

The case for investing in clean energy in remote communities

Recommendations on how to improve access to capital

Katarina Savic

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The Pembina Institute is a national non-partisan think tank that advocates for strong, effective policies to support Canada's clean energy transition. We employ multi-faceted and highly collaborative approaches to change. Producing credible, evidence-based research and analysis, we consult directly with organizations to design and implement clean energy solutions, and convene diverse sets of stakeholders to identify and move toward common solutions.

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Executive summary

Across all sectors— including clean energy — Indigenous communities and businesses face barriers to accessing capital. Moreover, Indigenous-owned clean energy projects in remote areas simultaneously contend with pronounced economic, institutional, and technical challenges that create additional obstacles to securing funding and affordable financing. All levels of government have the capacity and opportunity to eliminate barriers to private sector capital through the application of robust climate, energy and financial policies and resources. By adopting sound policy options, government, utilities and financial institutions can create a supportive environment for renewable energy in remote areas, improve its cost-competitiveness, and increase the range of financing options for renewable energy projects. This short report is an initial review of the various policies available that can increase access to capital for clean energy projects in remote communities.

1. Background

Currently, government funding programs provide most of the financial support for renewable energy projects in remote communities. However, we know that the infrastructure gap, i.e., the gap between the investment needed to bring infrastructure to an acceptable or desired standard and the amount given, is far greater in First Nations communities compared to non-Indigenous communities by as much as \$30 billion.¹ Both Indigenous and non-Indigenous governments have identified clean, affordable, and reliable energy as a priority area for infrastructure development; the federal government has set a target year of 2030 to see diesel-fuel power replaced by clean, renewable, and reliable energy .

Yet Indigenous-led renewable energy proponents have encountered extreme difficulty in accessing capital for a number of reasons. Geographical location, a cold climate, insufficient capacity, and a lack of supportive policies and programs all contribute to the obstacles that fledgling businesses encounter. Government and electric utilities that service remote communities can address these challenges by creating climate, energy, and financial policies and programs so that a strong business case for Indigenous-owned renewable energy projects is possible. By increasing financing and funding opportunities for renewable energy projects in remote Indigenous communities the energy transition off diesel will be accelerated, benefitting Indigenous communities and the local economy.

In this report we highlight the need to significantly increase access to private capital for renewable energy projects; summarize the key barriers facing renewable energy deployment in remote communities as they relate to accessing capital; and recommend key government policies, programs, and tools that could be used to attract market capital and improve the business case for renewables in remote areas.

This is the Pembina Institute's first research report on this topic. A final report will be published after further research and engagement with stakeholders at the 2022 Renewables in Remote Communities conference.

¹ The Canadian Council for Public-Private Partnership, *P3's: Bridging the First Nations Infrastructure Gap* (2016), 3. https://www.pppcouncil.ca/web/pdf/first_nations_p3_report.pdf

2. Opportunities

Not only is diesel fuel a particularly dirty and harmful fossil fuel, but people living in remote communities pay the highest rates for energy in Canada. In the transition to clean energy, local energy production will not only come with health and environmental benefits, it will also provide a source of income for the community. Increasing communities' own-source revenue while decreasing reliance on government funding strengthens self-determination and self-sufficiency. Indigenous communities have historically been excluded from the land-use planning and the economic benefits produced from the natural resource sector and so greater Indigenous control of renewable energy is also a form of economic reconciliation.

3. Barriers

The barriers to accessing capital are specific to three categories: Indigenous communities, remote communities, and renewable energy projects.

3.1 Indigenous-specific

Institutional barriers

Section 89 of the Indian Act impairs the ability of First Nations to use on-reserve assets as collateral and is frequently cited as a major impediment to accessing capital. Similarly, restrictions under the Indian Act limit the ability of First Nations governments to leverage their tax base, resource, and assets to raise revenues.²

Unfamiliarity with Indigenous governance structures

Conventional financial lenders (i.e. chartered banks and smaller institutions) can be unfamiliar or uncomfortable with Indigenous business models, such as an Indigenous economic development corporation (EDC), where the community is the sole shareholder of the company.³

Perceived risk of investing in projects

Financial lenders associate higher levels of risk with remote communities, including lenders who exclusively focus on Indigenous lending. This, combined with fewer options for generating revenue in remote communities, makes debt financing even more difficult. Indigenous governments have expressed frustration that they are treated by capital providers as risky corporate clients rather than creditworthy local governments or local government agencies.⁴

² Julie Cafley and James McLean, *Improving Access to Capital for Canada's First Nation Communities* (Public Policy Forum, 2016), 11, 13. https://ppforum.ca/wp-content/uploads/2018/03/First-Nation_March-8.pdf

³ Kyle White, "We want doors opened, not slammed shut": *Aboriginal Economic Development Corporations and Public Policy Case Studies from Saskatchewan* (University of Saskatchewan, 2016) 2. <https://harvest.usask.ca/bitstream/handle/10388/ETD-2016-03-2490/WHITE-THESIS.pdf>

⁴ *Improving Access to Capital for Canada's First Nation Communities*, 11.

