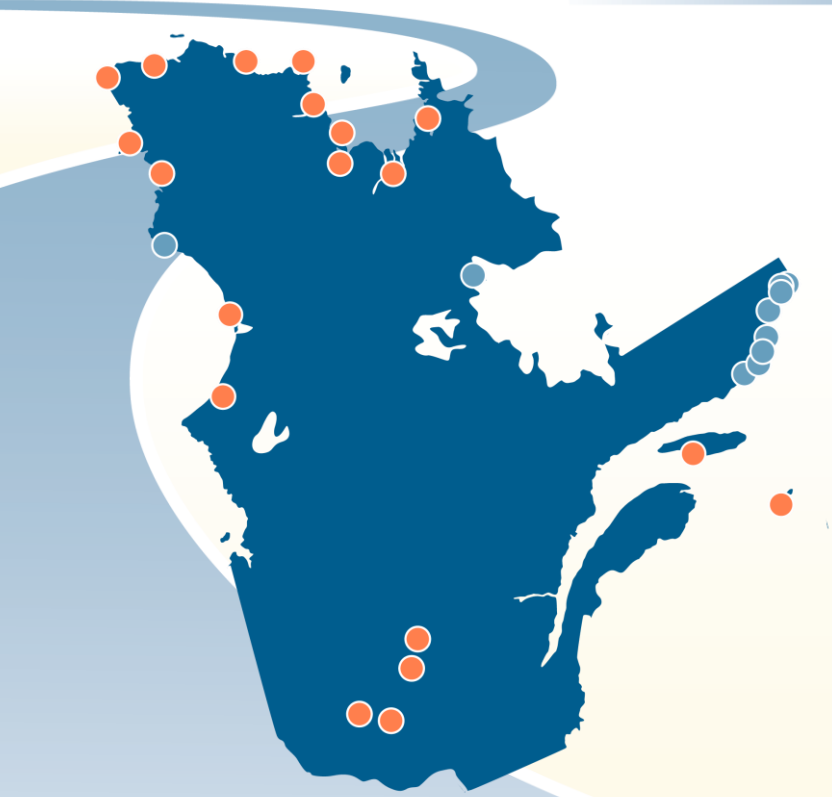

- Diesel Microgrid Community
- Hydro and Diesel Microgrid Community

Quebec

Quebec hosts 22 remote communities, 14 of which are in the Inuit region Nunavik

Clean energy to displace diesel has gained significant momentum in Quebec, with a high degree of collaboration between Indigenous organizations, the province, the utility, and the federal government. Ambitious targets and significant funding at the provincial level have helped to keep the priority on supporting community-led projects.

Collaboration with rights-holders	Collaborative partnerships with Indigenous organizations have yielded positive results in supporting community-owned projects.
Plans and strategies	Strong plan with an ambitious target for renewable energy integration in remote communities.
Funding and financing	Significant provincial investment in clean energy projects for remote communities.
Programs for efficient buildings	Energy efficiency programs exist but are not tailored to remote Indigenous communities.
Independent power producer (IPP) market	A self-generation policy exists, but it is not tailored towards advancing community energy projects.

Restoring the flow: Quebec

Clean energy has gained significant momentum in Quebec with remote communities across the province pursuing innovative projects to reduce emissions. Quebec has 22 remote Indigenous communities, 14 of which are in the Inuit region Nunavik. The Inuit of Nunavik are advocating for clean energy solutions and climate change adaptation given the disproportionate effects of climate change on their identity, culture, and well-being.[241]

Inuit-owned Tarquti Energy Corporation is leading the charge in accelerating the energy transition in Nunavik, developing renewable energy projects in eight communities and supporting community engagement and capacity building throughout all 14 communities in the region.[242]

These projects, as well as others in the remaining remote communities in Quebec, are made possible through a robust plan for diesel reduction, a priority on developing partnerships, and supporting Indigenous-led clean energy projects.

