Rethinking Regulation to Decarbonize Canada

Decarbonizing Remote Indigenous Communities

Energy regulation and Indigenous-owned renewables in the Yukon

March 2025

Rosa Brown, Emily He

PEMBINA Institute

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Contributors: Dave Lovekin

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The Pembina Institute
#802, 322 – 11 Avenue SW
Calgary, AB T2R 0C5
403-269-3344

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We respectfully acknowledge that our organization is headquartered in the traditional territories of Treaty 7, comprising the Blackfoot Confederacy (Siksika, Piikani and Kainai Nations); the Stoney Nakoda Nations (Goodstoney, Chiniki and Bearspaw First Nations); and the Tsuut'ina Nation. These lands are also home to the Otipemisiwak Métis Government (Districts 5 and 6).

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Canada

Contents

List of acronyms

Acronym	
AEY	ATCO Electric Yukon
IPP	Independent Power Producer
O.I.C.	Order in Council
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
YDC	Yukon Development Corporation
YFN	Yukon First Nation
YUB	Yukon Utilities Board

1. Introduction

This report focuses on the Yukon and is one of four detailed reports that provide a jurisdiction-based, comprehensive analysis of the current state of electricity legislation and regulation and explore potential pathways to enable Indigenous-owned renewable energy projects in remote communities. The other three reports cover British Columbia, the Northwest Territories and Nunavut, respectively.

A summary report, *Decarbonizing Remote Indigenous Communities: Regulatory reform in B.C. and the territories*, provides an overview of the analyses and recommendations contained in the detailed reports.

The summary and detailed reports can be found at https://www.pembina.org/pub/decarbonizing-remote-indigenous-communities.

The Yukon has made bold strides in reducing greenhouse gas emissions from electricity generation. Its independent power production and micro-generation policies have proven successful, enabling the development of both large and small renewable energy projects throughout the territory, and providing ownership and economic development opportunities for Yukon First Nations, as well as for private developers and homeowners.

Decarbonizing the energy systems of remote communities is a complex challenge, with intersecting regulatory, legislative and economic barriers. While the emphasis in the Yukon has been on decarbonizing its main grid, this report looks specifically at the challenges of reducing diesel generation on the territory's four isolated microgrids.

As part of this analysis, we provide an overview of the key actors, examine the legislation and regulations that govern the supply and distribution of electricity, and highlight the current conditions that promote or impede clean energy development in the diesel-reliant communities. We then set out tailored recommendations for the Yukon government and its electricity regulator, the Yukon Utilities Board, on accelerating diesel reduction in these communities while supporting Indigenous self-determination, economic reconciliation and climate action.

1.1 Methodology

A thorough literature review was done of various sources, including legislation and regulations, research papers, policy papers, reports, and government documents. Additionally, a diverse

range of people were interviewed, among them clean energy professionals and advocates, public servants, and representatives from electric utilities.

2. Background

The Yukon's electrical network consists of the Yukon Integrated System (the main grid), which supplies power to most of the Yukon's population but is not connected to the North American grid, and four isolated microgrids not connected to the Yukon's main grid that serve five communities.

In 2023, 91% of the Yukon's electricity on the main grid was generated from renewable sources, while the other 9% was from diesel and natural gas that provided backup electricity and added capacity during times of peak energy demand.[1]

The four microgrids are supplied primarily by diesel generators. However, each of these grids currently has an Indigenous-owned, utility-scale renewable energy project that is either fully operational or in development.[2]

2.1 Key players

Each of the entities below plays an important role, to varying degrees, in advancing policy, making decisions, and developing projects that can either support or slow community-led diesel reduction and decarbonization.

Government of the Yukon

The **Climate Change Secretariat** within the Department of Environment is broadly responsible for coordinating the Yukon government's response to the climate emergency as set out in *Our Clean Future: A Yukon strategy for climate change, energy and a green economy*.[3,4] The **Climate Change and Energy Solutions Centre** (often referred to as the Energy Branch), within the Department of Energy, Mines and Resources, is responsible for developing

[1] Yukon Energy, *2023 Annual Report*. https://yukonenergy.ca/media/site_documents/2023_Yukon_Energy_Annual_Report.pdf

[2] Vuntut Gwitchin Government, "Sree Vyah (the Old Crow Solar Project) Advances the Transition to Clean Energy in Canada's North," media release, August 17, 2021. https://vgg.ca/pdf/NEWS_RELEASE_Sree_Vyah_07_09_2021.pdf

CBC, "New wind turbine installed on Kluane Lake expected to cut diesel use by nearly 50%," video, October 2023. https://www.cbc.ca/player/play/video/1.7007565

Copper Niisüü Limited Partnership, "Renewable Energy." https://www.copperniisuu.ca/energy

First Kaska, "Utilities." https://firstkaska.ca/utilities/

[3] Government of Yukon, "Department of Environment." https://yukon.ca/en/department-environment

