environmental, economic, social and health outcomes, and to contribute to greater self-determination within a community. Overall, a transition to RE can help to mitigate the negative environmental effects of fossil fuel generation, including climate change, air, soil and water pollution and habitat and biodiversity loss. Because of their strong connection to the environment, which is integral to social, cultural and spiritual ways of life, these effects often have a more severe effect on Indigenous peoples than on other Canadian citizens (AFN, 2006).

Beyond the environmental benefits, Indigenous Power can offer many benefits to a community, such as employment and training opportunities, regional development and spin-off economic benefits for local businesses (during the construction period). Going through the project development process can also provide important capacity building benefits, allowing communities to benefit from the skills and institutional knowledge gained, providing important capacity to future projects, and in some cases, mentoring other communities that are building similar projects. Indigenous Power development can also generate positive social outcomes, such as a stronger sense of belonging, and increased awareness of energy use. If communities are able to play a leadership role or are treated as respected partners throughout the process, RE development can help build self-determination, allowing communities to assert their independence. Projects are most successful if they boost community morale and generate a sense of pride and accomplishment (Jaffar, 2015).

The level and type of RE activity including Indigenous proponents across Canada varies greatly, and is largely influenced by provincial policies and programs that provide incentives and supports to communities.

Ontario, home to the largest population of Indigenous peoples in Canada, with approximately 22% of the country's population (Statistics Canada, 2016), has been quite successful in recent years with stimulating Indigenous Power development, made possible by the introduction of the Green Energy and Economy Act in 2009, which included the Feed-In-Tariff (FIT) program, the Large Renewable Procurement Program (LRP) as well as the Aboriginal Energy Partnerships Program (AEPP), which provides funding, support, and capacity building for Indigenous communities pursuing RE development. Approximately 23.5% of RE projects contracted under the FIT and program have had some level of Indigenous participation. Through both the FIT and LRP programs, approximately 565 Indigenous Power projects have been contracted, representing over 1400 MW of generation capacity (IESO, 2016b; IESO, 2017).

Several other provinces and territories have recently adopted overarching plans to help mitigate climate change, which include targets for more RE provision and specific Indigenous Power support programs. For example, Alberta, which currently has the lowest RE electric capacity percentage of all provinces (NEB, 2015), released their **Climate Leadership Plan** in 2015, with a goal to phase out coal and transition to 30% renewable electricity (up from 10% currently) by 2030 (Alberta Government, 2015a). Through the plan, the Alberta government has introduced **seven programs** that support Indigenous communities in developing RE projects, such as the Alberta Indigenous Solar Program, the Alberta Indigenous Community Energy Program, and the Alberta Indigenous Green Employment Program (Alberta Government, 2016b).

New Brunswick has also introduced specific policies to procure RE from Indigenous producers, through set-asides in the Locally-Owned Renewable Energy Projects that are Small-Scale (LORESS) program. The program awards contracts based on expressions of interest, rather than standardized rates, such as a Feed-In-Tariff, and the first component is expected to award 40 MW to "Aboriginal businesses."

Remote northern communities across Canada face unique challenges, as many are not connected to the centralized grids, and are reliant on expensive and polluting diesel that is often transported great distances. Several programs are being implemented across the country to help Indigenous communities transition away from diesel. The federal government has earmarked \$10.7 million over two years to implement RE projects in off-grid northern communities. Manitoba has made strides in extending the electricity grid to northern communities, cutting diesel emissions by nearly half, and Ontario is developing the First Nation-

owned Wataynikaneyap transmission line, which will bring grid connections to 17 of Ontario's 25 off-grid communities.

The Northwest Territories has made progress in building hydro, solar and biomass, but many northern communities remain unconnected to the electricity grid. The territory has several programs in place to procure more RE and move away from diesel generation, including the **Solar Energy Strategy**, the **Biomass Energy Strategy**, the **Energy Action Plan**, the **Net Metering Program** and the **Alternative Energy Technologies Program**. Nunavut is the only region in Canada without an electricity grid, and is currently almost entirely reliant on diesel for electricity and heat. However, some preliminary studies have assessed Nunavut's potential for developing wind, solar PV and run-of-river hydroelectricity. The government of Nunavut currently offers several energy efficiency incentive programs, and is beginning to develop policy to advance production of RE, including a Power Purchase Policy, which will allow individuals to generate and sell RE.

Across Canada, there are encouraging developments taking place in Indigenous Power. However, the majority of activity is taking place in provinces and territories that have policies and programs to incentivize RE development and support Indigenous capacity to meaningfully participate. However, even regions with favorable policies face challenges with ever-changing policy cycles, and misunderstanding of what's needed to build RE capacity in Indigenous communities. As argued in a report about Indigenous RE commissioned by the Chiefs of Ontario:

"Often the very mechanisms intended to encourage Indigenous involvement in the sector, fail to acknowledge capacity constraints, longer lead times and competing interests that limit how and how quickly communities can respond and/or participate. Moreover, many long-standing issues that are separate from but inform energy participation remain, not least, of course, the on-going need for recognition and respect of Indigenous title and Treaty rights across the country" (COO, 2016).

We found common challenges faced by Indigenous communities in pursuing a RE project included:

1. **Understanding timelines, assessing risks and managing expectations.** Developing a RE project often takes several years, and significant changes in circumstances may take place along the way. Project development timelines may conflict with electoral timelines or land negotiation timelines. Further, there are numerous risks that may arise throughout the development process, such as ensuring sufficient access to capital during the start-up phase, to cover costs related to regulatory approvals, feasibility studies, financial planning and community engagement. Many communities choose to create a commercial entity, controlled by the community, to negotiate and develop the project, reducing potential political delays and managing risk. Overall, communities participating in a RE project should expect long timelines, complexity and unexpected costs to arise over the course of a project (COO, 2016).
2. **Relationship to the land and environmental implications.** While RE projects have far fewer environmental impacts over a life-cycle basis than fossil fuel energy generation, RE projects too can have adverse impacts on the local environment, depending on how they are constructed and where they are sited. RE projects offer an opportunity to develop revenue and community capacity in accordance with Indigenous values and sustainable development goals, but the development process should always be carefully considered, and communities should be engaged from the

beginning and equipped with the necessary information and education to make informed decisions on a project (COO 2016).

3. **Capacity considerations for ensuring meaningful (& equitable) participation.** While smaller project scales make RE project development more accessible for new types of participants to get involved, including Indigenous communities, there are many barriers for smaller participants to navigate complex regulatory environments and compete with well-funded commercial developers. While several provincial capacity building programs (outlined throughout the report) exist to help address this gap, these programs do not always address community needs or respect conflicting priorities. It is important that these capacity building programs continue, but build on lessons learned. Moreover, capacity building takes more time than is often reflected in policy and programming cycles. Another important capacity-building tool is collaboration and knowledge-sharing, both among communities to share best practices and lessons learned, and between communities, government agencies, and commercial developers, to ensure policies, programs and development processes met the needs of local communities (COO, 2016).
4. **Working with project partners.** Many Indigenous Power projects involve partnerships between a community and a private, commercial developer. These partnerships can present challenges, stemming from differences in culture and approaches to doing business. Advice we heard for developers seeking to work with Indigenous communities to develop a RE project includes: engaging early and often; being patient and recognizing time constraints; learning about the community and striving for a genuine relationship, taking the time to build trust; clearly outlining the project details and benefits to the community; helping to build capacity by funding positions; and helping to cover equity financing. Advice we heard for Indigenous communities working with RE developers includes: considering on joining the project as a general (or majority) partner rather than a limited partner; securing good legal representation for partnership agreements; being involved from start to finish to protect your interests; ensuring you have clear terms of reference for the project phases; asking lots of questions and not allowing yourself to be rushed into deal making; and making employment and other community opportunities explicit in your agreements.
5. **Providing opportunities for the local workforce.** One of the potential benefits of an Indigenous Power project is the creation of jobs for local communities. However, developers often subcontract the engineering and construction work to companies who rely on unionized labour. Whether a community is partnering with a developer and/or hiring a construction firm for their own project, it is important to insist, in writing, on a certain number of employment positions. After working with a developer on a wind project, Millbrook and Eskasoni First Nations (Nova Scotia) developed a database of skilled community members and had them join the union, to address employment issues (French, 2016).
6. **Urgent and systemic community challenges.** Finally, it is important for developers and policy-makers to realize that many Indigenous communities face systemic issues that prevent them from participating equitably in the RE sector. Many communities are dealing with issues such as access to clean drinking water, housing, safety, youth suicide, and environmental disasters, among others. While RE development can offer many benefits, it may be difficult for a community to build the necessary capacity to undertake such a project when faced with so many crucial and

competing priorities (COO, 2016). It is important that these systemic issues are acknowledged and addressed outside of the scope of RE policies and programs, and that Canada's Indigenous peoples are afforded the same basic standard of living of all Canadians.

Across Canada, there is great diversity in the details of Indigenous Power projects, including the role of outside collaborators, the division of ownership, and the benefits gained by a community. RE projects can be rewarding, but also complex and risky, and it is important for Indigenous communities to have opportunities to come together and share their experiences.

This report is intended to provide a snapshot of Indigenous Power activity across Canada, as well as some of the benefits and challenges for communities participating in RE development. We hope activity and discussions in this area will continue, and that Indigenous peoples will be able to play a meaningful role in Canada's transition to renewable energy economy, while reaping important benefits and overcoming systemic challenges.

Table of Contents

1.	Introduction	1
	Report Outline	3
2.	Defining key terms	3
	Renewable Energy	3
	Clean / Green / Sustainable Energy	4
	Distributed Energy	4
	Community Power	5
	Indigenous Power	5
	Policy Mechanisms	6
3.	Potential benefits of Indigenous-owned renewable energy projects	6
	Environmental Outcomes	7
	Economic Outcomes	8
	Social Outcomes	9
	Health Outcomes	9
	Self-Determination	10
4.	Provincial & territorial overview of RE policy and Indigenous involvement	11
	National Electricity Mix	11
	Federal Government	14
	Alberta	16
	British Columbia	18
	Manitoba	20
	New Brunswick	22
	Newfoundland and Labrador	23
	Nova Scotia	24
	Northwest Territories	26
	Nunavut	28
	Ontario	29
	Prince Edward Island	32
	Quebec	33
	Saskatchewan	35
	Yukon Territory	36
5.	Key considerations & lessons learned in Indigenous project development	37
	Understanding Timelines, Assessing Risks and Managing Expectations	38
	Relationship to the Land and Environmental Implications	38
	Capacity Considerations for Ensuring Meaningful (and Equitable) Participation	39
	Working with Project Partners	40
	Providing Opportunities for the Local Workforce	41
	Urgent and Systemic Community Challenges	42
6.	Summary and areas of future research and discussion	42
	Appendix A: Indigenous Power project examples	44
	Appendix B: Workshops & Conferences Attended	54
	References	56

1. Introduction

Renewable energy (RE) in Canada is a topic of great importance as the country looks forward in its energy development, and explores how to balance its energy needs with its climate change mitigation obligations, as a means towards sustainable development. Largely driven by climate and environmental goals, provincial government commitments and policies over the last decade have led to great strides in energy efficiency and conservation, and have sparked the rise of a RE sector across Canada. RE production jumped 17% between 2005 and 2015, with 11% of Canada's installed capacity coming from wind, solar and biomass, up from just 2% in 2005. From 2000 to 2014, greenhouse gas emissions from the electricity sector declined by 40%, due to closure of coal plants, more RE generation, and increased efficiency efforts (National Energy Board [NEB], 2015).

While initial RE development in Canada was focused on hydro, wind and biomass energy, more recently we are seeing an expansion of solar photovoltaic (PV) energy, which has grown almost 14% each year since 2004 (Natural Resources Canada [NRCan], 2016a). As advances in technologies and growing cost-competitiveness have strengthened the business case for RE, there is growing evidence that RE development can have a positive effect on economic growth, employment opportunities and human welfare, above and beyond the environmental benefits (International Renewable Energy Agency [IRENA], 2016).

The distributed, smaller scale nature of RE technologies (compared to bulk energy generators using nuclear or fossil fuel sources), combined with more inclusive policy and support programs, has also begun to allow for more broad participation in RE generation projects. Traditionally, the majority of Canada's electricity generation has come from large centralized power plants owned either by large provincial utilities or corporations. Many RE projects, however, can be developed at any scale from the micro-/household level (especially for solar) to hundreds of megawatts in scale (e.g. wind farms). This shift in scale is beginning to change how we interact with the energy system, by allowing more participants to become generators as well as consumers of energy. RE projects are increasingly being developed by individuals, communities, farmers and non-energy businesses.

Among community participants, there is a growing number of First Nations, Métis and Inuit peoples pursuing RE projects across Canada, which for the purposes of this work, we will call "Indigenous Power." If done properly, there is much potential for Indigenous Power projects to support local economic prosperity, develop respectful relationships with developers and lead to increased capacity at the community level, in a way that is consistent with First Nations, Inuit and Métis values and traditions.

For many Indigenous communities, the land is a source of identity and culture, which comes with distinct inherent rights as well as responsibilities to protect and preserve the land. While treaties outline conditions for sharing the land between Nations, inherent rights must also be observed, and any development by outside parties that may impact a community's inherent and Treaty rights requires free, prior and informed consent (Chiefs of Ontario [COO], n.d.).

While several provinces have policies and programs in place to support Indigenous RE development and ownership, many Indigenous Power projects across Canada are led by corporate developers. Developers constructing RE projects that impact Indigenous lands and peoples will have greater success if they work

collaboratively with local communities, taking the time to build trust and ensure they receive free, prior and informed consent of community members (MacDonald & Zezulka 2015).

In addition to participating in developer-led projects, Indigenous communities are increasingly playing leadership roles in RE project development, as a way to generate revenue in a manner that is consistent with cultural and environmental values. In fact, according to some industry experts, there are believed to be more Indigenous communities with equity ownership in RE projects, than there are in municipalities across Canada (Hernandez, 2017). In the words of AFN Regional Chief Kevin Hart, "Through our teachings we've always been taught to be stewards of the land. And with that I honestly believe that First Nations people can be champions when it comes to clean and alternative energy moving forward (Ireland, 2015)." Though benefits vary greatly for each community based on location, types of projects, partnership models, and level of participation, there are increasing examples of success stories with Indigenous communities across Canada that have benefitted from participation in a RE project.

The level and type of RE activity including Indigenous proponents varies significantly across the country and is largely influenced by provincial policies and programs to support Indigenous Power. For instance, in Ontario the provincial **Green Energy and Economy Act, 2009** introduced a green energy policy framework along with support programs that have led to the development of over 600 RE projects (representing over 800 MW) led by or in-partnership with Indigenous communities. Nova Scotia similarly introduced a policy called the Community Feed-in Tariff (ComFIT) Program in 2010, which has enabled Mi'kmaq participation in RE development. To date, the Mi'kmaq of Nova Scotia have participated in at least 7 ComFIT projects representing 25 MW of wind energy generation, more energy than their communities consume (Coolican, 2016). Ontario and Nova Scotia's successes are just two provincial examples that illustrate the significance of Indigenous Power in Canada to date. There are growing examples of Indigenous involvement in and influence on RE projects across the country, demonstrating Indigenous leadership in developing and informing projects to meet social, environmental and economic priorities for Indigenous communities themselves and for Canada as a whole.

Given the changing energy landscape that RE technologies allow, and the environmental and economic benefits of RE, it is important to better understand the current state of Indigenous Power in Canada. We should also take note of the project diversity that exists within individual projects by RE generation type, amount of community involvement, and type of ownership. To that end, this report aims to support the work that is happening across the country by:

- providing a broad overview of current activities by province and territory;
- capturing, at a very high level, lessons learned and challenges to be overcome; and
- supporting on-going discussion, research and knowledge exchange that will allow greater expansion of renewables and greater participation in beneficial RE projects by Indigenous communities.

The information in this report is intended to help Indigenous communities and potential partners in the understanding of the potential benefits and challenges to RE development, and should only be used as a supplementary guide when making a determination to devote time and resources toward developing a project.

Report Outline

In this report, we attempt to capture the current state of Indigenous Power across the country, recognizing that the sector is dynamic and fast moving. This speaks to the changing energy and climate change policy landscape as well as a number of technological innovations currently taking place.

It is important that we recognize and celebrate the accomplishments that have already been achieved so that we understand the impact these projects are having in achieving local, national and international objectives for an equitable, clean, and vibrant society. RE projects can be transformative for local communities through generating revenues, building capacity, expanding energy literacy, protecting the environment, and creating jobs. But how RE projects are built and by whom is an important consideration and therefore we do not wish to overstate their impacts but rather explore their potential. Thus, it is important that we also capture and discuss the challenges and considerations for expanding Indigenous involvement and leadership in RE projects in Canada going forward.

The report is divided into six sections. In Section 2, we discuss some key terminology used in this report to ensure a common understanding in the context of this work. Section 3 explores the potential and observed benefits that Indigenous Power can provide, and how it can address and help achieve multiple social, environmental and economic objectives. In Section 4, we present an overview of RE policy and Indigenous involvement by province and territory. In Section 5, we present challenges, common themes and lessons learned from practitioners involved in Indigenous Power development. Finally, we conclude the report in Section 6 with some suggestions about policy considerations and areas for future research and discussion. The report is complemented by two appendices where we have captured a sampling of Indigenous Power projects across Canada by province and territory (Appendix A) and compiled a list workshops and events we attended to inform this research (Appendix B).

2. Defining key terms

Renewable energy, distributed energy, and community-owned energy are terms that underlie this report. To ensure a common understanding of our usage, we will first define each in turn.

Renewable Energy

Renewable energy (RE) refers to energy obtained from “the continuous or repetitive currents of energy recurring in the natural environment” (Twidell & Weir, 1986). Put more simply, RE employs resources that are naturally replenished on a human time scale, such as sunlight, wind, hydro or running water (waves, tides, rivers), geothermal (using the internal heat of the earth), or biomass (plant matter). RE sources can be applied to all end-uses including electricity, heat and transportation fuel using various technologies. Electricity is currently the most common RE end-use, but new technologies are allowing for more RE applications in heat and transportation.

On the whole, over the course of the life of the technology, RE has lower negative environmental impacts than finite fossil-based sources of energy (Pehnt, 2006). However, all energy sources used by humans have impacts, and therefore where and how a project is developed, and in many cases by whom, will influence impact.

In many areas with emerging RE developments, residents have raised concerns about human health impacts of some technologies, as well as impacts on certain species of animals. These concerns should not be taken lightly and many jurisdictions have responded to these concerns by introducing various environmental, noise and siting standards and/or approval processes. For example, in Ontario the Renewable Energy Approvals regulation under the **Environmental Protection Act, 1990**, sets out rules, environmental standards and an approval project for RE projects (Environmental Protection Act, 2016).

It is worth noting however, that relative to the non-renewable sources of energy generation – coal, oil, natural gas and nuclear – on a life-cycle cost basis and increasingly on an economic cost basis, most RE projects demonstrate far fewer environmental and climate change impacts (IRENA, 2014; Musall & Kuik, 2011). Moreover, experiences in different project scales and ownership structures have shown that RE can offer significant local economic and social benefits to communities, as will be outlined in Section 3. A note about terminology: The words “energy” and “power” are often used interchangeably in policy and programs although in physics they have distinct meanings. Power refers to rate (expressed in watts), while energy refers to quantity over time (measured in watt•hours). This difference matters when talking about installed power capacity (i.e. the maximum watts a power plant can produce at any time) versus energy generation (i.e. the number of watt hours produced in a year). Because RE sources are intermittent, energy generation is always lower than installed power capacity. In this report, generation figures refer to energy unless otherwise indicated.

Clean / Green / Sustainable Energy

Aside from RE, various other terms also arise when speaking of energy and environmental issues. Clean energy, green energy, and sustainable energy are widely used, and may have varying definitions depending on the context, but are often meant to encompass a definition larger than RE (CleanTechnica, n.d.). These terms often include energy conservation technologies and programs, rather than simply generation, which is an important aspect of reducing emissions and resources required to produce energy.

These terms may also be used to include some more problematic “clean” sources of energy, which are less polluting than some of the alternatives, but not without controversy. Often, people who used these terms would like to steer public opinion in support of certain technologies (CleanTechnica, n.d.). Many include nuclear energy under this definition, as it emits very little greenhouse gas. However, nuclear is not considered a renewable source and it has harmful environmental effects due to the resulting radioactive waste by-product, which does not break down on a human time scale.

Some proponents also include natural gas or clean coal under “clean” energy definitions, as they produce fewer greenhouse gas emissions than other fossil fuel alternatives, but they are definitely not renewable, and certainly not emissions-free.

Distributed Energy

Given the dispersal of renewable resources (e.g. sun, wind, water), and the modular nature of many RE technologies, allowing for variation in project scales, RE is also often referred to as a distributed energy source (Virginia Tech, 2007). The technologies that capture RE resources (e.g. solar panel, wind turbine, hydro turbine), allow them to be converted to useable energy (e.g. electricity, heat), and either stored locally or transported to the end consumer. Together, technologies that support the generation, use and

management of electricity close to the source of generation are called distributed energy (DE) technologies. In contrast to large, centralized energy plants that serve a wider population, DE technologies are decentralized, smaller-scale and designed to meet the needs of a local community.

Many recent technological advancements, such as smart grids and energy storage, are increasing the potential and growth of DE systems, and the modular nature of these technologies are increasingly allowing more types of participants to take part in their design and operation.

Community Power

Community Power (CP) or 'community energy' refers to the direct participation in, ownership of, and sharing of collective benefits from RE projects. It represents a form of ownership and production of RE by and for a local community. Projects may be owned in-part or in-full by co-operatives, municipalities, charities, non-profits, other community groups and/or municipal entities, including schools, health centres, etc. (TREC, 2016). Although community proponents may partner with commercial developers, CP projects must provide the community with a direct financial stake in the project. A project that is simply located on a community-owned property would not be considered CP if the community does not own a portion of the proceeds.

Communities participate in RE projects for a variety of reason including economic development, job creation, environmental protection, and mitigating human-induced climate change. Community participation has also been shown to address and alleviate the social friction that can arise around new infrastructure projects (Musall & Kuik, 2011). By creating space for social dialogue and participation, CP projects equip community members with decision-making power, the ability to exercise democracy, and associated emotional responses such as pride, gratification and responsibility.

Indigenous Power

Indigenous Power, for the purposes of this work, refers to CP projects that specifically involve First Nation, Métis and/or Inuit community partners. Indigenous communities may be majority owners in the RE project, with a greater than 50% stake of the economic interest, or they may be minority partners, with the majority stake owned by one or more commercial partners. Indigenous communities have a variety of motivations driving their participation in RE projects, which often include the same economic, environmental and social factors aforementioned, and covered in greater detail in Section 3. However, one motivation that sets Indigenous Power projects apart from other CP projects is the potential role that RE can play in community self-sufficiency, self-determination and nation building (Jaffar, 2015).

CP in Canada can be categorized into a variety of models depending on ownership and decision-making structure, financing, and type of RE generation. Indigenous Power can similarly take on many different structures or follow different models. In this report, we do not explore the specific project structures but rather, where information is available, we note the level of ownership a community has in the RE project (see Appendix A).

Policy Mechanisms

There are various policies that have been introduced to stimulate RE development across Canada, many of which are discussed below. Revenue support policies increase the revenue of RE projects or provide revenue certainty, often through long-term contracts of Power Purchase Agreements (PPAs) (NEB, 2015). One notable revenue support policy that has helped build RE growth around the world is a Feed In Tariff (FIT). FITs can be structured in different ways, but typically make use of standardized long term guaranteed contracts (usually 20 years), with fixed pricing based on the cost of technology (NEB, 2015; Energypedia, 2016). Similar policy mechanisms include Advanced Renewable Tariffs (ART) and Standard Offer Programs (SOP). These types of pricing mechanisms can be compared to competitive solicitation processes, such as a Request for Proposal (RFP), which often make it difficult for smaller players to compete, lacking the capacity to bid at the lowest rates. Contracts for differences are types of contracts in which the sellers and buyers agree to a fixed price, but the producer sells electricity in an open market. Payment is made by either party on the contract to compensate for the differences between the fixed price and the market price (NEB, 2015).

Other policy mechanisms to support RE include Net-metering programs, which allow end-users to generate their own electricity and sell their excess to the grid, and Renewable Energy Credits or Certificates (RECs), issued by a certifying agency for RE produced, that can be traded like a commodity (NEB, 2016).

3. Potential benefits of Indigenous-owned renewable energy projects

In discussing the benefits of any project involving Indigenous communities, it is important to acknowledge that benefits are not automatic, but depend greatly on the way in which projects are developed, the level and type of community participation and control, the nature of the policy environment in which a project is operating, the capacity of a community to participate; as well as other issues affecting the community.