Higher interest rates

Indigenous governments and businesses are typically saddled with high-interest-rate loans and other forms of debt capital more frequently than their non-Indigenous peers.

3.2 Remote-specific

Market size

The small size of the energy sector in remote communities limits access to capital from larger financial institutions, as the amount of revenue generated will be considerably lower than in much bigger markets.⁵ Apart from a few small hydro projects (approximately 10 MW), most renewable energy projects in remote communities are less than 1,000 kW for heat and less than 500 kW for electricity.⁶ Such small project sizes and associated small returns cannot compete with investment opportunities in larger markets.

Technical complexity

The combination of remoteness and extremely cold climates increase the complexity of renewable energy projects. Remote communities are not connected to national power or natural gas grids, and so renewable energy systems must be designed to operate reliably under isolated conditions. Without a national electricity grid to rely on, integrating intermittent renewable power technologies (solar PV, wind) often requires additional investment in storage and updating local diesel generation to work in concert with renewables.

It can be difficult to transport goods and equipment to remote communities, which may only be reachable by ship, temporary winter road access, or plane. This remoteness increases the cost of delivering materials, construction equipment, and technical experts. Solar and wind projects in Nunavut, for instance, are one-and-a-half to six times the cost of solar and wind projects in the U.S.⁷

⁵ WWF Canada, *Financing and Accelerating Renewable Energy Deployment in the Arctic* (2017), 1. https://wwf.ca/wp-content/uploads/2020/03/Financing_Renewable_Energy_October-2017.pdf

⁶ Based on Pembina Institute analysis in Dave Lovekin et al., *Diesel Reduction Progress in Remote Communities* (Pembina Institute, 2020). <https://www.pembina.org/pub/diesel-reduction-progress-remote-communities>

⁷ Comparing projects costs \$/kW from Waterloo Institute of Sustainable Energy, *Renewable Energy Project Deployment in Canadian Arctic* (2016).

Diesel subsidies

Energy bills are highly subsidized in remote communities.⁸ While subsidies are necessary to keep energy prices affordable, they also reduce the financial incentive for communities to adopt renewable energy sources. Subsidies hide the true cost of producing energy from diesel, making it difficult to compare to the costs of renewable energy sources. On a levelized cost of energy basis, supplying renewable energy may be more economical in comparison to the unsubsidized cost of diesel. Because there is little data on diesel subsidization, establishing the business case for renewables is not straightforward. Depending on the developer and the costs that the developer is exposed to (whether direct diesel fuel costs or subsidized utility energy rates), unsubsidized diesel generation costs are often not factored into the business case, impacting the project's financial feasibility and potentially resulting in projects appearing uneconomical.

Limited revenue streams

Two primary revenue streams are available for renewable energy projects: selling energy to a utility or monetizing the associated environmental benefits of renewable energy under a credit system. When negotiating power purchase agreements (PPAs), many Crown corporations have been unwilling to offer fair and inclusive rates that are anywhere near the true cost of diesel. Nor are the economic, environmental, or societal values of renewable energy development factored in. Non-utility revenue streams, including Renewable Energy Credits (RECs) and carbon offsets, are generally not available for renewable energy projects in remote communities due to regulatory barriers and the inability to certify RECs. The upshot is that revenue streams are limited, insufficient, and uncertain in their long-term stability.

3.3 Renewable energy-specific

High upfront costs

Renewable energy generation and storage infrastructure have high upfront investment requirements, made higher by the logistical challenges of building in remote areas. High

http://awsassets.wwf.ca/downloads/summary_and_prefeasibility_report.pdf with Lazard, *Lazard's Levelized Cost of Energy Analysis – Version 13* (2019). <https://www.lazard.com/media/451086/lazards-levelized-cost-of-energy-version-130-vf.pdf>. Corrected for US\$ to C\$ conversion at average 2020 exchange rate.

⁸ Dave Lovekin, *Diesel Subsidies – Simplified, Part 1* (Pembina Institute, 2021), 3. <https://www.pembina.org/pub/diesel-subsidies-simplified-part-i>

upfront capital costs are a disincentive to project implementation even with a positive rate of return in the future. Governments need to recognize the need for capital funding support in the short term to reduce upfront cost barriers and, in the long term, increase opportunities for market penetration.

