Building Futures: Indigenous-led Energy Transitions in Alberta

by

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Abstract

Transitions towards renewable energy at all scales are urgently needed to meet current targets for climate action and renewable electricity generation. Indigenous communities across Canada are increasingly investing in clean energy initiatives, energy efficiency measures, and renewable energy projects that centre community members as project planners, managers, owners, and beneficiaries. This research explores the landscape of Indigenous-led and owned renewable energy in Alberta. The work presented here shares the findings of a community-based participatory research partnership with members of Enoch Cree Nation, Maskêkosihk, in Treaty 6 territory. With the support of Community Advisors and together with the Community Research Partner, we develop an understanding of how Enoch Cree Nation members imagine community-level energy transitions within the Nation, and how they envision the role for Enoch Cree Nation in the province's emerging clean energy economy. Community-specific findings are situated within the context of interviews with key informants from the fields of Indigenous renewable energy and community generation, who shed light on the roles that Indigenous communities are playing in Alberta's energy transition and how project ownership can support further Indigenous involvement and control in Alberta's renewable energy sector. We find that equally important to equity ownership are the ways that community members are involved in project design and decision making, through youth engagements, creative approaches to communicating projects within communities, and in building and rebuilding relationships with energy players. We demonstrate how Indigenous communities are leading their own energy transitions, and in light of barriers to Indigenous renewable energy in the Alberta context, how communities like Enoch Cree Nation are taking active steps to participate in energy transitions at all scales as a means of gaining community benefits and actualizing a vision for an alternative energy future.

Preface

This thesis is an original work by Andrea Miller. The research project, of which this thesis is a part, received research ethics approval from the University of Alberta Research Ethics Board, Project Name “ohci pîsim: Community-owned solar energy in Enoch Cree Nation”, Pro00096655, March 16, 2020.

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A Note on Language

Communities are brought together by various factors including a connection to place, a shared history, or geographical proximity. Unless otherwise specified, the use of the term 'community' throughout this research will refer to Indigenous communities, encompassing First Nation, Inuit, and Métis peoples. However, this research does not generalize a universal Indigenous experience, and in particular the distinct opportunities and challenges of off-grid energy transitions in many Inuit and northern Indigenous communities are not explored in detail here. The Indigenous community members and leaders who contribute to this research are Cree and Métis, and the renewable energy projects across the province that appear in this research are led by Cree, Dene, and Métis communities. All participants come to this research with their own distinct histories, knowledges, and connections to place, and this research does not attempt to speak on their behalf, but rather to highlight for collective benefit the diverse experiences and learnings that are shared here.

Chapter 1: Introduction

Introduction & Research Objectives

Human-induced climate change has irreversibly transformed landscapes, homelands, and ecosystems on a global scale. Recent estimates conclude that atmospheric warming will exceed 2°C during the 21st century unless drastic and targeted actions are taken to reduce greenhouse gas emissions (IPCC, 2021). Transitions from fossil-fuel-based energy towards renewable energy are well underway globally, but transitions must be carried out with the intention in order to not replicate extractive modes of energy development, where sites of energy production and consumption are disconnected, and wealth accumulates to a select few. A just and equitable transition will consider how the transition of the energy system will be felt by all communities, who will be included in energy decision making, who will benefit from transitioning, and ultimately what values will shape the shift of our energy system and economy. All communities will have significant roles in the coming energy transition. Community energy is a guiding framework for energy projects in which local actors regain the control to shape energy decisions in their communities through open and participatory decision-making processes, a high degree of trust and transparency exists between parties, and where energy projects deliver on community benefits that reflect local priorities and goals. Decentralized energy generation positions communities as energy generators, rather than simply consumers, and reconnects communities and energy systems. Indigenous communities in Canada have a distinct relationship to the current energy system, one characterized by both displacement and socio-ecological harms, as well as community benefits. At the same time there is a recognition that the opportunities of that system have been unequally distributed. In Canada, Indigenous-led energy transitions are emerging amidst calls for a just transition, increasing recognition of Indigenous sovereignty,

widespread momentum around the United Nations Declaration on the Rights of Indigenous Peoples and the Truth and Reconciliation Commission of Canada's 94 Calls to Action, and an acknowledgement of the need to rebuild settler-Indigenous relationships. Indigenous communities across Canada are reclaiming control over energy decision making in their lands and territories by investing in community-led renewable energy projects, energy efficiency measures, and other clean energy initiatives that centre community members as project planners, managers, owners, and beneficiaries.