At the same time, it is important to consider why RE might be a priority over other critical issues affecting many Indigenous communities across Canada. Availability of energy is a key determinant of economic, social, educational and health outcomes (Nathwani & Andersen, 2016) and also a critical consideration in terms of environmental impacts. As Nathwani & Andersen (2016) argue, “without a supply of adequate energy services, other critical infrastructure that supports the provision of clean water, sewage treatment, educational and medical needs become problematic. Energy infrastructure is the backbone and energy service the thread that connects disparate needs”. RE and DE can be an important component of meeting these energy needs, at a scale that is appropriate to the communities, and respects the local environment. And, communities may realize additional benefits if they are able to participate in the decision-making and economic opportunities of these projects.

To that end, in this section we highlight the potential benefits that RE and DE sources and technologies can bring to local Indigenous communities, as well as to Canada as a whole, and how these benefits can help meet multiple objectives. However, we ask the reader to keep in mind that realizing any or all of these benefits depends on many factors, some of which will be re-visited in Section 5 (Lessons Learned).

Environmental Outcomes

The way energy resources are extracted, refined, transported, converted for end use, used, and decommissioned (i.e. how the waste streams are managed) is at the heart of many long standing human rights violations in which Indigenous rights and well-being have been blatantly ignored (Jaffar, 2015). Tar sands extraction in Alberta; oil tanker spills off the B.C. coast; controversial oil pipelines through Indigenous communities across North America; flooding of Indigenous land for large hydro projects throughout Canada; and the lack of a long-term storage solution for nuclear radioactive waste all show that the current energy system is hugely problematic, both environmentally and socially. The negative effects caused by fossil fuels and nuclear power, and large-scale hydro-electric projects include, but are not limited to:

- The varied effects of climate change, such as the loss of winter roads, which many Indigenous communities depend on for the transportation of goods and services, and rising sea levels, which may damage infrastructure and loss of cultural sites. In addition, extreme weather events caused by climate change are impacting human health and safety, quality and quantity of drinking water, and community infrastructure (Assembly of First Nations [AFN], 2006).
- Air pollution, soil and water contamination resulting from resource extraction, transportation spills and leaks, generation, and nuclear waste storage. The resulting contamination of our natural resources threatens drinking water and food supply, and causes myriad human health impacts. In many cases, Indigenous and marginalized populations all over the world are the most vulnerable to these **impacts**, due to their locations, economic situations and dependence on the environment (Lyons, 2016; AFN, 2006).
- Habitat and biodiversity loss, due to contamination of land and waterways arising from fossil fuel extraction and large-scale hydro dams. Contaminants such as methylmercury and polycyclic aromatic hydrocarbons bioaccumulate in the food supply, threatening human, animal health and traditional ways of life such as hunting, fishing and medicines (McLachlan, 2014; Calder et al, 2016).

These environmental impacts affect all individuals and communities in varying ways, but have unique significance for many Indigenous communities, whose strong connection with the environment is integral to the survival of their physical, social, economic, cultural and spiritual ways of life. Thus, the effects of climate change and environmental pollution will likely disrupt Indigenous populations more severely than other citizens (AFN, 2006).

Our earth, air, water and therefore all life, are deeply affected by these impacts, which have been the results of the last century of intense industrialization and a dependence on burning fossil fuels (COO, 2016). By contrast, the transition to RE can have important implications for the protection of land, air, water and other species. Over time, and with political will, RE can displace the need for fossil fuels and nuclear power, which in turn reduces the various impacts from extracting, processing, transporting, and combusting non-renewable resources. In other words, a transition to a RE system maintains the energy services we need to stay comfortable, mobile, interconnected and modern, while reducing environmental footprint.

Economic Outcomes

Like most energy projects, there is typically a market for the end-product (e.g. electricity, heat, transportation fuels, etc.) being generated from the energy source. Many of the projects with Indigenous participation in Canada are electric generation projects (Lowan-Trudeau, 2014). Either the electricity is needed for local use, helping to off-set a local or provincial grid, or there is a market to sell the electricity to. Many of the economic benefits outlined in this section assume a market and a contractual mechanism through which RE can be sold at a reasonable profit, often through the use of revenue support policies, described in Section 2 (Policy Mechanisms). As a full or partial owner of a RE project with a contract to sell energy to a government agency, utility or local user, Indigenous communities can receive, either in part or in full, revenues resulting from the sale. On this basis, RE projects provide direct financial benefits in the form of income from the sales of generated electricity. On the other hand, if the generated electricity is used locally by the community (through a Net Metering program or outside of the electricity grid), these benefits take the form of utility bill savings or independence from the electricity grid. However, it is important to note that RE development, wherever projects are located, should not be considered *carte blanche* for industrialized societies to continue increasing consumption, requiring emission-intensive activities such as deforestation, manufacturing and agriculture (Hickel, 2016). Decreasing fossil fuel consumption is just one component of transitioning to a less carbon-intensive economy, and it is important to consider a holistic view of sustainable development, such as the **UN sustainable development goals**, which aim to both protect the planet and ensure prosperity for all (United Nations, n.d).

Indigenous Power projects can also provide increased employment and regional development opportunities, compared to a private ownership model where profits are more likely to flow out of the community and jobs are less likely to be created and retained locally. For example, the T'Souke First Nation on Vancouver Island, British Columbia was able to provide training and employment opportunities for ten members of their community who were part of a team that installed solar hot water systems on community homes and buildings (T'Sou-ke Nation, n.d).

Projects may also generate additional opportunities for community businesses that service the project's construction, operations and maintenance. For instance, a wind project has many input needs, ranging from road construction, to cement pouring, to security and catering. Apart from direct construction and project management jobs, these sub-contracts can be issued to Indigenous businesses from the community, thereby creating spin-off opportunities, at least during the project's construction period. The M'Chigeeng First Nation in Ontario was able to use several local contractors and labourers and cement from their community for the construction of their wind project, and found that local businesses such as campgrounds, restaurants and other services also benefitted from the construction activities (Mother Earth Renewable Energy Project [MERE], 2011; 2012).

Locally-owned projects can also contribute to community energy security and energy price stability by reducing dependence on imported fuels and energy sources that are subject to volatile pricing. This is especially true for remote communities that rely on expensive fuels such as diesel, that must be transported great distances, but can also be true in cases where grid-tied communities are paying expensive distribution charges due to their distance from centralized power generators. In both cases, communities can off-set their needs with locally produced RE. Undergoing a RE development process may also cause a community to evaluate its energy consumption, leading to additional economic benefit.

Through the process of developing their solar projects, the T-Souke Nation discovered that additional economic benefits could be realized through energy conservation, for one-tenth the price of generation. This encouraged the entire community to become involved in conservation activities (T'Sou-ke Nation, n.d).

Social Outcomes

RE projects led or co-developed by Indigenous communities can provide important benefits for individuals in the community as well as for the community as a whole. Often, a community company will be formed to negotiate and own the project as well as manage the relationship if a partner is involved. The individuals involved in this process can learn important skills and gain experiences. For example, the M'Chigeeng First Nation built 2 wind turbines in 2012, becoming the first project in Ontario to be 100% Indigenous owned. The community founded the for-profit company Mother Earth Renewable Energy (MERE), with a board of directors, and a Project Manager from the community to oversee the project development (MERE, 2012). Given the multi-faceted nature of many RE projects, the capacity building can occur on various levels and in many areas including but not limited to: legal negotiations, partnership best practices, project management, and community engagement. Many of these skills can be applied to other kinds of community initiatives as well as to future energy projects. Often, communities try to build on the capacity that has been built through one project so as not to lose momentum and to reap additional economic and environmental benefits. For example, MERE, following the development of their wind project, has gone on to build several solar PV projects and pursue a community energy plan (MERE, 2012; 2014).

Further, there are opportunities for Indigenous communities who have developed project development capacity to partner with and mentor other communities, leading to increased social ties and collaboration between communities. A successful example is the T'Sou-ke Nation in BC, which undertook an energy conservation program, and installed solar hot water and solar electricity systems. The T'Sou-ke then mentored the remote First Nation of Skidegate Band in Haida Gwaii, BC to undertake a similar initiative (Ozog, 2012).

Beyond community capacity building, RE projects can generate social outcomes in the form of:

- Building individual capacity by enabling members to acquire new skills and knowledge;
- Building a stronger sense of belonging within the community;
- Alleviating or eliminating social friction that may arise from an energy project by enabling direct and meaningful participation and benefits;
- Increasing members' awareness of their personal energy use patterns and thereby motivating reductions in energy consumption.

While the social outcomes listed above apply to many different types of CP initiatives, the social outcomes for Indigenous Power are more extensive and arguably more impactful, due to the disproportional poverty that exists within Indigenous communities across Canada as a result of historical and ongoing colonialism (Brittain & Blackstock, 2015).

Health Outcomes

A dramatic gap exists between the health of Indigenous and non-Indigenous populations, with Indigenous populations suffering disproportionately from higher rates of disease, mental health issues, and experiencing lower life expectancies (Frohlich *et al.* 2006; Kirmayer *et al.* 2000). Further, many Indigenous

communities have a definition of health that includes one's relationship with the land. If the land is unhealthy, so are the people (Richmond et al. 2005).

While we have referenced above some of the health issues affecting Indigenous populations as a result of fossil fuel extraction, nuclear storage and large-scale hydro generation, there has been little research done to date on potential health benefits from Indigenous Power. We are looking forward to more work in this area through the “**A SHARED Future**” initiative, conducted by the Health, Environment and Communities (HEC) Research Lab based out of Queens University. This program of research seeks to “bring forward stories of reconciliation and healing in intersectoral partnerships umbrella of renewable energy conservation, efficiency, and development (HEC Lab, n.d.).

Self-Determination

One way Indigenous communities are working to reverse the impacts of historical colonialism and are combatting current discrimination and colonialism is through self-determination. Self-determination refers to the freedom of Indigenous peoples to choose what is best for themselves. The Truth and Reconciliation Commission of Canada noted in its summary of findings (concerning the impacts of Indian Residential Schools) that self-determination is a positive and productive way of impacting communities and moving forward beyond colonialism (Truth and Reconciliation Commission of Canada, 2015).

If led by Indigenous communities and/or with respect to Nation-to-Nation relationships and Aboriginal and Treaty rights, RE development can provide opportunities for Indigenous peoples to assert their independence by strengthening autonomy, financial stability and sovereignty (Jaffar, 2015). As mentioned above, RE projects can provide a sustainable revenue source for communities. This non-governmental source of revenue increases economic self-sufficiency and communities can re-invest the revenues in their communities as see fit thereby supporting self-determination (Jaffar, 2015). For example, the Dokis First Nation played a key role in the development of the 10 MW Okikendawt run-of-river hydroelectric facility in north-central Ontario, of which it owns 40% of the project. With the proceeds of the electricity sales, the Nation has established a trust fund to help pay for community infrastructure, health, education and cultural initiatives. “You feel now that you’re not just restricted to try to run a First Nation on just the funding you get from the federal government, which is never sufficient.” says Denise Restoule, former chief, responsible for the development (Ireland, 2015).

Finally, successful Indigenous Power projects also boost community morale as community members feel pride in the accomplishment of seeing a project vision through to completion along with the revenues it generates (Jaffar, 2015). Restoule notes the sense of pride the project has brought to Dokis First Nation, “Part of it is...the sense of ownership. We’ve never had anything that magnitude that we can say, “Wow, we own part of this (Ireland, 2015).” The Dokis example illustrates the value that a RE project can bring to a community, if that community plays a significant role in the project decision-making, and receives a share of the profits.

4. Provincial & territorial overview of RE policy and Indigenous involvement

The development of RE and DE technologies has seen rapid growth around the world with RE now outpacing all other energy sources for new builds of electricity generation worldwide, with over 55% of all gigawatts of new energy built in 2016 coming from RE sources, excluding large hydro (Frankfurt School-UNEP, 2017). This expansion in development has also taken place in Canada, though the rate of adoption and development varies significantly across the country and is very much informed by provincial and territorial energy policy.

Just like Indigenous communities across Canada, Indigenous Power projects across the country are diverse. Factors such as the types of RE being harnessed and generated; the ownership of the project; the benefits of the project specific to communities; access to the grid; remoteness; and the provincial policies molding the projects all play an important role in understanding the diversity of Indigenous Power. Here we provide a snapshot of Indigenous Power across the provinces and territories to serve as a starting point for those wanting to understand where and how Indigenous communities are getting involved in RE projects in this country. An overview of each province and territory is captured by briefly looking at the regional energy policy and highlighting examples of Indigenous Power projects found in each region. We do not have comprehensive data on the numbers of Indigenous Power projects across Canada, but several initiatives have developed inventories of these projects through mapping projects (Indigenous Clean Energy Network, n.d.; Indigenous Renewable Energy Initiative, n.d.). More details on specific projects are included in Appendix A and support programs for relevant provinces and territories are provided throughout the report.

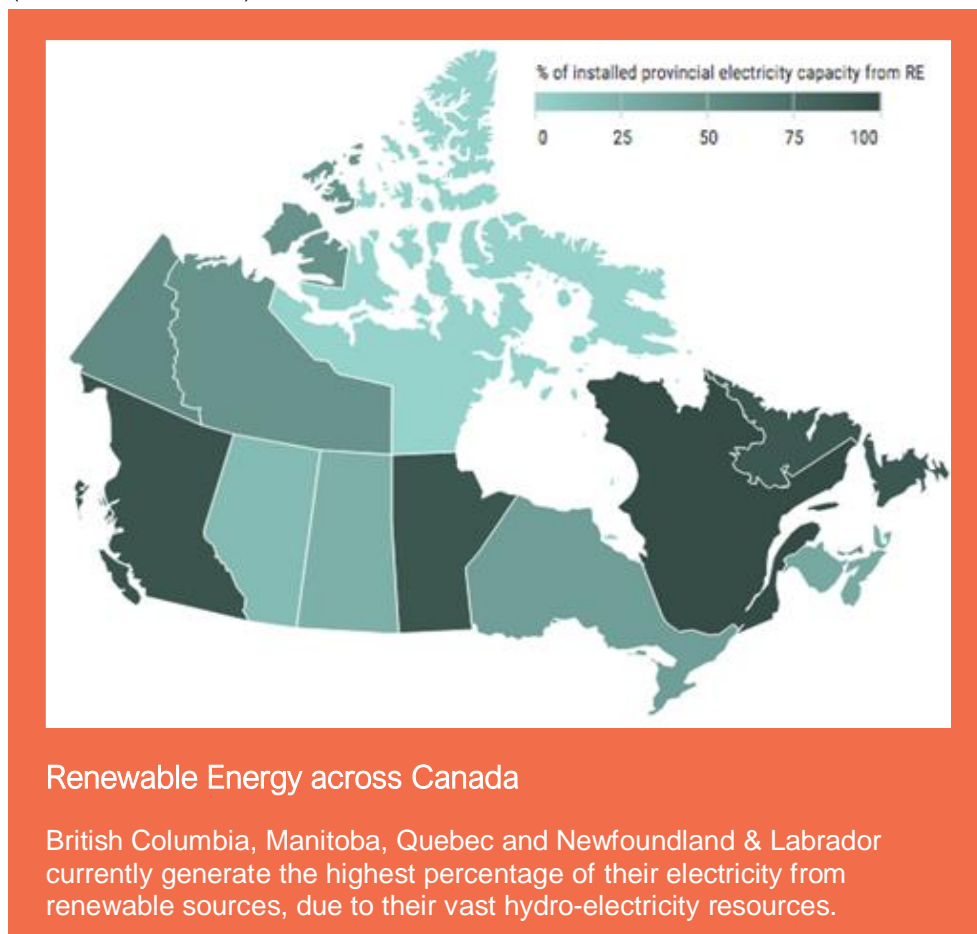
The research for this section was conducted mainly through on-line tools, complemented by information gathered at workshops, forums and conferences on Indigenous energy over the last few years. The examples given are not believed to be exhaustive and not all projects listed will necessarily have been completed. We take responsibility for any errors and omissions and hope that over time a more complete picture can be created.

National Electricity Mix

Canada is rich in all forms of RE resources – hydro, wind, solar, biomass, geothermal and ocean energy, but only some of these have been captured extensively to meet our energy needs. RE currently provides almost 19% of Canada's total primary energy supply (includes electricity, transportation, heating and other) (NRCan, 2016b) and 65% of our electric energy generation comes from renewable sources, though the percentages of allocation of RE varies greatly from province to province (NEB, 2015).

The most prevalent electricity source in Canada is moving water, referred to as hydroelectricity, which generates almost 60% of electric energy supply. Canada is the second largest producer of hydroelectricity in the world with more than 78 gigawatts (GW) of installed capacity. This capacity has been developed where favourable geography and hydrography exist, primarily in Quebec, British Columbia, Manitoba as well as Ontario and Labrador (NRCan, 2016b).

While large-scale hydroelectricity generation makes up the majority of RE generation across Canada, it has also been the most problematic of RE sources, disproportionately affecting Indigenous communities across Canada. These projects are almost always located within close proximity to Indigenous communities, and are usually led by provincial crown corporations, which can make them more difficult to challenge (as the same government is setting the policy, making the approvals, and leading the development) (Wilt, 2016). These large-scale projects require construction of a river dam, which creates a reservoir, causing flooding of existing land, resulting in loss of habitat, hunting grounds, and often historically significant lands. Furthermore, the resulting flooding has been shown to release methylmercury embedded in soil and vegetation, a dangerous neurotoxin that bio-accumulates in fish, birds and the mammals (including humans) who eat them (Calder et al, 2016). There are examples across Canada of large hydro-electric projects that have destroyed or threatened Indigenous communities and their way of life, and of the 22 hydroelectric facilities being considered for near-term development, all are within 100 km of Indigenous communities (Calder et al, 2016).



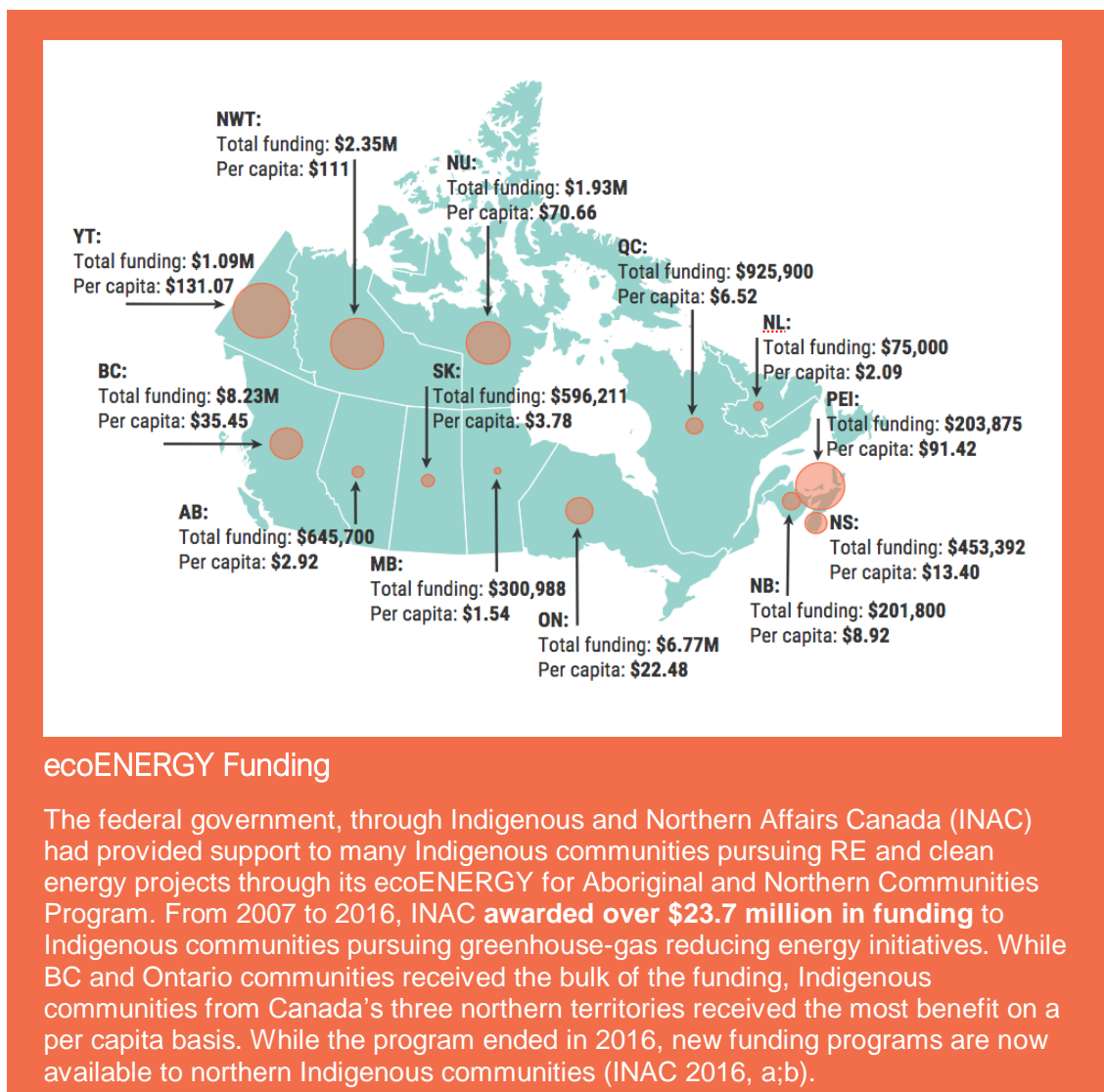
Most recently, the 1100 MW Site C project in British Columbia is causing great concern with local First Nations communities, who have challenged the project in court, for its expected effects on lands in the Peace River, covered by **Treaty 8** (Lorinc, 2016). Though many projects across Canada are still rife with conflict, provincial hydro developers are beginning to work in a more collaborative way with local Indigenous communities in order to ensure the environmental, economic, social and health impacts are mitigated, and local peoples are involved in the decision-making process (Lorinc, 2016). Smaller “run-of-river” hydro projects are largely considered to have fewer negative impacts (Pacific Salmon Foundation,

2014; Anderson et al, 2014), and their smaller size makes them ideal projects for Indigenous communities to take the lead on.

Fossil fuels are the second most frequent source of electricity in Canada representing approximately 19% of our overall supply mix. Of the fossil fuel mix, about 9.5% of electricity supply comes from coal, 8.5% from natural gas and 1.3% from petroleum. Fossil fuel generation is particularly important in Alberta and Saskatchewan, but also in the Atlantic Provinces, Northwest Territories and Nunavut. Ontario once rely heavily on coal-fired generation; however, in April 2014, the last coal-fired generating capacity was shut down (NRCAN, 2016b).

Nuclear is the third most used source of electricity in Canada, with approximately 16% of electricity supply generated from nuclear power plants. Eighteen of Canada's nineteen operating nuclear reactors are in Ontario, with the other one being in New Brunswick (NRCAN, 2016b).

Non-hydro RE sources currently contribute 5.2% of Canada's electricity supply. Wind has become the predominant non-hydro renewable followed by biomass (e.g., wood waste, spent pulping liquor). As an emerging source, solar provides a small but rapidly increasing amount of electricity (NRCAN, 2016b).



Ontario is currently leading the way in the development of solar, with approximately 2% of its electric energy generation coming from solar as of 2015 (NEB, 2015).

Federal Government

In October 2016, Canada’s federal government formally ratified the international Paris Climate Change Agreement, arising from the Climate Summit and Conference of the Parties (COP 21), which aims to keep global temperatures below 2 degrees Celsius above pre-industrial levels (McSheffrey, 2016).

The Paris agreement notes that “deep reductions in global emissions will be required” in order to address climate change and “parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities...and people in vulnerable situations...” (United Nations, 2015). Supporting RE initiatives to replace fossil fuel energy generation is an example of such initiatives that can contribute towards combating climate change. Therefore, understanding the scope of RE initiatives in Canada is incredibly relevant right now.

In December 2016, through coordination with provincial leaders, the federal government released the **Pan-Canadian Framework on Clean Growth and Climate Change**, adopted by all provinces except Saskatchewan (at this time), due to their Premier’s stance against carbon pricing. The Framework outlines a benchmark for pricing carbon pollution, and calls for, among other actions, increasing RE generation, modernizing electricity systems, and working with remote Indigenous populations to reduce reliance on energy from diesel (Government of Canada, 2016). Contributing to the Framework, Canadian provinces have also coordinated on a more detailed **Canadian Energy Strategy** (2015), which names several priorities and actions for coordinating on a prosperous and sustainable energy sector across Canada, including developing renewable, green and/or cleaner energy sources to meet future demand and contribute to environmental goals. (Council of the Federation, 2015).