Lack of policy mixes

In Canada, as well as much of the rest of the world, climate and energy policies, such as renewable portfolio standards and feed-in-tariffs, continue to drive renewable energy investments.⁹ Even in cases where renewable energy systems are cheaper than conventional fossil fuel systems (such as in Alberta where analysis shows that clean energy portfolios can provide the same services as gas plants at a lower cost over the lifetime of the energy source)¹⁰, electricity or heat policies are often needed to encourage utilities to purchase renewables, develop new standards, support distributed energy resources or net-metering policies, and address other issues like interment electricity provision. Provinces and territories have yet to implement the mix of climate, energy, and financial policies needed to promote significant renewable adoption in remote communities, although most have some of the elements — notably Yukon, B.C., and Quebec.¹¹ Although the federal government has established a target to work with Indigenous communities to support the transformation from diesel-fueled power to clean, renewable, and reliable energy by 2030, action across provinces and territories in setting individual targets has been inconsistent. B.C., the Northwest Territories, and the Yukon have specific targets for diesel use and/or emissions reduction, while other jurisdictions have yet to set concrete goals.^{12,13,14} (See Figure 2 for a progress summary report of the policies and strategies governments have implemented to reduce diesel in remote Indigenous communities as of 2019.)

⁹ IRENA, IEA, and REN21, *Renewable Energy Policies in a Time of Transition* (2018), 14.

<https://www.irena.org/publications/2018/apr/renewable-energy-policies-in-a-time-of-transition>

¹⁰ Jan Gorski and Binu Jeyakumar, *Reliable, affordable: The economic case for scaling up clean energy portfolios* (Pembina Institute, 2019), 1. <https://www.pembina.org/reports/reliable-affordable.pdf>

¹¹ Dylan Heerema and Dave Lovekin, *Power Shift in Remote Indigenous Communities* (Pembina Institute, 2019), 45. <https://www.pembina.org/reports/power-shift-indigenous-communities.pdf>

¹² Government of British Columbia, “CleanBC Remote Community Energy Strategy (RECS).” <https://www2.gov.bc.ca/gov/content/industry/electricity-alternative-energy/community-energy-solutions/remote-community-energy-strategy-rces>

¹³ Yukon Government, “Our Clean Future,” <https://yukon.ca/en/our-clean-future>

¹⁴ Government of Northwest Territories, *2030 Energy Strategy* (2018), 1. https://www.inf.gov.nt.ca/sites/inf/files/resources/gnwt_inf_7272_energy_strategy_web-eng.pdf

Limited but growing human capacity

For decades, the energy sector has been dominated by large companies and the public sector. Now that energy generation is becoming more decentralized with greater community involvement and leadership, building internal capacity is essential.¹⁵ There is little information available on where the greatest need is for increased capacity. However, it can include many areas of renewable project development such as governance, management, strategic planning, and specialized skills. Limited capacity in grant and proposal writing in Indigenous communities makes it harder to secure affordable financing or funding. Organizations such as Indigenous Clean Energy, through their 20/20 Catalyst program, work to empower Indigenous energy champions through mentorships, coaching, and skills development to overcome capacity challenges in their communities.¹⁶

If a renewable energy project is not cost-competitive when compared to the return on investment (ROI) of energy systems that use diesel fuel, the project is most likely to be considered as financially non-viable, regardless of the non-monetary benefits associated with clean energy and the fact that diesel fuel is subsidized. Consequently, such projects rely almost solely on government financial support to get built.

¹⁵ Judith Lipp, *Growing Indigenous Power* (Toronto Renewable Energy Cooperative, 2018), 9. http://www.trec.on.ca/wp-content/uploads/2018/03/TREC-PPP_IndigenousPowerReport_FINAL.pdf

¹⁶ Indigenous Clean Energy, “20/20 Catalyst Program.” <https://indigenoucleanenergy.com/2020-catalysts-program/>

4. Policies and tools to increase access to capital

The affordability and speed of the low-carbon energy transition will depend on keeping financing costs low.¹⁷ The role of federal, provincial, and territorial governments is to create a policy environment that supports renewable energy generation and attracts private capital to invest in clean energy in remote communities. It is widely recognized that public dollars alone will not be enough to transition all diesel-dependent communities onto renewable sources in a timely manner.

The following policies and financial instruments addressing climate action, clean energy, and project financing could be employed and leveraged to increase access to capital for Indigenous-led energy projects in remote communities.

4.1 Climate policies

Climate policies create an enabling environment as they set directions and targets for local and national energy transitions. Climate policies do not directly address the challenges of accessing capital; instead, and just as importantly, such policies create the stability and conditions to attract investors.