[4] Government of Yukon, *Our Clean Future: A Yukon strategy for climate change, energy and a green economy* (2020). https://our-clean-future.yukon.ca/sites/default/files/2023-10/env-our-clean-future.pdf

energy policy and providing expertise and research information to residents, governments and organizations, as well as managing commercial and residential energy programs and incentives.[5]

The **Department of Justice** is responsible for the *Public Utilities Act*. The minister of Justice provides direction to the Yukon Utilities Board, including through orders-in-council, and is responsible for appointing members to the board.[6]

The **Yukon Development Corporation** (YDC) is an arms-length corporation of the Yukon government mandated to promote the economic development of the Yukon by providing safe, reliable, cost-effective energy and energy-related infrastructure on the main grid.[7] The YDC is the parent company of the Yukon Energy Corporation utility.

These government bodies are responsible for the policy and legislative frameworks that govern the supply, distribution and regulation of energy in the territory, including diesel generation in the remote communities and clean energy integration.

Regulator

The **Yukon Utilities Board** (YUB) is an independent economic regulator under the Public Utilities Act that operates at arms-length from the Yukon government and oversees the two electric utilities in the Yukon. The YUB may be directed by the **minister of Justice** to review specific projects and is provided direction through acts, regulations and ministerial directives.

Although not directly responsible for community-led diesel reduction, the regulator serves a critical function in overseeing and directing the work of the utility.

Utilities

ATCO Electric Yukon (AEY) is a private, investor-owned utility that purchases power from the Yukon Energy Corporation for distribution to about 21,000 customers throughout the territory on the main grid and generates and distributes power in the five communities on the microgrids.[8,9]

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[5] Government of Yukon, "Department of Energy, Mines and Resources." https://yukon.ca/en/department-energy-mines-resources

[6] Yukon Utilities Board, *Yukon Utilities Board 2022-23 Annual Report*. https://yukonutilitiesboard.yk.ca/pdf/Reports/YUB_2022-23_Annual_Report.pdf

[7] Government of Yukon, *Protocol Agreement 2019 – 2020 Between the Chair of the Yukon Development Corporation and the Chair of the Yukon Energy Corporation* (2019). https://yukon.ca/sites/yukon.ca/files/ecdev/e2_-_ydc-yec_protocol_agreement_2019_signed.pdf

[8] Yukon Development Corporation, *Session Briefing Note* (2024). https://open.yukon.ca/sites/default/files/YDC_Spring_2024.pdf

[9] ATCO Electric Yukon, "About Us: Service Area." https://www.atcoelectricyukon.com/en-ca/about-us/service-area.html

As the owner and operator of energy systems in the remote communities, AEY plays a central role in developing high-penetration renewable energy projects. It is involved in the technical aspects of a project by an independent power producer in the early design stages to ensure that grid stability is maintained and is the sole buyer of the produced energy under an electricity (or power) purchase agreement.

Yukon Energy Corporation (Yukon Energy) is a public electric utility wholly owned by the YDC.[10] It is responsible for 85% of the Yukon's total generation capacity, primarily through its hydro facilities on the Yukon's main grid.[11]

First Nations and related entities

The Yukon has 14 First Nations. Eleven Yukon First Nations (YFNs) have signed final agreements and self-government agreements, making the Yukon the region with the highest number of modern treaties in Canada and a national leader in Indigenous self-government.[12]

YFN development corporations work at arms-length to the First Nation under which they are established to promote economic and business development opportunities.[13]

The **Council of Yukon First Nations** is a non-profit political advocacy organization that supports the rights, titles and interests of YFNs and trans-boundary Indigenous groups with traditional territories in the Yukon.

Four of the Yukon's five off-grid communities served by diesel generators are Indigenous. These communities champion the clean energy transition, citing climate action, environmental concerns, self-determination and economic reconciliation as key motivators for change.[14,15] Ambitious community-led diesel reduction projects, developed in partnership with AEY, and with funding from the federal and territorial governments, are currently underway or fully commissioned in each of these communities.

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[10] *2023 Annual Report*.

[11] Government of Yukon, *Yukon's energy context* (2018). https://our-clean-future.yukon.ca/sites/default/files/2023-11/emr-yukon-energy-context-2018.pdf

[12] Assembly of First Nations, Yukon Region. *United Nations Declaration of Indigenous Peoples Act National Plan: Assembly of First Nations – Yukon Region Engagement and Recommendations Report* (2023). https://afnyukon.ca/wp-content/uploads/2023/05/2023-05-15-FINAL-AFN-Yukon-UNDA-NAP-Recommendations.pdf

[13] Mapping the Way, "Development Corporations," January 31, 2022. https://www.mappingtheway.ca/our-stories/development-corporations

[14] Tik Root, "He's the youngest Chief in his First Nation's history. Now he's leading their fight against climate change," *Washington Post*, November 8, 2021. https://www.washingtonpost.com/climate-solutions/interactive/2021/climate-change-chief-dana-tizya-tramm/

[15] CBC, "New wind turbine installed on Kluane Lake expected to cut diesel use by nearly 50%," video, November 2023. https://www.cbc.ca/player/play/video/1.7007565

3. Legislation, regulations and mandates

In the following subsections, we provide an overview of the overall policy framework under which Indigenous-led clean energy is emerging in the Yukon.

