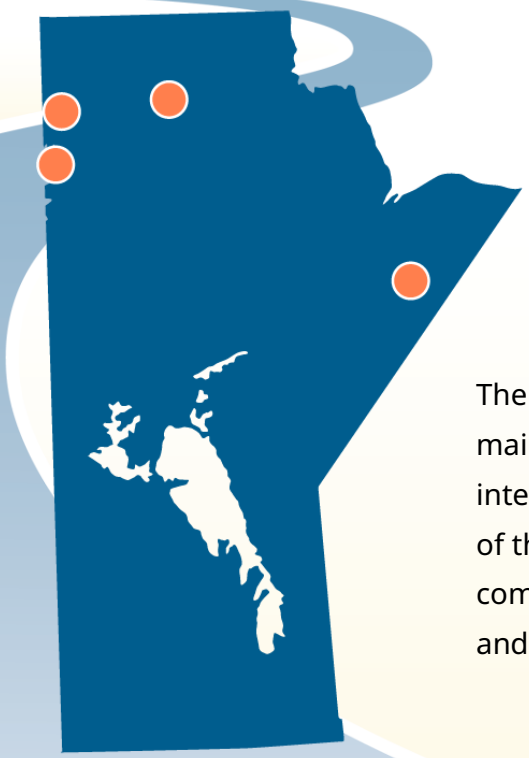

Diesel Microgrid Community

Manitoba

Manitoba home to four diesel-dependent communities, all of which are First Nations and only accessible by winter roads or plane.

The difficulty in accessing these remote communities means that maintaining a supply of reliable, affordable energy while integrating renewable energy is a significant challenge. In spite of this challenge, First Nations in Manitoba have been pursuing community clean energy projects as a means to reduce diesel and establish energy security.

Collaboration with rights-holders	Some collaboration but requires funding, capacity support, and focus on remote community energy.	
Plans and strategies	Provincial energy plans do not mention remote community diesel reduction.	
Funding and financing	No dedicated provincial funding for community clean energy projects, and no assistance provided to communities to access federal funds.	
Programs for efficient buildings	Comprehensive programs, with support mechanisms to increase Indigenous participation.	
Independent power producer (IPP) market	No public-facing IPP policy; consequently, no clearly-defined market opportunity for community-scale renewable energy projects.	

Restoring the flow: Manitoba

Manitoba is home to four diesel-dependent remote communities, all of which are First Nations and are only accessible on winter roads or by plane. This poses significant logistical challenges for energy development due to short transportation and construction seasons, and the high cost of materials and labour. Even so, remote First Nations in Manitoba have been pursuing ambitious diesel-reducing measures, with clean energy projects in operation or in development in three out of the four communities. The four communities — Brochet, Lac Brochet, Shamattawa, and Tadoule Lake — are powered by four diesel generating stations operated by Manitoba Hydro.

Working with these remote communities on diesel reduction has been on the radar for the Manitoba government since at least 2012, when it was named as a priority in the province's energy plan.[195] Unfortunately, progress has been slow due to changing political priorities, hard-to-remove structural barriers, and limited capacity at both the government and community level. The projects thus far have faced technical, economic, and operational challenges. While there are encouraging signs that the Manitoba government and Manitoba Hydro are making changes to address these hurdles, undertaking projects to reduce diesel use is still incredibly difficult.

[195] Government of Manitoba, *Focused on What Matters Most: Manitoba's Clean Energy Strategy* (2012). https://www.gov.mb.ca/sd/environment_and_biodiversity/energy/pubs/energy_strategy_2012.pdf

Photo: Kisik Clean Energy, Tadoule Lake, MB.

Collaboration with rights-holders

While relations between First Nations and the Manitoba government have been contentious over the past decade, especially in relation to energy policy, in 2024 the province reaffirmed its commitment to supporting First Nations opportunities in the clean energy sector, as well as to reconciliation through relationship building and consultation with First Nations governments and leadership organizations.[196,197]

First Nations in northern Manitoba, including the four diesel-dependent communities, are represented by Manitoba Keewatoni Otimakanak Inc., which has been advocating for grid connection for these communities.[198,199]

Province-wide, Indigenous energy advocacy is led through the Assembly of Manitoba Chiefs (AMC), which represents 62 of the 63 First Nations in Manitoba. The AMC's clean energy work involves engaging member nations and partner organizations to develop a First Nations climate leadership agenda, as well as sustaining strategic relationships with Efficiency Manitoba (discussed below), the province, and the federal government — though funding and staffing is a consistent barrier to furthering these goals.[200]

Some collaboration but requires funding, capacity support, and focus on remote community energy.

