Diesel Microgrid Community

Saskatchewan

Saskatchewan has two diesel-dependent communities, both First Nations, and many rural Indigenous communities all facing similar challenges with energy security.

The province has put strong focus on economic reconciliation with First Nations through partnership on major infrastructure projects, though policies to support community-scale energy are lacking. A recent project by SaskPower to replace an aging transmission line with a combined solar-battery-diesel microgrid could pave the way for further diesel reduction.

Collaboration with rights-holders	Pathways for collaboration with Indigenous organizations exist but focus on rural and remote communities is lacking.	
Plans and strategies	No specific strategy for reducing diesel use or supporting community clean energy development.	
Funding and financing	No dedicated funding for remote community energy; loan guarantee program for First Nations is not well tailored to supporting community projects.	
Programs for efficient buildings	Robust programs for energy efficiency upgrades in remote communities.	
Independent power producer (IPP) market	No defined market for community renewable energy projects.	

Restoring the flow: Saskatchewan

Saskatchewan has two off-grid, remote communities, Kinoosao and Descharme Lake. It has many rural, grid-connected northern Indigenous communities that experience similar energy insecurity challenges as diesel-dependent communities: high energy costs, long outages, and low power quality. Community projects, if well supported, could create a pathway to energy security for both rural and remote communities. Despite this potential, there is limited policies to support community-scale renewable energy projects across rural and remote communities in the province and few policies to support them.

The utility, SaskPower has recent experience renewable energy with a diesel microgrid. In 2025, the utility completed installation of a microgrid that combines solar power, battery storage, and back-up diesel generation rather than replacing an aging transmission line to the community of Descharme Lake.[173]

Saskatchewan depends heavily on fossil fuels for electricity but has ambitious provincial climate targets to reduce emissions and expand renewable energy. The government has strong policies to create business opportunities for First Nations in the clean energy sector, but these policies are not designed to support community-scale energy projects.

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[173] SaskPower, "SaskPower's First Microgrid Now Providing Reliable Power to Descharme Lake," news release, April 23, 2025. https://www.saskpower.com/about-us/media-information/news-releases/2025/saskpower-first-microgrid-now-providing-reliable-power-to-descharme-lake

Photo: Pembina Institute

Collaboration with rights-holders

The province has no active working groups dedicated to diesel reduction or community clean energy. The First Nations Power Authority (FNPA), an organization established to create meaningful economic opportunities for Indigenous communities in the electricity sector, acts as a liaison between governments, corporations, and First Nations.[174] The FNPA negotiates with SaskPower to create exclusive procurement opportunities for First Nations-owned projects, but is largely focused on large, grid-connected projects and not community energy systems.

In 2025, with the province's support, SaskPower signed an MOU to work with the Saskatchewan First Nations Natural Resource Centre for Excellence[175] on opportunities to increase Indigenous participation in the power sector.[176] This is a strong first step, setting the stage for further collaboration, though the focus will not be exclusive to remote communities.

Pathways for collaboration with Indigenous organizations exist but focus on rural and remote communities is lacking.

[174] First Nations Power Authority, "About FNPA." https://fnpa.ca/about-fnpa/

[175] The Saskatchewan First Nations Natural Resource Centre of Excellence has the mandate to support First Nations participation in responsible development of energy and is wholly owned by 74 First Nations in Saskatchewan.

[176] SaskPower, "SaskPower and First Nations Centre of Excellence Sign MOU to Advance Indigenous Participation in Power Sector," news release, May 29, 2025. https://www.saskpower.com/about-us/media-information/news-releases/2025/saskpower-and-fncoe-sign-mou-to-advance-indigenous-participation-in-power-sector

Plans and strategies

Saskatchewan's climate strategy is centred around reducing emissions without compromising economic opportunities. In the strategy, the province commits to reducing emissions to 50% of 2005 levels by 2030, with the goal of 50% electricity generation from renewable sources.[177]

The province's strategy also includes increasing fossil fuel production while investing in carbon capture and storage. The only mention of remote community energy comes in the context of investing in the development of nuclear small modular reactors.[178]

SaskPower is in the early stages of planning how community-scale renewable technologies such as solar and batteries could be added to their systems, but there is no formal strategy or policy yet.[179] The Descharme Lake project will be monitored to assess the viability of other renewable energy projects in remote communities.[180]

No specific strategy for reducing diesel use or supporting community clean energy development.

