

Is skin-in-the-game a game-changer?

A review on Indigenous community empowerment through equity stakes in the energy sector

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Executive Summary

Background

The global transition to a low-carbon economy is accelerating investment in energy and extractive projects, many of which are located on or near Indigenous lands. Historically, Indigenous communities have been positioned as affected stakeholders, often excluded from decision-making and receiving limited benefits from resource development. In response, there has been a growing shift toward Indigenous equity participation, where communities acquire ownership stakes in energy infrastructure and natural resource projects. This model is progressively viewed as a pathway to economic reconciliation, enabling Indigenous communities to secure financial returns and exercise greater control over land use, environmental stewardship, and project governance. However, evidence suggests that outcomes remain uneven across jurisdictions, influenced by differences in legal frameworks, access to financing, governance capacity, and engagement practices. Therefore, understanding when and how equity participation translates into meaningful empowerment is critical for designing inclusive and sustainable energy transitions.

Objectives

This project synthesizes and critically evaluates existing evidence on Indigenous equity participation in the energy sector. It examines how equity ownership can support inclusive economic growth, economic reconciliation, and just energy transitions. First, the study reviews academic and applied literature to map the evolution of Indigenous participation, from consultation and benefit sharing to active ownership and governance roles across national contexts. It then examines how equity arrangements are structured in practice, including mechanisms such as loan guarantees, joint ventures, and community partnerships, while assessing key challenges and risks associated with financing, governance capacity, and regulatory uncertainty. Lastly, the project identifies gaps in current knowledge and develops evidence-based recommendations to improve financial access, strengthen governance frameworks, and support meaningful Indigenous participation in the energy system transformation.

Results

The literature consistently identifies Indigenous communities as central actors in energy transitions, shaping governance, sustainability outcomes, and a just transition through land-based knowledge and intergenerational stewardship. However, meaningful participation remains uneven. While models such as equity ownership, co-management, and community-led projects are expanding, many engagements still rely on late-stage consultation or symbolic inclusion. Evidence suggests that effective participation requires long-term capacity-building, trust, and Indigenous-led governance structures. Existing studies document that equity participation can deliver tangible benefits through improved local employment, income generation, energy access, and

environmental stewardship while supporting broader goals of economic reconciliation and self-determination. Nevertheless, structural constraints such as limited access to capital, legal ambiguity, and regulatory fragmentation continue to restrict outcomes.

Key Messages

- Indigenous communities are central actors in energy transitions, contributing governance frameworks, land-based knowledge, and long-term stewardship perspectives that reshape the meaning of a just transition.
- Equity participation is emerging as a crucial mechanism for advancing Indigenous self-determination, economic reconciliation, and alignment between stakeholders.
- Evidence suggests that substantive participation requires a shift from consultation toward co-design, co-governance, and co-ownership, supported by sustained capacity-building and trust.
- Persistent structural barriers, including limited access to capital, legal uncertainty, and fragmented regulatory systems, continue to constrain participation and outcomes.

Methodology

This project adopts a narrative synthesis approach, integrating peer-reviewed academic studies, grey literature, and news coverage to examine Indigenous equity participation in the energy sector. Academic sources published since 2015 were systematically collected and screened for relevance, alongside recent media reports capturing emerging practices and policy developments. All materials underwent multi-stage filtering based on thematic relevance, empirical content, and data quality. The analysis combines descriptive mapping with inductive thematic coding, focusing on three areas: Indigenous roles in energy systems, engagement practices, and equity participation.

Full Report

Background¹

Inclusivity of Indigenous communities is pivotal for the sustainable development of the energy sector. Indigenous engagement enhances not only sustainability efforts but also addresses long-standing socio-economic inequalities.² In Canada and the United Kingdom (UK), Indigenous groups play a significant role in the energy sector, where their lands and resources often form the foundation for large-scale energy developments.³ Integrating Indigenous perspectives is crucial for building trust, achieving just energy transitions, and establishing governance systems that prioritize long-term environmental and societal well-being (Martin & Rice, 2015; Warrier et al., 2021; Baker, 2021; Chandrashekeran, 2021; Smith & Scott, 2021; Wyse & Das, 2024; Scott, 2025). Contrary to common stereotypes, Belzile (2018) argues that many Indigenous groups actively support and lead natural resource projects, which are significant drivers of economic independence.

Around 130 countries have pledged to increase their renewable energy capacity by 2030. However, such developments could lead to environmental degradation and social injustice if Indigenous communities are not actively involved in the decision-making. Canada is becoming a model for inclusive growth.⁴ Indigenous communities are increasingly securing equity stakes in renewable energy projects. Otherwise, disregarding Indigenous concerns is associated with project delays, legal challenges, and elevated cost structures.⁵ First Nations and Métis communities have begun to play a significant role in the development of Canada's energy economy (Miller, 2022). In the natural gas sector, they have become full or partial owners across all parts of the value chain, ranging from upstream production to proposed liquefied natural gas export facilities (Exner-Pirot & Authier, 2023). Building trust-based, equitable partnerships between First Nations and state energy actors is essential to advancing energy transition objectives.⁶ Such partnerships foster deeper collaboration in energy governance and catalyse institutional reforms in policy and decision-making frameworks (Peng, 2024). Indigenous workers often earn significantly more in these sectors than elsewhere.

¹ The authors gratefully acknowledge Naila Al Mahmuda for excellent research assistance, including support with literature review and data collection.

² See *Indigenous Peoples' Ownership of Energy Projects*:
<https://energyregulationquarterly.ca/articles/indigenous-peoples-ownership-of-energy-projects>

³ See *Indigenous Ownership in Clean Energy is a Universal Imperative*:
<https://berc.berkeley.edu/news/indigenous-ownership-clean-energy-universal-imperative>

⁴ See *Quarterly: Infrastructure and energy report - Indigenous participation in energy transition projects: a key to success*: <https://www.lexology.com/library/detail.aspx?g=ed0e8471-6bd0-4efe-bf28-491cc7ed8520>

⁵ See *Society Watch: Why respecting Indigenous peoples' rights is key to the energy transition*:
<https://www.reuters.com/sustainability/society-equity/society-watch-why-respecting-indigenous-peoples-rights-is-key-energy-transition-2024-11-05/>

⁶ See *Indigenous communities make clean energy drive work for, not against, them*:
<https://news.mongabay.com/2024/06/indigenous-communities-make-clean-energy-drive-work-for-not-against-them/>

An inclusive understanding requires early and continuous involvement, integration of Indigenous knowledge and leadership, equitable benefit-sharing, and analysis of the integration of Indigenous approaches to sustainability within the broader environmental, social & governance (ESG) agenda (Canada, Standing Committee on Natural Resources, 2019; Walker et al., 2021; Poyser & Daugaard, 2023). In the UK, marginalized communities face pressure from the energy sector companies, particularly in Scotland. Residents expressed anger over plans for the largest onshore wind farm, accusing developers of “bribing” them with offers of cheaper electricity to gain support for the project.⁷ The UK has seen the development of community energy initiatives, where local groups invest in renewable energy projects. However, the sector remains small and underexplored, with limited growth in recent years. Historically, in Canada, partnerships between energy companies and Indigenous communities were limited to agreements that guaranteed construction jobs or other financial benefits without offering equity stakes. Though, recent developments indicate a shift toward more inclusive models of participation.

Indigenous communities are increasingly acquiring equity positions in major energy projects, generating revenue and creating economic opportunities.⁸ For example, in 2022, Enbridge Inc. finalized a \$1.1 billion deal to sell an 11.57% interest in seven northern Alberta pipelines to 23 First Nations and Métis communities.⁹ Similarly, the 2024 federal budget introduced a national Indigenous loan guarantee program to help communities access capital and remove barriers to equity investments. The same year, TC Energy Corporation announced an equity interest purchase agreement with an Indigenous-owned investment partnership, granting a 5.34% minority stake in the NGTL System and the Foothills Pipeline assets. Valued at \$1.65 billion, including debt, this agreement represents one of Canada’s largest Indigenous equity ownership deals.¹⁰ Collectively, these agreements provide Indigenous communities with predictable, long-term cash flows underpinned by federally regulated rates.¹¹

⁷ See *Keep your money: We’re being bribed with cheap electricity – Locals furious over plans for UK’s largest onshore wind farm in Scotland*: <https://www.thescottishsun.co.uk/money/13922515/cabrach-uk-largest-windfarm-locals-angry-bribe/>

⁸ See *First Nations group buying minority stake in Enbridge’s Westcoast pipeline network*: <https://www.theglobeandmail.com/business/article-first-nations-group-buying-minority-stake-in-enbridges-westcoast/>

⁹ See *Enbridge to sell stakes in seven pipelines to Indigenous groups for \$1.12 billion*: <https://financialpost.com/commodities/energy/oil-gas/enbridge-pipeline-stake-first-nation-metis-groups>

¹⁰ See *TC Energy signs deal to sell minority stake in pipeline to Indigenous groups*: <https://financialpost.com/commodities/energy/oil-gas/tc-energy-sell-stake-pipeline-indigenous-groups>

¹¹ TC Energy also outlined an Indigenous equity framework as part of its reconciliation action plan. It provides a structured approach to offer equity ownership in energy and infrastructure projects to Indigenous groups across Canada. Recognizing deep interest from Indigenous communities in long-term revenue and self-determination, the framework articulates core values, such as sustaining multi-generation relationships, delivering meaningful benefits, promoting shared priorities, and reducing regulatory uncertainty, and guiding principles, including early direct engagement, allowances for Indigenous groups to assess opportunities fully, and enabling equity stakes at the early development stage. By aligning interests through shared asset ownership, the company aims to strengthen community ties while advancing ESG goals. See for more details:

Equity ownership in projects represents the highest form of consent, says Perry Bellegarde, former National Chief of the Assembly of the First Nations. He argues that Indigenous participation through ownership enhances both decision-making power and oversight. Instead of limiting involvement to consultations during the environmental assessment phase, equity ownership ensures Indigenous voices are heard throughout a project's entire lifespan, helping to balance economic development with environmental stewardship (Cimellaro, 2024). Several Indigenous-led groups have expressed interest in acquiring equity stakes in the federally owned Trans Mountain oil pipeline, signalling continued momentum in this area.¹²

Berkeley Energy & Resources Collaborative (BERC) argues that Indigenous equity ownership is both a moral responsibility and a strategic necessity while highlighting the historical exploitation of Indigenous lands, such as fossil fuel development in Australia's Beetaloo Basin, that led to environmental harm and social marginalization. Equity ownership assumes a significant role in fostering economic self-determination, job creation, and local capacity-building.¹³ There has been a significant shift from procurement-based involvement toward full ownership stakes by Indigenous community groups.