[196] Assembly of Manitoba Chiefs, "Assembly of Manitoba Chiefs Statement on New Hydro and Public Utilities Board Bill," media release, March 25, 2022. https://manitobachiefs.com/press_releases/assembly-of-manitoba-chiefs-statement-on-new-hydro-and-public-utilities-board-bill/

[197] Brittany Hobson, "Indigenous leaders hopeful as Manitoba Premier Kinew takes on reconciliation portfolio," *CBC News*, November 18, 2023. https://www.cbc.ca/news/canada/manitoba/indigenous-leaders-wab-kinew-reconciliation-minister-1.7032867

[198] Manitoba Keewatoni Otimakanak Inc., "About Us." https://mkonation.com/about-mko/

[199] Matthew Frank, "Manitoba looks to connect remote communities to power grid," *The Globe and Mail,* April 20, 2025. https://www.theglobeandmail.com/canada/article-manitoba-looks-to-connect-remote-communities-to-power-grid/

[200] Assembly of Manitoba Chiefs, *Annual Report 2024* (2024). https://manitobachiefs.com/wp-content/uploads/2024/08/2024_AMC_ANNUALREPORT_FORMATTED_D4.pdf

Assembly of Manitoba Chiefs, *Annual Report 2023* (2023). https://manitobachiefs.com/wp-content/uploads/2023/08/23-08-08-Annual-Report-AUG_22-1.pdf

Plans and strategies

In 2024, Manitoba released the Affordable Energy Plan, which lays out the province's vision for capitalizing on the low carbon economy while keeping its own energy clean and affordable.

The plan includes innovative policies to support Indigenous opportunities in clean energy, such as a loan guarantee for Indigenous-partnered wind generation projects but does not specifically address the priority of decarbonizing remote community microgrids.[201]

It does, however, specify that energy for remote communities will be included in a development plan as part of future long-term resource planning, and that projects in the development plan will have streamlined approval processes to align with provincial objectives.[202]

In 2025, Manitoba announced a plan to connect the four diesel-dependent communities to the electricity grid as an expansion of the Kivalliq transmission project to connect several Nunavut communities to Manitoba's electricity grid by 2032. This announcement came as a surprise to some First Nations leaders who had not had discussions about grid connection with the province in recent years. Manitoba's premier said the province would work with Manitoba First Nations to get communities off diesel and determine the route of the transmission line.[203]

Provincial emissions reduction plan does not prioritize remote community diesel reduction.

[201] Government of Manitoba, *Affordable Energy Plan (2024)*, 8–9. https://www.gov.mb.ca/asset_library/en/energyplan/mb-affordable-energy-plan.pdf

[202] *Affordable Energy Plan (2024)*, 15.

[203] Matthew Frank, "Manitoba looks to connect remote communities to power grid," *The Globe and Mail,* April 20, 2025. https://www.theglobeandmail.com/canada/article-manitoba-looks-to-connect-remote-communities-to-power-grid/

Community project funding and financing

Funding for renewable energy projects in remote Manitoba communities has come almost entirely from federal programs given that the province does not have any funding programs tailored to remote communities or partnerships with the federal government to improve access to funding.

No dedicated provincial funding for community clean energy projects, and no assistance provided to communities to access federal funds.

Photo: Kisik Clean Energy, Tadoule Lake, MB.

Programs for efficient buildings

Energy efficiency initiatives in Manitoba are managed by Efficiency Manitoba, a Crown corporation established in 2019. Its mandate is to develop programs and initiatives to reduce provincial electricity consumption by 1.5% annually and natural gas consumption by 0.75% annually.[204]

Efficiency Manitoba has programs specifically designed for Indigenous communities, such as the Indigenous Community Energy Efficiency Program, which supports the employment and training of an energy efficiency advocate for Indigenous communities.[205] The advocate is expected to develop goals and action plans to achieve energy savings in their community and identify ways to take advantage of Efficiency Manitoba programs.[206]

Efficiency Manitoba also offers enhanced rebates for community ground source heat pumps; free building upgrades, such as the installation of insulation, for income-qualifying households; enhanced rebates for high-performance windows and doors; and free energy efficient upgrades for First Nation and Métis small businesses, among other programs.[207]

Since 2022, Efficiency Manitoba has hosted an Indigenous Energy Efficiency Working Group (IEEWG) to share information and receive ongoing feedback on its programs, identify barriers to implementation, and note areas for improvement.[208]

The provincial utility, Manitoba Hydro, offers a net billing program, though uptake in remote communities is limited, and the price for excess energy is significantly lower than the electricity rates.[209]

Comprehensive programs, with support mechanisms to increase Indigenous participation.