While the Framework signals a commitment for federal and provincial governments to coordinate on climate change action, energy policy is largely in the domain of individual provinces and territories to define. In this report, we focus on RE activity across the provinces and territories, examining where and in what ways Indigenous communities are enabled to participate, own and lead in the development of such projects.

NATIONAL FUNDING PROGRAMS (click on titles for links to full program details)			
Clean Energy for Rural and Remote Communities	\$220 million over the next 6 years, with a focus on reducing diesel use in rural and remote communities.	Applicant guide available with full program details once applicants complete first stage. Funding streams include bioheat, innovative demonstrations, and renewable electricity.	Request for proposals due by May 17, 2018, though earlier proposals are entitled to phone questions and/or completeness scans.

Clean Energy for Rural and Remote Communities: Capacity Building Stream	A separate call for proposal focusing on knowledge and skill-building initiatives to reduce diesel use in rural and remote communities.	Average funding will be \$100,000 to \$400,000, dependent on size, scope, timeline and leveraged funding. Project proposals may be 1 to 6 years in length.	Preliminary proposal deadline is April 10, 2018.
Arctic Energy Fund	\$400 million in funding, over 10 years, for energy security in communities north of the 60 th parallel.	Announced in the 2017 budget, details not yet released.	
Northern Responsible Energy Approach for Community Heat & Electricity	\$10.7 million in funding delivered over two years to implement RE projects in off-grid Indigenous and northern communities.	No funding cap stated	Applications are reviewed on an ongoing basis.
Community Opportunity Readiness	The Community Opportunity Readiness Program addresses the financial needs of Aboriginal communities when they are in pursuit of, and wish to participate in, an economic opportunity.	Up to \$1 million is available (max 60% of eligible costs) for business innovation/growth proposals, and up to \$3 million is available (max 66.7% of eligible costs) for community economic infrastructure proposals.	No deadline stated, though applicants are encouraged to submit a brief Statement of Intent prior to submitting a full application.

NATIONAL CAPACITY BUILDING RESOURCES (click on titles for links to full program details)

20/20 Catalysts	An annual hands-on program designed to support Indigenous communities embarking on clean energy projects. Participants attend three sessions across Canada over three months.
Indigenous Alternative Energy Circle	A pilot program to support an Indigenous leadership network to share best practices across communities.

Alberta

There are 48 First Nations and eight Métis Settlements in Alberta (Alberta Government, 2016). As of 2014, approximately 260,000 people, or 6.5% of people living in Alberta, self-identified as First Nations, Métis or Inuit, the third largest Indigenous population in Canada (Alberta Government, 2016; Statistics Canada, 2016).

Alberta currently produces more electricity from coal than all other Canadian provinces combined, and approximately 10% of Alberta's electric energy generation currently comes from RE sources (Alberta Government, 2015a; NEB, 2015). With new government policies and programs recently instituted, we expect these numbers to grow in the coming years.

Alberta Policy

In 2015, the Alberta government formed a Climate Change Advisory Panel to seek widespread feedback from the public, Indigenous communities and other stakeholders,

which has informed the development of Alberta's **Climate Leadership Plan**. The plan puts forth a goal to phase out coal and transition to 30% renewable electricity by 2030, and to increase electricity procurement from natural gas (Alberta Government, 2015a).

As part of the Plan, Alberta introduced a **Renewable Electricity Program** (REP) in 2016, intended to encourage the development of 5,000 MW of renewable electricity generation capacity connected to the Alberta grid. This program, administered by the Alberta Electric System Operator, procures energy through a competitive process, which pays generators using an indexed renewable energy credit (Alberta Electric System Operator [AESO], 2016). The first REP competition, which began in March, 2017, aims to procure 400 MW of RE, to be operational by 2019 (Alberta Government, 2016; AESO, 2016). Approximately 80 parties submitted expressions of interest in this first round, of which 3 appear to be led by Indigenous communities, though more may be involved as (unnamed) partners (AESO, 2017). While the Climate



Lubicon Lake Nation

After decades of damaging impacts from resource extraction, Lubicon Lake Nation is showcasing that a shift to renewable energy is within reach. In the heart of Canada's oil sands, the community of Little Buffalo has developed the Piitapan Solar Project, a 20.8kW installation that powers the community's healthcare centre. The 80-panel project has not only reduced reliance on fossil fuels but has also created more green jobs within the community (Lubicon Solar, 2017).

Photo Credit (used with permission): Lubicon Solar

Change Advisory Panel recommended that bids for projects partnering with rural, First Nations, and Métis communities be given a premium in the adjudication process (Alberta Government, 2015c), the REP does not currently include any provisions to promote Indigenous involvement and/or ownership.

However, the Climate Leadership Plan has also introduced **seven programs** geared towards developing climate and energy capacity in First Nations and Métis communities, including the (Alberta Government, 2016b). Several of these programs are outlined in more detail below.

ALBERTA FUNDING PROGRAMS (click on titles for links to full program details)			
Alberta Indigenous Solar Program	\$3 million fund for Alberta Indigenous communities or organization to install small-scale solar photovoltaic (PV) systems.	Maximum of \$200,000 per project (80% of eligible expenses)	Submissions accepted from June 30, 2017 until program funding is exhausted.
The Alberta Indigenous Green Energy Development Program	\$8 million fund to support project development or project implementation of commercial-scale, RE projects.	Maximum \$60,000 for prefeasibility work, \$550,000 for feasibility studies, etc. No funding cap for project implementation costs.	Submissions accepted on a rolling basis, from June 29, 2017, until funding is exhausted.
Alberta Indigenous Community Energy Program	\$3 million in tools and funding to help Indigenous communities understand how energy is used in their buildings and identify opportunities to save energy.	Maximum \$200,000 per project (100% of eligible expenses).	Submissions accepted from June 29, 2017 until program funding is exhausted.
Alberta Indigenous Green Employment Program	\$2 million fund for training Indigenous people for employment in the green economy. Funding available for Aboriginal Skills and Employment Training Strategy (ASETS) agreement holders.	A minimum of 75% of funds requested must be used for direct training costs.	The call for submissions will open June 29, 2017 and will remain open for submission until program funding is exhausted.

British Columbia

There are 203 First Nation communities in British Columbia (BC), with approximately 270,000 people or 5.9% of the provincial population, identifying as Indigenous (Statistics Canada, 2016). Due to an abundant supply of hydroelectricity, approximately 94% of British Columbia's electricity generation comes from RE sources (NEB, 2015). Approximately 125 BC Indigenous communities are involved, in some level, in RE or clean energy projects (Dodge & Kinney, 2015), including hydro, biomass, solar, geothermal, energy efficiency, district energy, solar thermal, as well as tidal energy projects (Indigenous and Northern Affairs Canada [INAC], 2016). As of June 2014, the province had revenue sharing agreements with 19 First Nations to develop approximately 25 hydro projects in northern BC, the interior, Vancouver Island, and the lower mainland (Province of British Columbia, n.d.-b).

The development of the BC government's Clean Energy Act and First Nations Clean Energy Business Fund (FNCEBF) have helped support RE project developments in the province. However, a coalition of BC First Nations Chiefs has recently called for more progressive changes to BC's clean energy policies. The coalition's strategy calls for the cancellation of the Site C hydro dam, due to negative impact on the environment and First Nations rights, noting that "(We do not) consider hydro projects that are built without the free, prior and informed consent of First Nations to be sources of clean energy." The strategy also calls for explicit advantages for BC First Nations' equity participation and for improved access to capital in order to participate in energy developments on traditional territories (Marketwired, 2015).

B.C. Policy

The BC **Clean Energy Act (2010)** reflects many of the goals and principles set out in the **BC Energy Plan: A Vision for Clean Energy Leadership (2007)** which has resulted in the **First Nations Clean Energy Business Fund (FNCEBF)** (Province of BC, n.d.-a). The FNCEBF is administered by the Ministry



T'Sou-ke Nation

T'Sou-ke Nation began its journey to become a more sustainable community in 2008 and has since been named Canada's first Aboriginal solar community. A comprehensive community planning process, which included all community members, eventually led to the installation of 75 kW of solar power. With proper conservation measures in place, the 440 panels that cover a canoe shed, an administrative building and a fishery building, produce enough to electricity to power the entire community. The solar development has also allowed the community to develop a unique eco-tourism program, bringing in school groups, municipalities and tourists from all over the world (T'Sou-ke, 2016).

Photo Credit: T'Sou-ke First Nation

of Indigenous Relations and Reconciliation, and provides capacity funding that can be used towards feasibility studies, community energy planning or engaging with project proponents. It also provides equity funding for expenses to support “viable and resourced” clean energy projects with Energy Purchase Agreements (Province of BC, n.d.-a). As of January 2017, over 100 communities have received almost \$8.7 million in funding through this initiative.

The province also established a revenue sharing process with Indigenous communities where there are provincial water and/or land rentals for clean energy projects that impact traditional territories and treaty lands. Wind participation rentals apply after the first ten years of a project’s life (Province of BC, n.d.-c). Half of the rental payment paid to the provincial government by the project owner is deposited into the FNCEBF. 75% of this deposit is used to directly benefit the affected First Nation (i.e., 37.5% of the total rental fees for any particular project). The remaining 12.5% remains in the fund to support capacity and equity needs for other projects (Province of British Columbia, n.d.-b). To date, 50 revenue sharing agreements have been signed with BC First Nations, individual agreements **can be accessed online**.

BRITISH COLUMBIA FUNDING PROGRAMS (click on titles for links to full program details)

First Nations Clean Energy Business Fund	The FNCEBF has allocated \$6,814,645 in capacity and equity funding since 2011, with an aim to increase First Nations participation in the clean energy sector.	Maximum of \$50,000 per project for capacity funding, and \$500,000 per project for equity funding.	Applications must be submitted prior to the last day of each intake period (January & May).
Northern Development Initiative Trust	Funding for communities in central and northern BC in a number of areas including feasibility studies, upgrades to community facilities, and infrastructure that diversifies the local economy.		Applicants are encouraged to contact Northern development staff to discuss your project in more detail
British Columbia Indigenous Clean Energy Initiative	\$4.2 million in funding over three years to provide support for planning and implementation of clean energy projects.	Maximum of \$150,000 per project	Application deadline for the 2018-19 fiscal year is March 23, 2018.

BC CAPACITY BUILDING RESOURCES (click on titles for links to full program details)

BC First Nations Clean Energy Toolkit Kekinusqs for the B.C. First Nations Clean Energy Working Group Nov, 2015	Designed to assist First Nations in understanding the kinds of clean/renewable energy, how to begin developing a clean energy project, pre-feasibility, feasibility, developing, financing, relationship building, opportunities, and where to find resources.
Clean Energy Strategy for First Nations & BC New Relationship Trust, 2015	Offers BC First Nations a standard for clean energy developments.
New Relationship Trust	NRT supports BC First Nations in five key development areas: governance capacity, education, language and culture, youth and Elders, and economic development. A fund of \$100 million was established by the Province of BC in 2006 to help First Nations realize the vision of a new relationship.

Manitoba

Approximately 223,000 people in Manitoba self-identify as Indigenous, representing 18% of the provincial population. Manitoba is home to many Métis people, representing 7.2% of the provincial population (Statistics Canada, 2016). Of the 63 First Nations communities in Manitoba, 23 are not accessible by an all-weather road (representing over half of the province's population of First Nation peoples who live on reserve) (INAC, 2014).

Like BC, Manitoba generates the bulk of its electricity through hydroelectricity, leading to over 99% of its electric energy generation coming from RE sources (NEB, 2015). Approximately 80% of Manitoba's hydroelectricity is produced in the north, which has had historical impacts on northern Indigenous communities (Fortin, 2001). In 1974, the Northern Flood Committee was formed to facilitate joint consultations with Manitoba Hydro and Indigenous governments, which resulted in the Northern Flood Agreement of 1977, signed by 5 First Nations.

Since then, implantation agreements have been reached with 4 of the 5 First Nations, and several other First Nations and Métis communities have received settlements from the government for past adverse effects (Manitoba Hydro, n.d.-b). However, some communities are still fighting for compensation for past wrongs, including the Opaskawayak Cree Nation, which experienced the lost of 1.5 million acres of prime trapping and fishing area, damaged with the construction of the Grand Rapids hydro generating station in 1960 (Fontaine, 2016).

Many of Manitoba's remote northern communities have also traditionally been dependent on diesel power generation, and geographic isolation has limited the ability of many Indigenous communities to engage socially and economically (INAC, 2014). However, since 1990, Manitoba Hydro has cut diesel emissions by nearly half, by extending the electricity grid to eight northern communities (Government of Manitoba, n.d.). Currently, there remain 4 off-grid northern communities in Manitoba, using diesel as their primary source of electricity (INAC, 2012). Manitoba Hydro and the Government of Manitoba are working to increase



Peguis First Nation

In 2013, Peguis First Nation successfully installed 50 residential geothermal energy systems in their community. The project was financed through Manitoba Hydro's PAYS financing program, which covered all the upfront installation costs. The total energy savings over the next ten years are projected at \$50,000. In 2014, Peguis First Nation again sought financing through the PAYS program to install an additional 50 residential geothermal energy systems. Peguis First Nation has worked with the project developer, Aki Energy, to train and certify 15 local tradespeople to install and maintain the geothermal energy systems (Aki Energy).

Photo Credit (used with permission): Aki Energy

Indigenous involvement in RE in the province, and are partnering with communities on several major hydroelectric developments.

Manitoba Policy

RE policy in Manitoba is largely dominated by the Government of Manitoba and Manitoba Hydro. The Government of Manitoba’s **Climate Change and Green Economy Action Plan** (2015) calls for the province to become carbon neutral by 2080, and the **Clean Energy Strategy (2012)** presents the government’s intent to increase the quantity and quality of partnerships with Indigenous communities in RE. It cites the development of three major hydroelectric facilities as examples (see Appendix A for more info on these projects). The Strategy also stresses the importance of early engagement with Indigenous communities, as well as long-term financial benefit (Government of Manitoba, 2012). That being said, it does not appear that Manitoba Hydro currently has any specific Indigenous RE procurement policies.

Manitoba Hydro maintains an Indigenous supplier list and “all things being equal, Manitoba Hydro’s preference is to do business with local Indigenous communities and businesses” (EHRC, n.d.-a). In addition, “Indigenous suppliers should self-declare that they are First Nations, Métis or Inuit owned businesses, as that will be taken into consideration when awarding contracts” (EHRC, n.d.-a).

Furthermore, Manitoba Hydro is currently running a “**Power Smart First Nations Program**” in which each community is matched with an energy efficiency specialist to recommend changes to qualifying buildings. Many Indigenous communities are also participating in the “Community Geothermal Program”, which involves training local businesses and individuals to install and maintain heat pump systems and provides “**Pay As You Save**” (**PAYS**) financing to assist homeowners with installing energy efficiency upgrades, by covering the up-front costs, to be repaid through utility bills (Manitoba Hydro, n.d.).

MANITOBA CAPACITY BUILDING RESOURCES (click on titles for links to full program details)	
Power Smart First Nations Program	This program, run by Manitoba Hydro, matches a community with an energy efficiency specialist to recommend changes to qualifying buildings.
Aki Energy	A non-profit Indigenous social enterprise, Aki is the main contact point for First Nation communities seeking to use Manitoba Hydro’s “Community Geothermal Program”. To date, Aki Energy has installed \$3 million in geothermal technologies with two Manitoba First Nations, and is planning to work with more communities, as well as becoming involved in solar energy, energy efficiency and local food projects (Aki Energy, n.d.).
Manitoba Government Energy Opportunities Office	The provincial government offers information, financial assistance and tax credits for a variety of energy efficiency programs, training and commercialization.

New Brunswick

Approximately 29,000 people living in New Brunswick identify as Indigenous, making up 4% of the provincial population (Statistics Canada, 2016). Although approximately 28% of the province's electric energy generation currently comes from RE sources – a mix of wind, hydro and biomass (NEB 2015), no information about specific Indigenous involvement in RE production could be located at the time of research.

However, the Mi'gma'we' Mawio'mi Secretariat, which has territory in northern New Brunswick, has developed several projects in the Gaspé region of Quebec (see Appendix A for details). Further, there have been recent developments in CP Policy in New Brunswick with specific set-asides for Indigenous communities, which we expect will lead to increased Indigenous Power activity in the coming years.

New Brunswick Policy

In 2010, developments in RE and CP policy from the Government of New Brunswick began to be publicized. The **Community Energy Policy** outlined a goal of up to 75 MW of community-owned RE projects, with a 25 MW set-aside specifically for projects with more than 51% First Nation ownership. At that time, three Indigenous communities submitted Expressions of Interest (EOIs) for projects. (Atlantic Policy Congress of First Nations Chiefs [APCFNC], 2012). However, the New Brunswick Department of Energy acknowledged that communities would require more support to take advantage of the program. After holding public feedback workshops, improvements were made to the policy (Government of New Brunswick, 2010).

In November 2015, the government of New Brunswick adopted the **Electricity from Renewable Resources Regulation**, mandating NB Power to ensure that 40% of total electricity sales in the province be generated from renewable sources by the end of 2020 (Government of New Brunswick, 2015; Stone & Boulanger, 2017). The Regulation also established the **Locally-Owned Renewable Energy Projects that are Small-Scale** (LORESS) program, replacing the previous Community Energy Policy. The program awards contracts based on expressions of interest, rather than through a standardized Feed-In-Tariff or similar model (ReNews, 2015). “These small scale renewable projects will allow for First Nations to develop, implement and manage their own energy projects in their communities while helping NB Power meet its energy demand,” said Gaëtan Thomas, CEO and president of NB Power. “This collaboration is an important one as we all have a role to play in the future of our energy market” (NB Power, 2016).

The first component of requests expressions for interest under the LORESS program ran from January to April, 2016, which allocated 40 MW of procurement for “Aboriginal Businesses” (Government of New Brunswick, n.d.). 23 submissions were made during this component, and at the time of writing, power purchase agreements are underway for two participants (Stone & Boulanger, 2017; B. Corey, personal communication, Oct 2017). The second request for expressions for interest component ran from January to June 2017, with a broader focus on “local entities” (which could include Indigenous proponents), and the third component will focus on “distributed generation” (Government of New Brunswick, n.d.).

Newfoundland and Labrador

Newfoundland and Labrador is home to four Indigenous peoples: Inuit, Innu, Métis and Mi'kmaq (Pastore, 1997). Approximately 45,700 people living in Newfoundland and Labrador identify as Indigenous, comprising 8.9% of the provincial population (Statistics Canada, 2016). Newfoundland and Labrador is also endowed with abundant hydro resources, with 96% of their electric energy generation coming from RE sources (NEB, 2015).

The Churchill river is home to one of the largest hydro generating facilities in Canada, and is also the site of the 824 MW Muskrat Falls project, currently under development. The subject of several protests, the Muskrat Falls project has raised concerns about methylmercury contamination, with remediation efforts not going fair enough (Wilt, 2016; Cooke, 2016). However, Nalcor, the provincial developer, is one of a growing number of hydro developers making an attempt to collaborate with local Indigenous communities. Under their profit-sharing agreement, members of the region's Innu Nation will receive a five per cent dividend in perpetuity, Innu businesses have received \$500 million in project contracts, and approximately 600 community members have received training and/or employment opportunities (Lorinc, 2016).

Newfoundland and Labrador Policy

RE policy in Newfoundland and Labrador is best understood by examining the Climate Change Action Plan, the Northern Strategic Plan for Labrador and the efforts of the provincial government. The **Climate Change Action Plan** (2011) focuses on reducing greenhouse gases primarily by committing to hydroelectric projects, wind-hydrogen-diesel projects for remote or isolated communities, and energy efficiency programs. Currently, the island can only support about 80 MW of wind energy, but once the island is connected to the larger North American electricity grid via the Maritime Link, more wind energy resources are expected to be developed (Campbell & Lynch, 2012).

The **Northern Strategic Plan for Labrador** (2007) outlines the communities' interests in developing affordable and accessible electricity via RE to replace diesel power generation as almost all of Labrador's coastal communities are powered by diesel. A study done in 2009 determined that both wind and hydro were feasible, while solar was not recommended (Campbell & Lynch, 2012).

In 2015, the Government of Newfoundland and Labrador launched a **Net Metering Policy Framework** (with a provincial cap of 5 MW) that can be accessed by Indigenous communities. The net metering program will give customers the ability to displace their electricity requirements with their own RE sources (wind, solar, PV, geothermal, tidal, wave and biomass of less than 100 kW) while supporting environmental sustainability (Newfoundland & Labrador Department of Natural Resources, 2015b).

In addition, the provincial government has also launched a new **Biogas Electricity Generation Pilot Program**, which will purchase electricity of up to 2 MW per biogas project, to a provincial maximum of 5 MW (Newfoundland & Labrador Department of Natural Resources, 2015a).

There are no RE support programs specifically geared to benefit Indigenous communities, and very few RE projects currently exist with Indigenous involvement.

Nova Scotia

With approximately 51,500 Indigenous identified peoples, the Indigenous population in Nova Scotia accounts for 5.6% of the total provincial population (Statistics Canada, 2016). The Mi'kmaq are the predominant Indigenous group with 13 communities (Province of Nova Scotia, 2015). The Mi'kmaq of Nova Scotia are collectively involved in more than 25MW of RE projects (predominantly wind power), which accounts for more electricity generation than they consume (Coolican, 2016).

Nova Scotia currently generates approximately 24% of its electric energy from RE sources, with coal being the primary source of electricity (NEB, 2015). The underlying policy and energy objectives informing RE activities in Nova Scotia over the last five years were set out in the Nova Scotia government's **Renewable Electricity Plan (2010)**, setting a goal of 40 per cent renewable electricity by the year 2020, and focuses on growing the wind generation capacity, as well as tidal and biomass. The Plan introduced the (no longer available)

Community Feed-In Tariff (COMFIT) program,

under which several Indigenous communities have been successful in developing wind energy (Campbell & Lynch, 2012, Nova Scotia Department of Energy, 2017).

Though the COMFIT program has been discontinued, **Nova Scotia's Electricity Plan (2015-2040)** outlines new opportunities for Mi'kmaq communities in the Solar PV Pilot Project, the Net Metering Program, the Marine Renewable Energy Strategy, and the Electricity Innovation Pilot Program.

Nova Scotia Policy

As part of Nova Scotia's recognition of the importance of Indigenous engagement, the province funded the **Mi'kmaq Rights Initiative**, a group that represents the negotiations on behalf of the Mi'kmaq of Nova Scotia, to develop the **Mi'kmaq Energy Strategy**, which was ratified in July 2011. This strategy highlighted opportunities for Indigenous communities in Nova Scotia to develop wind, hydro, geothermal,



Eskakoni Mi'kwam Nation

In 2014, the Eskakoni Mi'kwam Nation partnered with Dream to launch the Truro Heights Community Wind Project. The project, consisting of two turbines, is registered under the Nova Scotia Department of Energy's Community Feed-in-Tariff (COMFIT). Truro Heights Community Wind generates 4 MW – enough capacity to power 1,200 Nova Scotia homes.

Photo Credit (used with permission): Juwi Inc.

biomass, and tidal sources (Burbidge, 2013). The **Electricity Act (2004)** allows Mi'kmaq to develop RE both on and off reserve lands. In addition, the legislation also set aside a percentage of turbine development for small wind for all 13 Mi'kmaq communities (Mi'kmaq Rights Initiative, n.d.).

Several Mi'kmaq communities have been able to benefit from the COMFIT program by securing development partnerships for wind energy production. The COMFIT program, which ran from September 2011 to August 2015, provided a guaranteed payment for energy generated by small (less than 6 MW) wind, biomass, tidal, wave, in-stream hydro, and/or combined heat and power projects (Campbell & Lynch, 2012; Nova Scotia Department of Energy, 2017).

After the review and subsequent cancellation of the COMFIT program, the Nova Scotia Department of Energy released a new electricity plan: **Our Electricity Future, Nova Scotia Electricity Plan (2015-2040)**. The new plan includes a **Solar for Community Buildings Pilot Program**, which will allow the installation of solar panels on Mi'kmaq band-owned community buildings, and create a potential new revenue stream for communities. The pilot program operates as a competitive process, and will be open for applications from July 31 to September 29, 2017. Nova Scotia has recently expanded their **Net Metering Program**, which allows individuals to produce up to 100kW of RE, which can be connected to the grid for a credit on their electricity bill.