Amid increased interest from Indigenous communities, equity investments have gained traction, with 28% of Canada's Indigenous equity investments over the past 15 years occurring in just the last two years. In 2024, Indigenous equity participation in infrastructure projects made significant progress, notably through BC Hydro's clean-energy procurement and the Cedar LNG project in British Columbia, with an equity ownership commitment of at least 25%.¹⁴ Another noticeable example of Indigenous community involvement comes from Hydro One, which offers First Nations a 50% equity stake in all projects (based on a large-scale capital transmission line) that exceed \$100 million.¹⁵

According to a report by the Canadian energy regulator, Indigenous ownership in the green/renewable energy space is also growing. The number of projects on Indigenous lands or traditional territories more than quadrupled from 2009 through 2020. In nearly 20% of Canada's electricity-generating infrastructure (mainly renewable), First Nations, Métis, and Inuit entities were partners or beneficiaries. Of projects based on traditional territories, 39% are wholly or partially Indigenous, while within Indigenous communities, 92% of projects have at least some

<https://www.tcenergy.com/siteassets/pdfs/sustainability/indigenous/journey-towards-reconciliation/tce-indigenous-equity-framework.pdf>

¹² See *Trans Mountain looking to sell 30% stake to Indigenous groups, Alberta premier says*:

<https://financialpost.com/commodities/energy/oil-gas/trans-mountain-to-sell-30-to-indigenous-groups-premier-says>

¹³ See *Indigenous Ownership in Clean Energy is a Universal Imperative*:

<https://berc.berkeley.edu/news/indigenous-ownership-clean-energy-universal-imperative>

¹⁴ See *Indigenous equity ownership saw momentum in 2024, but still more work to do*:

<https://canada.constructconnect.com/dcn/news/infrastructure/2024/09/indigenous-equity-ownership-saw-momentum-in-2024-but-still-more-work-to-do>

¹⁵ See *First Nations Equity Partnership Model project*: <https://www.electricity.ca/programs/centre-of-excellence/first-nations-equity-partnership-model-project/>

Indigenous ownership.¹⁶ Despite these advancements, Indigenous communities face persistent challenges in accessing capital for their equity transactions against the backdrop of limited collateral options.

To address Indigenous access to capital, the primer, commissioned by the First Nations Major Project Coalition (FNMPC) and the Business Council of British Columbia, proposes three key mechanisms: establishing an Indigenous infrastructure bank to provide debt financing, launching an Indigenous loan guarantee program to support equity investments by Indigenous nations, and creating capacity-building supports to ensure Indigenous communities are equipped to negotiate and participate meaningfully in project opportunities (Von der Porten et al., 2022). Drawing on existing locally rooted frameworks for clean technology financing, Krupa et al. (2025) and Fish and Nehme (2025) outline structures shaped by extensive experience in both energy transition and Indigenous economic development. They identify targeted areas where Indigenous-non-Indigenous collaboration could be deepened for reciprocal benefit and stronger corporate engagement.

Innovative solutions like government-backed loan guarantees are helping bridge this gap (Collin, 2019; Yantha, 2022).¹⁷ By reducing risk for lenders and enabling marginalized groups to gain economic ownership, these mechanisms foster financial inclusion and ensure fair usage. Loan guarantees allow Indigenous communities to actively participate in the energy sector and its transition, breaking down historical barriers to financial inclusion. Further, under the Canada Infrastructure Bank's (CIB) Indigenous equity initiative, Indigenous community groups gain access to capital (for equity loans) to purchase ownership stakes in revenue-generating infrastructure projects in which the CIB also invests. Projects typically fall within CIB's five priority sectors, such as clean power, green infrastructure, broadband, public transit, and trade & transportation, tied to the project's traditional territory.¹⁸ By providing access to capital, Indigenous equity ownership can support project viability, reduce capital costs, and drive economic reconciliation by building a track record over time.¹⁹ Similarly, the Indigenous loan guarantee program, managed by the Canada Indigenous Loan Guarantee Corporation, aims to enhance Indigenous equity participation by providing loan guarantees to Indigenous groups.²⁰

¹⁶ See *Market Snapshot: Indigenous Ownership of Canadian Renewable Energy Projects is Growing*: <https://www.cer-rec.gc.ca/en/data-analysis/energy-markets/market-snapshots/2023/market-snapshot-indigenous-ownership-canadian-renewable-energy-projects-growing.html>

¹⁷ See *Budget 2024: Indigenous Loan Guarantee Program*: <https://cdev.gc.ca/budget-2024-indigenous-loan-guarantee-program/>

¹⁸ See *Indigenous Equity Initiative (IEI)*: <https://cib-bic.ca/en/indigenous-equity-initiative/>

¹⁹ See *Indigenous Equity Partnership in Energy Infrastructure Projects: Opportunities and Challenges*: <https://dbrs.morningstar.com/research/435334/indigenous-equity-partnership-in-energy-infrastructure-projects-opportunities-and-challenges>

²⁰ See *Canada Indigenous Loan Guarantee Corporation: Access to Capital to Accelerate Economic Reconciliation*: <https://cdev.gc.ca/indigenous-loan-guarantee-program/>

Although there has been an improvement in Indigenous equity participation, a significant challenge lies in avoiding tokenism in equity shareholding. While equity stakes give communities ownership, they often fail to translate into meaningful influence, particularly for projects with minority equity stakes. For instance, to understand the growing presence of Indigenous equity investments, Fasken reviewed 165 Canadian energy and infrastructure projects from 2023 through early 2025 and found that, notably, 22% of the projects involved minority (under 50%) stake, reflecting a substantial concern over tokenism.²¹ Indigenous groups may hold shares without genuine representation or access to decision-making processes, reducing their role to symbolic participation.

Olumekor et al. (2024) argue that a persistent reason for ineffective Indigenous collaborations is the lack of Indigenous people in the policy formulation process. The success of such initiatives requires an active engagement of Indigenous communities. Furthermore, the authors emphasize the systematic role of red tape in failing to account for the social and cultural realities of Indigenous people. While highlighting the centrality of Indigenous innovation, Smith and Scott (2021) argue that meaningful energy transformation depends on Indigenous ownership of renewable energy projects, where Indigenous communities initiate, govern, and collectively benefit from these projects according to their own laws and governance systems, free from state interference. Limited corporate transparency and data sharing further exacerbate this issue, reducing communities' ability to understand business operations and advocate for their interests. These challenges underscore the need for stronger mechanisms, such as board representations, open data platforms, and governance frameworks, to ensure a meaningful representation in energy sector decision-making while supporting an environmental transition and mitigating moral hazard. Addressing these issues is critical not only for fostering trust, meaningful participation, and sustainable development in the energy sector but also for supporting high-risk projects.²²

Objectives

This project aims to synthesize and critically evaluate existing evidence on the empowerment of Indigenous communities through equity participation in the energy sector, focusing on experiences in Canada with comparative insights from the UK. Specifically, this study intends to understand how equity ownership and participation mechanisms can promote inclusive economic growth, reconciliation, and just energy transitions. Through a narrative synthesis of academic research and media coverage, the project pursues the following interrelated objectives:

²¹ See *2025 Update on Trends in Indigenous Equity Investments in Canada*:
<https://www.fasken.com/en/knowledge/2025/04/update-on-trends-in-indigenous-equity-investments-in-canada>

²² See *Indigenous equity and its growing role in Canadian energy and resource development*:
<https://macdonaldlaurier.ca/indigenous-equity-and-its-growing-role/>

1. Assess the current knowledge on Indigenous community empowerment in Canada and the UK, building on existing literature.

The study first compiles and analyses research on Indigenous participation in the energy sector, mapping the evolution of community roles, from consultation and benefit-sharing to active equity ownership and governance participation. It assesses how empowerment has been conceptualized in different national contexts and identifies convergences and divergences between Canadian and UK experiences. This comparative review also highlights the theoretical and empirical foundations underpinning Indigenous engagement in sustainable energy governance, including the intersection of economic inclusion, cultural preservation, and environmental stewardship.

2. Explore the implementation and challenges of enabling equity stakes for Indigenous communities in the energy sector.

The project examines how equity arrangements are structured and negotiated, analysing the mechanisms that allow Indigenous communities to acquire ownership. These mechanisms generally include government-backed loan guarantees, joint ventures, community trusts, and partnerships with energy firms. It assesses the practical challenges that Indigenous stakeholders face, including financial barriers, governance complexity, regulatory uncertainty, and the risks of tokenism or limited decision-making authority. By comparing successful and contested examples (e.g., Enbridge, TC Energy, Hydro One, and the community wind projects in Scotland), the study examines the factors that facilitate genuine inclusion and the institutional constraints that continue to impede equitable participation.

3. Identify knowledge gaps and offer policy and practice recommendations to enhance financial inclusion and active participation in energy transformation.

A critical objective of this synthesis is to identify gaps, particularly regarding the financial design, legal frameworks, and governance models that shape Indigenous shareholding initiatives. The study distils these gaps into actionable insights, generating evidence-based recommendations for policymakers, corporate decision-makers, and community leaders. These recommendations emphasize improving access to capital, ensuring transparent reporting and data sharing, and embedding Indigenous representation in corporate governance.

Methods

This project adopts a narrative synthesis approach, integrating evidence from peer-reviewed academic research, grey literature, and news coverage to provide a comprehensive understanding of Indigenous community empowerment through equity participation in the energy sector. The synthesis captures the breadth of current knowledge and the diversity of perspectives emerging across academic, policy, and media domains.

Data Collection and Screening

To ensure the inclusion of multidisciplinary and cross-sectoral evidence, we structured data collection around two complementary sources. Academic studies and grey literature provide

theoretically and empirically grounded insights into Indigenous participation, governance, and equity mechanisms, forming a rigorous analytical foundation. Additionally, given the rapidly evolving nature of Indigenous equity participation in the energy sector, academic studies alone may not capture the full scale of developments. Therefore, news coverage is incorporated to capture real-time policy changes, industry practices, and emerging case examples that are not yet reflected in scholarly work. Combining these sources enables a more comprehensive and up-to-date understanding by bridging long-term academic perspectives with contemporaneous, practice-oriented evidence.

All retrieved materials underwent a multi-step screening process to ensure relevance, reliability, and diversity of perspectives. Items were included if they:

- Produced after 2015 to reflect recent policy and industry developments.
- Addressed Indigenous participation, ownership, or governance in the energy sector OR contained empirical or analytical discussion of financial or equity-based participation.