[204] Efficiency Manitoba, "About Us." https://efficiencymb.ca/about/

[205] Efficiency Manitoba, "Indigenous Community Energy Efficiency Program." https://efficiencymb.ca/community/indigenous-community-energy-efficiency-program/

[206] Efficiency Manitoba, *Indigenous Community Energy Efficiency Program: Program Guide.* https://efficiencymb.ca/wp-content/uploads/Efficiency_Manitoba_ICEEP_Program_Guide.pdf

[207] Efficiency Manitoba, "My Home Available Rebates." https://efficiencymb.ca/my-home/

Efficiency Manitoba, "My Community." https://efficiencymb.ca/community/

[208] *2023/24 Annual Report,* 22.

[209] Manitoba Hydro, "Generate your own electricity." https://www.hydro.mb.ca/service/generate-your-own-electricity/#excess_energy_price

Independent power producer (IPP) market

Manitoba Hydro handles renewable energy development in remote communities on a customer-driven, case-by-case basis and does not have a public-facing IPP policy, though they do have an internally consistent approach to handling IPPs on remote microgrids.

Power purchase agreements (PPAs) are also negotiated between project proponents and Manitoba Hydro on a case-by-case basis, which can be lengthy, costly, and difficult for community IPPs. The utility determines PPA rates based on historical data on the avoided cost of diesel, and contracts have a flexible rate to reflect fluctuations in the price of diesel over time. PPAs are negotiated to ensure cost savings on diesel are passed on to the community.

Manitoba Hydro limits the size and penetration level of renewable energy projects to maintain the reliability of their microgrids but has begun to work with communities to support more ambitious projects that include additional technology such as grid storage. Manitoba Hydro passes costs of additional studies, integration, and risks on to community IPPs.

No public-facing IPP policy; consequently, no clearly-defined market opportunity for community-scale renewable energy projects.

Community outcomes

Despite the challenging conditions for development, three of the four diesel-dependent communities have completed clean energy projects, with the fourth working towards one.

Lac Brochet has a 286 kW solar photovoltaic system with a negotiated PPA with Manitoba Hydro.[210]

Shamattawa has solar installations on the community's school buildings and is one of eight First Nations in the province to participate in Efficiency Manitoba's Indigenous Community Energy Program.[211]

Northlands Dënesųłiné First Nation, in Brochet completed a solar and biomass project in 2020. The project was expected to replace one-third of the community's fuel use for heat and close to 20% for electricity, but it has run into operational challenges due to a lack of energy storage and poor integration with Manitoba Hydro's grid.[212]

The Sayisi Dene First Nation in Tadoule Lake is in negotiations with Manitoba Hydro on a PPA for an ambitious diesel-reducing project that will include a solar installation and battery energy storage, with the plan to expand and include wind power in the future.[213]

[210] Solar Solutions Canada, "Lac Brochet, MB." https://solarsolutions.ca/case-studies/

[211] Efficiency Manitoba, *2023/24 Annual Report* (2024), 25. https://efficiencymb.ca/wp-content/uploads/2023-24-Annual-Report.pdf

[212] Boke Consulting, "Northlands Dënesųłiné Renewable Energy & Remediation." https://bokeconsulting.com/northlands-denesuline-renewable-energy-remediation/

[213] Darrell Brown, "Sayisi Dene First Nation Solar & Wind Renewable Energy Integration," presented at *Renewables in Remote Communities Conference, Whitehorse, Yukon, April 25–28, 2022*. Available at https://www.pembina.org/docs/event/rirc2022-25-kisik-clean-energy-off-grid-first-nation-clean-energy-project-stories.pdf

Manitoba

Priorities for action

The province has sent signals that it is treating reconciliation and relationship building with First Nations as a major priority, including through creating opportunities for Indigenous economic participation in clean energy.

This provides a good opportunity to address the challenges faced by both remote communities and Manitoba Hydro in advancing diesel-reducing projects together. Ongoing challenges stem from a lack of funding for remote community energy, and no formal IPP policy with clear processes for price negotiations for clean energy projects.

The province's announcement about connecting the four diesel-dependent communities to the Kivalliq transmission line signals a promising path ahead, though one that will require significant collaboration between the province and those communities. The province must build an effective platform for collaboration with Indigenous leadership and community members to ensure that the project maximizes the benefits for the communities.

Manitoba, with only four diesel-dependent communities, is poised to drastically reduce diesel use for electricity generation by collaborating with First Nations on a comprehensive remote energy strategy, more financial support for projects and capacity, and an IPP policy tailored to encourage Indigenous participation in the clean energy sector.

Photo: Pembina Institute