The Electricity Plan also includes a commitment to continue to involve Mi'kmaq communities in the development of the **Marine Renewable Energy Strategy** (2012) to research and develop tidal power, and states that a new Electricity Innovation Pilot Program will provide opportunities for Mi'kmaq participation and investment in new electricity technology (Nova Scotia Department of Energy, 2015a). Many of these programs have not been rolled out at the time of publication and Mi'kmaq involvement will be something to watch going forward.

ATLANTIC REGION CAPACITY BUILDING RESOURCES (click on titles for links to full program details)	
Mi'kmaq Energy Strategy Overview and Summary Report Assembly of Nova Scotia Mi'kmaq Chiefs, July 2011	A call to action for the Mi'kmaq to find a balance between sustainability, development and maintaining their value of nature.
More than Wind: Evaluating Renewable Energy Opportunities for First Nations in Nova Scotia and New Brunswick Diana Campbell for the Aboriginal Policy Research Consortium, 2011	This paper is designed to assist Nova Scotia and New Brunswick First Nations become more familiar with the various renewable energy technologies, and to look at the range of opportunities available. Several recommendations are made that provide a roadmap for immediate or longer-term actions.

Northwest Territories

In the Northwest Territories (NWT), 20,800 people, just over half (51.9%) of the total population declared Indigenous identity in the 2016 National Household Survey (Statistics Canada, 2016). While the most populated areas in the south are served by hydroelectricity, energy in the North is predominantly supplied through imported fossil fuels, which puts the northern territories at risk of “high costs, price volatility and supply disruptions... as well as greenhouse gasses that contribute to the changing climate that is affecting the North” (A Northern Vision, n.d., p. 7).

Electricity is supplied by the Northwest Territories Power Corporation (NTPC), mainly by hydroelectric facilities, diesel and natural gas, representing a 38% per cent renewable electricity generation (NEB, 2015). Work to encourage the growth of RE in the NWT, particularly solar and biomass, has been a priority for some time, and a comprehensive policy and planning framework has been in place since 2007. Since 2001, 915 kW of grid-connected solar PV systems have been deployed in the NWT, which currently ranks second in the country after Ontario on an installed per capita basis (Government of Northwest Territories, n.d.-a). Biomass provides approximately 9% of the NWT’s heating needs and use has been growing steadily (Government of Northwest Territories, n.d.-b).

The Government of Northwest Territories (GNWT) has a Net Metering program and Alternative Energy Technologies program, to help support the transition to RE. Each of these programs is open to Indigenous governments, although none of the programs specifically prioritize Indigenous communities.

The **Arctic Energy Alliance (AEA)** is a non-profit organization supported by the GNWT that provides support, services and incentives to residents looking for advice and technical support on energy efficiency and alternative/RE projects. The NWT is looking to expand RE development in hydro, biomass wind, solar,



Tlicho

In 2013, the Tlicho community of Behchoko successfully opened the first Indigenous-owned biomass district heating system in the Northwest Territories (AEA, 2013). The system provides heat to 7 buildings including the community health centre, the Tlicho Motel, Nishi Khon Centre, Northern Store, nurse’s residence and the Jimmy Erasmus Seniors Home. It will reduce heating oil consumption by approximately 200,000 litres per year, cutting costs in half and reducing greenhouse gas emissions by about 540 tonnes per year (AEA, 2013).

Photo Credit (used with permission): Arctic Energy Alliance

geothermal and tidal energy (A Northern Vision, n.d.). Currently there are Indigenous-owned RE projects in hydro, solar, and biomass-district energy.

Northwest Territories Policy

In 2009, the Premiers of the Northwest Territories (NWT), Yukon and Nunavut committed to developing an inventory of current and future RE resources. The report, titled **Paths to a Renewable North: A Pan-Territorial Renewable Energy Inventory** (A Northern Vision, n.d), documents the state of RE in the northern territories and outlines actions and policies being developed to increase RE in the NWT, Yukon and Nunavut. Though it does not appear that any of the policies or programming specifically target Indigenous communities, their intent is to better service remote communities which are predominantly Indigenous.

The Government of NWT's **Solar Energy Strategy (2012-2017)** has a target of supplying up to 20% of the average load with solar in NWT's diesel communities. **The Northwest Territories Biomass Energy Strategy (2012-2015)**, details several actions to encourage the use of biomass in the territory. These strategies support the targets and goals of the **NWT Energy Action Plan (2013)**, **NWT Power System Plan (2013)** and **A Greenhouse Gas Strategy for the Northwest Territories (2011-2015)**, which recognize the need to lower costs and reduce greenhouse gas emissions of the energy sector. In 2016, the Government of NWT undertook a public engagement process to develop a new 10-year energy strategy, which will be released in 2017.

The **Net Metering Program** was approved in January of 2014 and currently offers residential, business and community RE projects (of less than 5 kW) an opportunity to accumulate energy credits from excess electricity to be used during months when use exceeds generation (Northwest Territories Power Corporation, 2014).

The Government of the Northwest Territories has an **Alternative Energy Technologies Program (AETP)**, which offers funding opportunities for community and Indigenous governments, as well as non-profit organizations, through the Community Renewable Energy Program (CREP).

NORTH WEST TERRITORIES FUNDING PROGRAMS (click on titles for links to full program details)		
Community Renewable Energy Program	Helps communities install new RE systems or convert conventional systems to alternative energy.	Maximum of \$25,000 per year, or \$12,500 in hydro communities (50% of eligible costs)
Residential Renewable Energy Fund	Helps individuals install new RE systems or convert conventional systems to alternative energy.	Maximum of \$5,000 per year (up to one-third of eligible costs)
Business Renewable Energy Fund	Helps businesses install new RE systems or convert conventional systems to alternative energy.	Maximum of \$15,000 per year (one-third of eligible costs)

Nunavut

Nunavut has an Inuit population of approximately 30,000, accounting for almost 95% of the population (Nunavut Bureau of Statistics, 2014). The energy situation in Nunavut can be considered dire, with electricity prices of \$1.02/kWh in some communities, compared to prices of 10¢ - 20¢/kWh in other parts of Canada (McDonald & Pearce, 2013). With no electricity grid, all 25 communities in Nunavut rely on diesel generators to fulfill their requirements for electricity, heat and transportation (McDonald & Pearce, 2012).

Some preliminary studies have assessed RE potential in Nunavut, and have discovered that the most promising RE technologies are wind, solar PV, and run-of-river hydro (McDonald & Pearce, 2013).

Many of Nunavut's governing policies are in the early stages of development, including those regarding alternative energy solutions. While there are some programs targeted at increasing energy efficiency, there are currently no programs or incentives for developing RE. The majority of support that has been provided for RE projects in Nunavut thus far has been from the **ecoENERGY for Indigenous and Northern Communities Program** (Government of Nunavut, 2014).

Nunavut Policy

The development of RE sources is a key component of **Ikummatiit**, the Government of Nunavut's Energy Strategy (2007). The policy objectives of the strategy are divided into four categories: energy conservation and efficiency; alternative energy, including the development of hydroelectricity; better management practices; and oil, gas and uranium development (Government of Nunavut, 2007). According to the report **Paths to a Renewable North** (A Northern Vision, 2011), policy changes to increase the supply of RE in Nunavut have already begun and include the development of an Independent Power Purchase Policy to allow private individuals to generate RE and sell it back to the Qulliq Energy Corporation (QEC). The report adds that an alternative energy resource study is currently being completed as the basis for a RE plan for Nunavut. An electric transmission line from Manitoba has also been proposed, which would bring Manitoba's supply of hydroelectricity into the territory.

The Homeowner Energy Efficiency Rebate Program offered by the Nunavut Housing Corporation offers a 50% rebate for up to \$2,000 for repairs that improve energy efficiency, the purchase of energy efficient appliances, the installation of RE sources, and labour and shipping costs. In addition, the Government of Nunavut has introduced the **Nunavut Energy Management Program (NEMP)**, a territory-wide initiative to reduce energy and water consumption, reducing fossil fuel dependence in public buildings. (A Northern Vision, 2011; Government of Nunavut, n.d.).

Ontario

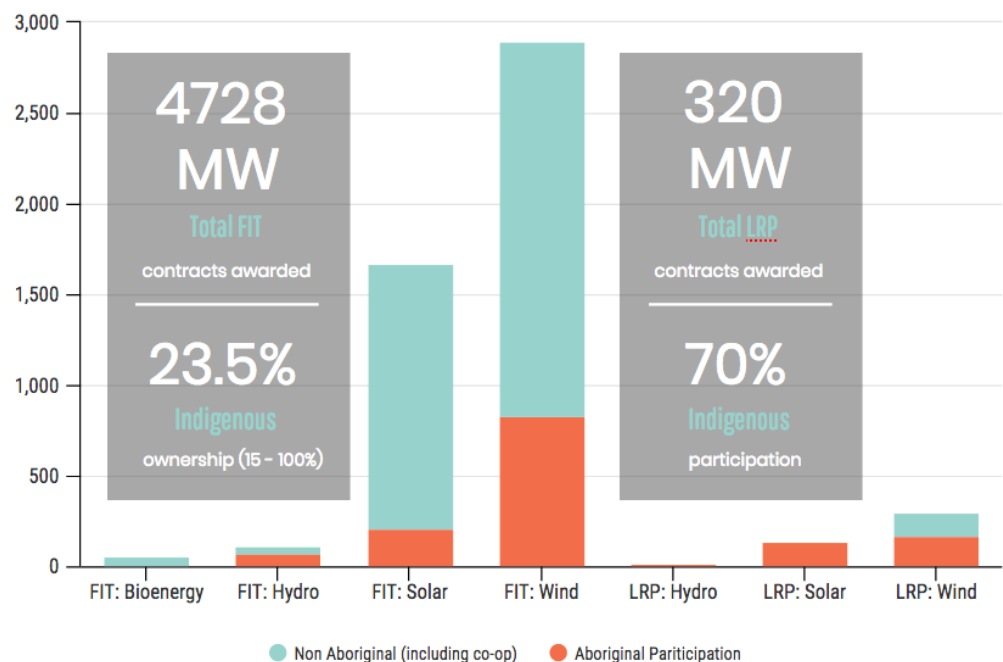
In the 2016 National Household Survey, just over 374,000 people living in Ontario identified as Indigenous, accounting for about 2.8% of the provincial population, and 22.3% of the of the country's Indigenous population (Statistics Canada, 2016). 25 of Ontario's northern Indigenous communities are not connected to the Ontario grid, and are highly dependent on diesel fuel for electricity generation. A variety of Ontario government actions, policies and programs introduced since 2010 have begun to change the way in which Indigenous communities are able to engage in Ontario's energy sector (COO, 2016).

Following a number of actions to phase out electricity from coal generation in 2014, Ontario currently generates approximately 34% of its electric energy from RE sources (NEB, 2015). Ontario's **Green Energy Act (2009)** included explicit elements to encourage the participation of Indigenous communities in the development of RE projects. Following the introduction of this legislation, the province introduced the **Feed-In-Tariff (FIT)** program and the **Aboriginal Energy Partnerships Program (AEPP)**. The FIT program created standardized rates and application procedures for RE projects, and includes special incentives for Indigenous participation and community energy projects. The AEPP provides funding, support, and capacity building for Indigenous communities pursuing RE development. The FIT program has been very successful for a number of First Nation and Métis communities in the development of wind, solar and hydroelectric energy.

By the end of the first four application cycles, 23.5% of RE projects contracted under the FIT program in Ontario had some level of Indigenous participation. This includes projects with minority participation as low as 15%, up to 100% Indigenous ownership. More than 550 FIT contracts have been awarded to projects involving or led by First Nations and Métis proponents, collectively representing over 1000 MW. The distribution of projects between solar, wind, hydro and biomass is shown in Figure 1 (Independent Electricity System Operator [IESO], 2017).

Ontario FIT / LRP contract distribution (MW):

In 2013, the province re-introduced a competitive bidding process for large projects called the **Large Renewable Procurement (LRP)** program. The LRP also included explicit provisions to encourage large developers to partner with Indigenous communities on their projects. The LRP contracts announced in 2016 added a further 13 projects and 320 MW of



RE projects (over 500 kW in size) with some level of Indigenous community participation, representing 70% of all LRP contracts awarded (IESO, 2016b; IESO, 2017).

With assistance from federal and provincial financial support programs, and the support of the local utility, Ontario's remote northern communities have also made progress in transitioning to RE, with 11 recent solar projects directly owned by the communities (Karanasios & Parker, 2016). 22 First Nation communities are currently participating in the development of the Wataynikaneyap transmission line, which will provide electric grid access to 17 remote communities. The ownership model has been structured to allow the participating communities to purchase an increasing equity share in the project from the private partner until it becomes 100% Indigenous owned (Karanasios & Parker, 2016).

Ontario Policy

The Green Energy and Green Economy Act (2009), and the associated FIT and LRP programs have led to much of Ontario's success in developing RE and allowing for Indigenous participation. Ontario's **FIT program** specifically benefits Ontario Indigenous peoples by offering Indigenous-specific contract capacity set-asides (CCSA), a set number of MW of total procurement set aside for Indigenous communities. The program also includes an "Aboriginal Price-Adder" whereby projects with greater than 50% Indigenous participation are paid an additional 1.5 ¢/kWh and projects with between 15% and 50% Indigenous participation receive an additional 0.75 ¢/kWh (IESO, 2016a).

A FIT or LRP applicant can also choose to apply for priority points to obtain a higher priority ranking during the application process by including an "Aboriginal Support Resolution" (to qualify for an additional two priority points) or an "Aboriginal Community Site Host" to qualify for an additional priority point. These points can give a project a higher standing during the evaluation process vis-à-vis project applicants that do not have Aboriginal support or a site host (IESO, 2016a).

In 2016, the AEPP was streamlined, along with support programs for communities, municipalities and public sector entities, into the Energy Partnerships Program, which offers funding opportunities for Indigenous communities for Project Partnerships, Project Development and Remote Project Development for identified remote First Nations communities (IESO, n.d.). The IESO also operates an **Aboriginal Community Energy Plan** (ACEP), to help communities consider opportunities for RE generation and energy efficiency, as well as an **Education and Capacity Building Program** (ECB), which funds projects that help build the understanding and skills needed for managing and generating energy. See more details about these programs below.

Unfortunately, LRP program was suspended in 2016, and the FIT program is expected to end after its fifth round of contracts are announced in 2017, which effectively limits further opportunities for Indigenous communities, and others, to build new RE projects. Ontario recently updated its **Net Metering Program**, which allows RE projects to connect to the grid in exchange for credits towards the energy bill for that property. The new Net Metering rules remove size restrictions for projects and allow storage to be paired with RE generation (Bellini, 2017). Ontario is expected to release a new Long Term Energy Plan in 2017, to guide provincial energy strategy going forward (Ontario Ministry of Energy, n.d.).

Many of Ontario's remote off-grid communities have been able to access federal capital funding programs to support RE development.

ONTARIO FUNDING PROGRAMS (click on titles for links to full program details)

Energy Partnerships Program	Funding is available for partnership costs for FIT projects (legal, technical and due diligence costs), soft costs related to project development of FIT projects and remote communities where transmission connection has been identified as uneconomic.	maximum \$50,000 for a RE or transmission project (80% of actual project costs).	Applications are accepted on a rolling basis, with proposals reviewed at specific times throughout the year.
Aboriginal Community Energy Plan Program	A Community Energy Plan helps to improve energy efficiency and reduce electricity consumption at the community level. It also helps communities consider opportunities for renewable energy solutions, and can promote a greater interest, awareness and understanding about energy planning.	Up to \$90,000 in funding is available to develop new community energy plans, or up to \$25,000 to update an existing plan. Remote communities are eligible for an additional \$5000 per stream	Applications are accepted on a rolling basis, with proposals reviewed at specific times throughout the year.
Education and Capacity Building Program	The ECB program funds initiatives proposed by First Nation and Métis communities and organizations such as awareness campaigns, material and course development, workshops and education programs.	Up to \$100,000 per eligible project	The fifth round of funding applications closed in October 2017, it is unclear if future funding will be available through this program.
Aboriginal Loan Guarantee Program	The \$650 million program supports First Nation and Métis participation in clean energy infrastructure in Ontario including transmission projects and wind, solar and hydroelectric generation projects.	Provincial guarantee for a loan to purchase up to 75% of an Indigenous corporation's equity in an eligible project, to a maximum of \$50 million.	Ongoing application process.

ONTARIO CAPACITY BUILDING RESOURCES (click on titles for links to full program details)

First Nations Electricity Report Chiefs of Ontario, in partnership with TREC, 2016	An energy literacy tool to support the meaningful participation of First Nations in energy issues. The report contains foundational information and is designed to build knowledge, insight and understanding of essential energy issues.
First Nations Energy Education Exchange	The First Nations Energy Education Exchange is a networking and knowledge-sharing initiative led by TREC Education in collaboration with the Chiefs of Ontario.
Indigenous Careers in Renewable Energy	A facebook page with jobs, stories, and events in the renewable energy field.

Prince Edward Island

Prince Edward Island (PEI), or *Epekwitk* in Mi'kmaq, is the traditional territory of the Mi'kmaq, including the Abegweit First Nation and the Lennox Island First Nation (Abegweit First Nation, 2015). Approximately 2,700 Indigenous peoples reside in PEI, or 1.9% of the provincial population (Statistics Canada, 2016). While PEI's own installed electric energy generation comes from 99% RE sources (wind and biomass), the province relies on New Brunswick for the bulk of its electricity supply (NEB, 2015). Though the Government of PEI has expressed some interest in developing partnerships with First Nations on RE projects, very little evidence of Indigenous participation in RE projects could be found.

PEI Policy

In 2004, the **Energy Framework and Renewable Energy Strategy** referred to an expressed interest by First Nations in PEI to partner with the government to expand the province's wind energy generation capacity. The report noted that the government expected to sign a Memorandum of Understanding through the **Mi'kmaq Confederacy of PEI** to outline Indigenous involvement in future wind development (Government of PEI, 2004).

More recently the government published the **Prince Edward Island Energy Strategy**, which does not make any mention of Indigenous communities, despite its intent to build from the progress made in the 2004 report (Government of PEI, 2008). Additionally, no reference to Indigenous communities could be found in the province's **Renewable Energy Act (2004)**. More recently, ecoPEI, a local environmental organization, published a **report** calling for policy mechanisms such as Feed-in Tariffs, Advanced Renewable Tariffs (ARTs), or Electricity Feed Laws to support communities, including First Nations, wishing to participate in RE development alongside large commercial developers (ecoPEI, 2014).

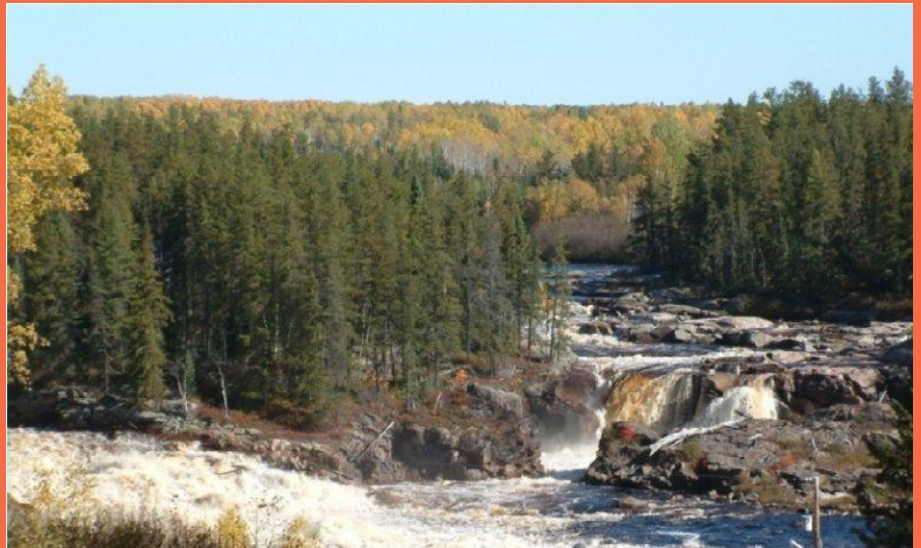
Quebec

Approximately 182,900 Indigenous peoples live in Quebec, representing 2.2% of the provincial population (Statistics Canada, 2016). With 99% of its electricity generation coming from RE sources, Quebec has the largest hydro reserves in the country, accounting for an installed capacity of over 40,000 MW, more than three times that of BC (NEB, 2015).

Quebec's history of participation with Indigenous communities stems from the historic James Bay and Northern Quebec Agreement of 1975, the result of four years of negotiations, court cases and bargaining following the 1971 announcement of plans to build a system of hydroelectric dams in Northern Quebec. In exchange for allowing the projects to move forward on their lands, the Cree, Inuit and Naskapi Nations received financial compensation, guaranteed land-use rights and control over local government, including health, education and economic development. While not without their share of problems, the affected communities have benefited from increased levels of "cultural continuity," such as preservation of language, and a strong attachment to family and community. These factors have led to suicide rates in line with the provincial average, which are well below those of other Indigenous communities across Canada (Canadian Encyclopedia; Hamilton, 2016).

Since the 1975 agreement, the province of Quebec has made a number of agreements with Indigenous communities to participate in RE developments, including several calls for procurement proposals which have involved capacity set-asides for Indigenous and local communities. As a result, Indigenous communities have been involved in the development of hydro, wind, and biomass RE projects throughout the province.

In 2009, Hydro-Québec offered power purchase agreements for small hydro plants of 50 MW or less to enable local, regional and Indigenous communities to develop small projects. However, the Government of Québec ended this program in February of 2013 (Hydro-Québec, n.d.). In the past, the Quebec government has issued



Pekukamiulnuatsh Takuhikan

In the early 1990s, the Pekukamiulnuatsh Takuhikan founded the Hydro-Ilnu Company in response to a program launched by Hydro Quebec to purchase electricity coming from small hydroelectric power stations (<25MW). Hydro-Ilnu, under a limited partnership with Hydro Quebec, is now the majority owner (51%) of the 9.9 MW Minashtuk Hydro Power Project. The project was made possible through a 20-year power purchasing agreement with Hydro Quebec. Built in 2000 for a cost of \$25 million, the project finds a balance between the integration of both social and environmental aspects. The Pekukamiulnuatsh Takuhikan selected a project location where the rising water levels will not overflow in the spring, respecting their profound environmental values (Yan, 2010).

Photo Credit (used with permission): Groupe PEK

several requests for proposals for wind energy projects. In 2009, a procurement of 250 MW was announced that was reserved specifically for Indigenous projects. Projects were limited to 25 MW and required majority control by the Indigenous community or nation. However, only one project of approximately 25 MW was approved in this capacity set-aside.

In May 2013, the Government of Quebec announced another block of 800 MW of wind energy capacity, of which 150 MW was reserved for Indigenous projects, and specifically involved three Mi'kmaq communities that had established partnerships with Innergex (Sherrard, Timmins & Amadee, 2013). In addition, a 450 MW block was set aside for local communities (with at least 50% community control and a resolution required), with “local community” being defined as a regional county municipality, local municipality, Indigenous community or inter-municipal management board (Sherrard & Timmins, 2013).

Quebec Policy

The Government of Quebec recently released their **2030 Energy Policy** (2016), in line with the considerations of the Paris climate agreement (COP 21). The Policy outlines targets to enhance energy efficiency by 15%, increase overall RE output by 25% and increase bioenergy production by 50% by the year 2030. While Indigenous communities were consulted in the development of the policy, specific actions include the establishment of an advisory council made up of representatives from Indigenous communities, with the purpose of improving communications between government and communities regarding energy developments. It also calls for collaboration between government and Indigenous communities and between nations, when developing projects on Indigenous territories, and for ensuring that small hydro projects result in economic spinoff for local and Indigenous populations (Gouvernement du Québec, 2016).

Saskatchewan

Approximately 175,000 Indigenous identified peoples live in the province of Saskatchewan, making up 16.3% of the provincial population (Statistics Canada, 2016). All but one of Saskatchewan's 74 First Nations communities are connected to the main distribution grid. Saskatchewan generates approximately 17% of its electric energy from RE sources, with the majority coming from coal and natural gas.

The crown-owned Saskatchewan Power Corporation (SaskPower) is the principal electric utility in the province. All large-scale wind energy is either produced or purchased by SaskPower for distribution (Richards et al., 2012). Of the six wind farms located in Saskatchewan, only one is owned by a First Nations community, which represents approximately 0.4% of the total 221.3 MW of wind capacity in the province (CanWEA, 2015). Indigenous communities are also involved in the generation of biomass, hydroelectric, and solar power in the province.