We excluded materials that comprised duplicate records, inaccessible or paywalled content without abstracts, and sources focused solely on unrelated environmental or social topics.

(1) Academic Literature

We collected peer-reviewed academic studies and grey literature published between 2015 and 2025, retrieved primarily through Google Scholar and CrossRef. Search terms included: “Indigenous communities” AND “equity stake” AND “energy”; “Indigenous community” AND “equity stake” AND “energy”. These keywords were selected to capture the intersection of three core dimensions central to this study: Indigenous actors, ownership structures, and the energy sector. To enhance robustness, the search strategy was designed to balance precision and inclusiveness. While the core keywords focus on equity-based participation, the search was complemented by reference list snowballing, which helps identify studies using alternative terminology such as ownership, participation, and co-development. This approach ensures comprehensive coverage of both academic and practice-oriented evidence, particularly in a rapidly evolving field where relevant insights may not yet be fully reflected in peer reviewed literature.

The initial search produced 706 publications. After removing duplicates, inaccessible records, entries with missing source information, and works not directly relevant to Indigenous participation or ownership in the energy sector, 116 studies were retained for detailed review. These works form the theoretical foundation of this synthesis, providing insights into the evolving roles, governance structures, financing mechanisms, and empowerment pathways for Indigenous communities within the energy sector.

(2) News Coverage

To complement academic evidence with current, practice-oriented perspectives, we conducted systematic Google searches of recent media coverage using the following keywords: “Indigenous equity energy Canada”; “Indigenous ownership energy”; “Indigenous pipeline stake”; “First Nations energy participation”; “Indigenous loan guarantee energy”; “Indigenous community energy transition equity”. These keywords were selected to capture a broad range of real-world

developments related to ownership structures, financing mechanisms, and participation models involving Indigenous communities in the energy sector.

These searches yielded 115 news articles. After excluding inaccessible links, incomplete records, and items not directly related to Indigenous participation or equity partnerships in the energy sector, a final sample of 58 articles was retained. This media dataset captures recent developments, emerging case examples, and stakeholder narratives that are often not reflected in academic literature. As such, it provides important contextual insights into public discourse, policy framing, and the evolving landscape of Indigenous equity participation.

Data Synthesis and Analysis

To assess the evolution and maturity of the literature, we conducted a temporal mapping of all identified academic and grey literature. As shown in Figure 1, the distribution of studies reveals a clear concentration in recent years, with a marked increase in publications after 2018 and a peak in 2023. Earlier contributions are relatively sparse and primarily conceptual or policy-oriented in nature. This temporal pattern suggests that Indigenous equity participation in the energy sector is a rapidly emerging field, where scholarly and policy attention has grown only in the past decade. Therefore, the inclusion of both academic and grey literature is essential to capture the most recent developments and policy-relevant insights that may not yet be fully reflected in peer-reviewed publications.

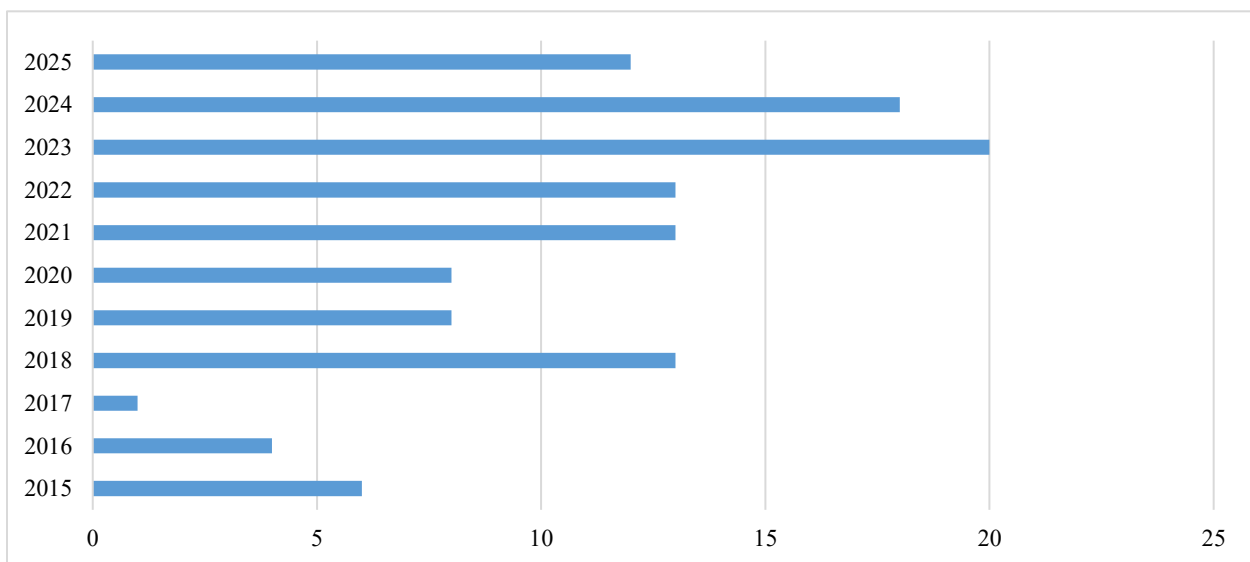


Figure 1. Temporal Distribution of Academic and Grey Literature

To complement the temporal analysis, we conducted a textual analysis of article titles to identify dominant themes within the literature. The word cloud presented in Figure 2 visualizes the frequency of key terms, with larger words indicating higher frequency. Prominent themes include “democracy,” “governance,” “reconciliation,” and “transitions,” suggesting that the literature primarily advocates broader discussions around energy governance, community

empowerment, and justice-oriented transitions. The prominence of terms such as “partnerships,” “management,” and “access” further highlights an emphasis on institutional arrangements and stakeholder coordination. Notably, the relative absence of explicit financial terms indicates that existing research has paid limited attention to the investment and financial landscape of Indigenous equity participation. This observation reinforces the need for a synthesis that bridges governance-focused perspectives with financial and economic analysis.

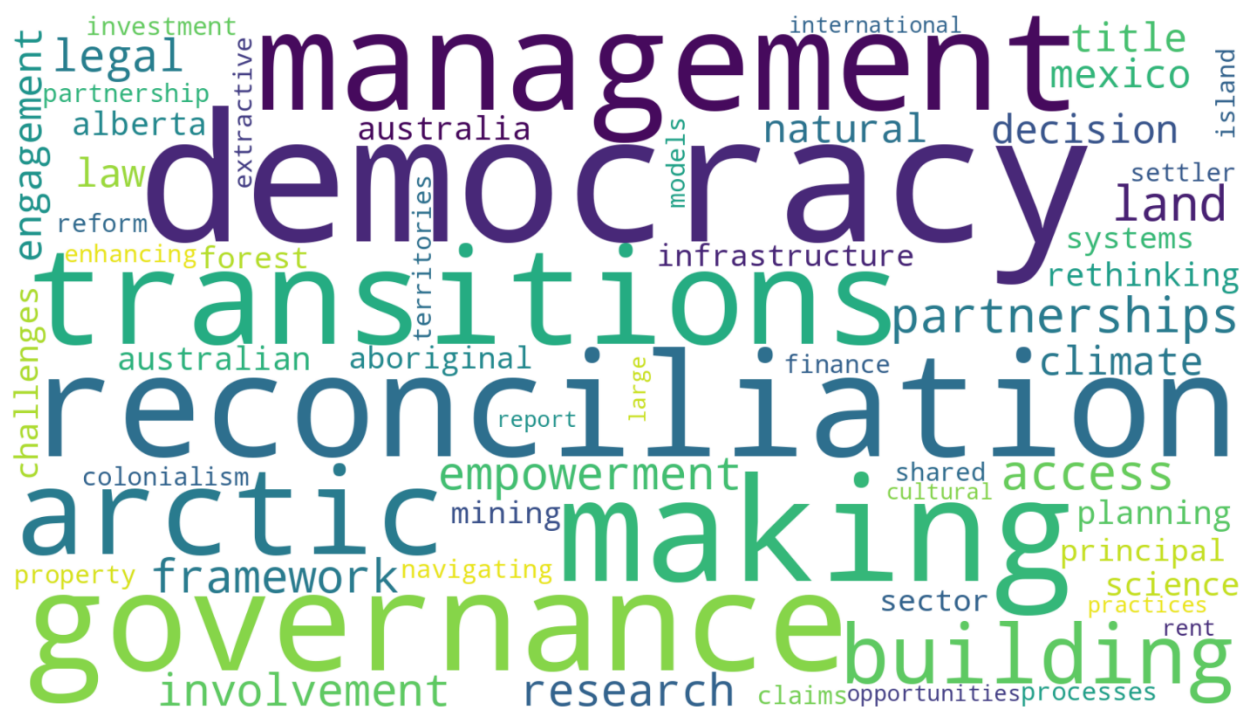


Figure 2. Thematic Distribution of Keywords in Article Titles

Following selection, materials were coded thematically using an inductive approach. Key themes were categorized under:

- Roles and contributions of Indigenous communities in the energy sector.
- Engagement methods between Indigenous communities and energy firms.
- Motivations and approaches for enabling Indigenous equity participation.

This coding process enabled a systematic comparison of evidence on both converging insights and areas of divergence between academic research and practice-oriented accounts. In particular, the inclusion of grey literature provided access to real-world cases, policy instruments, and financing arrangements that are often underrepresented in scholarly work.

Building on this thematic structure, the synthesis moves beyond descriptive categorization to examine the underlying mechanisms through which equity participation shapes project outcomes, governance structures, and risk allocation. This approach allows us to connect micro-level practices (e.g., partnership designs or financing mechanisms) with broader institutional and policy contexts. Importantly, by juxtaposing governance-oriented themes with the relative scarcity

of finance-related discussions identified in the textual analysis, the synthesis highlights a critical gap in the literature. It provides a foundation for integrating financial and economic perspectives into the study of Indigenous equity participation.