Policies that support government commitments to lower emissions by at least 40% by 2030 and to net-zero by 2050, which include mandating a price on carbon emissions, already exist at the national level as do climate goals and policies at the sub-national level. Remote, diesel-dependent communities are exempt from these policies based on the belief that the cost of living and the cost of energy in particular will rise as a result of a carbon tax and mandating investments in clean energy. There is thus little motivation to replace aging, polluting, diesel infrastructure with renewables. The following policies should be co-developed with remote communities; exemptions are not conducive to reducing the many negative environmental, economic, and health impacts from diesel generators.

¹⁷ International Energy Agency, *Financing clean energy transitions in emerging and developing economies* (2021), 15. https://iea.blob.core.windows.net/assets/6756ccd2-0772-4ffd-85e4-b73428ff9c72/FinancingCleanEnergyTransitionsinEMDEs_WorldEnergyInvestment2021SpecialReport.pdf

Clean energy targets

Clean energy targets should be implemented through Renewable Portfolio Standards (see page 12), greenhouse gas (GHG) emissions reduction, and/or diesel consumption reduction. To encourage the deployment of renewables, the targets can be set in relative terms (e.g., clean energy must be a certain percentage of total energy generated) or in absolute terms (e.g. the total capacity of renewable energy to be installed).¹⁸ Targets can encourage deployment of both renewables and energy efficiency.

Establishing targets is a first step. Governments will need to support pledged clean energy goals with legislation. British Columbia, for example, passed the Climate Change Accountability Act to reduce greenhouse gas emissions across four sectors to 40% below 2007 levels by 2030 and 80% by 2050. The B.C. government drafted the CleanBC Roadmap to 2030 which outlines a plan to achieve the province’s legislated climate targets. According to the CleanBC Roadmap, diesel consumption in remote communities must be reduced by 80% by 2030. Provincial and territorial targets alone do not drive investment and attract capital. But they do function as policy signals indicating that private capital may be needed — and profitable — to achieve climate goals.

Carbon pricing

Carbon pricing is widely recognized as the most efficient means to reduce GHG emissions while also supporting low-carbon innovation.¹⁹ Carbon pricing is unevenly applied across remote communities as different jurisdictions have different carbon pricing systems that also vary in exemptions applied. In the federal carbon pricing benchmark (which sets the minimum standard that all provinces and territories must comply to), diesel for electricity would fall under the Output Based Pricing System, where only a portion of emissions are subject to carbon pricing. However, diesel used for electricity generation is exempt under the federal benchmark and jurisdictions that chose to apply their own carbon pricing policies have chosen to follow suit, either by applying a full exemption or through continued subsidies to mask price signals. Diesel for heating would fall under the fuel charge of the federal benchmark, where all emissions are subject to carbon pricing. Diesel used for heating fuel is not exempt under

¹⁸ OECD, *Policy Guidelines for Investment in Clean Energy Infrastructure* (2013), 27.
<https://www.oecd.org/daf/inv/investment-policy/CleanEnergyInfrastructure.pdf>

¹⁹ Government of Canada, “Carbon polluting pricing systems across Canada,”
<https://www.canada.ca/en/environment-climate-change/services/climate-change/pricing-pollution-how-it-will-work.html>

the strengthened 2022-23 federal benchmark, but jurisdictions are still playing catchup in complying.

While the exemptions are understandable given the need to keep energy prices in remote communities affordable, the unintended consequence is the continued use of inefficient, emission-intensive generators, making the transition to clean energy even more challenging. Federal, provincial, and territorial governments should begin to explore ways to bring these carbon pricing signals to diesel-dependent communities, without drastically increasing their cost of living. One method of achieving this is through policy and regulator mandates to utilities such that an internal price on carbon is applied when evaluating investment decisions. An internal price on carbon sets a monetary value on GHG emissions which businesses or utilities can then factor into investment decisions. This incentivizes utilities to transition towards low-carbon alternatives, manage climate-related business risks, and meet GHG reduction targets.²⁰

4.2 Energy policies

Energy policies can support the development of decentralized, Indigenous-owned renewable energy projects as they work to improve the business case for renewables in competitive environments. Governments can create a demand for Indigenous renewable energy through various procurement programs and renewable portfolio standards. High rates in PPAs improve the rate of returns for Indigenous-owned renewable energy projects and will attract private and public investments in remote areas.

In response to climate policies, provincial and territorial governments should set renewable energy requirements and purchase renewable electricity generated by Indigenous-owned projects at favourable rates that reflect project benefits. Absent fair rates, the business case for renewable energy projects in remote communities is significantly weakened. Provincial and territorial governments should consider the true cost of diesel when negotiating with Indigenous independent power producers (IPPs) in order to derive a fair rate that reflects a full accounting of costs.