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[241] Makivvik, *Nunavik Climate Change: Adaptation Strategy* (2024), 9. https://www.makivvik.ca/nunavik-climate-change-adaption-strategy/#1

[242] Tarquti Energy, "Leading Nunavik's renewable energy transition." https://tarquti.ca/

Photo: Green sun Rising, Maklavik Corp. Head Office 20 kW, September 2017

Collaboration with rights-holders

The Government of Quebec has taken steps to collaborate with remote communities on clean energy, including consultation on its 2030 energy plans and coordinating regular meetings with project teams from remote communities, Hydro-Québec, and Natural Resources Canada.

In response to feedback from Indigenous engagement sessions to enhance local and regional initiatives, Quebec has put forward significant funding for the Kativik Regional Government and the First Nations of Quebec and Labrador Sustainable Development Institute to support Indigenous community projects.[243] Tarquti also has partnership agreements with Hydro-Québec and the federal government for ongoing regional engagement on clean energy development in Nunavik.[244]

Quebec's approach to collaboration has been centred on building partnerships with Indigenous governments and organizations to support capacity development and community-owned projects. This approach has empowered those organizations to develop community-specific solutions and create opportunities for more Indigenous-led clean energy projects.

Well resourced, collaborative partnerships with Indigenous organizations have yielded positive results in supporting community-owned projects.

[243] Government of Quebec, "Québec Grants over $10 Million to Support First Nations and Inuit Climate Leadership," news release, August 3, 2023. https://www.quebec.ca/en/news/actualites/detail/quebec-grants-over-10-million-to-support-first-nations-and-inuit-climate-leadership-49816

[244] Tarquti Energy, "History." https://tarquti.ca/about-us/#history

Quebec

Plans and strategies

In 2020, the Government of Quebec released the 2030 Plan for a Green Economy, which lays out the foundation and initiatives for reducing greenhouse gas emissions and electrifying the economy.[245] The plan was developed in consultation with Indigenous groups and sets a target to supply remote communities with 80% renewable energy by 2030, with a stated objective to support diesel reduction in remote communities.[246] The government annually publishes implementation plans covering a five-year period that outline planned actions and areas of investment to achieve the plan's goals.[247]

Hydro-Québec also has strategies and initiatives to decarbonize remote communities, which are outlined in its strategic plan for 2022 to 2026.[248] It has also set a goal of 80% renewable energy generation in off-grid communities and has committed to supporting Tarquti in advancing community-led clean energy projects.[249]

Hydro-Québec develops long-term resource plans for off-grid remote communities every five years. These plans are created in consultation with the communities and detail energy efficiency projects and conversions of off-grid energy systems while ensuring power reliability.[250]

Strong plan with an ambitious target for renewable energy integration in remote communities.

[245] Government of Quebec, *2030 Plan for a Green Economy* (2020). https://cdn-contenu.quebec.ca/cdn-contenu/adm/min/environnement/publications-adm/plan-economie-verte/plan-economie-verte-2030-en.pdf

[246] Government of Quebec, *Consultation Conclusion, Plan for Green Economy* (2020). https://cdn-contenu.quebec.ca/cdn-contenu/adm/min/environnement/publications-adm/plan-economie-verte/rapports-consultation/synthese-autochtones.pdf

[247] Government of Quebec, Plan pour une économie verte 2020 : *Plan de mise en œuvre 2024–2029* (2024), 3. https://cdn-contenu.quebec.ca/cdn-contenu/adm/min/environnement/publications-adm/plan-economie-verte/plan-mise-oeuvre-2024-2029.pdf

[248] Hydro-Québec, *Strategic Plan 2022–2026*. https://www.hydroquebec.com/about/publications-reports/strategic-plan.html

[249] Tarquti Energy, "History." https://tarquti.ca/about-us/#history

[250] Hydro-Québec, *Plan D'Approvisionnement 2023-2032 Des Réseaux Autonomes Complément D'Informations (2022),* 13. https://www.hydroquebec.com/data/achats-electricite-quebec/pdf/complement-dinformation-du-plan-dapprovisionnement-2023-2032.pdf

Community project funding and financing

The 2030 Plan for a Green Economy has an initiative to support Indigenous communities taking action on climate change, of which over $10 million was disbursed in 2023 to support clean energy development and energy planning.[251] The most recent implementation plan (2024–2029) budgets $208.1 million for planning and developing renewable energy projects in off-grid remote communities.[252]

This funding is being allocated in three different areas. The first is planning and capacity building, which includes providing funds to organizations such as Tarquti who conduct community engagement and employ community energy champions. The second is for Hydro-Québec to upgrade diesel plants and microgrids to be ready for renewable energy integration, and the third is direct funding for capital investment and community-owned projects.