3.1 Relevant legislation

The *Public Utilities Act* establishes the YUB and its regulatory framework and dictates the economic regulation of Yukon's public utilities, including electricity rate setting.

The *Clean Energy Act,* introduced in 2022, legislates the Yukon's greenhouse gas reduction targets to achieve a 45% reduction from 2010 levels by 2030 and net-zero by 2050, with both targets excluding mining sector emissions.[16] The act sets out sector-specific emission reduction targets for renewable heat in buildings and zero-emission vehicles, but says nothing about renewable energy generation on the main grid or remote diesel grids.

The Yukon's *Umbrella Final Agreement* is a non-legally binding framework under which each Yukon First Nation establishes a "final claim settlement agreement" and a "self-government agreement."

> Final agreements are constitutionally protected modern treaties that address such matters as heritage, fish and wildlife, water, forestry, land management and economic development.[17]
>
> Self-government agreements provide governance powers that include making laws and delivering programs and services.[18, 19]

[16] Government of Yukon, "Reducing the Yukon's greenhouse gas emissions." https://our-clean-future.yukon.ca/reducing-yukons-greenhouse-gas-emissions

[17] Government of Canada, Council for Yukon Indians, and Government of the Yukon, *Umbrella Final Agreement between the Government of Canada, the Council for Yukon Indians, and the Government of the Yukon* (1993). https://cyfn.ca/agreements/umbrella-final-agreement/

[18] Government of Yukon, "Agreements with First Nations." https://yukon.ca/en/agreements-first-nations

[19] Council of Yukon First Nations, "Self Government Agreements." https://cyfn.ca/agreements/self-government-agreements/

The legislative framework of the Yukon is shaped by the provisions of the Umbrella Final Agreement. For example, the Yukon Environmental Socio-economic Assessment Board and the Yukon Water Board, formed under the Yukon Environmental and Socio-economic Assessment Act and the Waters Act, respectively, are mandated to consider the impacts of proposed projects, including energy projects, on treaty rights. The Umbrella Final Agreement also prescribes the number of people from YFNs that must be appointed to these boards, as well as to the board of directors of Yukon Energy.

Chapter 22 of each First Nation final agreement sets out the objective of providing the First Nation with new opportunities to participate equitably in the Yukon economy. Energy projects fall under the provision for regional economic development plans that, among other objectives, assess the potential for energy development in the traditional territory of the First Nation and recommend methods to increase the participation of the First Nation in economic development opportunities. Project agreements and asset construction agreements are additional mechanisms outlined in Chapter 22 that support the economic participation of First Nations in energy projects.

In 2014, the Yukon government endorsed Canada's 2010 statement of support for the *United Nations Declaration on the Rights of Indigenous Peoples* (UNDRIP),[20] but has not pursued legislation to formally enact UNDRIP in existing Yukon laws as the declaration is not fully consistent with YFN final and self-government agreements.[21] In response to concerns by YFNs that UNDRIP "may be used to 'water down' or undermine rights that have already been negotiated through the Umbrella Final Agreement," the Assembly of First Nations – Yukon Region advised that UNDRIP should be used to complement the implementation of the self-government agreements and allow for a broader interpretation of the agreements. [22]

3.2 Regulations

Most relevant energy regulations are passed by an order-in-council (O.I.C.) by the Executive Council (the Cabinet) and play an important role in providing guidance and details on how new standards will be implemented under existing legislation. Below, we offer a brief overview of

[20] United Nations, *United Nations Declaration on the Rights of Indigenous Peoples*, UN Doc. A/RES/61/295 (2007). https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf

[21] Government of Yukon, *Yukon Government's Deputy Minister's Report to the Premier on Truth and Reconciliation Commission of Canada Report* (2016), 13. https://emrlibrary.gov.yk.ca/eco/DM-Report-Truth-and-Reconciliation-Commissions-Calls-to-Action.pdf

[22] *United Nations Declaration of Indigenous Peoples Act National Plan: Assembly of First Nations – Yukon Region Engagement and Recommendations Report*.

how the Yukon government has used O.I.C.s to clarify regulator and utility responsibilities in support of clean energy initiatives.