Saskatchewan Policy

Although SaskPower does not currently offer any specific procurement strategies for Indigenous participation in RE, the corporation has signed a 10-year agreement with the **First Nations Power Authority** (FNPA), an Indigenous governed, not-for-profit development company with a mandate to facilitate successful participation of First Nations in energy development. The agreement, signed in 2013, defines a process for developing RE projects with First Nations (BLG, 2013). FNPA is working with SaskPower to establish a framework that will represent a legally-binding commitment by SaskPower to procure a set amount of energy from First Nations-led independent power producers within a specified time period (EHRC, n.d.-b).



Cowessess First Nation

In 2013, the Cowessess First Nation installed a 800 kW wind turbine and a 400 kwh lithium ion battery storage system. The project was financed through a \$1.8 million equity contribution from Cowessess First Nation, as well as through funding from the federal government's Clean Energy Fund (\$2.8 million), the Saskatchewan government's Go Green Fund (\$1.4 million), Aboriginal Affairs and Northern Development Canada (\$500,000) and financial and technical support from the Saskatchewan Research Council. This project is significant not only because it provides clean energy to the grid but because this project is one of the first of its kind in Canada and it is generating valuable research. By time-shifting electricity from off-peak hours when it has the highest value, the battery is capable of smoothing variable output of the wind by 65-78 percent. This reduction in volatility is important for increasing the level of wind and solar penetration to the electrical grid.

Photo Credit (used with permission): Cowessess First Nation

Yukon Territory

Indigenous peoples account for 23.3% of the Yukon Territory's population, with approximately 8,200 people identifying as Indigenous (Statistics Canada, 2016). Since 1995, 11 of the Yukon's 14 First Nations have become self-governing, which accounts for more than 50% of the self-governing First Nations across Canada (Council of Yukon First Nations, n.d.).

Yukon generates 94% of its electricity from RE sources, primarily hydro (NEB, 2015). The Yukon Government has several programs geared toward community and RE development and the **Independent Power Production (IPP)** Policy specifically addresses First Nations involvement (Yukon Energy Mines and Resources, 2015). Very little information is available online about Indigenous involvement in RE, however we found reference to Yukon First Nations involved in hydro, wind and solar development (see Appendix A).

Yukon Policy

The Yukon Government has implemented the **Independent Power Production (IPP) Program**, the **Micro-Generation Program**, the **Rural Electrification & Telecommunications Program**, the **Residential Renewable Energy Initiative**, and the **Good Energy Program**. The Micro-Generation Program which offers a higher rate for energy sold back to the grid from remote, diesel-dependent communities (\$0.30/kWh versus \$0.21/kWh).

The IPP program seeks to help fulfill the goals outlined in the **2009 Energy Strategy** in part by providing Yukon Indigenous communities with opportunities to participate in the Yukon economy, obtain economic benefits, and develop economic self-reliance. The IPP program goals include a target of at least 50% of IPP projects having Indigenous ownership (defined as at least 50% owned/controlled by a Yukon First Nation). The roles and responsibilities for the Yukon Government in fulfilling these policy goals are to: 1) "Facilitate First Nation economic development through risk sharing on projects with First Nation IPPs; and 2) Encourage IPP proponents to partner with Yukon First Nations and/or Yukon First Nation development corporations and Yukon businesses" (Yukon Energy, 2015, p. 9).



Vuntut Gwitchin First Nation

The Yukon's northernmost community, once entirely reliant on diesel for its electricity generation, is making a bold move into renewable energy. Vuntut Gwitchin First Nation has already build several small-scale solar installations through the Microgeneration Program, and now they are looking to build the Yukon's largest solar array and storage facility. The community has made a proposal to the Yukon Environmental and Socio-economic Assessment Board to build a 330 kW installation that could offset 17% of the community's total diesel use. A 2016 feasibility study demonstrated that the capital costs could be paid off in the first 11 years and that the community stands to make about \$300,000 per year after that.

Photo Credit (used with permission): Kobayashi + Zedda

YUKON CAPACITY BUILDING RESOURCES (click on titles for links to full program details)

Yukon Government Energy Solutions Directory

A directory of Yukon-based providers of renewable energy and energy efficient products and services. It presents a mix of private companies, government agencies and non-profit, non-government agencies.

5. Key considerations & lessons learned in Indigenous project development

In the previous section, we found that there is a great deal of activity related to Indigenous Power across Canada. However, we also found that the scope and type of activity varies significantly by province and territory and that this variation is often informed by the policies and programs, or lack thereof, to support RE development in general and Indigenous involvement specifically. Government has a great role to play in supporting Indigenous Power, but government red tape can also be a barrier. For example, Aki Energy in Manitoba was able to benefit from the Pay As You Save (PAYS) program described above, to finance geothermal installations through a financing charge on the utility bills of participants. However, INAC, which had paid the operating costs for social assistance clients, had declared the financing charge an ineligible expense, despite leading to overall lower energy bills, and stimulating local employment (Loney, 2016, pp.48-51).

Overall, as argued in a report about Indigenous RE commissioned by the Chiefs of Ontario, “these are positive developments, but they are not without their challenges” (COO, 2016). The report further reads:

“Often the very mechanisms intended to encourage Indigenous involvement in the sector, fail to acknowledge capacity constraints, longer lead times and competing interests that limit how and how quickly communities can respond and/or participate. Moreover, many long-standing issues that are separate from but inform energy participation remain, not least, of course, the on-going need for recognition and respect of Indigenous title and Treaty rights across the country” (COO, 2016).

In this section, we will provide an overview of some of the challenges identified by individuals directly involved in Indigenous Power project development. The scope of this research did not allow us to conduct interviews, but the ideas shared here come from presentations made by Indigenous leaders at various events that the authors participated in over the last two years. We had the opportunity to hear from speakers representing a range of communities at workshops in Ontario, Quebec, British Columbia, Nova Scotia, and also at several national forums (see Appendix B for details). We present this information as a starting point for discussion, with encouragement for more thorough research and inquiry in collaboration with Indigenous scholars and community practitioners.

We have organized the key considerations into the following categories:

1. Understanding timelines, assessing risks and managing expectations
2. Relationship to the land and environmental implications
3. Capacity considerations for ensuring meaningful (& equitable) participation
4. Working with project partners
5. Providing opportunities for the local workforce
6. Urgent and systemic community challenges

Understanding Timelines, Assessing Risks and Managing Expectations

Regulatory and approval processes for energy projects often require a great deal of involvement and can take a long time to complete. Whether a group is trying to build a RE project or is concerned about a development taking place around them, the processes are generally complex, often not well communicated, and therefore confusing and difficult to participate in. From the formulation of a project idea to the time when action is taken, several years may pass and significant changes in circumstances may take place. It is important for communities and development partners to plan their projects with this in mind and manage their expectations about the final outcome accordingly (COO, 2016).

Indigenous governance is often subject to internal time-related constraints that can impact project processes. For instance, many Indigenous communities, which are governed by the Indian Act, must abide by a two-year electoral timeline. This timeline may lead to a project no longer happening or to shifting political positions, depending on whether the newly elected leadership is supportive. Timelines related to land negotiations for areas where a project is planned can also raise additional challenges (COO, 2016). What many communities have chosen to do, in order to take the potential political delays out of the process, is to create a commercial entity controlled by the community to negotiate and develop the project, thereby separating politics from business.

Many participants in the RE sector experience difficulties in getting their projects off the ground due to numerous risks that arise through the development process. For instance, these projects often have to pay high upfront costs before securing a power purchase agreement from the energy agency procuring the energy (such as a successful FIT contract application in Ontario or winning a Request for Proposal round in Quebec). In Ontario, participants in the FIT program who have limited to no energy development experience, as is the case for many Indigenous communities, generally require longer periods of time to plan and finance RE projects compared to commercial developers (Canadian Consulting Engineer, 2014; COO, 2016). Consequently, during the start-up phase, communities need access to capital to cover costs associated with regulatory approvals, feasibility studies, financial planning, and reaching out to the wider community to engage with them on the project. Overall, the energy sector is difficult to navigate and project development is a long and involved process requiring years of sustained effort. For many Indigenous communities, this is a challenge as the learning curve is steep, the timelines are long and competing interests and community priorities can prevent meaningful participation (COO, 2016).

Relationship to the Land and Environmental Implications

Depending on the sector, some energy projects may have more adverse environmental effects than others. The devastating effects of an oil spill or the long-term effects of diesel fumes have been well documented. But RE projects too can have adverse impacts on the local environment based on how they are constructed and where they are sited. For instance, depending on the location, scale, and how they are built, hydro projects can impact the local ecology of the waterway and flood traditional territories (Anderson et al, 2014; Wilt, 2016; Union of Concerned Scientists, n.d.). Concerns about human health attributed to wind energy remain unsubstantiated by researchers but nonetheless, the siting of the turbines should be carefully considered (Fast et al, 2016; McCunney et al, 2014; Government of Canada, n.d.). All energy projects have ecological impacts, so it is important to weigh issues related to a specific project as well as weighing different energy and development choices against each other.

At the same time, the connection Indigenous peoples and communities have with the land can create the challenge of harmonizing development activities with environmental disruption. This cannot always be reconciled for some members of a community. The precise concerns and considerations will be specific to a community and project, but they should not be taken lightly. Moreover, external developers may not be sensitive to the cultural connection Indigenous peoples have to the land and may approach an environmental review purely as a routine exercise rather than as an essential step in enabling the community to gain the insights needed to get involved in and support a project. Provincial and federal environmental assessment (EA) processes allow for communities to get a sense of the potential impacts of a project before its development. However, the EA process is far from perfect and represents another layer of project detail a community needs to navigate.

On a life-cycle basis, RE projects on the whole have fewer adverse environmental impacts than fossil fuel and nuclear power generation and therefore represent an important choice for reducing our impact on the land, water and air (Pehnt, 2006). RE projects offer an opportunity for environmental stewardship that aligns with Indigenous peoples' values and worldviews. However, the development process should always be carefully considered, and communities should be engaged from the beginning and equipped with the necessary information and education to make informed decisions on a project (COO, 2016).

Capacity Considerations for Ensuring Meaningful (and Equitable) Participation

Developing a RE project is a complex process. The energy sector is heavily regulated and has, for more than a century, been the purview of very large, highly specialized companies and/or government agencies. With the feasibility of renewables at all scales, there is now scope for new types of participants to get involved and the policies to enable that involvement need to follow suit. But of course, building capacity to enable these new participants will take time. This necessary learning curve is often not reflected in the policy and program timelines, and can create a significant disadvantage for Indigenous communities and other community entities (e.g. co-ops or not-for-profit organizations) trying to compete with the established industry.

This lack of capacity creates disadvantages right from the start, be it in pulling together what is needed in a project application on their own, dealing with early stage negotiations with developers that have approached a community, and even knowing how to navigate the various policy and administrative layers of getting a project to approval. As Matt Jamieson, President of the Six Nations of the Grand River Development Corporation put it, it is a classic case of “you don’t know what you don’t know”. Consequently, “through no fault of their own, First Nations leaders do not know what they want from developers and are unsure what they are willing to accept” (Jamieson, 2015).

While there are capacity building programs to help address this gap, the design of these programs does not always reflect what is needed on the ground, employment training is often gender-biased towards men, and competing demands often get in the way. Ontario is a case in point: even today, after six years of the FIT program, many Indigenous communities still do not have the capacity to begin the development phase of a project, let alone the ability to provide the equity financing needed to continue developing projects. Six Nations of the Grand River, has been involved in several large solar and wind development projects, but has acknowledged significant barriers in securing financing and people

capacity. Matt Jamison, director of economic development, notes that “Bay Street is unclear on how to sit down and structure an agreement with First Nations,” and acknowledges the community’s difficulty in finding the capacity to review RE project proposals while there are urgent priorities for housing, roads and water treatment plants (Canadian Consulting Engineer, 2014).

Well designed and informed capacity development programs that build on lessons learned, for instance in Ontario, Nova Scotia and British Columbia, are essential if Indigenous communities are to have a fair shot at participating in existing and emerging RE development opportunities.

One thing we have heard at numerous events where knowledge sharing has been enabled between Indigenous Power practitioners, is the value of collaboration and the importance of hearing firsthand about lessons learned and best practices. As provinces and territories like Alberta, New Brunswick and the Yukon introduce greater opportunity for Indigenous involvement, there will be a need for more knowledge sharing and information exchange to limit reinventing the wheel and/or repetition of common pitfalls in the process on all sides.

This knowledge sharing is relevant to all involved, from policy and program designers within government agencies, to private commercial developers in their assumptions and approaches to Indigenous communities, to, of course, the communities themselves in how to navigate this emerging sector.

Working with Project Partners

Many RE projects involving Indigenous communities are partnerships between a private, commercial developer and a community. Often the relationship is initiated by the developer who has identified an opportunity to make money and is either motivated by government policy that encourages Indigenous participation, or approaches a community in their duty to consult. Depending on the experience of the developer, the process for the community can vary significantly and many Indigenous practitioners have commented on common challenges that arise from these relationships. Many of these challenges stem from differences in culture and approaches to doing business.

For developers, advice we heard included:

- Engage early and engage often with the community/community leaders: “nothing about us, without us.”
- Recognize time and capacity constraints of Indigenous leaders and respect the need to work more slowly.
- Do your homework – learn about the community and its ways and work to find common ground. It is important to establish a relationship built on respect, trust and mutual benefit. Matt Jamieson of Six Nations says “Have a genuine relationship with the First Nation, not a transactional one” (Canadian Consulting Engineer, 2014).
- Provide term sheets and guiding documents, clearly outlining the project details in an easy to understand format.
- Level the playing field by helping the community to build capacity through the funding of certain positions, or similar.
- Recognize financial constraints and help to cover equity financing
- Be patient.

For Indigenous communities, advice we heard included:

- Be aware that project developers are not necessarily in it for the long haul – many will sell their portion of the project with little notice.
- You will have limited influence in the project as a limited partner – you may wish to insist on being part of the general partnership for better insight and decision-making. Consider whether your community has the capacity to take the lead on this and/or future projects.
- Secure good legal representation for partnership agreements.
- Be involved in the project from start to finish to protect your financial interests.
- Make sure you have clear terms of reference for the many project development phases.
- Ask lots of questions and don't allow yourself to be rushed into deal making.
- Don't make assumptions about jobs and spin-off opportunities for your community – make these explicit in your agreements (see below).

Providing Opportunities for the Local Workforce

A common assumption made by Indigenous leaders when getting involved in RE projects, especially ones with long development cycles like wind farms, hydro projects and large solar parks, is the opportunity for skilled jobs and community business spin-off opportunities. For all of these technologies there are significant employment hours and often supplier opportunities created, but the assumption that these jobs will go to community members or community businesses has often failed to materialize. In addition, RE job opportunities are often front-loaded, with more opportunities available during the initial construction than with ongoing operations and maintenance, which does little to address long-term employment issues in Indigenous communities.

A common theme among practitioners reporting on lessons learned is that for many large RE projects, the developer negotiating with the community works with a subcontractor to build the project, and those contractors often call the shots regarding employment. Many of these contractors are engineering and construction companies who rely on unionized labour and have codes and standards one needs to follow in order to work for them. This has meant that in some cases the employment available has not been open to members of the partnering Indigenous community because their workers did not meet or have time to achieve the union requirements.

Communities getting involved in project partnerships and/or hiring construction firms for their own projects need to ask pointed questions about the employment opportunities for their members and insist, in writing, on a certain number of employment and training positions. One community indicated that with the experience of their first project partnership, they learned to keep a database of their skilled members and get them unionized in advance of the project build so that they are ready for hire.

Another challenge with jobs in the RE industry is that they are often dependent on government policy rather than market-driven. We have seen in Ontario and Nova Scotia the boom and bust cycles created by policy changes, over which the industry has no control. Given the late start many Indigenous communities have had in getting involved in the sector (due to the capacity constraints mentioned earlier), the opportunities for jobs have been particularly challenging given the required lead-time for training for the industry. As a result, late entrants to the job market are often the ones to lose out. Here too is an important area for

knowledge sharing on all levels so that provinces and territories getting into RE learn from these prior shortfalls and create equal opportunities for Indigenous workers through policy.

Urgent and Systemic Community Challenges

For all of the above considerations, there are concrete steps that can be taken either by the community, project partners and/or government programs to help overcome the challenges and pitfalls. However, it is important to note that there are also systemic issues that many Indigenous communities across Canada face that may prevent them from participating or participating equitably in the RE sector. Many communities are dealing with basic human rights issues like access to clean drinking water, safe and sufficient housing, community and women's safety, youth suicide, and environmental disasters, among other issues. When confronted by these overwhelming challenges, there may be little room left to focus on economic development from energy opportunities. Many communities simply may not have the capacity to deal with a potential or pending energy development because they must contend with more pressing issues (COO, 2016).

It is important that these realities are acknowledged and to recognize that these issues must be addressed within and outside the scope of RE policies and programs. While the economic opportunities from a RE project can have many benefits for a community, these systemic issues require other interventions and sustained support. While supportive programs at all levels of government are helping to foster Indigenous Power activities, leading to many powerful benefits, the Canadian government must not ignore its obligations to uphold legally binding Treaties, to enact the recommendations of the **Truth and Reconciliation Commission**, and to ensure that Canada's Indigenous peoples are afforded the same basic standard of living of all Canadians.

6. Summary and areas of future research and discussion

Change is afoot when it comes to electricity generation across Canada. With the scaling up of RE, we are witnessing a change in the types of participants involved in the sector. Indigenous communities are among the new players in the sector and in many regions of Canada they are playing a significant role in the proliferation of RE projects.

Taking quick regional snapshots of Indigenous Power in the Canadian provinces and territories provides us with a starting point for discussion, action, and further inquiry. What is evident from looking at the policies of the various regions and the examples of Indigenous Power in existence is that Indigenous communities are actively participating in RE developments and that they are able to participate more fruitfully where there are favourable government policies.

Amongst Indigenous Power examples, we see great diversity in the details of the projects, including: who owns the majority of the project, who is benefiting from the project financially, and what is the extent of the role of outside collaborators? RE initiatives are not small undertakings and as Indigenous communities look to engage more in RE, lessons can be learned from those who have already undergone the process. While some of these lessons have been covered in this report, it just touches the surface of stories and experiences that can be exchanged. Looking forward, it would be beneficial for Indigenous communities to come together and share their experiences, not only for the benefit of Indigenous communities considering

getting involved in future RE projects, but also for potential project partners and policy-makers to hear what Indigenous expectations are and the lessons learned that can be applied to the energy sector going forward.

This report is intended to stimulate a conversation and further research into this exciting new area of Indigenous involvement. There are many potential benefits economically, environmentally, socially and for Indigenous self-determination in the expansion of RE projects that are owned by the communities themselves. We have summarized what many of these benefits could be, however, to our knowledge, there has not yet been an assessment of whether these benefits are being realized. We expect more findings to be shared in the coming years with initiatives such as **A SHARED Future**. We look forward to such research, while also encouraging more knowledge sharing between communities within and across regions. Several provinces have a head start on RE development and Indigenous Power, and in the last year we have seen many provinces and territories announce or allude to opportunities in this area. The learning curve however can be steep therefore, there is great value in a national or inter-regional dialogue about lessons learned and best practices in Indigenous Power.

This report is meant to serve as a starting point for an ongoing discussion on Indigenous Power, which involves Indigenous communities, developers, government officials, academics and non-Indigenous individuals and communities. There are many questions to be answered, many areas to be explored, and many conversations to be had and we hope this will provide a useful starting point.

Appendix A: Indigenous Power project examples

The projects listed on these pages were found through on-line searches. We found information on funding and/or government program websites, on project-specific sites, and in newspaper publications. The projects listed below represent just a sample of what is being developed in jurisdictions across Canada, and it is not intended to be an exhaustive list. Some projects named received funding for feasibility analysis, and we were not always able to find out if a project had moved to the implementation stage. The intention of this list is to provide a sampling of what is happening across Canada and to support knowledge sharing between projects. We apologise for any errors or omissions in our reporting and encourage readers to conduct follow-up analysis on projects they are interested in learning more about.

Other resources we recommend consulting to learn more about Indigenous Power projects across Canada include the **Project Videos** and **Project Map** produced by the **Indigenous Clean Energy Network**, as well as the **Indigenous Renewable Energy Map** project.

Alberta

Solar Projects

- **Athabasca Chipewyan First Nation:** (unknown capacity); 8 solar panels plus storage, generates electricity for youth and elder lodge; cost approximately \$20,000 (Morin, 2015, Howell, 2014).
- **Louis Bull Tribe:** 400 solar panels on four community buildings, including Health Services Building, Adult Training Centre and Public Works / Firehall building (Mertz, 2016).
- **Lubicon Lake First Nation:** 20.8 kW (24,750 kWh annually); 80 panels; heat and light for community health centre in Little Buffalo (Sterritt, 2015).
- **Montana First Nation:** 100 kW; roof of band administration building, and 20 kW installation on water treatment plant. The First Nation founded the Green Arrow Renewable Energy Corporation, and is currently working with other communities across the Prairies to develop RE projects on reserve lands (Sterritt, 2015; Morin, 2015).
- **Piikani Nation:** (unknown capacity); offsets annual energy needs of the administration building and secondary school (Piikani Resource Development Ltd [PRDL], n.d.-b).
- **Saddlelake Cree Nation:** (unknown capacity); powers water treatment plant (Morin, 2015).

Wind Projects

- **Piikani Nation:** 900 kW turbine called “Weather Dancer.” The nation is planning to add 5-6 more turbines to the 25 kV transmission line (PRDL, n.d.-a).

Hydroelectric Projects

- **Piikani Nation:** A general partner of the Piikani Oldman Hydro Limited Partnership (POHLP) which owns 25% of the project (ATCO Power owns 75%) consisting of two 16 MW turbines for a total capacity of approximately 32 MW (PRDL, n.d.-c).

Biomass Projects

- **Métis Settlements of Peavine, Paddle Prairie and East Prairie:** Biomass electricity production from timber waste; owned by the Métis nations (45% equity), Active Energy Group PLC (45% equity), and Chief Ronald Derrickson of the Westbank First Nation in BC (10% equity; Cattaneo, 2014).

British Columbia

Solar Projects

- **T'Sou-ke Nation:** developed the “Sum-SHA-Thut” Solar array consisting of 440 panels with a capacity of 75 kW (Williams, 2015). T'Sou-ke is considered a leader in solar power in the province (Kekinusugs, 2013). The various components of the solar project include a canoe shed with a 40 kW project-straight grid tie, an administration office with a 22 kW ground mounted PV with an additional 7kW on the roof with a back-up battery for unused solar energy, and a fisheries building with a 6 kW call to grid net metering project (Kekinusugs, 2015). See the T'Sou-ke Nation Solar Community [video](#).

Wind Projects

- **Saik'uz First Nation:** has entered into a 50-50 partnership with Innergex to develop a **210 MW wind farm (Nulki Hills)** near Vanderhoof, BC (Orenda Energy, 2015; Kekinusugs, 2015).
- **T'Sou-ke Nation:** has signed a \$750 million partnership with Timberwest and EDP Renewables to construct a 300 MW wind farm on the south end of Vancouver Island (Williams, 2015).

Hydroelectric Projects

As of June 2014, the province had revenue sharing agreements with 19 First Nations for approximately 25 hydro projects in northern BC, the interior, Vancouver Island, and the lower mainland (Province of British Columbia, n.d.-b). A sampling of projects is included here.

- **Ehattlesht First Nation:** 4.4 MW run-of-river project on Barr Creek. The First Nation has a partnership (20%) with Synex Energy (80%). Ehattlesht First Nation will own a majority share after 35 years. The Nation also has a limited partnership (2%) in the 23 MW Zeballos Lake Hydro project (Kekinusugs, 2015; Morrow, 2012).
- **Hupacasath First Nation:** 6 MW run-of-river development located on China Creek, has been operational since 2005. Hupacasath is the first Indigenous community to be a majority owner and operator (Upnit Power Ltd.) of a hydro project in the province (Hupacasath First Nation, n.d.). The Hupacasath First Nation owns 72.5% and the Ucluelet First Nation owns 10% of the project (Kekinusugs, 2015).
- **Kanaka Bar Indian Band:** has partnered 50-50 with Innergex Renewable Energy Inc. in the development of a 49.9 MW run-of-river hydro project under the name **Kwoiek Creek Resources Limited Partnership**. The facility became fully operational in June 2014 (ABIC, n.d.-a; Kekinusugs, 2015).
- **Namgis First Nation:** developed Kwagis Power Limited Partnership in 2006 to participate in development and operations of Kokish Hydroelectric Facility (45 MW) on North Vancouver Island. The First Nation owns 25% of the project, and Brookfield Renewables owns 75%. The First Nation's

role is focused on decision-making related to environmental protection. They have one representative on the board of directors, and receive 40 cents for every MW of electricity generation. The operation of the hydro facility began in April 2014 (Svanvik, 2015; Kekinusuqs, 2015).