Significant provincial investment in clean energy projects for remote communities.

[251] Government of Quebec, "Québec Grants over $10 Million to Support First Nations and Inuit Climate Leadership," news release, August 3, 2023. https://www.quebec.ca/en/news/actualites/detail/quebec-grants-over-10-million-to-support-first-nations-and-inuit-climate-leadership-49816

[252] *Plan de mise en œuvre 2024–2029.*

Programs for efficient buildings

There are currently no government programs for energy efficiency or retrofits that are specifically tailored to remote Indigenous communities; however, such programs are under development.[253]

The Government of Quebec does offer several programs that are available to all residents. These include the Rénoclimat program, which provides grants for improving the energy efficiency of buildings,[254] and the Éconologis program, which offers low-income residents individualized advice and upgrades to improve the energy efficiency of their homes.[255]

Hydro-Québec provides options for customers to implement a range of energy efficiency measures in their buildings through the LogisVert Efficient Homes Program, such as upgrading roof insulation and improving caulking.[256]

Hydro-Québec also offers a net metering program for customers who have installed renewable energy generators that are connected off-grid system. Under the program, customers can inject surplus energy into the grid in exchange for credits that are valued at the cost of displaced energy, roughly $0.55/kWh for Arctic diesel customers. However, the size of the local renewable energy generator is limited by the customer's power consumption and the type of microgrid connection they have.[257]

Energy efficiency programs exist but are not tailored to remote Indigenous communities.

[253] Bureau de la transition climatique et énergétique, personal communication, September 13, 2024.

[254] Government of Quebec, "Rénoclimat Program." https://transitionenergetique.gouv.qc.ca/en/residential/programs/renoclimat

[255] Government of Quebec, "Éconologis Program." https://transitionenergetique.gouv.qc.ca/en/residential/programs/econologis

[256] Hydro-Québec, "LogisVert Efficient Homes Program." https://www.hydroquebec.com/residential/energy-wise/financial-assistance/logisvert.html

[257] Hydro-Québec, "Net Metering for Rate D, DM, DN, or G customer-generators served by an off-grid system - Option III." https://www.hydroquebec.com/residential/customer-space/rates/net-metering-option-iii.html

Independent Power Producer (IPP) market

Hydro-Québec does not have an IPP policy for remote communities, though it does have a self-generation policy that allows for customers to produce electricity and contribute it to the grid. Bringing community projects online under this program is the utility's main strategy for achieving the 80% renewable energy goal.

When considering a diesel-reducing project by an IPP, Hydro-Québec must consider supply reliability, reduced costs, greenhouse gas emission reduction, and social and environmental acceptability – evaluating these impacts is required by the province's energy regulator. Hydro-Québec also looks at how the project could support economic reconciliation and how the benefits of the project will flow back to the community.

Power purchase agreements are negotiated on a project-by-project basis, and there is no streamlined process for supporting diesel reducing projects. This has resulted in long timelines and difficult, resource-intensive negotiations, delaying project deployment.

While several major projects have come to fruition under the self-generation policy, it could be strengthened with a dedicated policy for remote community projects that provides better price clarity, a transparent negotiations framework, and a clear process for technical integration.

A self-generation policy exists, but it is not tailored towards advancing community energy projects.

Community outcomes

Quebec is making strides towards its ambitious goal of integrating 80% renewable energy generation in off-grid Indigenous communities by 2030. As of September 2024, it has achieved 32% renewable energy.[258] Collaboration between government and Indigenous groups combined with ambitious targets have resulted in several completed diesel reducing project and many more planned in the province's off-grid Indigenous communities.