The Yukon Government's *Rate Policy Directive (1995)* establishes utility rate setting policies.[23] It was amended through the *2021 Direction to Amend the Rate Policy Directive (1995)* to allow cost recovery for demand-side management programs and renewable generation project planning and development.[24]

The *Independent Power Production and Micro-Generation Regulation* provides a framework for distributed energy resources, exempting micro-generators and independent power producers from being considered public utilities.[25,26]

The *Direction to the Yukon Utilities Board (Independent Power Production)* supports implementation of the territory's Independent Power Production Policy (described below) by providing economic certainty for proponents of medium- to large-scale renewable energy projects and the utilities.[27] It sets out favourable economic terms under which independent power producers (IPPs) can generate and sell electricity, providing an explicit pricing formula, and details the project-related costs incurred by the utilities that the YUB will approve.

The direction on independent power production also specifies the following for the off-grid communities:

- **Utility recoverable costs are explicit.** This ensures that the utility knows what impact entering into an agreement with the IPP would have on the utility's overall costs. These costs consist of the cost of purchasing electricity from the producer, costs for a third-party consultant, and the cost of maintaining or replacing the equipment or infrastructure needed to purchase electricity under an electricity purchase agreement. This last element is particularly important to ensuring that the project continues to operate reliably during the contract term.

[23] Government of Yukon, *Rate Policy Directive*, O.I.C. 1995/090. https://laws.yukon.ca/cms/images/LEGISLATION/SUBORDINATE/1995/1995-0090/1995-0090_2.pdf

[24] Government of Yukon, *2021 Direction to Amend the Rate Policy Directive*, O.I.C. 2021/16. https://laws.yukon.ca/cms/images/LEGISLATION/regs/oic2021_016.pdf

[25] Government of Yukon, *Independent Power Production and Micro-Generation Regulation*, O.I.C 2019/026. https://laws.yukon.ca/cms/images/LEGISLATION/SUBORDINATE/2019/2019-0026/2019-0026.pdf

[26] Government of Yukon, "Government of Yukon's Independent Power Production policy implemented," January 25, 2019. https://yukon.ca/en/news/government-yukons-independent-power-production-policy-implemented

[27] Government of Yukon, *Direction to the Yukon Utilities Board (Independent Power Production)*, O.I.C. 2019/025. https://laws.yukon.ca/cms/images/LEGISLATION/SUBORDINATE/2019/2019-0025/2019-0025.pdf

- **The price paid for electricity reflects the long-term avoided cost of diesel and cost savings from the displacement of diesel.** Electricity purchase agreement rates are based on the avoided cost of fuel and, in accordance with section 3(1)(b), "any reduction in the maintenance, capital or other costs arising from the displacement of thermal generation as a result of the electricity generated by the facility." The Yukon is the only jurisdiction that explicitly includes avoided operation, maintenance and capital costs in the electricity purchase agreement rate, potentially providing IPPs operating on the diesel grids with a fairer business case. The price paid for electricity is adjusted annually by 100% of the consumer price index.
- **Utilities must give compensation in certain situations.** Utilities must compensate the IPP if the IPP is unable to deliver electricity due to utility equipment failure, but not in the event of a planned outage.

The Yukon's *Independent Power Production Policy* provides further guidance on facilitating collaboration between the utilities and IPPs in developing clean energy projects by clarifying roles and responsibilities and the allocation of project costs, among other items.[28] A standard electricity purchase agreement[29] and system interconnection guidelines[30] have also been developed to help structure project design considerations and electricity purchase agreement negotiations.

Through these regulations and policy directed at the YUB, the Yukon government has created a supportive regulatory environment for the development of clean energy.

3.3 Mandates

The YUB's mandate is not explicitly specified in legislation or regulation. However, from legislation and case law, the mandate can be interpreted to be to regulate in the public interest and to ensure that utility electricity rates and utility practices are just and reasonable.[31,32] This mandate is regularly refined through individual regulator decisions and case law. The quasi-

[28] Government of Yukon, *Yukon's Independent Power Production Policy: Updated October 2018*. https://yukon.ca/sites/yukon.ca/files/emr/emr-yukon-independent-power-production-policy.pdf

[29] Government of Yukon, "Sell electricity as an independent power producer." https://yukon.ca/apply-independent-power-producer

[30] ATCO Electric Yukon, "Independent Power Production." https://www.atcoelectricyukon.com/en-ca/our-services/independent-power-production.html

[31] *Yukon Territorial Court of Appeal. Utilities Consumers' Group v. Yukon (Utilities Board)*, 2001 YKCA 5. https://www.canlii.org/en/yk/ykca/doc/2001/2001ykca5/2001ykca5.html

[32] Yukon Utilities Board. "Mandate of the Board." https://yukonutilitiesboard.yk.ca/about/mandate-of-the-board/

judicial system of regulators allows the YUB to interpret aspects of the Public Utilities Act and make its own guidelines and standards based on these interpretations.