[177] Government of Saskatchewan, *Prairie Resilience: A Made-in-Saskatchewan Climate Change Strategy* (2017). https://www.saskatchewan.ca/business/environmental-protection-and-sustainability/a-made-in-saskatchewan-climate-change-strategy/saskatchewans-climate-change-strategy

[178] Government of Saskatchewan, *Saskatchewan's Growth Plan 2020-2030* (2024), 25. https://www.saskatchewan.ca/government/budget-planning-and-reporting/plan-for-growth

[179] SaskPower, "Future Planning." https://www.saskatchewan.ca/government/news-and-media/2022/april/04/new-legislation-to-grow-indigenous-involvement-in-saskatchewan-economy

[180] SaskPower, "Descharme Lake Microgrid." https://www.saskpower.com/our-power-future/our-electricity/electrical-system/system-map/descharme-lake-microgrid

Community project funding and financing

The province does not offer dedicated funding programs for remote community diesel reduction, although several opportunities exist to help First Nations access capital to build projects. In 2022, the government established the Saskatchewan Indigenous Investment Finance Corporation (SIIFC) to increase First Nations access to capital by providing loan guarantees to Indigenous communities, organizations, and corporate entities in key economic sectors, including renewable energy.[181] The SIIFC provides loan guarantees of at least $5 million for eligible projects.[182]

While the loan guarantee creates opportunities for large scale economic development projects it is not well tailored to the challenges of developing a community renewable energy project. Participating in the program requires significant project development and planning before being eligible for guaranteed financing, and there aren't other funding sources to support capacity building or start-up costs for community-led diesel-reducing projects.

No dedicated funding for remote community energy; loan guarantee program for First Nations is not well tailored to supporting community projects.

[181] Saskatchewan Indigenous Investment Finance Corporation, "About." https://siifc.ca/about/

[182] Saskatchewan Indigenous Investment Finance Corporation, "Program." https://siifc.ca/program/

Programs for efficient buildings

SaskPower has several programs for First Nations customers interested in improving the energy efficiency of their buildings and lowering their heating costs.

The Northern First Nations Home Retrofit Program is open to First Nations customers in rural and remote northern communities that use electricity as their primary heat source. As part of the program, SaskPower partners with First Nations to provide free energy efficient home upgrades to their communities.[183]

SaskPower also launched the Indigenous New Homes Rebate program in 2025 to incentivize energy efficient new builds, offering up to $34,500 per home to meet higher energy performance standards. The program is funded through the federal government's Future Electricity Fund.[184]

These programs are augmented by the utility's Energy Assistance Program, which provides low-income customers with one-on-one energy coaching and free installation of energy efficient technologies.[185]

SaskPower also offers a net metering program to all its customers, although the price for customer-generated electricity is quite low and the uptake in rural and remote communities is limited.[186]

Robust programs for energy efficiency upgrades in remote communities.