Results

Research on Roles of Indigenous Communities in the Energy Sector

Prior studies highlight the critical role of empowered Indigenous communities in advancing energy democracy, transitions, and addressing sustainability goals (e.g., Baker, 2016; MacArthur & Matthewman, 2018; Mullally et al., 2018; Szulecki, 2018; Van Veelen, 2018; Van Veelen & Van Der Horst, 2018; Lennon et al., 2019; Morrissey et al., 2020; Schwarz, 2020; Szulecki & Overland, 2020; Van Wagner, 2021; Wahlund & Palm, 2022; Singh, 2024). Businesses and governments should engage with these communities as part of an active engagement. They should respect Indigenous voices and traditions that are central to decision-making processes.²³ Meaningful collaboration requires securing free, prior, and informed consent (FPIC) by integrating traditional knowledge into modern energy solutions.²⁴ For instance, the Indigenous Clean Energy (ICE) organization positions itself as a platform dedicated to advancing the participation of First Nations, Inuit, and Métis communities in the clean energy sector. The organization promotes Indigenous capacity-building programs, skills development, career training, mentorship, and community-driven initiatives while also offering a platform for practitioners and community representatives to exchange program ideas.²⁵ A similar network has also been established in Australia, promoting the beneficial role of Indigenous communities in the clean energy transition.^{26, 27}

Through the First Nations clean energy strategy (2024–2030), Australia established a national framework to ensure that Aboriginal and Torres Strait Islander peoples benefit from the clean energy transition. A result of extensive consultations, the strategy envisions a sustainable energy future by focusing on three main goals: expanding access to affordable and clean energy in the Indigenous communities; generating economic opportunities through ownership and employment; and promoting equitable partnerships among Indigenous peoples, industry, and governments.²⁸ Thus, there is an urgent need for the energy and mining industries to integrate diversity, equity, and inclusion (DEI) principles for Indigenous communities. It would make their

²³ See *Respecting the rights of Indigenous Peoples and local communities can advance the energy transition*: <https://www.ihrb.org/latest/respecting-the-rights-of-indigenous-peoples-and-local-communities-can-advance-the-energy-transition>

²⁴ See *Indigenous Peoples and Local Communities Must Lead the Way to a Just Energy Transition*: <https://www.fordfoundation.org/news-and-stories/stories/indigenous-peoples-and-local-communities-must-lead-the-way-to-a-just-energy-transition/>

²⁵ See *Powering an Indigenous-led Clean Energy Future*: <https://indigenouscleanenergy.com/>

²⁶ See *Introducing the First Nations Clean Energy Network*: <https://www.firstnationscleanenergy.org.au/>

²⁷ See *First Nations Energy Projects*: <https://www.firstnationscleanenergy.org.au/energy-projects>

²⁸ See *The First Nations Clean Energy Strategy 2024-2030*: <https://www.energy.gov.au/sites/default/files/2024-12/First%20Nations%20Clean%20Energy%20Strategy.pdf>

voices central in decision-making because bypassing Indigenous consent may only elevate legal risk while registering a significant ethical and social backlash. Meaningful engagement and benefit-sharing should become standard practice.^{29, 30}

Recent empirical work further demonstrates that Indigenous communities play an active role as carbon stewards and norm-setters in sustainability debates. Rather than being passive recipients of externally designed energy systems, Indigenous communities are expected to play a pivotal role in environmental sustainability. Using a lifecycle approach, Stewart et al. (2016) construct detailed carbon profiles for two remote Australian Indigenous communities and document lower per-capita emissions compared to the national average. Although infrastructural and housing design constraints could raise stationary energy use and associated costs, this combination of structurally imposed energy inefficiencies and relatively low-carbon lifestyles underscores the distinctive position of Indigenous communities in national carbon landscapes. Complementing this quantitative evidence, Velasco-Herrejón et al. (2022) analyse wind energy projects in Zapotec territories in southern Mexico and demonstrate that Indigenous sustainable worldviews, centred on relational land stewardship, cultural continuity, and collective well-being, often clash with modernist, technocratic visions promoted by developers and policy actors. These ontological misalignments generate persistent conflict, revealing that Indigenous communities are also epistemic actors who actively contest and redefine the terms of low-carbon transitions.

Torrie et al. (2020) and Le Dressay et al. (2022) emphasize the importance of partnering with Indigenous communities, particularly in areas such as equity ownership, employment, and procurement. Breaking down systemic barriers would promote a sustainable transition. The authors call for a comprehensive plan for a clean economy and infrastructure investments, with a full recognition of Indigenous rights and ownership.³¹ It includes facilitating access to clean energy technologies and ensuring that Indigenous peoples benefit equitably from the transition to a low-carbon economy. Both studies advocate for an inclusive approach to infrastructure development in Canada, highlighting the necessity to integrate Indigenous governance structures and perspectives to reduce transaction costs and promote equitable economic participation.

Hoicka et al. (2021) explore how Indigenous participation in renewable energy projects can contribute to a genuine reconciliation in Canada. Through a review of case studies and survey data, the authors find that renewable energy projects have the potential to foster economic development, strengthen Indigenous governance, and align with cultural and land stewardship values. This is possible by involving Indigenous communities in early planning, ownership, and

²⁹ See *Diversity, Equity, and Inclusion for Indigenous Communities in the Energy Transition*: <https://intelliwings.com/blogposts/2024/03/04/diversity-equity-and-inclusion-for-indigenous-communities-in-the-energy-transition/>

³⁰ See *A transition to clean energy was supposed to be equitable. Instead, it's hurting Indigenous communities*: <https://grist.org/indigenous/a-transition-to-clean-energy-was-supposed-to-be-equitable-instead-its-hurting-indigenous-communities/>

³¹ See also *Human Rights and Indigenous Peoples in Just Energy Transition*: <https://iprights.org/index.php/en/all-news/human-rights-and-indigenous-peoples-in-just-energy-transition?highlight=WyJtaW5pbmciLCJtaW5lIiwibWluZXMiLCJtaW5lZCJd>

decision-making. The study also highlights a range of ongoing issues, comprising power imbalances, insufficient recognition of Indigenous rights, and limited access to funding. The authors argue that while renewable energy offers a promising path toward reconciliation and a sustainable world, it must be rooted in Indigenous leadership, shared interests, and shared priorities.

Miller and Parkins (2023) explore perspectives on Indigenous-owned renewable energy in Alberta (Canada) through in-depth interviews with 22 informants who develop and fund Indigenous-owned renewable energy projects. The authors document that for the success of these initiatives, projects are expected to be not only community-owned but also community-led, coupled with an active Indigenous engagement. Maruca (2019) advocates for reforms to support genuine tribal inclusion in renewable projects through federal financial assistance, regulatory adjustments, and tax policy changes. Further, by improving institutional design and aligning interests, Vining and Richards (2016) argue that Indigenous communities can better capture resource rents from non-Indigenous corporations and attenuate their risk of exploitation. Savic and Hoicka (2023) investigate the role of Indigenous Economic Development Corporations (EDCs) in renewable energy projects across Canada. The authors advocate that through joint ventures, partnerships, and other ownership structures, EDCs could enable the generation of long-term revenue and foster community pride, capacity-building, and meaningful reconciliation.

Recent work in political ecology and climate governance further sharpens the understanding of Indigenous peoples as distinct rights-holders and knowledge-holders within environmental and energy transitions. In the Brazilian Atlantic Forest, Sandroni (2023) compares Indigenous perspectives on biodiversity protection with institutionalised science-based environmentalism promoted by state agencies and conservation non-governmental organizations (NGOs). The study demonstrates how Indigenous knowledge articulates alternative diagnoses of ecological degradation and plural pathways for conservation that are systematically marginalised through asymmetric power relations. Similarly, Kimura (2024) argues that conflating Indigenous peoples with generic “local communities” within climate regimes obscures their distinct legal status, culture, and vulnerability, thereby undermining just energy transitions, especially in Arctic Inuit and Sámi contexts. Together, these studies underscore that the role of Indigenous communities in the energy sector cannot be reduced to the stakeholder status; rather, they are central actors in defining what environmental protection and justice mean.

Beyond energy-specific participation, Indigenous peoples also shape the energy sector through their diverse ontological and epistemological worldviews. Shaikh-Grande and Grande Garcia (2024) argue that dominant Eurocentric DEI frameworks can reproduce inequities. Although not energy-specific, their insights imply that Indigenous communities should be recognised not merely as project beneficiaries or co-owners, but as epistemic authorities whose relational understandings of land, responsibility, and justice shape how energy systems are designed and evaluated.

In line with Indigenous economic empowerment and energy justice, ICE demonstrates how Indigenous ownership, through equity stakes, joint ventures, or full community-led projects, enhances local employment, supports cultural priorities, and accelerates project approvals.³² Collaboration among Indigenous communities, private industry, and government entities bears the capacity to promote innovative solutions and the successful implementation of projects, spotlighting that community ownership is not only economically advantageous but also critical to a just and efficient clean energy transition. Gall (2020), Hussein and Musilek (2021), Lim et al. (2024), and Robb et al. (2024) highlight how a combination of techno-human variables, including community involvement and governance structures, ownership and control, policy infrastructure, community energy plans, Indigenous knowledge and respect, and local capacity, shapes the success of renewable energy in Indigenous communities. In particular, the success hinges on projects being community-led, driven by local values and knowledge rather than external agendas, building upon connections to land, traditions, and future well-being.

Beyond energy-specific capacities, recent work on environmental literacy underscores that Indigenous communities possess knowledge resources, positioning them as fully capable partners in environmental and energy governance. Bidarinjani et al. (2023) find no statistically significant differences in environmental literacy between Indigenous residents of Bayan Village and urban residents of the Dasan Sari area on Lombok Island. This result indicates that lower Indigenous participation in formal environmental or energy decision-making reflects institutional exclusion rather than cognitive or informational deficits, strengthening the case for community-led and co-governed low-carbon transitions.

While exploring the emerging Indigenous equity co-ownership in mining projects, Kung et al. (2022) highlight how negotiated agreements between mining companies and Indigenous peoples could increasingly secure long-term benefits. The authors propose a framework to systematically assess the value proposition of these inclusive projects, setting the stage for deeper research and more equitable engagement in the resource development. Berry et al. (2022) emphasize the importance of property rights in securing equitable benefits for Indigenous communities, while Hamilton (2018) underlines the need to prioritize reconciliation over property rights in disputes involving Aboriginal titles.

Legal and constitutional reforms can profoundly reshape Indigenous roles by redefining whose interests are prioritised in land and energy development. Varma (2023) shows how land acquisition laws can enable Indigenous displacement when ancestral territories are reclassified for infrastructure and industrial projects. In Mexico, Ancheita and Wiesner (2015) demonstrate that post-2013 energy reforms subordinated Indigenous land and resource rights to private and state interests, weakening FPIC protections and reframing Indigenous peoples as obstacles to liberalisation. These studies show that Indigenous roles in the energy sector are inseparable from the legal regimes that either empower or dispossess them.