Utilities in the Yukon don't have prescribed mandates but do have their own mission statements and company objectives. Yukon Energy lists its mission as "sustainable, cost-effective and reliable electricity," and AEY describes its job "to deliver safe and reliable power."[33,34]

As a publicly owned utility, Yukon Energy receives direction from the Yukon government through various mechanisms, including through the YDC. For example, the YDC was directed – via a 2020-2021 protocol agreement and letter of expectation — to take specific measures to implement energy policy initiatives and the actions identified in the Yukon's climate change strategy and to ensure that Yukon Energy works with the YDC to prioritize relations with YFN governments.[35] Mandate letters are also used by the Yukon government to direct the priorities of the YDC and Yukon Energy. There is no avenue for the Yukon government to provide similar direction to AEY on climate action or reconciliation.

In the next section we'll expand on how the approach to reduce emissions differs on the Yukon's main grid compared to its remote diesel grids, and how the key players support or impede Indigenous-led clean energy developments in the isolated communities.

[33] Yukon Energy, "Missions, Values, Vision." https://yukonenergy.ca/about-us/who-we-are/mission-vision-values

[34] ATCO Electric Yukon, "Powering the Territory." https://www.atcoelectricyukon.com/en-ca/about-us.html

[35] Yukon Development Corporation, *Protocol Agreement and Letter of Expectation 2020 – 2021 Between the Minister Responsible for the Yukon Development Corporation and the Chair of the Yukon Development Corporation* (2020). https://yukon.ca/sites/yukon.ca/files/ecdev/e1_-_yg-ydc_potocol_agreement_and_shareholder_letter_of_expectation.pdf

4. Current conditions

The development of Indigenous-owned renewable energy projects on the Yukon's isolated diesel grids demonstrates the leadership and cooperation of YFNs, the federal and territorial governments, and AEY to climate action and reconciliation. One prominent example, the Vuntut Gwitchin First Nation's Sree Vyàa (Old Crow Solar Project), commissioned in 2021, has blazed a trail for Indigenous clean energy projects in the remote North. It saw the signing of a 25-year electric purchase agreement with AEY and demonstrates that high solar penetration is possible on diesel microgrids. Each of the other diesel-dependent YFNs are currently leading grid-scale clean energy projects in their communities.

Though these projects are encouraging outputs of the current regulatory and legislative environment, existing program and regulatory barriers persist and will increasingly slow the momentum and ability of YFN governments to reduce diesel reliance and retain the benefits of clean energy. These barriers include issues and developments related to the Yukon Independent Power Production Policy, evolving perspectives around economic participation, renewable energy and diesel reduction targets, and integrated resource planning.

Yukon Independent Power Production Policy

Put into action in 2019, the Yukon's Independent Power Production Policy plays a critical role in enabling clean energy projects in remote communities. The policy was created to spur IPP participation in Yukon's renewable energy future and specifically ensures First Nation involvement and participation in IPP projects by aiming for at least 50% of the Yukon's IPP projects to include a Yukon First Nation ownership component.[36] As one of only a handful of independent power production policies across Canada, its transparent pricing structure and prioritization of Indigenous participation set a clear standard for clean energy development on isolated diesel grids.

The policy has a number of strengths. However, a 2022 review commissioned by the Yukon government indicated that the policy was outdated and needed to be better aligned with broader climate goals and Indigenous rights established in the YFN final agreements. Focusing on the potential for more Indigenous-led IPP projects, the review pointed out the need to better

[36] Government of Yukon. *Yukon's Independent Power Production Policy* (2018). https://yukon.ca/sites/yukon.ca/files/emr/emr-yukon-independent-power-production-policy.pdf

understand how to increase penetration of renewable energy on the remote diesel grids. It also suggested that the policy should more evenly distribute the financial risk from IPP projects.[37]

Evolving policies for increased economic participation

While the Yukon's Independent Power Production Policy opened the door for YFN participation in the energy sector, the territory is also developing a framework for the economic participation of First Nations in renewable electricity projects developed by the utilities, a key recommendation of the Yukon's climate change strategy.[38]

Representatives of the federal, territorial and YFN governments; the utilities; and the YDC met at a leadership summit hosted by the Council of Yukon First Nations in 2023 to discuss how the economic development objectives of YFN final agreements serve as a foundation to this initiative.[39] A statement made by the council following the summit acknowledged agreement for collaborative energy planning, recognizing that YFN rights for self-determination and equitable participation in the Yukon's economy position YFNs to play an important role in growth of the territory's energy sector.[40]

In its 2023 Annual Report, Yukon Energy suggested that the future investment of YFN partners in the construction of new generation resources is an opportunity to address critical funding gaps in advancing its long-term strategic vision.[41] The Yukon Climate Leadership Council went further in its 2022 recommendation to the Yukon government to identify and encourage investment and/or ownership opportunities for YFNs in the utilities themselves.[42]

Equity ownership in AEY and utility-led renewable energy and demand-management initiatives supports self-determination and economic reconciliation for YFNs that are reliant on diesel power. Improving the involvement of YFNs in decisions of the utility could be the logical next step in advancing Indigenous objectives for clean energy as the first IPP projects become operational in each of the Yukon's diesel communities.