- **Xa'xtsa (Douglas First Nation):** is involved in the following run-of-river projects: Douglas Creek, Tipella Creek, Fire Creek, Stokke Creek, Stave River, Upper Stave, Lemont Creek, Trethawey Creek, and Big Silver River. The Nation is open to other First Nations touring the project. Douglas First Nation has revenue sharing agreements with BC as well as Participation Agreements with Innergex (Kekinusuqs, 2015).

Ocean Thermal Projects

- **Sc'ianew (Chenuh) First Nation:** received \$400,000 from the First Nations Clean Energy Business Fund (FNCEBF) to install an ocean thermal system for local heating needs (Williams, 2015).

Geothermal Projects

- **Skeetchestin First Nation:** heating their community school with a geothermal system (True Consulting Ltd., 2014).
- **Lil'wat First Nation:** completed construction of a geothermal system to provide heating and cooling for a 30,000+ square foot community centre developed by ECCO Heating Products Ltd. (McColl Magazine, n.d.).

Manitoba

Solar Projects

- **Dakota Tipi First Nation:** 84 solar panels on Band Administration Building; ecoENERGY funding (INAC, 2015; Dakota Tipi, 2015).
- **Swan Lake First Nation:** solar PV project at off-grid youth camp (DOTC, 2014).

Wind Projects

- **Rolling River First Nation:** wind monitoring projects with funding from the Indigenous and Northern Community Action Program (ANCAP) and the Government of Manitoba (AFN, n.d.).
- **Swan Lake First Nation:** 10 MW Kitchi-Nodin Wind Farm, recieved ecoENERGY funding (Swan Lake First Nation, n.d.).

Hydroelectric Projects

- **Nisichawayasihk Cree Nation:** 200 MW **Wuskwatim Hydro Station**, located on the Burntwood River; partnership between Nisichawayasihk Cree Nation (33%) and Manitoba Hydro (67%) (Manitoba Hydro, 2017c).
- **Tataskweyak, York Factory, Fox Lake, and War Lake First Nations:** 695 MW **Keeyask Hydro Station**, located on the lower Nelson River; partnership between Manitoba Hydro (75%) and Tataskweyak, York Factory, Fox Lake, and War Lake First Nations (25%). (Manitoba Hydro, 2017b).

Geothermal Projects

- **Fisher River and Peguis First Nations:** benefited from a pilot project with Manitoba Hydro resulting 113 homes installed with geothermal units (Aki Energy, 2014).

New Brunswick

Though no Indigenous renewable energy activity associated with the Community Energy Policy from 2010 or the current LORESS regulations could be found at the time of research, there were three projects in New Brunswick listed as having been approved for funding in the ecoENERGY database (INAC, 2015):

Solar Projects

- **St. Mary's First Nation:** in 2014-15, received \$55,000 for a solar PV project for the local school.
- **Woodstock First Nation:** in 2012-13 received \$46,800 for a solar PV project for the Woodstock First Nation Child Development Centre.

Geothermal Projects

- **Eel Ground First Nation:** in 2013-14, received \$100,000 for a geo-exchange system for the Eel Ground School

Newfoundland and Labrador

Though Newfoundland and Labrador do not have specific RE legislation or programming to support Indigenous communities, some examples of Indigenous RE projects were found.

Solar Projects

- **Nunatsiavut Government:** this community received a grant from the ecoENERGY program in the 2015-16 competition for a solar energy integration project at the Illusuak Cultural Centre (INAC, 2015).

Hydroelectric Projects

- **Innu Nation:** is negotiating an Impact Benefit Agreement for the Lower Churchill hydroelectric development to guarantee community members royalties and employment opportunities (Campbell and Lynch, 2011).

Geothermal Projects

- **Mushuau Innu First Nation:** is installing an open loop geothermal system in its Community Recreation Centre. They received \$25,000 from the ecoENERGY program between 2007-2011 (INAC, 2015; Campbell and Lynch, 2011).

Nova Scotia

Solar Projects

- **Membertou, Eskasoni, and Millbrook First Nations:** In 2013-14, Membertou First Nation, Eskasoni, and Millbrook First Nations were each awarded funding for solar PV projects (INAC, 2015). The status of these projects is not known.

- **Millbrook and Potlotek First Nations:** In 2014-15, Millbrook First Nation and Potlotek First Nation were each awarded funding for solar PV projects (INAC, 2015). The Potlotek First Nation installed solar photovoltaics on their school in 2016 (Campbell, 2016; Nicholas, 2016).

Wind Projects

In total, the Mi'kmaq of Nova Scotia have majority ownership in **25.4 MW** of wind capacity which represents more than their consumption (Coolican, 2016).

- **Eskasoni Mi'kmaq Nation:** 4 MW (2 turbine) **Truro Heights Community Wind Project** is majority owned by Eskasoni First Nation and co-located with the Millbrook Community Wind project. The project is operating under a 20-year ComFIT contract.
- **Kwilmu'kw Maw-klusuaqn (KMK):** 4 MW; the Assembly of Nova Scotia Mi'kmaq is the majority owner; located at Whynotts Settlement. The project has secured a 20-year agreement under the ComFIT program. The project is expected to generate revenues for a community sustainability fund. The Kwilmu'kw Maw-klusuaqn is also developing a 6 MW wind project located near Amherst. Approved and projected to be online in 2017.
- **Membertou First Nation:** 1.8 MW wind project located in lower Wedgeport. Approved in September of 2011 and currently operating. Membertou also owns a 2 MW wind project located near Victoria Mines, approved in November of 2012 and was expected to be in operation by November of 2015.
- **Millbrook First Nation:** 6 MW (3 turbine) **Millbrook Community Wind Project** is majority owned by Millbrook First Nation and co-located with the Truro Heights Community Wind project (see below). The project is operating under a 20 year ComFIT contract.
- **Pictou Landing First Nation:** 1.6 MW wind project, projected to be online in February of 2018.

Geothermal Projects

- **Membertou First Nation:** in the process of completing a two-pad hockey arena in the community which is powered by geothermal energy (Pottie, 2014).

Northwest Territories

Most of the projects we were able to find involving Indigenous communities in the NWT have received funding from the **ecoENERGY for Indigenous and Northern Communities between 2007-2016**.

Solar Projects

- **Behchoko:** 5 kW tracking array, owned by Tilcho Investment Corp; net-billing agreement, funded by CanNor, the Dept. of Environmental and Natural Resources, and the Tilcho Investment Corp (Vela, 2011).
- **Lutsel K'e Dene First Nation:** 35 kw; power purchase agreement (AEA, 2015); see also: **Solar PV Case Study, Lutsel K'e Dene First Nation, Northwest Territories**, a report by the Pembina Institute.

Hydroelectric Projects

- **Wekweeti:** Dogrib Power Corporation (a Tlicho investment corporation) owns the newest dam on the Snare River (Tlicho Government, n.d.).

Biomass and District Energy

- **Fort McPherson, Kakisa and Behchoko:** use biomass for heating as well as electricity generation. Kakisa First Nation received funding from ecoENERGY (INAC, 2015).
- **Tetlit Gwich'in Council:** located in Fort McPherson, NWT, the First Nation is running a wood chip boiler to heat the band office and nursing station (Church, 2014).

Nunavut

According to the database of projects that have been awarded **ecoENERGY for Indigenous and Northern Communities** funding, many projects in Nunavut have received funding since the program began in 2007. Many of the groups receiving funding appear to be governmental (e.g., Hamlet of Sanikiluaq, and the City of Iqaluit), and no evidence could be found for any Indigenous community-owned RE projects. One example was found of an NGO working with a community to install solar panels on community buildings as well as individual homes (see below).

Solar Projects

- **Piqusilirivvik Inuit Cultural Learning Facility: Greenpeace Canada and Clyde River's Hamlet Council and Hunters and Trappers Organization** conducted a solar RE community assessment. Greenpeace was recording a crowdfunding video to help pay for solar panel installation in 2016-2017.

Ontario

There are many examples of Indigenous community involvement in RE development in Ontario.

For illustrative purposes we will provide some examples of Indigenous Power projects in hydro, solar, and wind. **See also a map of Ontario projects, here.** Additionally, a list of **projects funded by the Aboriginal Renewable Energy Fund** is available **here**.

Solar Projects

- **Alderville First Nation:** The 5 MW **Alderville solar farm** began producing electricity in October of 2013. It is 100% First Nation owned (Alderville First Nation, 2016).
- **Deer Lake First Nation:** installed a 152 kW system on the roof of Deer Lake First Nation Elementary School (CBC News, 2014).
- **Fort Severn First Nation:** the Northern Ontario Heritage Fund is helping to support the development of a commercial-scale renewable energy solar microgrid. The project is being led by **NCC Development**, a First Nation's alternative energy management company. Other project partners include Canadian Solar, Hydro One Remotes, and Solar Logix. NCC Development is eager to share their knowledge and experience with other First Nations (Ministry of Northern Development and Mines, 2015).

- **Métis Nation of Ontario (MNO):** BrightRoof Solar LP is a limited partnership between MNO Solar Inc. and BrightRoof Solar. In 2013, the partnership was awarded contracts for 36 FIT projects with a combined generating capacity of 8 MW (MNO, 2013).

Wind projects

- **Aamijwnaang First Nation:** Suncor Energy is partnering with the First Nation on the 40 MW Adelaide wind power project near Strathroy, Ontario. The First Nation has 25% interest in the project which consists of 18 - 2.3 MW turbines (41.4 MW capacity; reNEWS, n.d.).
- **Aamijwnaang First Nation and Bkejwanong Territory (Walpole Island First Nation):** The **Grand Bend Wind Farm** is being developed by the Grand Bend Limited Partnership, a partnership between Northland Power Inc., and the two First Nations communities. The project will have 100 MW capacity (Erlangen, 2015).
- **Batchewana First Nation:** Batchewana has partnered with BluEarth Renewables on the development of the **Bow Lake Wind Facility**, a 58.32 MW (36-1.62 MW turbines) wind facility. The wind farm is located in the Algoma district near the eastern edge of Lake Superior. The project has a 20-year power purchase agreement with the IESO and came online in 2015 (BluEarth Renewables Inc., 2014).
- **Henvey Inlet First Nation (Nigig Power Corporation):** The **Henvey Inlet Wind Centre** has a 20 year power purchase agreement with the IESO and is a 50-50 joint venture with Pattern Energy Group LP. The wind farm will have a capacity of 300 MW and is expected to be operational by 2018 (Krackle, 2015).
- **M'Chigeeng First Nation:** 4 MW (2 turbines) on Manitoulin Island; **Mother Earth Renewable Energy (MERE)**: Ontario's first 100% First Nation owned project (OSEA, 2013). The project was awarded a FIT contract in 2010, and completed in 2012. The project benefited from the Aboriginal Loan Guarantee Program (3G Energy, 2011).
- **Six Nations:** The First Nations community has negotiated 10% equity interest in **Samsung's Grand Renewable Energy Park**, a 149 MW wind project and 100 MW solar project. The agreement includes equity interest, a community capacity funding agreement, as well as construction and maintenance jobs for the 20-year term of the project contract. In addition the First Nation will receive payments from the Ontario government which are equivalent to the land lease payments being paid by Samsung to the Ministry of Infrastructure (Ontario Ministry of Energy, 2013).

Hydroelectric Projects

- **Deer Lake First Nation:** in 1998 the First Nation constructed a **490 kW run-of-river project** to reduce the community's dependence on diesel fuel. The project was constructed with financial support from Hydro One and INAC (INAC; Deer Lake First Nation, n.d.).
- **Dokis First Nation:** The **Okikendawt Hydroelectric Project** is a 10 MW joint-venture between Hydromega and the Dokis First Nation (Dokis First Nation, 2013).
- **Moose Cree First Nation:** obtained a loan from the Aboriginal Loan Guarantee Program to support purchase of 25% equity in the **Lower Mattagami hydroelectric project**. The project will add 440 MW of energy in 2015 (Ministry of Energy, 2015).

- **Nomeewaminikan Waterpower Project:** Partnership between AXOR and three First Nations including Bingwi Neyaashi Anishinaabek, Animbiigoo Zaagi'igan Anishinabek, and Biinjitiwaabik Zaaging Anishinabek (who are all part of Waaskonassay Energy Ltd). The project is 10 MW (CBC News, 2013).
- **Pic River First Nation:** owns 3 run-of-river hydroelectric projects including Twin Falls (5 MW), Umbata Falls (23 MW), and Wawatay Generating Station (13.5 MW) (Ojibways of the Pic River First Nation, n.d.).
- **Taykwa Tagamou Nation:** the First Nation owns **Coral Rapids Power LP**, which has partnered with OPG to develop a 25 MW hydroelectric development on New Post Creek (Ministry of Energy, 2015).

Quebec

Wind Projects

- **Mi'gmawei Mawiomi Business Corporation:** the **Mesgi'g Ugju's'n Wind Farm** received ecoENERGY funding in 2011-12, and is currently under construction. The Mi'gmawei Mawiomi Business Corporation (representing three Mi'gmaq communities located in Quebec and New Brunswick) and Innergex have a 50-50 partnership in the 150 MW project (Innergex, 2016).
- **Timiskaming First Nation:** and wpd Canada, partnering on proposed 120 MW wind development, the **Silver Centre Wind Project**. The First Nation has traditional land in both Ontario and Quebec. The project would physically be located on lands in Ontario, but the community resides in Notre-Dame-du-Nord, Quebec (Northern Ontario Business Staff, 2015).

Hydroelectric Projects

- **Pekuakamiulnuatsh Takuhikan:** founded Hydro-Ilnu Company, the majority owner (51%) of the 9.9 MW Minashtuk Hydro Project, in a the limited partnership with Hydro Quebec, who committed to buying all electricity produced by the project under a 20-year contract. Built in 2000 for a cost of approximately \$25 million, the project finds a balance between the integration of both the social and environmental aspects. Pekuakamiulnuatsh Takuhikan selected a project where the rising water levels will not overflow in the spring, in respect of their profound environmental values (Yan, 2010, Groupe Pek, n.d.).
- **Pituvik Landholding Corporation: Inukjuak River Small Hydro Project;** 7.5 MW; still at the proposal stage.
- **Sakami Eeyou Corporation:** owns the Maquatua Hydroelectric facility; 1.1 MW; in operation since 1985 (World Heritage Encyclopedia, n.d.).

Wind-Biomass Hybrid

- **Whapmagoostui/Kuujuarapik:** Expected to be built during the summer of 2016 and be commissioned by 2017, the project consists of three wind turbines of 800 kW and one biomass turbine of 1500 kW. The excess heat from the biomass turbine will be used for a greenhouse to produce food. The project is 100% owned by Nimschu-Iskudow Inc, and Whapmagoostui is the controlling shareholder. The Quebec government funded the project through a \$97,000 grant (German, 2014).

Saskatchewan

Solar Projects

- **Beardy's and Okemasis First Nation:** has solar panels on the community arena and are investigating wind energy in the Big Quill area (Beardy's and Okemasis First Nation, 2015).
- **First Nations Power Authority (FNPA):** together with Lockheed Martin Canada and FHQ Developments installed three demo projects in Swift Current, Fond du Lac First Nation, and Hatchet Lake First Nation. The projects were online in 2014, and are expected to produce 26,440 kWh/year (FNPA, 2014a; FNPA, 2014b).
- **Muscowpetung Saulteaux First Nation:** In 2015, the First Nation announced a future commercially viable solar power project. The project will secure power purchase agreements with the Governments of Saskatchewan and Canada and other industrial entities (Muskrat Magazine, 2015).

Wind Projects

- **Cowessess First Nation:** 800 kW wind turbine with 400 kW of storage. This project was operational in November of 2012 and has participation from the Saskatchewan Research Council. The project was funded by the Federal Government's Clean Energy Program, the Saskatchewan Government's Go Green Fund, INAC, the Saskatchewan Research Council, and the Cowessess First Nation (Pembina, 2015).
- **George Gordon First Nation:** George Gordon First Nation partnered with ATCO Power in 2009 to develop 80-160 MW of wind power, however, there are land claim issues that are stalling the project (Thompson, 2010).

Hydroelectric Projects

- **Black Lake First Nation:** the 42-50 MW Tazi Twé Hydroelectric project, in partnership with SaskPower, is proposed and currently undergoing the environmental assessment process (SaskPower, 2013).
- **James Smith First Nation:** the 250 MW Pehonan Hydro dam project is expected to be operational by 2018. Project partners include Brookfield Renewable Power and Peter Kiewit & Sons (Pehonan hydro project update, 2011).

Biomass Projects

- **Meadow Lake Tribal Council:** construction of the 36 MW Meadow Lake Bioenergy Centre began in 2014 and was expected to be completed in 2016. The Council partnered with NorSask Forest Products on the project (FNPA, 2014c).

Yukon

A number of First Nations in the Yukon have received funding for RE projects from the **ecoENERGY for Indigenous and Northern Communities Program**. The majority of these awards were for hydro development, while one award was for a solar-diesel-storage project, and several other grants were awarded for feasibility studies.

Solar Projects

- **Vuntut Gwitchin First Nation:** installed solar panels on community buildings and is selling electricity back to the grid (Ronson, 2014). This is part of the territorial government's Microgeneration Program.

Wind Projects

- **Kluane First Nation:** developing three wind turbines with funding from the Yukon Government. The electricity produced will help to supply about one-third of the demand in Burwash Landing and Destruction Bay (Forrest, 2015). Kluane First Nation is working with **Cold Climate Innovation** to assess wind energy potential (Kluane First Nation, n.d.).
- **Vuntut Gwitchin and Champagne and Aishihik First Nations:** received funding or are conducting feasibility studies (Yukon Development Corporation, 2003; Keevill, 2012).

Hydroelectric Projects

- **Champagne and Aishihik First Nations:** received funding from CanNor to complete baseline studies for hydro and wind near Haines Junction, YT (Keevill, 2012).
- **Na-cho Nyak First Nation:** agreement with Yukon Energy regarding the development of a second power station (Mayo B) for the Mayo hydro facilities. This will increase production capacity from 5 MW to 15 MW (Yukon Energy, 2016).
- **Selkirk, Kluane, and Carcross/Tagish First Nations:** worked with the Yukon Government Energy Solutions Centre to perform micro-hydro assessments (Yukon Development Corporation, 2003).

Appendix B: Workshops & Conferences Attended

An overview of events the authors attended to inform this work is presented here. Links are included (red text) wherever possible to allow readers to follow up on workshop materials and future related events.

Workshops & Conferences Attended:

Association of Power Producers of Ontario (APPrO) conference. *Aboriginal communities dealing with power proposals: Defining a new basis for collaboration.* (Toronto, ON). Nov. 18, 2014.

Federation of Community Power Co-operatives (FCPC): The Future of Community Energy [presenter] (Toronto, ON). Nov. 18, 2015.

Aboriginal Energy Forum (9th Annual) [presenter] (Toronto, ON). December 9-10, 2015.

Assembly of First Nations – First Nations Forum on Energy: Setting Priorities (Vancouver, BC). Feb. 10-11, 2016.

Alberta Community Energy Workshop [presenter] (Calgary, AB). Feb. 16, 2016.

Ontario Waterpower Association/Chiefs of Ontario 'Learning from Experience' Workshop (Toronto, ON). Apr. 20, 2016.

Indigenous Environmental Science & Studies (IESS) Conference at Trent University [presenter] (Peterborough, ON). Apr. 22-24, 2016.

ECONOUS2016 Community Economic Development Network (CEDNet) National Conference [panelist] (Montreal, QC). May 19, 2016.

Creation to Completion: Indigenous Grandmother's Council (Phoenicia, NY). Aug. 25-28, 2016.

Indigenous Waterways (Toronto, ON). Sept. 11, 2016.

Nova Scotia Mi'kmaq Energy & Innovation Summit 2016 (Membertou, NS). Sept. 27-29, 2016.

Community Events & Meetings:

Alderville First Nation, Solar project tour & community visit (Alderville, ON). July 11 - 12, 2015

Walpole Island FN community visits (Walpole Island, ON). Sept. 2 & Nov. 12-13, 2015; June 21, 2016

Aamjiwnaang First Nation community visits (Sarnia, ON). Sept. 3, 2015 & Mar. 2, 2016

Wikwemikong FN community visit (Wikwemikong, ON). Mar. 23-24, 2016

Akwesasne First Nation community visit (Cornwall, ON). May 18, 2016

Oneida Business Park Solar Ribbon Cutting Ceremony (Six Nations). Oct. 2, 2015

Kitigan Zibi Anishnabeg FN community visits (Maniwaki, QC). July 13 & 28, 2016

TREC Education's Indigenous Renewable Energy Education Initiatives:

Renewable Energy Career Connections (RECC): [co-organizer/co-presenter]

A three-week course offered to Southern First Nations Secretariat communities in south-western Ontario designed for participants eager to connect to employment in the energy sector and community power development opportunities for First Nations. The course was a mix of hands-on training, field trips to energy installations, guest speakers who could speak about their Indigenous RE successes and challenges, community power and energy industry networking, and classroom study of energy topics.

- RECC Course (Chippewas of the Thames First Nation). Sept. 8-26, 2014
- RECC Leaders Forum (Chippewas of the Thames First Nation). Sept. 23, 2014.