³² See *Accelerating Transition: Economic Impacts of Indigenous Leadership in Catalyzing the Transition to a Clean Energy Future Across Canada*: <https://indigenouscleanenergy.com/wp-content/uploads/2022/06/ICE-Accelerating-Transition-Data-Report-web.pdf>

The health and food-systems impact of energy projects further reveal Indigenous communities' role as territorial stewards. Jonasson et al. (2019) report that Canada's proposed Trans Mountain pipeline would threaten the Tsleil-Waututh Nation's health equity and food sovereignty through contamination risks and climate-driven ecological stressors, reinforcing that Indigenous peoples are not merely project stakeholders but guardians of culturally embedded ecological systems.

Quantitative and qualitative evidence suggests that Indigenous communities actively shape energy transitions. Karanasios and Parker (2018) document a shift from utility-driven hydro and wind projects to community-driven solar initiatives across 144 Indigenous communities in Canada, reflecting Indigenous agency in local electricity governance. Hampl (2023) similarly shows that decentralised renewable energy in Amazonian Indigenous communities can enhance livelihood security while generating conflicts over development priorities and territorial control.

Droubi et al. (2022) critique the concept of energy democracy for its limited scope, arguing that it often fails to account for justice issues and Indigenous perspectives. Similarly, Coy et al. (2021, 2022, 2023) present a multidisciplinary approach to community empowerment in energy transitions, outlining empowerment as a multifaceted process that encompasses participation, agency, autonomy, and power shifting. These studies reveal that meaningful empowerment requires active participation, supported by effective governance structures and transparent mechanisms.

Beyond empirical case studies, rights-based scenario thinking further underlines Indigenous peoples' constitutive role in shaping energy conservation. Sarkki et al. (2023) propose a "Rights for Life" scenario within the nature futures framework that centres both the rights of nature and the collective rights of Indigenous Communities. Using Arctic reindeer herding as an illustrative case, they report that rights-based scenarios can deliver more socially equitable outcomes than conservation models that recentralise control in state or expert institutions.

Recent work on Indigenous environmental heritage positions Indigenous communities as intergenerational stewards. Datta (2019) demonstrates that the environmental heritage rights of the Laitu Khyeng community in Bangladesh are closely tied to Indigenous temporal relationships with land and water. Datta et al. (2024) similarly show how the Khasis community's land-based knowledge underpins adaptive practices while remaining marginalised within formal climate governance. Together, these studies position Indigenous communities as key norm-setters for sustainability rather than peripheral participants.

Finally, Indigenous communities also function as legal and institutional actors whose authority over land conditions the possibilities for energy development. Yahya and Syam (2018) show how contradictions between forestry and village law in Indonesia undermine customary forest governance, weakening community-defined development pathways. Secure Indigenous land rights are a structural precondition for meaningful Indigenous agency in future low-carbon transitions.

Research on Engagement Methods between Indigenous Communities and Energy Companies

The energy sector offers opportunities to address long-standing inequities through inclusive practices, yet challenges persist.³³ Hoicka and MacArthur (2018) examine Indigenous participation in renewable energy projects in Canada and New Zealand, noting significant barriers related to limited access to capital and policy constraints. While examining the involvement of Indigenous communities in Arctic renewable energy initiatives, Cambou and Poelzer (2021) identify four distinct patterns of Indigenous engagement: opposition to large-scale projects on traditional lands, co-ownership of utility-scale projects, community-driven smaller-scale projects, and externally initiated community-scale projects. Albeit some projects align with energy justice principles, many Indigenous communities remain marginalized in decision-making processes, facing significant challenges such as passive consultation. The authors advocate for an active Indigenous leadership in energy planning to achieve a just and inclusive energy transition in the Arctic.

Recent scholarship further emphasises that effective engagement requires building local socio-technical capacity rather than relying solely on procedural consultation. Drawing on workshops with northern and Indigenous community members in Canada and Alaska, McMaster et al. (2024) propose a framework for assessing local capacity to pursue and sustain energy transitions. The authors highlight interdependent pillars, including local energy champions and inter-community networks, community-defined values and long-term goals, embedded knowledge of local energy resources and technologies, and skills for system innovation and youth leadership. This framework reconceptualises engagement as a long-term institution-building process linking technical decision-making to community aspirations and self-determination. In parallel, Velasco-Herrejón et al. (2022) document that externally imposed wind projects, which neglect Indigenous governance structures and customary practices, reproduce colonial power relations and trigger contestation, indicating that meaningful engagement must move from one-off consultation towards co-design and co-governance.

Using the Trans Mountain expansion project (TMEP) as a base, Pasternak and Schabus (2019) argue that, despite their constitutional duty, governments may tolerate infringement on Aboriginal title and rights more than private corporations. Indigenous communities bear the brunt of uncertainty, legal ambiguity, and state-imposed constraints, meaning uncertainty gets privatized (absorbed by Indigenous and affected communities) and risk is socialized (spread across the public domain through taxpayer funding). Across the world, as part of several Indigenous-led renewable energy projects, Indigenous communities have secured equity stakes, revenue sharing, local electricity supply, community infrastructure building, community housing, and royalty

³³ See *Indigenous Participation in the Energy Transition*: <https://www.ieso.ca/get-involved/indigenous-relations>

payments.³⁴ Recently, in May 2025, Enbridge announced that Stonlasec8 Alliance Limited (a partnership of 36 First Nations in British Columbia), backed by a loan guarantee,³⁵ will invest \$715 million to acquire a 12.5% ownership stake in Enbridge's Westcoast natural gas pipeline system.³⁶ As part of its Indigenous reconciliation action plan, the project is expected to generate benefits for participating Nations in terms of housing, education, environmental stewardship, and cultural preservation.³⁷ The deal also underscores growing Indigenous equity participation in Canada's energy sector.³⁸ Similarly, TC Energy announced an agreement to sell a 5.34% minority stake in its natural gas pipeline systems to a group of 72 Indigenous communities across Alberta, British Columbia, and Saskatchewan.³⁹ The agreement aims to foster long-term relations with Indigenous communities.⁴⁰

Young (2021) examines the balance between Indigenous economic self-sufficiency and preservation of cultural integrity among Indigenous Nations in Canada. The author critiques how traditional corporate and nonprofit structures inadvertently erode the cultural and community values central to Indigenous identities. Hybrid governance models in response to Indigenous empowerment remain insufficient to support true economic reconciliation. For long-term sustainability and fair inclusion, Indigenous-centric legal and governance frameworks are required.

Atleo and Boron (2023) investigate how Canada's approach to resource extraction, despite a national rhetoric of reconciliation and Indigenous rights, continues to reflect the logic of settler colonialism. The authors argue that while the participation of Indigenous communities has increased through revenue-sharing and impact and benefit agreements (IBAs), these arrangements often resemble extractive bargains that occur at local, national, and global scales. In other words, these extractive gains undermine the principles of self-determination and meaningful FPIC, as

³⁴ See *Learning from success in renewable energy: Indigenous leadership & shared prosperity*:
<https://www.business-humanrights.org/en/blog/learning-from-success-in-renewable-energy-indigenous-leadership-shared-prosperity/>

³⁵ See *Enbridge to sell stake in B.C. pipeline to Indigenous groups*:
<https://financialpost.com/commodities/energy/oil-gas/enbridge-sell-bc-gas-pipeline-indigenous-groups>

³⁶ See *First Nations make historic investment in Enbridge's BC natural gas pipeline system*:
<https://www.enbridge.com/stories/2025/may/first-nations-investment-enbridge-westcoast-gas-system-bc-reconciliation-economic-benefits>

³⁷ See *Enbridge sells stake in Westcoast pipeline to First Nations group*:
<https://www.cbc.ca/news/canada/calgary/enbridge-sells-stake-in-westcoast-pipeline-to-first-nations-group-1.7535543>

³⁸ See *Enbridge to Sell Stake in Western Canada Pipeline to Indigenous Groups*:
<https://www.morningstar.com/news/dow-jones/202505156690/enbridge-to-sell-stake-in-western-canada-pipeline-to-indigenous-groups>

³⁹ See *TC Energy announces Canada's largest Indigenous equity ownership agreement*:
<https://www.tcenergy.com/announcements/2024/2024-07-30-tc-energy-announces-canadas-largest-indigenous-equity-ownership-agreement/>

⁴⁰ See *Canada's TC Energy to sell gas pipeline stake to Indigenous communities for \$722 million*:
<https://www.reuters.com/business/energy/tc-energy-sell-pipeline-stake-certain-indigenous-communities-722-mln-2024-07-30/>

Indigenous interests are still getting sacrificed in the name of the “national interest,” and their inclusion in development projects is merely a passive consultation with limited negotiation power.

By highlighting the role of Indigenous communities in green projects, Fitzgerald and Lovekin (2018) document how a potential partnership between Indigenous communities and utilities in Canada’s northern territories could reduce reliance on diesel. Building trust, respecting Indigenous protocols, and fostering open communication are essential for successful partnerships. However, the overall progress is under pressure due to unclear policies, regulatory fragmentation, and difficulties in determining fair pricing within subsidized diesel systems. The authors also recommend greater information sharing, Indigenous participation in policy design, transparent cost definitions, and regulatory reforms to support genuine partnerships.

Governance frameworks and collaborative approaches are crucial for advancing financial inclusion and enhancing stakeholder empowerment. Garrett and Wood (2020) highlight the role of Indigenous communities in protecting biodiversity and championing the rights of nature, advocating for policies that align with Indigenous worldviews and legal orders. These findings align with Scott (2020), who argues for Indigenous leadership in Canada’s clean energy initiatives as a cornerstone of reconciliation and equity. Arjaliès et al. (2021) highlight the role of the responsible investment industry in Canada in situating the economic, social, and environmental well-being of Indigenous communities within their investment mandates. The authors emphasize the need for the responsible investment industry to address these gaps and engage in meaningful reconciliation efforts.

To comprehend robust governance frameworks, Kung et al. (2022) point out key areas in ensuring the success of Indigenous economic innovation within projects. Key areas revolve around these ideas: How is the Indigenous entity governed? Which members of the broader Indigenous community are involved in decision-making, and which are excluded from oversight roles? Are there clear and transparent rules governing equity management and the distribution of financial returns? Finally, does the Indigenous entity have access to the necessary resources and expertise to effectively administer its equity holdings?

Spurred by several provincial-level programs, such as Ontario’s Aboriginal loan guarantee,⁴¹ Indigenous groups have invested nearly \$10 billion since 2012, primarily in transmission, hydroelectric, and pipeline assets. In their report, the Macdonald-Laurier Institute underscores the growing importance of Indigenous equity ownership by providing ‘skin-in-the-game’ to the communities.⁴² However, it also argues the role of other alternatives, such as loan guarantees, royalties, procurement decisions, and tax credits, in advancing climate goals and ensuring Indigenous economic reconciliation.⁴³ The success of these agreements depends on an active Indigenous involvement rather than a passive consultation approach.