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[37] Groundswell Planning, *Yukon Independent Power Production Program Review*, prepared for the Government of Yukon (2022). https://yukon.ca/sites/yukon.ca/files/emr/emr-independent-power-production-program-review-final-report.pdf

[38] *Our Clean Future: A Yukon strategy for climate change, energy and a green economy*.

[39] Yukon Energy, *2023 Annual Report* (2024). https://yukonenergy.ca/media/site_documents/YEN24051_rpt_annual23_Oct24Update_web.pdf

[40] Council of Yukon First Nations, "Yukon First Nations Spearhead Leadership Energy Summit," media release, December 1, 2023. https://cyfn.ca/news-release-strongyukon-first-nations-spearhead-leadership-energy-summit-strong/

[41] *2023 Annual Report*.

[42] Yukon Climate Leadership Council. *Climate Shot 2030: Recommendations on how to reduce Yukon's greenhouse gas emissions by 45% by 2030* (2022). https://yukon.ca/sites/yukon.ca/files/env/env-climate-shot-2030.pdf

Renewable energy and diesel reduction targets

The Yukon's greenhouse gas emissions reduction target is one of the most ambitious in the country. Established through a confidence and supply agreement in 2021 and later passed into law under the Clean Energy Act, the Yukon is committed to achieving a 45% reduction in total greenhouse gas emissions by 2030 compared to 2010 levels.[43,44]

While the Clean Energy Act is a recent positive step by the Yukon government to legislate its greenhouse gas emission targets, the act currently has no renewable energy targets. Following the direction of the territory's 2020 climate change strategy, which called for legislation requiring that 93% of electricity on the main grid comes from renewable sources, the Yukon government is currently working to amend the act and develop accompanying regulations to establish a clean energy standard. [45]

The Yukon's climate change strategy, however, was silent on legislating renewable energy targets for remote communities. Instead, it aimed for a 30% reduction in diesel use for electricity, with one IPP project operating in each community — an aspirational target that will be reached-by the projects already underway.[46]

In 2022, the Yukon Climate Leadership Council, formed by the Yukon government to recommend how a 45% reduction in emissions can be achieved, suggested a more ambitious target for the remote communities — to reduce diesel generation to less than 50% of total energy production by 2030, prioritizing projects that are community-led and owned.[47]

The Yukon government has not committed to this target and thus falls short in its ambition to reduce diesel reliance on its isolated grids, especially in light of the climate leadership demonstrated by the YFN governments, as well as the commitments made by other jurisdictions (see, for example, B.C.'s target of 80% diesel reduction in remote communities by 2030).

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[43] Yukon Liberal Caucus and Yukon NDP Caucus. *2021 Confidence and Supply Agreement between the Yukon Liberal Caucus and the Yukon NDP Caucus* (2021). https://yukonliberalcaucus.ca/wp-content/uploads/2021/04/2021-CASA-Yukon-Liberals-Yukon-NDP.pdf

[44] Government of Yukon, *Clean Energy Act* (2022). https://laws.yukon.ca/cms/images/LEGISLATION/acts/2022-0014.pdf

[45] Ranj Pillai, Yukon premier, letter to Minister Streicker, March 2, 2023. https://yukon.ca/sites/yukon.ca/files/eco/eco-minister-streicker-mandate-letter-march-2-2023_17.pdf

[46] *Our Clean Future: A Yukon strategy for climate change, energy and a green economy.*

[47] Yukon Climate Leadership Council, *Climate Shot 2030: Recommendations on how to reduce Yukon's greenhouse gas emissions by 45% by 2030*, submitted to Government of Yukon (2022). https://yukon.ca/sites/yukon.ca/files/env/env-climate-shot-2030.pdf

Integrated resource planning

Without legislated clean energy targets or the requirement for integrated resource planning on the Yukon's remote diesel grids, First Nation governments and development corporations have been responsible for initiating clean energy generation projects and finding the resources and capacity to undertake feasibility studies and engage the utility.

Much of the progress in decarbonizing the diesel grids to date is the result of effective partnerships between Indigenous IPPs and AEY, and the reliance of Indigenous communities on federal funding programs. However, without a more ambitious mandate to reduce diesel generation or to engage in collaborative, integrated resource planning, the advancement of IPP projects in the Yukon's remote diesel communities may be stalled at the current benchmark of one project in each community.