Feed-in-tariff programs

Feed-in-tariff (FiT) programs offer a guaranteed rate for renewable power projects and can be a tool to drive innovation and investment. In large-scale power markets, a FiT

²⁰ Centre for Climate and Energy Solutions, “Internal Carbon Pricing.”
<https://www.c2es.org/content/internal-carbon-pricing/>

may involve a fixed payment of a premium above the market price. The challenge with this approach is setting the rate. Too high and a jurisdiction will pay too much for renewable power; too low and the policy fails to drive investment. Ontario's FiT and Large Renewable Procurement (LRP) programs included an Aboriginal Price Adder where the contract price for projects increased contingent on a minimum percentage of Indigenous ownership.²¹ This increased the number of renewable energy projects with Indigenous equity but did not reduce diesel consumption in remote communities since the electricity generated through these programs was delivered to the Ontario grid instead of powering the communities where it was generated. Nonetheless, FIT programs could be tailored to the remote community context with the right policy design.

IPP policies

Fair rates written into the PPAs signed with IPPs will significantly strengthen the business case for renewables in remote communities. Securing a good kWh rate from utilities shows lenders that the project has a guaranteed cash flow and the Indigenous proponent will be able to make loan payments. Typically, PPA rates only account for the costs of fuel and transportation. Instead, they need to account for the *avoided cost of energy*. The avoided cost of energy specifically refers to the marginal cost of the diesel energy (transportation, fuel, generation, and distribution costs) being displaced because the renewable energy source is now producing a portion of the electricity, *plus* any extra savings that could be realized when the operational time of diesel generators is reduced as a result. These extra savings include the avoided maintenance, repair, and staff time, and deferred capital costs if the renewable energy displaces all or some diesel which means the diesel generator will run less often and last longer.²²

Renewable portfolio standards

Renewable portfolio standards (RPSs) require electricity distributors to secure a minimum percentage of the electricity they distribute to consumers from renewable sources.²³ Typically, governments establish RPSs. They differ from targets in that the

²¹ Thomas J. Timmins, "Unlocking the value of Aboriginal participation in Ontario FIT program projects," *Gowling WLG*, July 1, 2015. <https://gowlingwlg.com/en/insights-resources/articles/2015/unlocking-the-value-of-aboriginal-participation-in/>

²² Dave Lovekin and Dylan Heerema, *The True Cost of Energy in Remote Communities* (Pembina Institute, 2019), 3-4. <https://www.pembina.org/reports/diesel-cost-background-2019.pdf>

²³ Norbert Wohlgemuth and Jyoti Painuly, "Promoting private sector investments in renewable energy technologies," in the *Fifth Expert Group Meeting on Finance for Sustainable Development, Nairobi, Kenya, December 1 – 4, 1999* (1999) 343. <https://www.un.org/esa/sustdev/documents/16wohl.PDF>

requirement is legally binding and there are penalties for not meeting the requirements. An RPS mandates demand for clean energy, unlike FiT policies which set a price per kWh.²⁴ An RPS could be an important policy tool to enable demand and supply of renewables in remote communities but has yet to be explored there. Pairing an RPS with other policies could reduce the costs of developing renewable energy projects and increase access to affordable financing in remote communities.

Renewable energy credits

Renewable energy credits (RECs) are tradable credits where one REC represents one MWh of electricity generated by renewables.²⁵ RECs provide renewable energy projects with consistent revenue streams by selling credits based on how much energy they generate. However, renewable energy projects integrated to remote microgrids (not connected to the North American grid) are not able to generate certified RECs to sell on the market due to regulatory and certification barriers. RECs are key to improving the business case of renewable energy projects in remote communities, and avenues to certify RECs for remote communities should be explored to unlock this opportunity.

4.3 Financial policies and instruments

Financial policies and instruments aim to directly increase funding or financing options through government agencies, capital markets, or Indigenous financial institutions. They address the gap in financing options for remote Indigenous communities. While many jurisdictions in Canada have adopted some of the climate and energy policies suggested, particular attention on robust financial instruments are needed by provincial, territorial, and federal governments and lending institutions in order to adequately finance renewable energy projects in remote communities.

The following financial policies and instruments provide varying levels of project funding and financing for renewable energy projects.

²⁴ Dave Lovekin, Barend Dronkers, and Ben Thibault, *Power purchase policies for remote Indigenous communities in Canada* (Pembina Institute, 2016), 26. <https://www.pembina.org/reports/power-purchase-policies-for-remote-indigenous-communities.pdf>

²⁵ United States Environmental Protection Agency, “Renewable Energy Certificate Monetization.” <https://www.epa.gov/repowertoolbox/renewable-energy-certificate-monetization>

Grants

Grants can be directed to various phases of project development including capacity building, research, project development and construction. Grants can also be leveraged to access other financial sources such as market capital, individual investors or government loans. Grants are particularly important in the early stages of feasibility and planning, especially for riskier developments and emerging technologies. Having grant funding available early on is important because renewable energy tends to have higher upfront costs than conventional energy production. One granting program is the federal government's Clean Energy for Rural and Remote Communities program.