Walpole Island Energy Education Initiative (WIEEI): [co-organizer/co-presenter]

*Completed from March-June 2016 in Bkejwanong Territory (**Walpole Island First Nation**), we delivered a series of workshops, presentations and community events in partnership with the Employment & Training office. Our goal was to co-develop and co-deliver workshops in the community to increase participation in renewable energy and energy conservation initiatives.*

- Workshop #1: Feb. 29 - Mar. 2, 2016
- Workshop #2: Apr. 4 - 5, 2016
- Workshop #3: Apr. 27 - 28, 2016

Participation in Other Indigenous Renewable Energy Education Initiatives:

Catalyst 20/20 Program - Building Indigenous clean energy capacity:

- Program Design Workshop (Toronto, ON). Oct. 8, 2015
- Workshop presenter & attendee (Wakefield, QC). July 11- 14, 2016

References

- 3G Energy. (2011). Mother earth renewable energy project (M.E.R.E). Retrieved September, 2015, from <http://www.3g-energy.com/first-nations/m-e-r-e/>
- A Northern Vision (2011). Paths to a Renewable North: A Pan-Territorial Renewable Energy Inventory. Retrieved from <http://www.anorthernvision.ca/inventory/>
- Abegweit First Nation. (2015). "About Abegweit First Nation". Retrieved September, 2015, from <http://www.abegweit.ca/index.php>
- Aboriginal Business and Investment Council (ABIC) for British Columbia. (n.d.-a). Kanaka Bar Indian Band and Innergex Renewable Energy Inc. Retrieved from <http://www.bccabib.ca/content/kanaka-bar-indian-band-and-innergex-renewable-energy-inc>
- Aboriginal Business and Investment Council (ABIC) for British Columbia. (n.d.-b). Tla-o-qui-aht First Nation and Swift Water Power Corporation. Retrieved from <http://www.bccabib.ca/content/tla-o-qui-aht-first-nation-and-swift-water-power-corporation>
- Adelson, N. (2005). The Embodiment of Inequality: Health Disparities in Indigenous Canada. Canadian Journal of Public Health, 96: S45-S61.
- Aki Energy (n.d.). www.akienergy.com
- Aki Energy (2014, November 17). Manitoba Hydro commits \$19 million to First Nations Geothermal Energy. Retrieved September, 2015, from <http://www.akienergy.com/in-the-media/2014/11/17/some-very-exciting-news>
- Alberta Electric System Operator (AESO) (2016). Renewable Electricity Program. Retrieved from <https://www.aeso.ca/market/renewable-electricity-program/>
- Alberta Electric System Operator (AESO) (2017, May 16). Expressions of Interest for REP Round 1. Retrieved from <https://www.aeso.ca/assets/Uploads/EOI-Submissions-for-REP-Round-1.pdf>
- Alberta Government. (2015a, November 22). Climate Leadership Plan. Retrieved December, 2015 from <https://www.alberta.ca/climate-leadership-plan.aspx>
- Alberta Government (2015b, November 22). Climate leadership plan will protect Albertans' health, environment and economy. Announcements. Retrieved from <http://alberta.ca/release.cfm?xID=38885E74F7B63-A62D-D1D2-E7BCF6A98D616C09>
- Alberta Government (2015c, November 20). Climate Leadership: Report to Minister. Retrieved from <http://alberta.ca/documents/climate/climate-leadership-report-to-minister.pdf>
- Alberta Government (2015d, November 30). Renewable energy will power up to 30 per cent of Alberta's electricity grid by 2030 [Press release]. Retrieved from <https://www.alberta.ca/release.cfm?xID=389297B6E1245-F2DD-D96D-329E36A4573C598B>
- Alberta Government (2016, August). Facts about...Aboriginal people in Alberta. Retrieved from <http://indigenous.alberta.ca/documents/FactsCard-Aboriginal-People-in-Alberta.pdf?0.4499285025522113>
- Alberta Government (2016, Nov. 3). Press release: "Renewable electricity plan to create jobs, spur investment." Retrieved from <http://www.alberta.ca/release.cfm?xID=43752ABFE959B-9AD9-9E3C-DBFCF5B5CA13C24C>
- Alberta Government (2017, June 29). Indigenous communities shape climate leadership programs. Retrieved from <https://www.alberta.ca/release.cfm?xID=4720096901D37-BE1B-5335-329DB16EFCBBC348>
- Alderville First Nation. (2016). Solar Farm. Retrieved from: <http://alderville.ca/our-offices-services/solar-farm>
- Anderson, A., Moggridge, H., Warren, P., Shucksmith, J. (2014, Oct 22). The impacts of 'run-of-river' hydropower on the physical and ecological condition of rivers. Water and Environment Journal 29 (2), pp 268-276. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1111/wej.12101/full>
- Atlantic Policy Congress of First Nations Chiefs (APCFNC). (2012, February). More than Wind: Evaluating Renewable Energy Opportunities for First Nations in Nova Scotia and New Brunswick Summary Guide. Prepared by Diana Campbell. Retrieved from <http://www.apcfn.ca/images/uploads/SummaryGuide-MoreThanWind.pdf>
- Arctic Energy Alliance. (AEA, 2015). Lutsel K'e 35 kW Solar PV Installation. AEA News. Retrieved September, 2015, from <http://aea.nt.ca/blog/2015/05/lutsel-ke-35-kw-solar-pv-installation>
- Assembly of First Nations. (n.d.). Mitigating climate change: Community success in energy efficiency and renewable energy projects [PDF]. Retrieved August, 2015, from http://www.afn.ca/uploads/files/env/07-03-31_health_canada_climate_change_report-_final.pdf
- Assembly of First Nations. (2006). How Climate Change Uniquely Impacts the Physical, Social and Cultural Aspects of First Nations. Retrieved June, 2017, from http://www.afn.ca/uploads/files/env/report_2_cc_uniquely_impacts_physical_social_and_cultural_aspects_final_001.pdf
- BC Bioenergy Network. (2014, June 16). Agreement signed to launch Gitksan bioenergy project. Canadian Biomass. Retrieved from <http://www.canadianbiomassmagazine.ca/news/agreement-signed-to-launch-gitksan-bioenergy-project-4597>
- Beardy's and Okemasis First Nation. (2015). Community development plan. Retrieved August, 2015, from <https://beardysokemasisfn.files.wordpress.com/2015/06/2015-bofn-cdp.pdf>
- Bellini, E. (2017, June 8). Ontario improves rules for net-metering. PV Magazine. Retrieved August 2017 from <https://www.pv-magazine.com/2017/06/08/ontario-improves-rules-for-net-metering/>
- Belliveau, D. (2004, August). Building community focused renewable energy capacity. Éléments Online Environmental Magazine. Retrieved November, 2015, from <http://www.elements.nb.ca/theme/building/belliveau/eos.htm>
- BlueEarth Renewables Inc. (2014). Bow Lake Wind Facility. Retrieved from <http://www.blueearthrenewables.com/portfolio/bow-lake-wind-project/>
- BlueEarth Renewables Inc. (2014). Narrows Inlet Hydro Project. Retrieved from <http://www.blueearthrenewables.com/portfolio/narrows-inlet-hydro-project/>

Borden Ladner Gervais (BLG). (2013, June). Recent electricity developments in Saskatchewan- a step forward. Retrieved August, 2015, from http://www.blg.com/en/NewsAndPublications/Documents/publication_3408_1033.pdf

Brittain, M. and Blackstock, C. (2015). First Nations Child Poverty: A Literature Review and Analysis. Retrieved from <https://fncaringsociety.com/sites/default/files/First%20Nations%20Child%20Poverty%20-%20A%20Literature%20Review%20and%20Analysis%202015-3.pdf>

Burbidge, E. (2013). Eric Christmas: A powerful heritage. From Between the Issues, an Ecology Action Centre publication. Vol 31:3 (fall 2013). Retrieved September, 2015, from <https://www.ecologyaction.ca/files/images-documents/file/BTI/EAC-BTI-Nov-2013.pdf>

Calder, Ryan S. D. et al. (2016, November). Future Impacts of Hydroelectric Power Development on Methylmercury Exposures of Canadian Indigenous Communities. Environmental Science and Technology. Retrieved from <http://pubs.acs.org/doi/ipdf/10.1021/acs.est.6b04447>

Campbell, D. and Lynch, M. (2012a, April). Energizing your community: A toolkit for exploring renewable energy, energy efficiency, and conservation opportunities for Atlantic First Nations. Prepared on behalf of the Atlantic Policy Congress of First Nations Chiefs.

Campbell, M. (2016). Mi'kmaq Experiment with Green Energy. The Cape Breton Spectator. Retrieved from: <https://capebretonspectator.com/2016/09/28/mikmaq-look-to-green-energy/>

Canadian Encyclopedia. James Bay and Northern Quebec Agreement. Retrieved August 2017 from <http://www.thecanadianencyclopedia.ca/en/article/james-bay-and-northern-quebec-agreement/>

Canadian Consulting Engineer (2014, April 15). First Nations want control over renewable energy projects. Retrieved from <http://www.canadianconsultingengineer.com/energy/first-nations-want-control-over-renewable-energy-projects/1003013794/>

Canadian Wind Energy Association (CanWEA). (2015, June). List of wind farms in Canada. Retrieved August 2015, from http://canwea.ca/wp-content/uploads/2013/12/Installedcap_PublicWebsite-June-2015_dk1.pdf

Canadian Wind Energy Association (CanWEA) (n.d.). WindVision 2025: A Strategy for Québec. Retrieved from <http://www.canwea.ca/pdf/canwea-quebec-windvision-e-web-final.pdf>

Cattaneo, C. (2014, July 18). British energy company's forest deal a 'model' for Alberta Métis communities. Financial Post. Retrieved from http://business.financialpost.com/news/energy/british-energy-companys-forest-deal-a-model-for-alberta-metis-communities?__lsa=9b4c-bdd1

CBC News (2013). First Nations forge hydroelectric dam deal with AXOR. CBC News Thunder Bay. Retrieved from <http://www.cbc.ca/news/canada/thunder-bay/first-nations-forge-hydroelectric-dam-deal-with-axor-1.1392544>

CBC News. (2014). Deer Lake First Nation cuts ribbon on solar project: Northwestern Ontario community hopes solar will power school, freeing up energy for five new homes. CBC News. Retrieved from: <http://www.cbc.ca/news/canada/thunder-bay/deer-lake-first-nation-cuts-ribbon-on-solar-project-1.2612020>

CBC News (2015, November 20). Taku River Tlingit hydro project gets mixed reaction in Atlin, B.C. Retrieved from <http://www.cbc.ca/news/canada/north/taku-river-tlingit-hydro-project-atlin-1.3327217>

Church, M. (2014, March 10). Fort McPherson takes the lead in biomass heating. Northern Journal. Retrieved September, 2015, from <http://norj.ca/2014/03/fort-mcpherson-takes-the-lead-in-biomass-heating/>

Chiefs of Ontario (n.d.). Understanding First Nations Sovereignty. Retrieved January 2018 from <http://www.chiefs-of-ontario.org/faq>

Chiefs of Ontario. (2016). First Nations Electricity Report: An Energy Literacy Tool to Support Meaningful Participation. Commissioned by the Chiefs of Ontario and prepared by TREC Renewable Energy Co-op. January 2016. <http://www.chiefs-of-ontario.org/node/1328>

CleanTechnica (n.d.). Clean Energy. Retrieved August, 2017 from <https://cleantechnica.com/clean-energy/>

Cooke, R. (2016, Oct 19). Muskrat flooding still on schedule, government order will remove trees only: Nalcor. CBC News. Retrieved August, 2017 from <http://www.cbc.ca/news/canada/newfoundland-labrador/muskrat-falls-trees-clearing-methylmercury-1.3812358>

Coolican, M. (2016, Sept 26). Opening Remarks by the Deputy Minister of Energy at the Nova Scotia Mi'kmaq Energy and Innovation Summit. Membertou, Cape Breton.

Council of the Federation. (2015, July). Canadian Energy Strategy. Retrieved June, 2017, from https://www.canadaspremiers.ca/phocadownload/publications/canadian_energy_strategy_eng_fnl.pdf

Council of Yukon First Nations (n.d.). Voices of Vision Podcast. Home. Retrieved from <http://cyfn.ca/>

Dakota Ojibway Tribal Council (DOTC). (2014, Winter). Stories and ideas from Manitoba First Nations participating in the emerging green economy. The Environment and Our Economy, 1, 1-8. Retrieved from http://www.dotc.mb.ca/DOTC_News_Contact_Us/newsletter_final_feb.4.pdf

Dakota Tipi installs hi-tech energy system. (2015, April 30). PortageOnline. Retrieved from <http://www.portageonline.com/local/43094-dakota-tipi-installs-hi-tech-energy-system>

Deer Lake First Nation. (n.d.). Mini hydro: Supplementing power to the community. Retrieved September, 2015, from <http://deerlake.firstnation.ca/?q=about/minihydro>

Dodge, D., & Kinney, D. (2015, April 20). 105. Judith Sayers, First Nations run-of-river hydro trailblazer. Retrieved September, 2015, from <http://www.greenenergyfutures.ca/episode/judith-sayers-first-nation-run-river-hydro>

Dokis First Nation (2013, August 19). Okikendawt Hydro Project on the French River Begins Construction. News. Retrieved from <http://www.dokisfirstnation.com/index.php?mact=News,cntnt01,detail,0&cntnt01articleid=23&cntnt01returnid=102>

ecoPEI. (2014). Creating a Sustainable Future for Prince Edward Island, Energy Backgrounder 4: Community Energy. The Environmental Coalition of Prince Edward Island. Retrieved September, 2015, from http://www.ecopei.ca/wp/wpcontent/uploads/2014/03/Backgrounder_Renewable_Energy.pdf

Electricity Human Resources Canada (EHRC). (n.d.-a). Manitoba Hydro. Retrieved August, 2015, from http://electricityhr.ca/daps/index31a9.html?page_id=222

Electricity Human Resources Canada (EHRC). (n.d.-b). First nations power authority. Retrieved August 2015, from http://electricityhr.ca/daps/index08ed.html?page_id=236

Energetic City (2012). Treaty 8 receives further funding to look into wind farm. Energetic City (Everything Fort St. John). Retrieved from <http://energeticcity.ca/article/news/2012/06/29/treaty-8-receives-further-funding-look-wind-farm>

Energypedia (2016). Feed-in Tariffs (FIT). Retrieved August 2017 from [https://energypedia.info/wiki/Feed-in_Tariffs_\(FIT\)](https://energypedia.info/wiki/Feed-in_Tariffs_(FIT))

Energy Manitoba. (n.d.). Conawapa Generating Station. Hydro Projects, 2009 Conawapa Update. Retrieved from http://www.energymanitoba.org/hp_conawapa.htm

Erlangen (2015, April 15). Siemens receives order for Grand Bend Wind Farm in Canada. Retrieved from [http://www.siemens.com/press/en/pressrelease/?press=/en/pressrelease/2015/windpower-renewables/pr2015040186wpen.htm&content\[\]=WP](http://www.siemens.com/press/en/pressrelease/?press=/en/pressrelease/2015/windpower-renewables/pr2015040186wpen.htm&content[]=WP)

Environmental Protection Act: O. Reg. 359/09, Renewable Energy Approvals under Part V.0.1 of the Act (2016, May 1). Retrieved from <https://www.ontario.ca/laws/regulation/090359>

Fast S.; Mabee, W., Baxter, J.; Christidis, T.; Driver, L.; Hill, L., McMurty, J.; Tomkow, M. (2016, January 25). Lessons learned from Ontario wind energy disputes. Nature Energy 1(15028). Abstract retrieved August 2017 from <https://www.nature.com/articles/nenergy201528>

Finavera Wind Energy, Inc. (2011, March). Application for an EA Certificate Tumbler Ridge Wind Energy Project. Retrieved from <http://finavera.com/environmental-assessment/tumbler-ridge>

First Nations Power Authority (FNPA). (2014a, November 25). FNPA solar power demonstration project ribbon cutting [Web log post]. Retrieved August, 2015, from <http://www.fnpa.ca/blog/read/fnpa-solar-power-demonstration-project-ribbon-cutting/?id=18>

First Nations Power Authority (FNPA). (2014b, November 20). FNPA ecoENERGY far north solar project announcement [Web log post]. Retrieved August, 2015, from <http://www.fnpa.ca/blog/read/fnpa-ecoenergy-far-north-solar-project-announcement/?id=19>

First Nations Power Authority (FNPA). (2014c, March 11). Meadow Lake Bioenergy Centre [PDF]. Retrieved August, 2015, from <http://www.fnpa.ca/uploads/2014/04/2014-03-11%20MLTC%20Biomass%20Power%20Project%20Overview%20and%20Background-FNPA-FSiN-final.pdf>

Fontaine, T. (2016, Sept 2) Cree, Métis trappers and fishermen block highway in northern Manitoba. CBC News. Retrieved from <http://www.cbc.ca/news/indigenous/cree-trappers-blockade-manitoba-hydro-1.3746010>

Forrest, M. (2015, September 14). Kluane First Nation to build three wind turbines. Retrieved December/January, 2015, from <http://www.yukon-news.com/news/kluane-first-nation-to-build-three-wind-turbines/>

Fortin, P (2001, Aug 22). The hydro industry and the Aboriginal people of Canada: Paving the way for new relationships. Canadian Hydropower Association. Retrieved Aug 2017 from <http://metisportals.ca/MetisRights/wp/wp-admin/images/The%20Hydro%20Industry%20and%20Aboriginal%20People%20of%20Canada.pdf>

Frankfurt School-UNEP Centre/BNEF (2016). *Global Trends in Renewable Energy Investment 2017*, <http://fs-unep-centre.org/sites/default/files/publications/globaltrendsrenewableenergyinvestment2017.pdf>

French, T. (2016, September). Conference presentation, at the Nova Scotia Mi'kmaq Energy & Innovation Summit 2016, Membertou, NS.

Frolich, K., Ross, N., Richmond, C. (2006). Health Disparities in Canada Today: Some Evidence and a Theoretical Framework, *Health Policy*, 79:132-143

German, A. (2014, November 14). Green energy for Great Whale and Wemindji. The Nation. Retrieved August, 2015, from <http://www.nationnews.ca/green-energy-for-whapmagoostui-and-wemindji/>

Government of Canada. (2011). Status of remote/off-grid communities in Canada [PDF]. Government of Canada. Retrieved from: https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/canmetenergy/files/pubs/2013-118_en.pdf

Government of Canada (2015). Previously selected projects by ecoENERGY for Aboriginal and Northern communities program. Retrieved from <https://www.aadnc-aandc.gc.ca/eng/1334855478224/1334856305920>

Government of Canada (2016). Pan-Canadian Framework on Clean Growth and Climate Change. Retrieved June 2017 from <https://www.canada.ca/content/dam/themes/environment/documents/weather1/20170125-en.pdf>

Government of Canada (n.d.). Wind Turbine Noise. Retrieved August 2017 from <https://www.canada.ca/en/health-canada/services/environmental-workplace-health/noise/wind-turbine-noise.html>

Government of Manitoba (n.d.). Energy: Expanding Clean Energy and Energy Efficiency-Manitoba Helping the World. Retrieved from http://www.gov.mb.ca/asset_library/en/beyond_kyoto/energy.pdf

Government of Manitoba (2012). Focused on What Matters Most: Manitoba's Clean Energy Strategy. Retrieved from https://www.hydro.mb.ca/projects/development_plan/bc_documents/documents/appendix_1.5_manitobas_clean_energy_strategy_2012.pdf

Government of New Brunswick (2010, August 18). Community energy policy improved; strong interest shown [Press release]. Retrieved September, 2015, from http://www2.gnb.ca/content/gnb/en/news/news_release.2010.08.1441.html

Government of New Brunswick (2015, Nov 24). Electricity from Renewable Resources Regulation: Regulation 2015-60 under the Electricity Act (O.C. 2015-263). Retrieved from <http://laws.gnb.ca/en/showfulldoc/cr/2015-60/20151124>

Government of New Brunswick (n.d.). Community Renewable Energy. Retrieved August 2017 from <http://www2.gnb.ca/content/gnb/en/departments/erd/energy/content/renewable/content/CommunityRenewableEnergy.html>

Government of Northwest Territories (n.d.-a). Solar Energy in the NWT. Retrieved August 2017 from http://www.pws.gov.nt.ca/sites/www.pws.gov.nt.ca/files/resources/solar_energy_in_the_nwt.pdf

Government of Northwest Territories (n.d.-b). Biomass Energy in the NWT. Retrieved August 2017 from http://www.pws.gov.nt.ca/sites/www.pws.gov.nt.ca/files/resources/biomass_energy_in_the_nwt.pdf

Government of Nunavut (n.d.). Nunavut Energy Management Program Policy. Retrieved August 2017 from <http://www.energy.gov.nu.ca/en/home.aspx>

Government of Nunavut (2007). IKUMMATIIT: The Government of Nunavut Energy Strategy. September 2007. Retrieved from http://www.gov.nu.ca/sites/default/files/ikummatiit_energy_strategy_english.pdf

Government of Nunavut (2014). IKUMMATIIT. Renewable Energy. Retrieved from http://www.nunavutenergy.ca/Renewable_Energy

Government of PEI. (2004). The Prince Edward Island Energy Framework and Renewable Energy Strategy. Retrieved September, 2015, from http://www.gov.pe.ca/photos/original/ee_frame_rep_e.pdf

Government of PEI. (2008). The Prince Edward Island Energy Strategy. Retrieved September, 2015, from http://www.gov.pe.ca/photos/original/env_snergyst.pdf

Gouvernement du Québec (2016). The 2030 Energy Policy. Retrieved August 2017 from <https://politiqueenergetique.gouv.qc.ca/wp-content/uploads/Energy-Policy-2030.pdf>

Groupe Pek (n.d.). Minastuck (webpage). Retrieved August 2017 from: <http://www.pekglobal.com/en/achievements/minastuk.html>

Hamilton, G. (2016, April 15). Why Quebec's Cree are thriving while misery reigns across James Bay at Attawapiskat. National Post. Retrieved August 2017 from <http://nationalpost.com/news/canada/why-quebecs-cree-are-thriving-while-misery-reigns-across-james-bay-at-attawapiskat>

Health, Environment, and Communities Research Lab [HEC Lab] (n.d.), A SHARED Future. Retrieved August, 2017, from <http://heclab.com/a-shared-future/>

Hernandez, J. (2017, March 28). How First Nations got ahead of the curve on clean energy. CBC News. Retrieved from <http://www.cbc.ca/news/canada/british-columbia/how-first-nations-got-ahead-of-the-curve-on-clean-energy-1.4041813>

Hickel, J. (2016, July 15). Clean energy won't save us – only a new economic system can. The Guardian.

Howell, D. (2014, Sept 19). Fort Chipewyan unveils first solar project. Edmonton Journal. Retrieved August 2017 from: <http://edmontonjournal.com/news/local-news/fort-chipewyan-unveils-first-solar-project>

Hupacasath First Nation. (n.d.). Economic Development. Retrieved from <http://hupacasath.ca/development/http://hupacasath.ca/development/>

Hydro-Québec. (n.d.). Complementary energy sources. Retrieved August, 2015, from <http://www.hydroquebec.com/about-hydro-quebec/our-energy/diversified-energy-portfolio.html>

Hydro World. (2014, September 15). Canada invest in First Nation's 4.4 MW hydro project. Hydro World. Retrieved from: <http://www.hydroworld.com/articles/2014/09/canada-invests-in-first-nation-s-4-4-mw-winchie-creek-hydro-project.html>

Independent Electricity System Operator (2017). A Progress Report on Contracted Electricity Supply, Second Quarter 2017. <http://www.ieso.ca/-/media/files/ieso/document-library/contracted-electricity-supply/progress-report-contracted-supply-q22017.pdf?la=en>

Independent Electricity System Operator (2016a). FIT/microFIT PRICE SCHEDULE January 1, 2016. Accessed on-line: <http://fit.powerauthority.on.ca/sites/default/files/version4/FIT-Price-Schedule-2016-01-01.pdf>

Independent Electricity System Operator (2016b) LRP 1 RFP - Selected Proponents List. Retrieved online September 2017: <http://www.ieso.ca/-/media/files/ieso/document-library/energy-procurement/lrp/lrpi-selected-proponent-list-20160412.pdf?la=en>

Independent Electricity System Operator (n.d.). Energy Partnerships Program, Overview. Retrieved August 2017 from <http://www.ieso.ca/en/get-involved/funding-programs/energy-partnerships-program/overview>

Indigenous Clean Energy Network (n.d.). Indigenous Clean Energy Projects. Retrieved August, 2017, from <http://indigenoucleanenergy.com/ice-projects/>

Indigenous and Northern Affairs Canada (INAC) (2011). ARCHIVED - Tla-o-qui-aht First Nation: Run of River Hydro. Retrieved from <https://www.aadnc-aandc.gc.ca/eng/1312388792088/1312388903596>

Indigenous and Northern Affairs Canada (INAC) (2014). First Nations in Manitoba. Retrieved August, 2015, from <https://www.aadnc-aandc.gc.ca/eng/1100100020400/1100100020404>

Indigenous and Northern Affairs Canada (INAC) (2016). ARCHIVED – ecoENERGY for Aboriginal and Northern Communities Program. Retrieved from <http://www.aadnc-aandc.gc.ca/eng/1100100034258/1100100034259#archived>

Indigenous and Northern Affairs Canada (INAC) (2016). Previously selected projects by ecoENERGY for Indigenous and Northern Communities Program. Retrieved July, 2017, from <https://www.aadnc-aandc.gc.ca/eng/1334855478224/1334856305920>

Indigenous and Northern Affairs Canada (INAC) (2012). ARCHIVED – Off-Grid Communities. Retrieved August, 2017 from <https://www.aadnc-aandc.gc.ca/eng/1314295992771/1314296121126#comm>

Indigenous Renewable Energy Initiative – University of Calgary (n.d.). Map. Retrieved August, 2017, from <https://indigenouenergy.ca/map/>

Ireland, Nicole (2015, November 05). First Nations see economic future in Canada's growing clean energy industry. CBC News. Retrieved from <http://www.cbc.ca/news/indigenous/first-nations-pursue-canada-clean-energy-economy-1.3829405>

Innergex. (2016). Mesgi'g Ugiu's'n. Retrieved August, 2015, from <http://www.innergex.com/en/site/mesgig-ugjujn/>

International Renewable Energy Agency (2014). Renewable Power Generation Costs 2014. Retrieved from http://www.irena.org/documentdownloads/publications/irena_re_power_costs_2014_report.pdf

International Renewable Energy Agency (2016). Renewable Energy Benefits: Measuring the Economics. Retrieved from http://www.irena.org/DocumentDownloads/Publications/IRENA_Measuring-the-Economics_2016.pdf

Jaffar, A. (2015). Establishing a clean economy or strengthening Indigenous Sovereignty: Conflicting & complementary narratives for energy transition. Master's Thesis. University of Guelph. Retrieved June 16, 2017 from: https://atrium.lib.uoguelph.ca/xmlui/bitstream/handle/10214/9230/Jaffar_Atiya_201509_MA.pdf?sequence=1

Jamieson, M. (2015). Presentation about Six Nations Renewable Energy Projects at the Aboriginal Energy Forum, December 2015. Toronto, Ontario.

Keeyask, 2015. The Partnership. Retrieved from <http://keeyask.com/wp/the-partnership>

Keevill, G. (2012, March 2). Champagne and Aishihik test the wind. Retrieved December/January, 2015, from <http://www.yukon-news.com/news/champagne-and-aishihik-test-the-wind>

Kekinsuqs, Sayers J. (2015, November). B.C. First Nations Clean Energy Toolkit. Prepared for the B.C. First Nations Clean Energy Working Group. Retrieved from "First Nations Clean Energy Opportunities in Uncertain Times" Workshop at the 2015 Generate Conference in Vancouver, BC.