The villages of La Romaine and Unamen Shipu are among several diesel-dependent communities that have been connected to the electricity grid, and a plan has been announced to connect the remote community of Kitcisakik.[259]

Other remote communities have leveraged their renewable resource potential to bring major projects online. In the Nunavik community of Inukjuak, the Innavik hydro project, a 7.5 MW run-of-the-river hydroelectric facility commissioned in 2023, has reduced the community's diesel dependence by 80%.[260]

Other major projects are in progress, such as the Whapmagoostui Kuujjuaraapik hybrid power plant project, which intends to integrate wind energy and battery storage into the existing diesel facility, reducing diesel consumption by 40%.[261] Hydro-Québec and the community of Opitciwan have signed a deal to implement a residual forest biomass co-generation plant.[262] And the village of Puvirnituq will see the construction of a new thermal generating station coupled with renewable energy technologies.[263]

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[258] Government of Quebec, "Cibles gouvernementales de l'action climatique," September 24, 2024. https://app.powerbi.com/view?r=eyJrIjoiMzQyMTYzOGItNDMzNC00MmU5LWI2Y2YtMDQwYjU2OWI1YTQ1IiwidCI6IjQyNjJkNGVjLTVhNjctNDk1Ny1hYmI2LWJmNzhhY2E2YTZmNSJ9

[259] Lindsay Richardson, "Hydro-Quebec sets out plan to hook up Algonquin community of Kitcisakik with electricity," *APTN News*, May 4, 2022. https://www.aptnnews.ca/national-news/hyrdo-quebec-sets-out-plan-to-hook-up-algonquin-community-of-kitcisakik-with-electricity/

[260] Innergex, "Site Innavik." https://www.innergex.com/en/sites/innavik

[261] KWREC, "KWREC Great Whale Rive Wind Project - Brochure Updates 2024." https://kwrec.ca/2024/04/11/kwrec-great-whale-river-wind-project-brochure-updates-2024/

[262] Hydro-Québec, *Quarterly Bulletin: First Quarter* (2023), 3. https://www.hydroquebec.com/data/documents-donnees/pdf/quarterly-bulletin-2023-1.pdf

[263] Hydro-Québec, *New Thermal Generating Station in the Northern Village of Puvirnituq* (2021). https://www.ree.environnement.gouv.qc.ca/dossiers/3215-10-014/3215-10-014-5.pdf

Priorities for action

The ambitious goal set by both the province and utility of 80% renewable generation in remote communities presents a significant technical challenge for Hydro-Québec and community-led IPPs to ensure that the microgrids can successfully and reliably integrate high-penetration renewable energy in parallel with diesel generation. Hydro-Québec has developed its own grid-scale battery, which is in use in Quaqtaq and Kuujjuarapik and could be instrumental in achieving greater diesel reduction on the other grids.[264,265] Deploying batteries and investing in other infrastructure to integrate renewable energy is highly expensive for the utility and likely to attract the attention of the regulator, which does not have a clear mandate to support these types of investments. Regulatory reform to enable remote community clean energy projects is therefore necessary and should be a priority.

As battery and other microgrid technologies mature, Quebec can make it easier for communities to develop renewable energy by a publishing a clear, transparent IPP policy that is tailored to the unique goal of reducing diesel with remote community projects.

Quebec's strong funding landscape and support for capacity-building partnerships have enabled fruitful collaborations between the provincial and federal government, the utility, and Indigenous leaders. Moving forward, Quebec must sustain and build on this progress by collaborating on UNDRIP-aligned legislation and regulatory reform and facilitate program design tailored to remote and Indigenous communities.

[264] Evlo Energy, "Quaqtaq." https://evloenergy.com/projects/quaqtaq/

[265] Evlo Energy, "Kuujjuarapik." https://evloenergy.com/projects/kuujjuarapik/

Photo: Innergex Renewable Energy, Innavik Hydro, QC.