⁴¹ See *Ontario Financing Authority: Aboriginal Loan Guarantee Program*: <https://www.ofina.on.ca/algp/>

⁴² See *Indigenous Peoples’ Ownership of Energy Projects*: <https://stikeman.com/en-ca/kh/canadian-energy-law/Indigenous-Peoples-Ownership-of-Energy-Projects>

⁴³ See *Indigenous equity and its growing role in Canadian energy and resource development*: https://macdonaldlaurier.ca/wp-content/uploads/2023/12/20231127_Indigenous-Equity-Exner-Pirot_PAPER-v3.pdf

Systemic structural barriers, colonial legacies, and uneven policy implementations should be addressed to ensure governance inclusion of Indigenous communities. Genuine progress requires embedding Indigenous rights, decision-making power, and benefit-sharing into all layers of government policies for a low-carbon economy in the future.⁴⁴

Empirical studies of professional practice provide granular insights into what constitutes “good engagement” in everyday governance. Jackson et al. (2019) analyse practitioner interviews in remote Australian communities and show that technocratic models of engagement still dominate water and energy management, despite policy rhetoric of partnership. Meaningful collaboration is constrained by institutional and cultural barriers. At the level of human intermediaries, Hartmann (2025) argues that effective cooperative extension educators are deeply embedded in communities, cultivate long-term trust, develop contextual understanding, demonstrate willingness to learn, and position themselves as allies rather than external experts. These findings indicate that engagement is shaped as much by everyday relational practices as by formal consultation procedures.

Insights from Indigenous dispute resolution further illustrate various engagement dynamics. Castro (2023) shows that Colombian Indigenous mediation systems emphasise identity, autonomy, and harmony, while integration with state law generates tensions over land rights and self-governance. Applied to the energy sector, this implies that grievance and conflict-resolution mechanisms should be grounded in Indigenous legal traditions and co-designed rather than subordinating customary law to statutory frameworks.

Mahmud and Roy (2025) show that in remote First Nations communities in Australia, energy insecurity persists due to diesel dependence, geographic isolation, and regulatory gaps. They argue that advanced community microgrids, rights-aligned prepaid metering, artificial intelligence-based energy management, and on-country workforce development can jointly support energy equity and sovereignty. The authors also highlight that these systems are optimal only when First Nations lead the planning, implementation, and governance.

Evidence from Saskatchewan and Alberta demonstrates that a shift from consultation to shared governance requires substantial relational investment. Datta and Hurlbert (2019) argue that firms must move from “acceptance” to informed consent and ultimately toward co-ownership as trust and legitimacy are built over time. Unlike the information provision, the latter trajectory frames engagement as part of shared power. Complementing this, the international workshop on Indigenous communities and government partnerships (2024) identifies Indigenous-led stewardship, shared management, and bilateral capacity-building as key principles for equitable partnerships.

Emerging capacity-based work reinforces a long-term perspective. McMaster et al. (2023) explore four Gwich'in communities in Canada and identify community values, transferable skillsets, youth leadership, and local energy champions as core capacity attributes, while highlighting persistent gaps in institutional support and policy linkages. From a practical planning perspective, Chattopadhyay and Witmer (2025) report the existence of a rationing phenomenon in

⁴⁴ See *Indigenous ownership in the energy transition*: <https://ccli.ubc.ca/indigenous-ownership-energy-transition/>

the Navajo Nation, i.e., forcing planners to prioritize some equity dimensions over others. This sidelines recognitional and restorative justice. Divergent community views on fairness further complicate engagement, underscoring the need for holistic, transparent, and multi-institutional planning processes.

Legal and communicative structures also emphasize the quality of engagement. Swardhana and Jenvitchuwong (2023) and Putri (2024) show that weak protection of customary land rights in Indonesia and Thailand undermines Indigenous participation and exacerbates conflict. Ferguson and Sidorova (2023) argue that meaningful engagement in large-scale infrastructure planning requires operating in Indigenous languages, which encode identity, memory, and legal meaning, enabling more reciprocal and culturally grounded engagement.

There is growing recognition that consultation and consent must move beyond a procedural box-ticking approach. Loginova et al. (2025) review circumpolar Arctic cases and show that state-led consultation often serves to legitimise pre-determined projects, whereas Indigenous-centred decision-making relies on Indigenous-defined protocols, community-led impact assessments, and Indigenous legal orders.

A complementary strand highlights engagement as a continuous and relational process. Villaluz et al. (2023) document that Talaandig language revitalisation in the Philippines depends on sustained community–academe co-production. Tapio et al. (2024) propose a continuous participation and feedback model for utilities and regulators. Using an Indigenist framework in Treaty 6 Territory, Datta et al. (2022) articulate community-led principles for managing pipeline risks. Collectively, these studies reject late-stage consultation in favour of iterative dialogue and Indigenous-led governance.

Finally, recent work on small hydropower and solar megaprojects reveals how engagement failures emerge when Indigenous livelihoods and worldviews are materially sidelined. Lakeman (2023) demonstrates that Sámi opposition to hydropower in Norway is shaped by reindeer herding, cumulative impacts, and governance histories. El Mekaoui et al. (2020) analyse a mega solar project in a Mayan community in Mexico and show that conventional sustainability framings obscure local power relations while undermining energy democracy. Together, these studies demonstrate that effective engagement must address power asymmetries, respect Indigenous epistemologies, and enable Indigenous-centred control over the terms of the energy projects.

Research on Motivations and Approaches for Indigenous Equity Participation

Innovative mechanisms, like equity loan guarantees, have emerged as potential solutions to support Indigenous equity ownership initiatives. The emerging literature on rights-based approaches provides a normative foundation for why Indigenous communities seek equity participation and governance roles in resource and energy projects. Chen and Gilmore (2015) report “biocultural rights” as a holistic framework that links the protection of Indigenous lands, ecosystems, and cultural practices. They emphasize that natural and cultural resources are intertwined and must be safeguarded collectively across generations. From this perspective, Indigenous equity participation is not only a financial strategy but an instrument for asserting

sovereignty over ecological and cultural assets. At the same time, institutional legacies of colonialism and systemic exclusion shape how Indigenous peoples relate to contemporary organisations and knowledge systems.

Focusing on science, technology, engineering, and mathematics (STEM) education, Kumblathan et al. (2025) argue that advancing equity for Indigenous students requires frameworks explicitly grounded in Indigenous reconciliation, including recognition of intergenerational trauma, mistrust rooted in residential schools, and ongoing barriers to participation. For Indigenous equity participation in the energy sector to be meaningful, financial inclusion must be accompanied by institutional redesign that promotes cultural safety, addresses historical harms, and supports Indigenous self-determination in decision-making.

Building on the equity ownership model, Yalamala et al. (2023) examine the involvement of Indigenous communities in large-scale renewable energy projects across Canada. The authors advocate for community engagement, capacity-building, and the inclusion of Indigenous knowledge in decision-making. When implemented effectively, such Indigenous involvement not only advances renewable energy goals but also enhances social well-being and environmental stewardship. However, Coy et al. (2023) caution that empowerment often remains a buzzword, highlighting the importance of robust community capacity-building and supportive governing entities to enable higher levels of empowerment.

Bledsoe (2022) examines various ownership structures for green energy projects in collaboration with Indigenous communities. Drawing on multiple Canadian case studies, the author outlines several ownership models, including full community ownership, equity participation (where communities act as shareholders), general and limited partnerships with developers or utilities, and joint ventures among Indigenous groups. The analysis identifies key success factors, i.e., community control and governance, revenue sharing, capacity-building, and alignment with cultural values. Ultimately, meaningful Indigenous involvement, from decision-making to financial benefit, is crucial for sustainable energy development in remote regions. For instance, TC Energy, in its Indigenous equity participation announcement for 2024, included Indigenous representation on TC Energy's Indigenous Advisory Council. This innovative transaction, backed by government loan guarantees, not only injects capital and enhances TC Energy's financial position but also empowers Indigenous communities through meaningful infrastructure ownership.⁴⁵

Recent research on community-led bioenergy systems highlights how Indigenous leadership, resource control, and local knowledge motivate deeper forms of participation. Buss et al. (2021) examine five remote Indigenous communities in Canada. They explore major risks and barriers to wood-based bioenergy development, including high upfront capital costs, logistical challenges in maintaining sustainable wood supply chains, and limited opportunities for community leadership in project governance. While environmental risks are seen as less salient

⁴⁵ See *TC Energy announces Canada's largest Indigenous equity ownership agreement*: <https://www.tcenergy.com/announcements/2024/2024-07-30-tc-energy-announces-canadas-largest-indigenous-equity-ownership-agreement>

than financial and operational ones, communities emphasise that restoring community-based resource management, supported by local knowledge and workforce, is crucial for de-risking bioenergy investments. Recognising positive externalities, such as local employment, energy sovereignty, and strengthened stewardship, would make these projects more attractive.

The framing of distributed energy resources (DERs) as “equity assets” offers an alternative approach to Indigenous participation. Bird et al. (2024) suggest that DERs in disadvantaged and tribal communities are designed to maximise local ownership, control, and benefit-sharing. The communities generate both financial and non-financial benefits, improving reliability, reducing costs, and advancing energy sovereignty. This implies that Indigenous equity participation need not be confined to large utility-scale assets. Appropriately structured DER portfolios can function as community-held equity, supporting wealth-building and self-determined energy transitions. Complementing the technological focus, Mawere and Mukonza (2025) argue in the South African context that embedding Indigenous knowledge and Afrocentric governance paradigms into energy planning can simultaneously address reliability problems, promote socio-economic empowerment, and strengthen environmental stewardship. Equity stakes and ownership structures are most meaningful when embedded in community-defined governance structures.

Tailored technological solutions also create new avenues for Indigenous communities to exercise control in ways that fit their livelihoods and mobility patterns. Obydenkova and Pearce (2016) assess the technical and economic viability of mobile solar systems for nomadic reindeer-herding communities in Yakutia and Finnmark. Their simulations report that these systems can outperform purely fuel-based systems and be made sufficiently lightweight for reindeer sled transport. Here, Indigenous participation in energy transitions takes the form of community-appropriate technological configurations that maintain mobility, support traditional livelihoods, and reduce dependence on external fuel supply chains, thereby enhancing de facto energy sovereignty.