This research explores the landscape of Indigenous-led and owned renewable energy in Alberta, Canada. While Alberta is the site of many precedent-setting Indigenous renewable energy projects, in-depth insights into Indigenous renewable energy in the province have been limited. Alberta is sparsely included in published literature, typically in the findings of broad-survey based studies or Canada-wide scans, for example in reference to a possible increase in the number of renewable energy projects in Indigenous communities following the election of the NDP government (Lowan Trudeau, 2017), or in reference to an absence of Indigenous local energy plans in the province (Wyse & Hoicka, 2019). In-depth and community-specific insights are more commonly found in news media or other formats (Laboucan-Massimo, 2016)

In Alberta, a historically Conservative province with deep ties to the oil and gas industry, Indigenous clean energy projects experienced a window of opportunity during the tenure of the provincial New Democratic Party from 2015-2019. This period introduced innovative programming and funding through the Alberta Climate Leadership Plan to both support Indigenous communities in their own goals for energy transition and to foster Indigenous participation in a just provincial energy transition. The 2019 provincial election brought in a new United Conservative government, and the cancellation of these programs.

In Treaty 6 Territory, Alberta, Enoch Cree Nation, Maskêkosihk, is actively engaging in several clean energy transitions, including carrying out community energy planning and an energy audit; developing a small-scale solar field at the site of their new water facility; and implementing energy efficiency measures. The community is planning for the future and has also taken preliminary steps to pursue a large-scale community solar farm and home solar retrofits. The Nation of approximately 2500 members has close ties to the surrounding landscape as well as relationships with the neighbouring municipality of Edmonton. The goal of this research is to explore community-led energy transitions in Enoch Cree Nation, and contribute to growing understanding of Indigenous-owned renewable energy projects in Alberta, and it is guided by the following questions:

- How do community members envision energy transitions in Enoch Cree Nation?
- What roles are Indigenous-owned renewable energy projects playing in Alberta's energy transition?
- How can project ownership support further Indigenous involvement and control in Alberta's renewable energy sector?

This research explores the case of ongoing innovative community-led energy transitions in Enoch Cree Nation from the perspective of community members. In building relationships with Community Advisors and a Community Research Partner, this research applies community-based participatory research methods to design the study with our research team and strengthen community capacity to engage with and carry out research. Our research explores the community decision-making processes, opportunities, and obstacles associated with renewable energy development in Enoch Cree Nation. It also illustrates how Enoch Cree Nation is participating in energy transitions outside the community and making pragmatic decisions to transition away

from intensive energy sources for their Nation. It shows that while an ownership stake in a natural gas power project and a Memorandum of Understanding with a utility developing a solar project on former Enoch Cree Nation reserve land diverge from the ideals of community energy that guide the clean energy initiatives within the Nation, these projects are opportunities for the Nation to actively participate in provincial energy transitions.

This research also explores the perspectives of key informants in Indigenous renewable energy on the motivations, opportunities, and obstacles for Indigenous renewable energy development. It highlights the past and current policy environment in Alberta that has supported or hindered the growth of these projects, and demonstrates how with the support of these policies, Indigenous communities in Alberta are engaging in transitions through a variety of project types and ownership models.

The objective of this multi-phase approach is to gather the knowledge of key informants, many of whom have developed or supported communities in developing renewable energy projects and who share their valuable insights from contexts across the country, while also generating new learnings from the experience of energy transitions in Enoch Cree Nation. We aim to contribute to scholarship where an understanding of Indigenous renewable energy in Alberta has been lacking and encourage a process of mutual learning across Indigenous communities, policy makers, funders, and academics.

Chapter Overview

Following this introduction, the current chapter will establish the study setting, introducing the community of Enoch Cree Nation, Maskêkosihk, the context of Edmonton, and the provincial and national contexts. A review of relevant literature will follow, including a scan of transition studies, just transition, community energy literature, and closing with a review of

the literature on Indigenous renewable energy. Chapter 2 outlines the research approach, informed by anti-colonial methodologies and community-based participatory research methods. The chapter closes with contributions from the Community Advisor and reflections on the successes and challenges of our research process. Chapter 3 shares the findings from semi-structured interviews with Enoch Cree Nation members, and Chapter 4 shares the findings from interviews with key informants. The final chapter includes a discussion of the key findings, points of convergence and divergence between the two findings chapters, limitations and contributions of this research, and areas for future research.

Study Setting

Edmonton – Beaver Hills House

Cree writer and artist Neal McLeod articulates the concept of Cree narrative memory, an intergenerational, collective memory that is connected to place, and transmitted through language and kinship relations with all of creation. Cree narrative memory is a mechanism for healing, and the "life source" of new solutions and possibilities for the future (McLeod, 2000, p. 43). It is grounded in nêhiyâwiwin, 'Cree-ness,' also understood as Cree Identity (McLeod, 2000; 2007; Online Cree Dictionary, n.d.).