The difference in how integrated resource planning occurs on the main grid compared to the diesel grids demonstrates a clear disadvantage to Indigenous participation in energy planning. For example, Yukon Energy has had a 20-year resource plan for the main grid since 2006 that was developed through a process that considered various resource options, including renewable energy, and engaged First Nations, stakeholders and the public. An updated integrated resource plan for the main grid, scheduled for release in 2026, will consider the renewable energy projects and emerging technologies needed to achieve long-term climate targets, as outlined in the territory's climate change strategy.[48] This type of planning does not happen for the remote communities because utility standards for firm generation capacity on the isolated diesel grids only require that 110% of the community peak must be met with the largest (diesel) generating unit out of service. [49] In addition, the utility is not held to legislated renewable energy or diesel reduction targets.

In the absence of collaborative resource planning on the remote grids, YFN governments and citizens can contribute to energy planning via two formal methods: as an intervener in the YUB's review of a utility's general rate application or through project assessments by the Yukon Water Board or Yukon Environmental Socio-economic Assessment Board. These processes are project specific and do not provide the same opportunity for meaningful engagement in long-term planning as would be required if collaborative integrated resource planning happened on the remote grids.

[48] Yukon Energy, "Electricity Planning." https://yukonenergy.ca/energy-in-yukon/electricity-in-2030/electricity-planning

[49] Yukon Utilities Board, *YUB Report to Commissioner in Executive Council re YEC 20-Year Resource Plan – Jan. 15/07* (2007). https://yukonutilitiesboard.yk.ca/pdf/YEC%2020-Year%20Resource%20Plan/180_yub-report.pdf

More recently, joint operating committees formed under electricity purchase agreements between the utility and YFN independent power producers are facilitating energy discussions directly between AEY and the communities. [50] These committees enable open discussions on community energy issues and planning but have no formal bearing on the decisions of the utility.

[50] Vuntut Gwitchin Government, "Vuntut Gwitchin Government and ATCO Electric Yukon reach an Electricity Purchase Agreement for Old Crow Solar Project," June 19, 2018. https://vgfnca.vgfn.org/pdf/Old%20Crow%20Solar%20Project%20Media%20Release%20EPA%20June%202018%20.pdf

5. Recommendations

5.1 Government actions

Develop legislation setting ambitious targets to decarbonize remote diesel grids

The Yukon would benefit from a more ambitious and more cohesive approach to reducing diesel dependency on the remote isolated grids. While the Yukon strives to achieve 97% renewables on the main grid, the clean energy ambition of the Yukon government on the remote grids is to reduce the amount of diesel used for electricity generation by 30%.[51]

The Yukon should enact a clean energy target for the territory's remote diesel grids. Such a target would spur the utility and empower affected First Nations to take decisive action in developing clean energy generation beyond the capacity currently in place or in development.

Provide specific direction to the Yukon Utilities Board on climate action and accountability in its decision-making

The Yukon government should revise the mandate of the YUB to better reflect the government's commitments to climate action. Currently, the YUB is strictly an economic regulator under the Public Utilities Act. Its decision-making framework, which prioritizes keeping rates low while maintaining reliable service, conflicts with the government's commitments to climate change and clean energy. While the direction provided by the Yukon government to the YUB in recent years was instrumental to advancing microgeneration, independent power production and demand side management programs, it did not compel action of the utility on the remote diesel grids. Aligning the mandate of the YUB with the Clean Energy Act and clean energy targets established for the remote diesel grids would allow the regulator to make more comprehensive decisions and clarify utility responsibilities for achieving emission reduction targets.

Expanding the mandate of the YUB and utilities to consider environmental and socio-economic values as well as the provision of safe and reliable power at the lowest cost to utility customers also requires the government to provide direction on how these competing criteria will be considered in the assessment of energy generation and diesel reduction projects.[52] To accomplish this, the Yukon government should explore legislative changes to the economic

[51] *Our Clean Future: A Yukon strategy for climate change, energy and a green economy*.

[52] Dunsky Energy + Climate Advisors, *Utility Impacts of Clean Energy Projects in Remote Communities: Final Report,* prepared for Natural Resources Canada and Crown-Indigenous Relations and Northern Affairs Canada, (2023), https://natural-resources.canada.ca/reducingdiesel/findings-the-clean-energy-transition-for-utilities-serving-remote-communities/25726#a4

decision-making framework used by the YUB. Regulatory reform to support the consideration of externalities could consider such factors as the social cost of carbon over the project lifetime as well as the difficult to quantify benefits such as Indigenous participation and community health.[53, 54, 55]

Require collaborative integrated resource planning in remote diesel communities

Collaborative integrated resource planning should become a regulatory requirement for each of the remote grids. While this is standard practice on the Yukon's main grid, ATCO Electric Yukon has yet to complete an integrated resource plan. The Yukon government has a role in providing guidance to the YUB that would require the utility to undertake collaborative resource planning for each of the remote communities it serves.