Several programs have also been launched by governments at different levels, trying to integrate Indigenous knowledge into the green transition.⁴⁶ For instance, under the Indigenous clean-energy stream, part of the federal renewable electrification program, renewable electricity and grid modernization projects are initiated to deliver direct benefits to Indigenous communities. The program aims to promote Indigenous equity ownership, benefits sharing, and create tangible benefits such as jobs, skills development, and improved energy affordability and reliability for Indigenous partners.⁴⁷ Inclusive initiatives that build trust and ensure long-term viability play a potent role in a just transition. Indigenous equity participation in clean energy projects is both a moral responsibility and a strategic necessity to advance climate goals. Clean energy partnerships

⁴⁶ See *Indigenous involvement in the energy industry powers prosperity*: <https://www.canadapoweredbywomen.ca/indigenous-involvement-in-the-energy-industry-powers-prosperity/>

⁴⁷ See *Indigenous-Led Clean Energy stream*: <https://natural-resources.canada.ca/climate-change/indigenous-clean-energy-stream>

are crucial to foster economic self-determination, job creation, and local capacity-building in Indigenous communities.⁴⁸

Zamzam et al. (2023) and Leonhardt et al. (2023) show that, in Indigenous communities in Canada, financial support and community-ownership mechanisms are particularly critical for enabling community renewable energy projects, yet are often difficult to access due to capacity constraints, competitive funding structures, and rules designed for centralised utility ownership. Fleming (2015) similarly argues that “culture-aligned” Indigenous economies are more effective at sustaining long-term employment in remote Australian communities, but governments and private investors frequently doubt their commercial viability. The author proposes a business support framework that works within existing governmental and market institutions while centring cultural alignment, thereby reducing perceived investment risk and supporting Indigenous enterprises’ access to capital.

Equity-oriented technical designs complement these institutional efforts. Touzene et al. (2024) demonstrate, in a mixed community context, that power-sharing and demand-response mechanisms can embed equity criteria directly into allocation rules for renewable energy without undermining efficiency. Sabzi et al. (2025) further discuss equity-centred planning for community microgrids, while introducing indices for financial resilience and sustainability dimensions. Using an energy justice lens in Wales, Forman (2017) reports that community energy projects pursue local objectives and that policy support must sustain these equity gains, rather than focus solely on kilowatt-hours or cost metrics. Applied to Indigenous equity participation, these studies suggest that equity can and should be operationalised both in financial structures and in the technical design and evaluation of energy systems.

While formally acknowledging the role of Indigenous communities in its corporate plans, TC Energy adopted an Indigenous equity framework, formalizing a structured approach to offer equity ownership in energy and infrastructure projects to Indigenous groups. It articulates core values, such as sustaining intergenerational relationships, delivering meaningful benefits, and reducing regulatory uncertainty to ensure an aligned shared interest through asset ownership. The latter framework also contributes to a broader discussion involving commitments to advance in corporate ESG goals.⁴⁹ Similarly, CIB’s Indigenous equity initiative aims to ensure Indigenous participation in revenue-generating infrastructure projects. The initiative is a targeted financing program designed to enable First Nations, Métis, and Inuit communities to acquire ownership stakes, covering up to 90% of the equity purchase. As part of their strategic orientation, the projects must fall within Indigenous equity initiative’s five priority sectors, such as clean power, green infrastructure, broadband, public transit, and trade & transportation. The ultimate objective is to

⁴⁸ See *Indigenous Ownership in Clean Energy is a Universal Imperative*:
<https://berc.berkeley.edu/news/indigenous-ownership-clean-energy-universal-imperative>

⁴⁹ See *Canadian Indigenous equity framework*:
<https://www.tcenergy.com/siteassets/pdfs/sustainability/indigenous/journey-towards-reconciliation/tce-indigenous-equity-framework.pdf>

close market-access gaps and advance economic reconciliation by enabling communities to benefit from project returns.⁵⁰

Beyond infrastructure financing, broader renewable energy policy architectures can either support or constrain equity-oriented schemes for marginalised groups. Datta (2024) documents that in the US, low- and moderate-income rooftop solar incentives are more likely to emerge in states with renewable portfolio standards, while energy-efficiency policies have no systematic effect. Also, policy feedback from neighbouring states can reproduce regional disparities. These findings suggest that targeted Indigenous ownership or revenue-sharing schemes will not diffuse automatically; they depend on the design of wider regulatory frameworks and on feedback mechanisms that either reinforce or weaken commitments to serving vulnerable communities.

Legal debates on mining and marine resource governance highlight another motivation for Indigenous equity participation: the misalignment between who bears impacts and who shares in benefits. In Sweden, Tarras-Wahlberg and Southalan (2022) find that reindeer-herding Sámi, though holding rights over large territories, are largely excluded from benefit-sharing opportunities available to private landowners. Permitting frameworks neglect social and cultural impacts and lack robust consultation obligations. Kerr et al. (2015) analyze marine renewable energy in Scotland, Canada, New Zealand, and Australia and similarly show how the creation of private rights in “sea country” often advances a blue-growth agenda at the cost of Indigenous and marginalised coastal communities. These analyses imply that existing legislative frameworks frequently render Indigenous communities “impact bearers” without commensurate rights to economic upside, thereby motivating demands for equity stakes, co-ownership, and other benefit-sharing arrangements that more fairly align rights, risks, and rewards.

Empirical evidence from remote Indigenous communities in Canada supports the claim that renewable projects can materially enhance local well-being and strengthen the economic rationale for Indigenous ownership. Zapata (2024) constructs a panel of Indigenous communities (1981–2016) and finds that access to renewable energy is associated with statistically significant increases in well-being, reflecting improvements in employment, income, and local economic conditions alongside environmental gains. Schilling et al. (2025) report that a biomass combined heat and power system in the Kwadacha community dramatically increased local employment, community income, and avoided emissions, but ultimately became unsustainable due to high operating costs, maintenance issues, labour shortages, and entrenched diesel subsidies. Their findings suggest that Indigenous equity participation in community-scale renewables requires not only strong local benefits but also policy realignment, long-term technical support, and funding mechanisms.

The broader literature on community ownership and benefit sharing reinforces these insights. Slee (2015) argues that community-based equity participation in Scottish wind projects can support rural development, align local and national low-carbon goals, and potentially reduce local opposition. Tsyachnyouk et al. (2018) examine benefit-sharing agreements between oil consortia and Indigenous communities in sub-Arctic Russia, arguing that procedural and

⁵⁰ See *Indigenous Equity Initiative (IEI)*: <https://cib-bic.ca/en/indigenous-equity-initiative/>

distributive equity depend heavily on global standards, corporate policies, and the leverage of local social movements. Stronger safeguards demanded by international financial institutions can lead to more transparent arrangements, but conflicts and uneven benefit distribution often persist. Looking towards new infrastructures, Al-Hanahi et al. (2025) review community battery storage (CBS) systems and highlight how various ownership models, from utility-led to cooperative and community-owned, shape who captures economic value, how risks are allocated, and whether projects are perceived as fair. Together, these contributions frame equity participation not just as a revenue-sharing device but as an institutional design choice that can either entrench or transform existing power relations between companies, states, and communities.

While there are issues involved in Indigenous equity participation and its success, it has at least pushed the momentum for an inclusive Indigenous economic reconciliation. This shift is expected to ensure an inclusive growth, not just economically, but socially and politically, for reshaping the development of natural resources in Canada.⁵¹ The introduction of loan guarantee programs aims to reduce financial barriers while enabling Indigenous communities to access equity stakes in large-scale projects. The objective is to promote economic self-determination and ensure early and meaningful engagements, robust governance structures, and capacity-building support for the holistic benefit of Indigenous communities.⁵² In other words, for an effective role of Indigenous equity participation, sound governance and capacity-building policies are of paramount importance that prioritize Indigenous-led clean energy development by creating a more sustainable energy transition.⁵³

Put together, this body of literature demonstrates that while Indigenous equity participation has gained traction as a mechanism of inclusion, its success depends on equitable financing mechanisms, governance structures, and meaningful participation that extends beyond formal shareholding to active leadership and decision-making power.

Implications

This study aims to contribute to the finance governance theme by specifically investigating the empowerment of marginalized communities through equity stakes in the energy sector, bridging broader corporate governance frameworks and the critical goals of energy transition and sustainability. Global public and private sector firms have increased their focus on local

⁵¹ See *Equity partnerships represent a turning point for Indigenous communities*:

<https://www.indigenoussuccess.ca/news/equity-partnerships-represent-a-turning-point-for-indigenous-communities>

⁵² See *Building Capital: Economic reconciliation, equity ownership and loan guarantee programs*:
<https://thoughtleadership.rbc.com/building-capital-economic-reconciliation-equity-ownership-and-loan-guarantee-programs/>

⁵³ See *Community Ownership of Renewable Energy: How it Works in Nine Countries*:

<https://www.ihrb.org/resources/community-ownership-of-renewable-energy-how-it-works-in-nine-countries>

community-led ownership of the projects.⁵⁴ For instance, the UK ramps up its support for community-led energy through programs like GB Energy and the Local Power Plan. However, several barriers remain, including financial, regulatory, technical, and legal. To ensure the success and economic reconciliation of these initiatives, four justice-centred dimensions for projects could play a crucial role, i.e., ownership & governance, participation & engagement, finance & investment models, and benefits & beneficiaries.⁵⁵

In Canada, initiatives such as equity loan guarantees, Indigenous ownership of energy infrastructure, and policies promoting economic inclusion demonstrate innovative mechanisms of Indigenous community engagement.⁵⁶ By evaluating the state of Indigenous empowerment in Canada, this study addresses gaps within the finance and governance frameworks. Although Indigenous equity participation is a step toward a long-term, predictable set of returns, key structural challenges remain. These challenges revolve around regulatory barriers under the Indian Act and limited collateral options for Indigenous communities. Despite these obstacles, Indigenous equity participation is expected to unlock considerable opportunities by supporting project viability, reducing capital costs, and driving economic reconciliation by aligning the interests of different parties involved.⁵⁷

Furthermore, this study aims to provide policy recommendations and cross-national insights to inform strategies for empowering marginalized communities in the UK. By learning from Canada's approach, the UK can develop inclusive policies that integrate marginalized groups into renewable energy transitions, promote financial inclusion, and foster equitable governance systems. Indigenous equity ownership in Canada is gaining traction as a strategy to advance sustainable development goals, but critical issues such as tokenism, lack of transparency, and limited access to decision-making processes remain insufficiently explored. Our research provides actionable insights and policy recommendations to address these challenges and enhance financial inclusion, active participation, and governance frameworks. These recommendations include:

Board Representation: Promote meaningful Indigenous representation in corporate governance structures by encouraging or mandating board-level participation in projects affecting Indigenous lands and communities. Representation should involve clearly defined voting rights, committee participation, and fiduciary engagement, and not merely symbolic inclusions. Evidence from successful case studies suggests that early and continuous involvement in governance

⁵⁴ See *Indigenous-Led Renewable Partnership: Kilara Energy and First Nations Communities Forge Path to Economic Empowerment*: <https://www.business-humanrights.org/en/latest-news/indigenous-led-renewable-partnership-kilara-energy-and-first-nations-communities-forge-path-to-economic-empowerment/>

⁵⁵ See *Community energy for a just transition: breaking the stereotype*: <https://www.regen.co.uk/community-energy-for-a-just-transition-breaking-the-stereotype/>

⁵⁶ See *Indigenous participation in energy transition projects: a key to success*: <https://www.torys.com/en/our-latest-thinking/torys-quarterly/q4-2023/indigenous-participation-in-energy-transition-projects>

⁵⁷ See *Indigenous Equity Partnership in Energy Infrastructure Projects: Opportunities and Challenges*: <https://dbrs.morningstar.com/research/435334/indigenous-equity-partnership-in-energy-infrastructure-projects-opportunities-and-challenges>

improves trust, reduces conflict, and enhances project outcomes. Policies may include requirements tied to project approvals, public financing, or procurement frameworks to ensure sustained Indigenous influence over strategic decisions.