[183] SaskPower "Northern First Nations Home Retrofit Program." https://www.saskpower.com/power-savings-and-programs/home/programs/northern-first-nations-home-retrofit-program

[184] SaskPower, "SaskPower Launches New Indigenous Homes Rebate," news release, February 24, 2025. https://saskpower.com/about-us/media-information/news-releases/2025/saskpower-launches-indigenous-new-homes-rebate

[185] SaskPower, "Energy Assistance Program." https://www.saskpower.com/power-savings-and-programs/home/programs/energy-assistance-program

[186] SaskPower, "What We Heard From You – Pricing Review." https://www.saskpower.com/our-power-future/our-electricity/connecting-to-the-power-grid/renewable-energy-solutions/~/link.aspx?_id=6E60EA458C184F5D807B8F80044CEEA1&_z=z

Independent power producer (IPP) market

SaskPower solicits IPP projects using an open competition model that favours lowest-price projects with the most minimal impact on customers. The utility has a strategic focus on increasing Indigenous participation in renewable energy generation projects and requires a minimum of 10% Indigenous ownership in proposed projects, with greater Indigenous ownership receiving a higher project evaluation score.[187]

SaskPower also solicits IPP renewable energy projects through procurement agreements with the FNPA.[188] This approach works for larger grid-connected projects but does not create opportunities for community-scale projects.

No defined market for community renewable energy projects.

[187] SaskPower, "How We Work With IPPs," *SaskPower Blog*, June 17, 2024. https://www.saskpower.com/about-us/our-company/blog/2024/how-we-work-with-ipps

[188] SaskPower, "SaskPower, First Nations Power Authority Sign 100-MW Solar Procurement Agreement," news release, June 27, 2024. https://www.saskpower.com/about-us/media-information/news-releases/2024/saskpower-fnpa-sign-100-mw-solar-procurement-agreement

Community outcomes

A resident of Kinoosao participated in the first cohort of the Indigenous Off-Diesel Initiative, a federally funded renewable energy training program that supports Indigenous-led climate solutions.[189] Their participation initiated the development of a community energy plan and a project for energy efficiency upgrades to homes and the local school.[190,191]

The project was also recently awarded more federal funding to evaluate solar, battery, and heat pump options for power and heat in the community.[192] Other projects looking into renewable energy opportunities, such as the feasibility of a locally sourced biomass facility, are underway in the Peter Ballantyne Cree Nation communities.[193]

SaskPower's Descharme Lake Microgrid, while not owned by the community, demonstrates the potential of community-scale energy systems. It is expected to save the utility money, have less impact on the environment than the transmission line, and be 80% powered by solar, with the diesel generators only expected to be used in the winter.[194]

[189] Natural Resources Canada. "Indigenous Off-Diesel Initiative." https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/reduce-emissions/reducing-reliance-diesel/indigenous-off-diesel-initiative.html

[190] Natural Resources Canada, "Kinoosao Energy Retrofit Project / Kinoosao Microgrid Project." https://natural-resources.canada.ca/science-and-data/funding-partnerships/opportunities/current-investments/kinoosao-energy-retrofit-projectkinoosao-microgrid-project/24332

[191] Jobb Developments, "Kinoosao Clean Energy Project." https://www.jobbdevelopments.com/kinoosao-clean-energy-project

[192] Natural Resources Canada, "Government of Canada Announces Funding for Clean and Reliable Energy in First Nations and Inuit Communities," March 18, 2025. https://www.canada.ca/en/natural-resources-canada/news/2025/03/government-of-canada-announces-funding-for-clean-and-reliable-energy-in-first-nations-and-inuit-communities.html

[193] Silas Obeng Asante, *Technical assessment of biomass energy resource potential in Peter Ballantyne Cree Nation communities, Northern Saskatchewan* (University of Saskatchewan, 2023). https://renewableenergy.usask.ca/silas-esri-report.pdf

[194] "Descharme Lake Microgrid."

Saskatchewan

Priorities for action

Saskatchewan would benefit from a more unified approach to community energy with a collaboratively developed strategy to make community renewable energy a reality for rural and remote Indigenous communities, including diesel-dependent Kinoosao.

The microgrid in Descharme Lake presents a strong opportunity for SaskPower to evaluate remote community microgrid technologies for deployment in other communities, while a well-defined IPP policy will create opportunities for community ownership of infrastructure.

Photo: Pembina Institute