Long-term integrated resource plans describe the utility's intention over a 10- to 20-year period to deliver electricity to its customers. A critical tool in the clean energy transition, an integrated resource plan maps out how the utility will meet future demand, and if required, how it will meet clean energy generation or emission reduction targets. Collaborative, integrated resource planning necessitates meaningful engagement with First Nation governments and citizens in remote diesel communities and can be the starting point for new IPP projects and other grid modernization initiatives.

Increase the involvement of Yukon First Nations in clean energy policy design and implementation

The Umbrella Final Agreement and the 11 individual First Nations final and self-government agreements have ensured that First Nations are actively involved in governance of their territories and that First Nations rights are foremost in territorial legislation and policy.

As First Nations rights and lands become more linked with renewable energy resources and energy generation, Yukon First Nations need to be more involved in determining territorial energy planning priorities, energy policy design and regulatory decision-making within the territory.

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[53] Remote Community Energy Strategy Working Group, *Recommended actions and strategies for achieving the CleanBC diesel reduction goal for BC's remote communities* (2022), https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/electricity-alternative-energy/community-energy-solutions/rces_working_group_final_report_2022_06_01.pdf

[54] Yukon Climate Leadership Council, *Climate Shot 2030: Recommendations on how to reduce Yukon's greenhouse gas emissions by 45% by 2030* (2022), https://yukon.ca/sites/default/files/env/env-climate-shot-2030.pdf

[55] *Utility Impacts of Clean Energy Projects in Remote Communities Final Report*.

The Yukon government should establish a transparent, inclusive and well-defined process for advancing decarbonization of the remote diesel grids. Meaningful engagement with affected First Nations is critical to ensure that clean energy projects are developed with First Nations leadership and that First Nations ultimately derive the economic and social benefits from these projects. B.C.'s Remote Community Energy Strategy Working Group, convened to support diesel reduction in remote communities, could be a good model for the Yukon.[56]

Enhance the Independent Power Production Policy

While the Independent Power Production Policy has had a positive impact, the Yukon government should consider policy revisions that support further development of independent power producer (IPP) projects in the Yukon's isolated diesel-dependent communities. Areas for consideration include the following:

- Increase targets for renewable energy generation on remote diesel grids, considering both technical and policy requirements, for example battery integration and ownership.
- Establish pathways for grid upgrades needed to address the technical barriers to achieving higher penetration from multiple distributed energy sources on the remote grids.
- Explore ways to distribute the financial risk of IPP projects to support the development of community-owned renewable energy projects that are not entirely dependent on federal funding programs.

5.2 Regulator actions

Increase Indigenous engagement in regulatory proceedings

The YUB and Yukon government should explore methods and resources for improving First Nation participation in YUB processes. Currently, Yukon First Nations participate in the regulatory proceedings of the YUB through the same process set out for the public — as an observer, presenter or intervener.[57] Participating as an intervener requires extensive research and preparation and will generally involve the services of a lawyer in preparing a presentation,

[56] Government of British Columbia, "Remote Community Energy Strategy Working Group," September 27, 2023. https://www2.gov.bc.ca/gov/content/industry/electricity-alternative-energy/community-energy-solutions/remote-community-energy-strategy-rces/remote-community-energy-strategy-working-group

[57] Presenters make statements to the YUB while interveners take a position or express a concern about an application (and must be pre-approved by the YUB).

cross-examining witnesses and presenting final arguments.[58] While the YUB will reimburse costs of interveners, capacity constraints and tight timeframes often affect the ability of First Nations to adequately engage in regulatory processes. Strengthening the participation of Yukon First Nations in the regulatory process would make utilities more accountable for addressing socio-economic impacts and community priorities.

Mechanisms for increasing access could include intervenor training for First Nations and dedicated funding to support engagement. An example of the latter is the British Columbia Utilities Commission's Indigenous Intervener Capacity Fund, which provides Indigenous governments and organizations up to $5,000 to support their engagement in the regulatory process.[59]

Evaluate updating least-cost economic analysis to a benefit-cost analysis framework (BCA)

As discussed in *Decarbonizing Remote Indigenous Communities: Regulatory reform in B.C. and the territories,* many different methodologies exist for assessing the overall benefits of a project. These include alternative methods for assigning costs to negative environmental, health and social impacts of non-renewable energy sources, resulting in a more fair and equal evaluation between renewables and diesel energy systems.

The YUB should explore using a different economic model for decision-making that considers non-economic factors.

[58] Yukon Utilities Board, "FAQs about the Board." https://yukonutilitiesboard.yk.ca/about/mandate-of-the-board/faqs/

[59] British Columbia Utilities Commission, *Indigenous Intervener Capacity Funding* (2024). https://docs.bcuc.com/documents/FactSheets/IICF-Fact-Sheet.pdf

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