Transparency Through Technology: Leverage digital platforms to improve transparency and accountability in project development and operations. Governments and firms can support the creation of accessible data systems that provide Indigenous communities with real-time information on financial performance, environmental impacts, and project milestones. Such tools reduce information asymmetry and strengthen communities' ability to engage in informed decision-making. Importantly, these platforms should be co-designed with Indigenous stakeholders to ensure cultural appropriateness, usability, and alignment with community governance practices.

Capacity-Building: Implementing training programs to equip Indigenous communities with the required skills and knowledge to navigate corporate governance and business strategies. The full benefits of Indigenous equity participation require a well-defined balance between structured planning, partnership, and capacity-building on the part of Indigenous communities.⁵⁸ Following Australia, other countries such as Canada could also promote the capacity-building of Indigenous communities through a program focusing on skill-set development. The PowerMakers is an Australian initiative designed for First Nations people across Australia to gain leadership skills in the clean energy transition. It has provided training to cohorts of First Nations emerging leaders in areas such as renewable energy technologies, project ownership, community energy planning, business management, equity structures, and negotiating benefit-sharing agreements.⁵⁹ The program aims to ensure economic reconciliation, with a holistic objective that participants connect with industry experts, peers, and mentors, and build networks and tools to advance clean-energy solutions in their communities.

Strong Legal Frameworks and Compliance: Establish clear legal frameworks that formalize Indigenous participation in decision-making processes, including requirements for co-governance, benefit sharing, and consent. Regulatory systems should move beyond procedural consultation toward enforceable standards that recognize Indigenous rights and ownership interests. Compliance mechanisms, supported by monitoring and reporting requirements, can ensure that these commitments actually get translated into practice. Importantly, a strong and credible legal and institutional environment also plays a critical role in attracting institutional investors into energy and infrastructure projects involving Indigenous communities. As institutional capital seeks stable, long-duration assets and clear governance structures, well-defined ownership rights and enforceable participation frameworks reduce uncertainty and enhance investability. In this context, Indigenous equity participation is not merely a formal recognition of community involvement but also contributes to improved project economics by

⁵⁸ See *How Indigenous communities can achieve equity ownership in major energy projects:*
<https://www.mnp.ca/en/insights/directory/indigenous-communities-achieve-equity-ownership-energy-projects>

⁵⁹ See *Our First Nations PowerMakers program is an intensive clean energy capacity-building initiative:*
<https://www.firstnationscleanenergy.org.au/powermakers>

aligning incentives, reducing conflict risk, and strengthening long-term value creation. Aligning these frameworks with broader sustainability and just transition policies can further strengthen accountability and long-term impact.

The role of Indigenous communities is crucial in the climate transition, as their land and resources are integral to green and non-green energy projects. By emphasizing active engagement, sound governance, and transparency, this knowledge synthesis informs academics, policymakers, and practitioners on promoting equitable partnerships, i.e., empowering Indigenous communities to play a meaningful role in shaping the future of the energy sector beyond tokenistic participation.

Conclusion

This report provides a comprehensive synthesis of the growing literature on Indigenous participation in the energy sector, with a particular focus on equity ownership as an emerging institutional mechanism. Across diverse geographical and policy contexts, the evidence consistently demonstrates that Indigenous communities are not merely affected stakeholders but active agents shaping energy governance, project outcomes, and the broader trajectory of low-carbon development.

A central insight of this review is that equity participation represents a qualitative shift in the relationship between Indigenous communities, firms, and the states. By moving beyond consultation and compensation toward ownership and co-governance, equity models reconfigure how risks and returns are modelled and how decision-making authority is distributed. This shift has important implications not only for community wellbeing and autonomy, but also for the economic and operational performance of energy projects. Indigenous communities bring place-based knowledge, long-term stewardship perspectives, and relational approaches to land and resources that can enhance environmental performance and social legitimacy. Integrating these perspectives into energy planning is not only a matter of justice, but also of improving the quality and resilience of energy systems in the face of climate and ecological uncertainty.

At the same time, the literature makes clear that equity participation is not a universal panacea. Its effectiveness is highly contingent on institutional conditions, including legal recognition of Indigenous rights, access to finance, governance capacity, and the design of policy frameworks. Structural barriers rooted in historical marginalization, fragmented regulation, and uneven implementation continue to constrain the ability of many communities to translate formal ownership into substantive influence. This highlights the importance of viewing equity participation as part of a broader ecosystem of governance, finance, and capacity-building rather than as a standalone instrument.

Looking forward, the transition to a sustainable economy will increasingly depend on governance models that can reconcile economic development with social equity and environmental stewardship. Indigenous equity participation offers a promising pathway in this regard, but only when embedded within institutional arrangements that genuinely support self-determination and shared authority. For policymakers, firms, and financial institutions, the challenge is to move

beyond incremental adjustments toward systemic changes that recognise Indigenous communities as co-architects of the future energy.

In sum, this review suggests that the question is no longer whether Indigenous communities should participate in the energy development, but how such participation can be structured to achieve durable, equitable, and efficient outcomes. Addressing this question will be central to both advancing economic reconciliation and ensuring the long-term success of the global energy transition.

By foregrounding economic reconciliation and self-determination, the report identifies a critical but underexplored channel through which Indigenous communities affect firm outcomes. Equity ownership is not merely a redistributive mechanism. It alters incentives, aligns interests, and can mitigate various non-market risks such as legal disputes, delays, and social opposition. Firms that engage meaningfully with Indigenous partners, through co-ownership, shared governance, and respect for Indigenous knowledge systems, are more likely to achieve stable project execution and sustained value creation. Weak recognition of Indigenous rights or reliance on symbolic engagement strategies can amplify uncertainty and undermine both financial and social performance.

More broadly, the findings underscore that Indigenous communities are not peripheral actors in the transition to a sustainable economy. They are central contributors whose roles extend beyond stakeholders to rights holders, knowledge holders, and institutional partners in shaping low-carbon development pathways. Their land-based knowledge, governance traditions, and long-term stewardship perspectives provide critical inputs for designing energy systems that are not only efficient but also equitable and resilient.

Overall, this report calls for a shift in both research and practice. Future research should explore the firm-level consequences of Indigenous equity participation, particularly regarding risk pricing and operational performance. At the same time, policymakers and industry actors must move beyond transactional engagement models toward institutional arrangements that embed Indigenous authority, support capacity-building, and align economic incentives with community-defined priorities. Only under such conditions can equity participation function as a genuine pathway toward economic reconciliation and a sustainable energy future.

Knowledge Mobilization Activities

Activity 1. Advancing Academic Discussion (Undergraduate and Graduate Module Integration)

To promote knowledge transfer within higher education and encourage the next generation of finance professionals to engage with the issues of Indigenous economic inclusion, elements of the project have been integrated into an undergraduate-level “Managerial Finance” module and a graduate-level “Finance” module. As part of a group assignment, students analysed cases of Indigenous equity participation in the energy sector. This pedagogical approach enables students to explore themes of corporate governance, financial inclusion, and sustainability in a real-world context. It also encourages reflection on the social dimensions of finance and on how investment

structures can serve as tools for empowerment. By embedding the project’s insights within the curriculum, the research advances academic discussion while fostering critical awareness of Indigenous equity ownership among future finance practitioners and researchers.

Activity 2. Informing Academics and Non-Academic Stakeholders and Advancing Research Uptake (Study Group and Workshop Roundtable)

To ensure that the synthesis contributes to ongoing policy and industry debates, the project team has undertaken a series of engagement activities targeting academics, non-academic practitioners, and Indigenous community representatives.

Dr. Amanjot Singh (University of New Brunswick) actively engaged in the workshop titled “Wabanaki Traditional Leadership Training,” aiming to support direct engagement with Indigenous community representatives across the Atlantic region. Participation in this workshop on Indigenous cultures and knowledge provided an opportunity to share emerging insights with Indigenous practitioners. The discussion focuses on the lessons derived from Indigenous practices and the local economic implications of Canada’s Indigenous equity participation models.

Dr. Hao Zheng (University of Leicester) chaired a roundtable session on contemporary issues within the workshop themed “Climate Finance and Economic Sustainability”, with a specific focus on Indigenous equity participation and governance models.⁶⁰ This roundtable convened academic researchers from diverse disciplines to exchange perspectives on equity ownership strategies that promote Indigenous empowerment. Through this activity, the project facilitates cross-sector dialogue and translates research evidence into actionable policy insights.

To further facilitate knowledge exchange and engagement with key stakeholders, we plan to disseminate our findings through participation in practitioner-oriented conferences and forums, such as the *Indigenomics IMPACT 2026* conference, which brings together Indigenous leaders, policymakers, industry representatives, and researchers to advance Indigenous economic development and reconciliation. Presenting at such platforms will enable us to communicate our findings to a broad audience, gather feedback from practitioners, and contribute to ongoing discussions on Indigenous equity participation, financial inclusion, and governance in the energy sector.

⁶⁰ See the official website for details of the workshop and the roundtable session: <https://le.ac.uk/school-of-business/research/research-events/international-workshop-on-climate-finance-and-sustainability>

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