Guaranteed loans

Traditional lenders perceive remote community renewable energy projects as high-risk investments. All levels of government can reduce perceived risk by guaranteeing the government will repay the loan, or some portion of it, if the project developer defaults on the loan. Lenders would be far more likely to approve loans for these projects and at a lower interest rate, which, in turn, increases the return available to the borrower.^{26,27} One of the most important things that governments can do to support renewable energy project developers is mitigate the associated risk by providing guaranteed or partially guaranteed loans.

Low-interest debt financing

Direct lending in the form of low-interest debt financing is another way for governments to increase access to private capital. Debt financing, when the proponent borrows money from a lender and agrees to pay back the principal plus interest in the future, differs from equity financing, which is when the proponent takes capital from an outside investor in exchange for a stake in the business. The Canada Infrastructure Bank's (CIB) Indigenous Community Infrastructure Initiative (ICII) aims to address the infrastructure gap in Indigenous communities by providing \$1 billion in low-interest and long-term debt financing to Indigenous community-based projects across five priority sectors: clean power, green infrastructure, public transit, broadband, and trade and transportation.²⁸ Globally, clean energy transitions will rely on higher levels of both

²⁶ OECD, *Policy Guidelines for Investment in Clean Energy Infrastructure* (2013), 42. <https://www.oecd.org/daf/inv/investment-policy/CleanEnergyInfrastructure.pdf>

²⁷ Oliver Maclaren, "The positive legacy of Ontario's Aboriginal Loan Guarantee Program," *Olthuis Kleer Townshend LLP*, <https://www.oktlaw.com/positive-legacy-ontarios-aboriginal-loan-guarantee-program/>

²⁸ Canada Infrastructure Bank, "Indigenous Infrastructure." <https://cib-bic.ca/en/sectors/indigenous-infra/>

debt and equity, but the capital structure of investments will likely move more towards debt.²⁹ These types of lending solutions can accelerate Indigenous renewable energy projects, especially if the Indigenous proponent faces challenges accessing affordable financing from other lenders.

Tax incentives

Tax incentives can be an effective way for governments to support renewable energy development without providing direct capital funding to projects.³⁰ Tax incentives include a range of options such as investment or production tax credits, sales tax and property tax exemptions³¹, and an accelerated capital cost allowance for clean energy technology and equipment.³² In the United States, the Production Tax Credit (PTC) provides a tax credit of one to two cents per kilowatt-hour for the first 10 years of electricity generation for utility-scale wind. The PTC had a direct impact on the speed and scale of wind energy development in the U.S. since the 1990s³³ but will be phased out over the next five years. The alternative Investment Tax Credit (ITC) provides a credit for 12%–30% of investment costs at the start of the project³⁴ and is considered one of the most important federal policy mechanisms to support the solar energy industry in the U.S.³⁵

Investment to Indigenous-owned banks and financial institutions

Increasing investment to Indigenous-owned banks and financial institutions such as Aboriginal Financial Institutions (AFIs) and the First Nations Finance Authority (FNFA)

²⁹ International Energy Agency, *Financing clean energy transitions in emerging and developing economies* (2021), 15. https://iea.blob.core.windows.net/assets/6756ccd2-0772-4ffd-85e4-b73428ff9c72/FinancingCleanEnergyTransitionsinEMDEs_WorldEnergyInvestment2021SpecialReport.pdf

³⁰ Charles Kubert and Mark Sinclair, *Distributed Renewable Energy Finance and Policy Toolkit* (Clean Energy States Alliance, 2009), 26. <https://www.cesa.org/wp-content/uploads/CESA-renewableenergy-FinancePolicy-toolkit2009.pdf>

³¹ *Distributed Renewable Energy Finance and Policy Toolkit*, 26.