Kekinsuqs, Sayers, J. (2013, October 25). Include First Nation in renewable energy sector. Opinion: B.C. must live up to promises; native projects could power LNG industry. Vancouver Sun. Retrieved from http://www.vancouversun.com/business/Include+First+Nations+renewable+energy+sector/9085017/story.html?__lsa=5928-45fe

Kekinsuqs, Sayers, J. (2014, September 11). First Nations see clean energy as game changer [Web log post]. Retrieved from <http://fnbc.info/blogs/judith-sayers/first-nations-see-clean-energy-game-changer>

Kirmayer L. J., Brass G. M., & Tait C. L. (2000). The mental health of Aboriginal peoples: Transformations of identity and community. Canadian Journal of Psychiatry. Retrieved August 2017 from <https://www.ncbi.nlm.nih.gov/pubmed/11056823>

Kluane First Nation (n.d.). Wind Power. Retrieved December 18, 2015, from <http://www.kfn.ca/index.php/government/projects-and-initiatives>

Krackle, Joey (2015, November 18). Henvey Inlet develops largest wind farm in a First Nation. Anishinabek News. Retrieved from <http://anishinabeknews.ca/2015/11/18/henvey-inlet-develops-largest-wind-farm-in-a-first-nation/>

Konstantinos, K & Parker, P (2016). Recent Developments in Renewable Energy in Remote Aboriginal Communities, Ontario, Canada. Papers in Canadian Economic Development, 16, 82-97.

Larkins, D., (2015, April 1). Hydro Kept Building Conawapa: Tories. Winnipeg Sun, Retrieved from <http://www.winnipegssun.com/2015/04/01/hydro-kept-building-conawapa-tories>

Lorinc, J. (2016, May 26). Aboriginal hydropower – Navigating the collaborative future between First Nations and the Canadian hydro industry. Retrieved from <https://www.canadiangeographic.ca/article/aboriginal-hydropower>

Loney, S. (2016). An Army of Problem Solvers. Canada: Friesens.

Lowan-Trudeau, G (2014). Indigenous Renewable Energy: Mapping renewable energy projects by Indigenous communities across Canada. Retrieved June 2017, from <https://indigenousenergy.ca/database/>

Lyons, Kristen (2016 December). How the pursuit of carbon and fossil fuels harms vulnerable communities. The Conversation. Retrieved August 2017 from <http://theconversation.com/how-the-pursuit-of-carbon-and-fossil-fuels-harms-vulnerable-communities-69364>

MacDonald & Zezulka (2015, September) Boreal Leadership Council. Understanding Successful Approaches to Free, Prior, and Informed Consent in Canada. Part I. Retrieved from http://borealcouncil.ca/wp-content/uploads/2015/09/BLC_FPIC_Successes_Report_Sept_2015_E.pdf

Manitoba Hydro (n.d.). Power Smart and First Nations. Retrieved March 21, 2016, from https://www.hydro.mb.ca/your_home/first_nations/index.shtml

Manitoba Hydro (n.d-b). Indigenous agreements. Retrieved August, 2017, from https://www.hydro.mb.ca/community/indigenous_relations/indigenous_agreements.shtml

Manitoba Hydro (2017a). Conawapa Generating Station. Retrieved from: <https://www.hydro.mb.ca/projects/conawapa/index.shtml>

Manitoba Hydro (2017b). Keeyask Generating Station. Retrieved from: <https://www.hydro.mb.ca/projects/keeyask/>

Manitoba Hydro (2017c). Wuskwatim Generating Station. Retrieved from: https://www.hydro.mb.ca/corporate/facilities/gs_wuskwatim.shtml.

Marketwired (2015, June 23). BC First Nations New Clean Energy Strategy Condemns Site C, BC First Nations Chiefs join forces to push for clean energy in the province. Retrieved from <http://www.marketwired.com/press-release/bc-first-nations-new-clean-energy-strategy-condemns-site-c-2032397.htm>

McColl Magazine (n.d.). Geothermal means energy efficient Lil'wat Administration Building. Retrieved from <http://mccollmagazine.com/index.php/business-news/20-energy/77-lil-wat-mt-currie-goes-geothermal>

McCunney, R.J.; Mundt, K.A.; Colby W.D.; Dobie, R; Kaliski, K.B.; Blais, M. (2014, November). Journal of Occupational and Environmental Medicine. 56(11) p 108-130. Retrieved August 2017 from http://journals.lww.com/joem/Fulltext/2014/11000/Wind_Turbines_and_Health__A_Critical_Review_of_the.9.aspx

McDonald, N.C., and Pearce, J.M. (2012). Renewable Energy Policies and Programs in Nunavut: Perspectives from the Federal and Territorial Governments. Arctic, 65(4): 465-475.

McDonald, N.C., and Pearce, J.M. (2013). Community Voices: Perspectives on Renewable Energy in Nunavut. Arctic. 66(1): 94-104.

McLachlan, Stephane (2014, July). University of Winnipeg. Environmental and Human Health Implications of the Athabasca Oil Sands for the Mikisew Cree First Nation and Athabasca Chipewyan First Nation in Northern Alberta. Phase Two Report July 7, 2014. Retrieved August 9, 2017 from https://landuse.alberta.ca/Forms%20and%20Applications/RFR_ACFN%20Reply%20to%20Crown%20Submission%206%20-%20TabD11%20Report_2014-08_PUBLIC.pdf

McSheffrey, E. (2016, October 5). Canada officially ratified historic Paris climate agreement. The National Observer. Retrieved from <http://www.nationalobserver.com/2016/10/05/news/canada-officially-ratifies-historic-paris-climate-agreement>

Mertz, E. (2016, Sept 30). Louis Bull First Nation in Alberta goes solar. Retrieved Aug 2017 from: <https://globalnews.ca/news/2969883/louis-bull-first-nation-in-alberta-is-going-solar/>

Métis Nation of Ontario (MNO; 2013, August 22). MNO wins major green energy contracts. News. Retrieved from <http://www.metisnation.org/news-media/news/mno-wins-major-green-energy-contracts/>

Mother Earth Renewable Energy Project (M.E.R.E) (2011, October). M'chigeeng Economic Development Update, Vol. 1, Issue 3. Retrieved August 2017, from http://www.mchigeeng.ca/uploads/2/6/6/7/26674654/____mere_newsletter-october_2011.pdf

Mother Earth Renewable Energy Project (M.E.R.E) (2012, March). M'chigeeng Economic Development Update. Retrieved August 2017, from http://www.mchigeeng.ca/uploads/2/6/6/7/26674654/____mere_newsletter-march_2012.pdf

Mother Earth Renewable Energy Project (M.E.R.E) (2014, July). M'chigeeng Economic Development Update. Retrieved August 2017, from http://www.mchigeeng.ca/uploads/2/6/6/7/26674654/mfn_cep_newsletter_july_16_2014_2_mere_newsletter.pdf

Mi'kmaq Rights Initiative. (n.d.). A Mi'kmaq renewable energy strategy: Overview and summary report. Retrieved September, 2015, from <http://novascotia.ca/abor/aborlearn/docs/MRES.pdf>

Ministry of Northern Development and Mines (2015). Ontario Investing \$2.5 Million in First Nation Renewable Energy Project. Newsroom Bulletin. Retrieved from <https://news.ontario.ca/mndmf/en/2015/08/ontario-investing-25-million-in-first-nation-renewable-energy-project.html>

Morin, B. (2015, June 9). Alberta First Nation communities jumping on 'solar revolution' APTN News. Retrieved from <http://aptnnews.ca/2015/06/09/alberta-first-nation-communities-jumping-solar-revolution/>

Morrow, S. (2012, February 8). Ehattesaht takes advantage of clean energy opportunities. Ha-Shilth-Sa. Canada's oldest First Nation's Newspaper. Retrieved from <http://www.hashilthsa.com/news/2012-02-08/ehattesaht-takes-advantage-clean-energy-opportunities>

Murphy, P. (2008). Plan C: Community Survival Strategies for Peak Oil and Climate Change. Gabriola Island, BC: New Society Publishers; and Pahl, G. (2007). The Citizen-powered Energy Handbook: Community Solutions to a Global Crisis. White River Junction, VT: Chelsea Green Pub. Co.

Musall, F. & Kuik, O. (2011). Local Acceptance of Renewable Energy - A Case Study from Southeast Germany. Energy Policy, 39(6): 3252-3260.

Muskrat Magazine. (2015, March 19). Sunvult energy announces new president and enters into two First Nations agreements. Muskrat Magazine. Retrieved August, 2015, from <http://muskratmagazine.com/sunvult-energy-announces-new-president-and-enters-into-two-first-nation-agreements/>

National Energy Board (2015). Canada's Renewable Power Landscape: Energy Market Analysis 2016. Retrieved from <https://www.neb-one.gc.ca/nrg/sttstc/ctrct/rprt/2016cndrnwblpwr/2016cndrnwblpwr-eng.pdf>

Nathwani, J. and Andersen, C. (2016). Indigenous communities must be part of the global green energy revolution. Special to The Globe and Mail. Published Wednesday, Apr. 27, 2016. <http://www.theglobeandmail.com/report-on-business/rob-commentary/indigenous-communities-must-be-part-of-the-global-green-energy-revolution/article29762478/>

NB Power (2016). NB Power invites First Nations to participate in Renewable Energy project. Retrieved from <https://www.nbpower.com/en/about-us/news-media-centre/news/2016/nb-power-invites-first-nations-to-participate-in-renewable-energy-project/>

Newfoundland & Labrador Department of Natural Resources. (2015a). Electricity. Government of Newfoundland and Labrador. Retrieved August, 2015, from <http://www.nr.gov.nl.ca/nr/energy/electricity/index.html#netmetering>

Newfoundland & Labrador Department of Natural Resources. (2015b, July 15). Provincial government committed to renewable energy resources. News Release. Government of Newfoundland and Labrador. Retrieved August, 2015, from <http://www.releases.gov.nl.ca/releases/2015/nr/0728n01.aspx>

Nicolas, J (2016). Presentation about Potlotek First Nation Solar School at the Nova Scotia Mi'kmaq Energy and Innovation Summit. September 2016. Membertou First Nation, Nova Scotia.

Northern Ontario Business Staff. (2015, June 15). First Nation partners on wind farm. Northern Ontario Business. Retrieved August, 2015, from <http://www.northernontariobusiness.com/Industry-News/Indigenous-businesses/2015/07/First-Nation-partners-on-wind-farm.aspx>

Northwest Territories Power Corporation. (2014). Things you should know: Customer information net metering. Retrieved from <http://www.ntpc.com/docs/default-source/default-document-library/ntpc-net-metering-13-08-14.pdf?sfvrsn=2>

Nova Scotia Department of Energy. (2015a). Our Electricity Future, Nova Scotia's Electricity Plan 2015-40. Retrieved September, 2015, from [http://energy.novascotia.ca/sites/default/files/files/FINAL%20Our%20Electricity%20Future\(1\).pdf](http://energy.novascotia.ca/sites/default/files/files/FINAL%20Our%20Electricity%20Future(1).pdf)

Nova Scotia Department of Energy. (2017). COMFIT Project Status As of May 11, 2017. Retrieved Aug 2017, from <https://energy.novascotia.ca/sites/default/files/files/Copy%20of%20DRAFT%20Comfit%20Status%20as%20of%20May%2011%2C%202017.pdf>

Natural Resources Canada. (2016a, June 29) About Renewable Energy. Retrieved June, 2017, from <http://www.nrcan.gc.ca/energy/renewable-electricity/7295>

Natural Resources Canada (2016b, July 29). National Resources Canada on-line reporting, About Electricity. Retrieved December 2016, from <http://www.nrcan.gc.ca/energy/electricity-infrastructure/about-electricity/7359>.

Nunavut Bureau of Statistics (2014, December 5). Total Population by Inuit and Non-Inuit for Nunavut, Region and Community, 2006 to 2014, as of July 1. Population Data, Population Estimates. Government of Nunavut. Retrieved from <http://www.stats.gov.nu.ca/>

NYISO (2014). A Review of Distributed Energy Resources. New York Independent System Operator. Prepared by DNV GL. September, 2014. Accessed at: http://www.nyiso.com/public/webdocs/media_room/publications_presentations/Other_Reports/Other_Reports/A_Review_of_Distributed_Energy_Resources_September_2014.pdf

Ojibways of the Pic River First Nation (n.d.). Projects. Retrieved from <http://www.picriver.com/index.pl?page=130&top=121>

Ontario Ministry of Energy (2013). Achieving Balance: Ontario's Long-Term Energy Plan. Retrieved from <http://www.energy.gov.on.ca/en/ltrep/achieving-balance-ontarios-long-term-energy-plan/>

Ontario Ministry of Energy (n.d.). Ontario's Long-Term Energy Plan. Retrieved from <http://www.energy.gov.on.ca/en/ltrep/>

Ontario Sustainable Energy Association (OSEA, 2013). Ontario's First 100% First Nations Project Opens on Manitoulin Island. News & Updates. Retrieved from <http://www.ontario-sea.org/Page.asp?PageID=122&ContentID=3862>

Orenda Energy Solutions. (2015, April 20). Canadian company to build Saik'uz First Nation Wind Farm in BC. Retrieved from <http://orendaenergy.com/canadian-company-to-build-saikuz-first-nation-wind-farm-in-bc/>

Ozog, S. (2012). Towards First Nations Energy Self-Sufficiency: Analyzing the Renewable Energy Partnership between T'Sou-ke Nation and Skidegate Band (Unpublished master's thesis). University of Northern British Columbia, BC.

Pacific Salmon Foundation (2014, Jan 30). Potential Impacts of Run-Of-River Power Hydroprojects on Salmonids. Commissioned by Clean Energy B.C. Retrieved from https://www.psf.ca/sites/default/files/ROR_Report.pdf

Pastore, R.T. (1997). Indigenous peoples. Archaeology Unit and History Department, Memorial University of Newfoundland. Retrieved September, 2015, from <http://www.heritage.nf.ca/articles/Indigenous/Indigenous-peoples-introduction.php>

Pehnt, M (2006). Dyanmic life cycle assessment (LCA) of renewable energy technologies. Renewable Energy 31 (1). Abstract retrieved from <http://www.sciencedirect.com/science/article/pii/S0960148105000662#!>

Pehonan hydro project update. (2011, November). James Smith Cree Nation Newsletter, 1, 1-8. Retrieved August, 2015, from http://pehonianhydroelectric.com/_Global/20/img/content/James Smith CN news nov 2011.pdf

Pembina Institute (2015, January 27). Cowessess wind energy storage project a sign of things to come. Retrieved August, 2015, from <http://www.pembina.org/blog/cowessess-wind-energy-storage-project-a-sign-of-things-to-come>

Piikani Resource Development Ltd. (PRDL). (n.d.-a). Weather Dancer. Retrieved from <http://www.piikaniresourcedevelopment.com/weather-dancer.html>

Piikani Resource Development Ltd. (PRDL). (n.d.-b). Solar Energy. Retrieved from <http://www.piikaniresourcedevelopment.com/solar-energy.html>

Piikani Resource Development Ltd. (PRDL). (n.d.-c). Piikani Oldman Hydro Limited Partnership [POHLP]. Retrieved from <http://www.piikaniresourcedevelopment.com/piikani-oldman-hydro-limited-partnership-pohlp.html>

PortageOnline, 2015. Dakota Tipi Installs Hi-Tech Energy System. Thursday, April 30, 2015. Retrieved from <http://www.portageonline.com/local/43094-dakota-tipi-installs-hi-tech-energy-system>

Pottie, E. (2014). Membertou First Nation Breaks Ground on New Arena. Herald News, Cape Breton Bureau. Retrieved from: <http://thechronicleherald.ca/novascotia/1215705-membertou-first-nation-breaks-ground-on-new-arena>

Power, K. (2014, November 26). Whynotts settlement turbines now turning [Web log post]. Retrieved September, 2015, from <http://kelseympower.wordpress.com/2014/11/26/whynotts-settlement-turbines-now-turning/>

Province of British Columbia (2015). First Nation Clean Energy Business Fund Project Summary: 2015-09-1. Retrieved from http://www2.gov.bc.ca/assets/gov/business/natural-resource-industries/consulting-with-first-nations/agreements/fncebf_projects_approved_-_2015-09-14.pdf

Province of British Columbia. (n.d.-a). First Nations Clean Energy Business Fund (FNCEBF) Retrieved August, 2015, from <http://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/consulting-with-first-nations/first-nations-clean-energy-business-fund>

Province of British Columbia. (n.d.-b). First Nations Clean Energy Business Fund Revenue Sharing Agreements. Retrieved August, 2015, from <http://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/consulting-with-first-nations/first-nations-negotiations/first-nations-clean-energy-business-fund-revenue-sharing-agreements>

Province of British Columbia. (n.d.-c). Wind Power: Participation rent policy. Retrieved August, 2015, from <http://www.empr.gov.bc.ca/EAED/AEPB/AEPS/Pages/WindPower.aspx>

Province of Nova Scotia (2015). Aboriginal people in Nova Scotia. Office of Aboriginal Affairs. Retrieved from <http://novascotia.ca/abor/aboriginal-people/>

reNEWS, (2015, April 9). New Brunswick 80 MW spree. reNEWS. Retrieved October, 2015, from <http://renews.biz/95000/new-brunswick-plans-to-buy-80mw/>

reNEWS (2015, June 7). First Nations tie up with Suncor. reNEWS. Retrieved from <http://renews.biz/91319/first-nations-tie-up-with-suncor/>

Richmond, C., Elliot, S.J., Matthews, R., & Elliot, B. (2005). The Political Ecology of Health: Perceptions of Environment, Economy, Health and Well-Being Among 'Namgis First Nation. Health and Place 11(4), 349-365

Ronson, J. (2014, January 10). Old Crow pushes for renewable power. Retrieved December/January, 2015, from <http://yukon-news.com/news/old-crow-pushes-for-renewable-power/>

SaskPower. (2013). Taze Twé Hydroelectric Project [PDF]. Retrieved August, 2015, from http://www.saskpower.com/wp-content/uploads/tazi_twe_hydroelectric_project.pdf

Sherrard, M., Timmins, T.J., and Amadee, A. (2013, May). Québec announces procurement of 800 MW of Wind Energy. Retrieved August, 2015, from <https://www.gowlings.com/KnowledgeCentre/article.asp?pubID=2907>

Sherrard, M., and Timmins, T.J. (2013, August). Québec advances in procurement of additional wind energy. Retrieved August, 2015, from <https://www.gowlings.com/KnowledgeCentre/article.asp?pubID=3003>

Stone, J., and Boulanger, L-N. (2017, Feb 14). Request for expressions of interest in New Brunswick for 40 MW of renewable energy. Canadian Energy Perspectives. Retrieved Aug 2017 from <http://www.canadianenergylawblog.com/2017/02/14/request-for-expressions-of-interest-in-new-brunswick-for-40-mw-of-renewable-energy/>

Statistics Canada (2016). Aboriginal Peoples Highlight Tables, 2016 Census. Accessed from <http://www12.statcan.gc.ca/census-recensement/2016/dp-pd/hltfst/abo-aut/Table.cfm?Lang=Eng&T=101&S=99&O=A>

Sterritt, Angela (2015, August 21). Lubicon Lake First Nation using solar to power health centre. CBC News. Retrieved from <http://www.cbc.ca/news/canada/edmonton/lubicon-lake-first-nation-using-solar-to-power-health-centre-1.3199688>

Svanvik, B. (2015, March 27). Kwagis Power Limited Partnership. Namgis First Nation. Retrieved from <http://www.namgis.bc.ca/companies/kwagis-power-limited-partnership/>

The Canadian Community Economic Development (CED) Network. (2005). Pan-Canadian Community Development Learning Network Profile of Effective Practice: Lennox Island First Nation. Retrieved September, 2015, from http://ccednet-rcdec.ca/files/ccednet/Lennox_Island-E.pdf

Thompson, I. (2010). Wind power farm at First Nations. Saskatchewan Sage. Retrieved August, 2015, from <http://www.ammsa.com/publications/saskatchewan-sage/wind-power-farm-first-nations>

Tlicho Government. (n.d.). Wekweeti. Retrieved September, 2015, from <http://www.tlicho.ca/community/wekweeti>

TREC (2016). The Power of Community. TREC Renewable Energy Co-op. June 2016. http://www.trec.on.ca/wp-content/uploads/2016/06/TREC_Primer_Jun28_Approved_Final-LR.pdf

True Consulting Ltd. (2014). Skeetchestn Indian Band. Retrieved from: <http://www.true.ca/256-skeetchestn-indian-band>.

Truth and Reconciliation Commission of Canada (2015). Retrieved from <http://www.trc.ca/websites/trcinstitution/index.php?p=890>

T'Sou-ke Nation (n.d.). Sun keeps shining on T'Sou-ke. Retrieved Aug 7, 2017 from <http://www.tsoukenation.com/sun-keeps-shining-on-tsou-ke/>

Twidell, J. & Weir, A. (1986). *Renewable Energy Sources*. London: E & F N Spon.

Union of Concerned Scientists (n.d.). Environmental Impacts of Hydroelectric Power. Retrieved August 2017 from http://www.ucsusa.org/clean_energy/our-energy-choices/renewable-energy/environmental-impacts-hydroelectric-power.html#.WeEaGYZrxTZ

United Nations (2015). Sustainable Development Goals. Accessed from <http://www.un.org/sustainabledevelopment/sustainable-development-goals/>

United Nations Framework Convention on Climate Change. (2015, December 12). Adoption of the Paris Agreement, Draft decision -/CP.21. Retrieved from <https://unfccc.int/resource/docs/2015/cop21/eng/l09.pdf>

Vela, T. (2011, August 26). Behchoko solar panel system first in the NWT. Northern News Services. Retrieved September, 2015, from http://www.nnsi.com/frames/newspapers/2011-08/aug29_11sol.html

Wilt, J (2016, Nov 28). Hydroelectric Projects Pose Risk to Indigenous People, Harvard Study Warns. Vice Media. Retrieved from https://www.vice.com/en_ca/article/4w5nmj/hydroelectric-projects-pose-risk-to-first-nations-harvard-study-warns

Virginia Tech (2007). Distributed Generation Education Models, Chapter 1. Retrieved June, 2017 from <http://www.dg.history.vt.edu/ch1/introduction.html>

Walker, G. & Devine-Wright, P. (2008). Community Renewable Energy: What Does It Mean? *Energy Policy*, 36(2): 497-500. p. 498

Warren, C.R. & McFadyen, M. (2010). Does Community Ownership Affect Public Attitudes to Wind Energy? A case study from south-west Scotland. *Land Use Policy*, 27(2): 204-213.

Weber, B. (2015, November 27). Alberta climate change plans strengthen First Nations hand: Chief. The Globe and Mail. Retrieved from <http://www.theglobeandmail.com/news/alberta/alberta-climate-change-plans-strengthen-first-nations-hand-chief/article27519803/>

Williams, M. (2015, July 2). Canada's First Nations lead the way on Renewable Energy. HeroX . Retrieved from <https://herox.com/news/379-canadas-first-nations-lead-the-way-on-renewable-en><https://herox.com/news/379-canadas-first-nations-lead-the-way-on-renewable-en>

World Health Organisation (WHO) – Health and Environment Linkages Initiative (HELI) (n.d.). Environment and health in developing countries. Retrieved August 2017 from <http://www.who.int/heli/risks/ehindevcoun/en/index1.html>

World Heritage Encyclopedia. (n.d.). List of electrical generating stations in Quebec. Retrieved August, 2015, from <http://www.worldheritage.org/article/WHEBN0009055683/List%20of%20electrical%20generating%20stations%20in%20Quebec>

Yan, K. (2010, June 9). Canada's hydro partnerships no panacea for First Nations. June 2010 World Rivers Review. Retrieved August, 2015, from <https://www.internationalrivers.org/resources/canada%E2%80%99s-hydro-partnerships-no-panacea-for-first-nations-1713>

Yukon Development Corporation. (2003). 2003 Annual Report. Retrieved December/January, 2015, from http://www.ydc.yk.ca/uploads/documents/YDC_2003_Annual_Report.pdf

Yukon Energy Corporation. (2016). First Nations. Retrieved December/January, 2015, from <https://www.yukonenergy.ca/in-your-community/first-nations/>

Yukon Energy Mines and Resources. (2015, October). Energy Strategy for Yukon: Independent Power Production Policy. Retrieved December/January, 2015, from <http://www.energy.gov.yk.ca/pdf/independent-power-production-policy-201510.pdf>