³² Government of Canada, “Income Tax Folio S3-F8-C2, Tax Incentives for Clean Energy Equipment.” <https://www.canada.ca/en/revenue-agency/services/tax/technical-information/income-tax/income-tax-folios-index/series-3-property-investments-savings-plans/series-3-property-investments-savings-plan-folio-8-resource-properties/income-tax-folio-s3-f8-c2-tax-incentives-clean-energy-equipment.html>

³³ Eric Lantz et al., *Implications of a PTC Extension on U.S. Wind Deployment* (National Renewable Energy Laboratory, 2014) iv. <https://www.nrel.gov/docs/fy14osti/61663.pdf>

³⁴ Wind Exchange — U.S. Department of Energy, “Production Tax Credit and Investment Tax Credit for Wind.” <https://windexchange.energy.gov/projects/tax-credits>

³⁵ Solar Energy Industries Association, “Solar Investment Tax Credit (ITC).” <https://www.seia.org/initiatives/solar-investment-tax-credit-itc>

can support renewable energy while helping advance economic reconciliation. AFIs are autonomous, Indigenous-controlled, community-based financial organizations. They can make loans that conventional banks cannot by identifying risks and then helping Indigenous entrepreneurs avoid them.³⁶ However, AFIs are currently undercapitalized to support medium-sized businesses. An Organisation for Economic Co-operation and Development (OECD) report makes several recommendations to strengthen support for the AFI sector by incentivizing private investment and facilitating collaboration to scale up projects.³⁷

The Canadian government should work with the National Aboriginal Capital Corporation Association (NACCA) and other social finance intermediaries to create investment vehicles to increase access to financing. While attracting private sector funding is an important strategy that AFIs should pursue, public funding remains critical to their success. The Government of Canada has established the \$150-million Indigenous Growth Fund, which is managed by NACCA and delivered by AFIs. The First Nations Finance Authority is a non-profit corporation where First Nation members work co-operatively to raise long-term private capital at preferred rates through the issuance of bonds.³⁸ The FNFA issues bonds in support of First Nation governments for their community priorities including clean energy and infrastructure.

Bonds

Bonds can be issued and revenue raised can be directed to clean energy projects. Governments have frequently issued bonds to fund infrastructure projects such as transmission lines and electricity generation. Other bonds, such as Green Bonds, are issued specifically to support environmental projects. The Royal Bank of Canada, the Province of Quebec, the Canadian Pension Plan, Algonquin Power and Ontario Power Generation were the largest green bond issuers in 2017, issuing bonds worth more than \$3 billion.³⁹ Nearly 40% of all global green bonds supported energy projects in 2017.⁴⁰ The Government of Canada issued its inaugural 7.5 year, \$5 billion green bond and

³⁶ National Aboriginal Capital Corporations Association, “Aboriginal Financial Institutions.” <https://nacca.ca/aboriginal-financial-institutions/>

³⁷ OECD, *Linking Indigenous Communities with Regional Development in Canada* (2020), 32. https://www.oecd-ilibrary.org/urban-rural-and-regional-development/linking-indigenous-communities-with-regional-development-in-canada_fa0f60c6-en

³⁸ *Linking Indigenous Communities with Regional Development in Canada*, 244.

³⁹ Investment Industry Association of Canada, *Opportunities in the Canadian Green Bond Market v. 3.0* (2019), 3. https://iiac.ca/wp-content/uploads/Opportunities-in-the-Canadian-Green-Bond-Market_June-2019.pdf

⁴⁰ *Opportunities in the Canadian Green Bond Market v. 3.0*, 3.

published its Green Bond Framework in March 2022.⁴¹ Green Bonds could also be issued to support small and large projects in remote communities.

Pay-for-performance contracts

Pay-for-performance (PFP) contracts, also referred to as pay-for-success agreements, are a social financing tool that has received considerable interest from governments and investors alike and could be used to support project development. A PFP agreement is a contract between a funder (government) and service provider (e.g. not-for-profits, community organizations) to deliver a social program.⁴² Instead of the government paying for social programs based on activities or outputs (number of hours worked, reports produced, etc.) which is typical in conventional funding agreements, the government pays the service provider based on pre-determined outcomes (for example, the number of people who graduate from a program, increased employment, decreased rates of homelessness, etc.). Governments, intermediaries, and the service provider work together on the design and financial structure of the project. The contract is leveraged to negotiate with impact investors who can provide flexible funding.⁴³ This is called a Social Impact Bond (SIB).

In a SIB, funds from investors are used to finance the service delivery. An independent evaluator reports on results and if the pre-negotiated outcomes are achieved, the government proceeds with payments.⁴⁴ There is little associated risk for the government as payments are made only upon satisfactory delivery of the service.

SIBs are risky for lenders and are therefore better suited for investors interested in social impacts as well as financial returns. SIBs around the world are most commonly issued for projects that help at-risk youth, women and children fleeing violence, education for youth and migrants, and affordable housing. This model has been used to help finance Indigenous renewable energy projects. For example, Raven Capital Indigenous Partners (RICP), an Indigenous-led financial intermediary, has used a PFP

⁴¹ Government of Canada, “Canada issues inaugural green bond.” <https://www.canada.ca/en/department-finance/news/2022/03/canada-issues-inaugural-green-bond.html>

⁴² Duncan Farthing-Nichol, *The pay-for-success opportunity: from activities to outcomes* (MaRS, 2017), 5. <https://impactinvesting.marsdd.com/wp-content/uploads/2017/11/The-Pay-For-Success-Opportunity-From-Activities-to-Outcomes1.pdf>

⁴³ Social Finance, “Social Impact Bonds.” <https://socialfinance.org/social-impact-bonds/>

⁴⁴ Government of Ontario, *Piloting social impact bonds in Ontario: the development path and lessons learned* (2015). <https://www.ontario.ca/page/piloting-social-impact-bonds-ontario-development-path-and-lessons-learned>

model called Outcomes Financing.⁴⁵ Selection of appropriate, socially oriented investors, reasonable rates of return, and projects that would have been unlikely to have received government funding otherwise, are important considerations when exploring outcome purchasing.

4.4 Things to consider

Climate, energy and finance policies can be used in combination (Figure 1) to increase access to capital for remote Indigenous communities through various means. Climate policies set the direction and policy signals for local and national energy transitions. Energy policies support the development of decentralized, Indigenous-owned renewable energy projects as they work to improve the business case for renewables in competitive environments. Financial policies aim to directly increase funding opportunities and/or financing options through government agencies, grants, or Indigenous financial institutions.

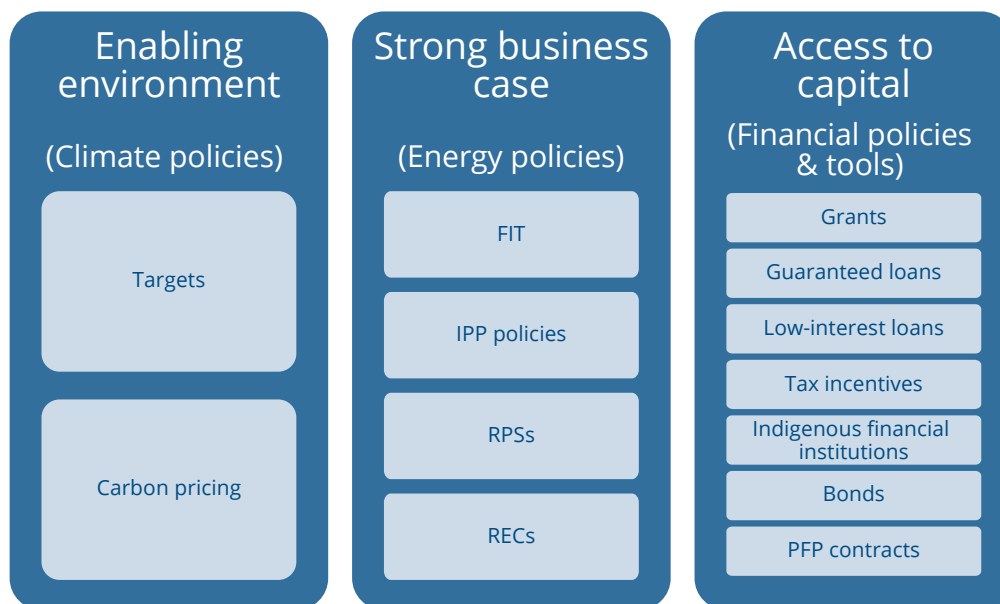


Figure 1. Recommended government policies and programs

Many jurisdictions in Canada have adopted some of recommended the climate and energy policies (Figure 2). However, all levels of government need to implement robust

⁴⁵ Raven Capital Indigenous Partners, *Solutions Finance*.
<https://ravencapitalpartners.ca/investments/outcomes-financing>

financial instruments to adequately finance renewable energy projects in remote communities.

Category	CAN	BC	SK	QC	NL	NT	NU
Government direction							
Long-term strategy and implementation support for reducing diesel in remote communities	●	●	●	●	●	●	●
Incentives and/or financing for clean energy and energy efficiency	●	●	●	●	●	●	●
Government commitments to reconciliation and better relationships with Indigenous communities	●	●	●	●	●	●	●
Utility and regulatory policy							
Transparent and well-supported power procurement policies		●	●	●	●	●	●
Clean energy valued at the avoided cost of diesel or higher		✘	✘	✘	✘	✘	✘
Utility and regulatory policy							
Existing community-owned or championed projects		✓	✓	✓	✓	✓	✓
Community-led projects in development		✓	✘	✓	✓	✓	✓

Legend ● Significant policy in place ● Some policy in place ● Little or no policy in place

Figure 2. Summary of government policies that support diesel reduction in remote communities as of 2019

Source: Pembina Institute⁴⁶

⁴⁶ *Power Shift in Remote Indigenous Communities*, updated 2022.