> Nêhiyâwiwin involves the spiritual world and dimensions of reality beyond the immediate world of physical experience. Nêhiyâwiwin is more than a collage of facts and dates, but rather is a living tradition which evolves through time as an organic process. People live the stories of Nêhiyâwiwin and are the vehicles of collective memory. Nêhiyâwiwin emerges from the individual lives that linger in the expanse of the collective memory. (McLeod, 2000, p. 37)

McLeod writes that "language is the source and expression of our Creeness," and this has guided the approach of centring nêhiyawêwin (the Cree language) wherever possible throughout this research (McLeod, 2000, p. 39; Online Cree Dictionary, n.d.).

Amiskwaciy (Beaver Hills) Wâskahikan (House), is the Plains Cree name for what is now known as Edmonton (Shields et al., 2020). It is also known as amiskwaciwâskahikan, amiskwaciy-wâskahikan, Amiskwaciy, or ᐊᒥᐢᑲᐧᒋᐋᐧᐢᑲᐦᐃᑲᐣ in the Cree syllabic spelling (Cree Literacy Network, 2016). Beaver Hills refers to the banks of the North Saskatchewan River that have been a gathering place, a hub of trade, and a river crossing site for Indigenous peoples of the area (Shields et al., 2020). It was at this site that the Hudson's Bay Company trading post was established in 1795, and where Fort Edmonton or Edmonton House was permanently set up in 1813 (Donald, 2004). From this place, the city of what is now known as Edmonton has expanded in all directions, and today the Alberta Legislature sits here overlooking the North Saskatchewan River (Donald, 2004). Amiskwaciwâskahikan is Treaty No. 6 territory, an agreement signed on August 21, 1877, and a region that spans across central Alberta from the Rocky Mountains, and into Saskatchewan (Houle, 2016a). Treaty 6 territory is home to several Indigenous communities and language groups including Nêhiyaw (Cree), Niitsítapi (Blackfoot), Tsuut'ina, and Métis peoples.

The Papachase Cree called the Amiskwaciy area home and had their hunting and trapping territories in what is now south Edmonton (Shields et al., 2020). In August of 1877 Chief Papaschase signed Treaty 6 on behalf of his 241 members and received Papaschase Indian Band Reserve No. 136 (Donald, 2004). This allotment of land was approximately four kilometres south of the North Saskatchewan River, near Fort Edmonton (Donald, 2004). At the time, local official Frank Oliver used his position of influence to advocate for settlers' contributions to the economic development of the region and accused the Papaschase of exploiting the Treaty opportunities, calling into question the legitimacy of their rights to this land (Donald, 2004). Oliver's influence over settlement and economic development in the area only grew after he was

appointed Minister of the Interior by Prime Minister Prime Minister Wilfrid Laurier (Donald, 2004). The manipulation and intimidation continued throughout the 1880s and 1890s as settlers moved into the area and purchased sections of the Papaschase land, and on November 19, 1888, the remainder of the Papaschase reserve was involuntarily surrendered for sale (Shields et al., 2020).

Maskêkosihk, ᒪᐢᑫᑯᓯᐦᐠ, Enoch Cree Nation

The first band members of what would become Enoch Cree Nation had many connections to the groups that settled at Amiskwaciy, including the Papaschase. The Nation's earliest known band leader was Chief Lapotac, a respected leader whose two sons would become Chiefs themselves. Chief Thomas Lapotac succeeded his father and united band members, including many members of the displaced Papaschase, as "Tommy's Band." Following his passing, his brother Chief Enoch Lapotac came to leadership of the band, and the reserve now known as Enoch Cree Nation was created in 1884 (ECN Corporate, n.d.). In an article for the Edmonton City as Museum Project (ECAMP), Yellowhead Institute Research Fellow Rob Houle details the suspect circumstances around the illegal sale of two portions of the Enoch Cree Nation reserve (Houle, 2016b). The initial 44 square miles of Enoch reserve land spanned from Acheson to the north and to the North Saskatchewan River to the east. The northern portion of the reserve amounting to twelve sections had been taken and sold for settlement in 1902, and as of May 13, 1908, Inspector of Indian Agencies, J.A. Markle had secured an additional ten sections of land, amounting to 6300 acres and including the community's access to the North Saskatchewan River. The legitimacy of this land 'surrender' and the tactics employed to pressure the Nation and manufacture consent to the seizure of this land is highly suspect. Enoch Cree Nation now borders the western edge of the City of Edmonton, and the 1908 sections are now part of several southwest Edmonton neighbourhoods.

Enoch Cree Nation is part of the Confederacy of Treaty Six First Nations, which includes the Chiefs of seventeen Alberta First Nations who were signatories of Treaty Six (Wyton, 2020). Enoch Cree Nation Chief William (Billy) Morin was appointed to the position of Treaty Six Grand Chief by the Chiefs of the Confederacy of Treaty Six First Nations, and his one-year term began on January 1, 2020 (Wyton, 2020). Grand Chief Morin succeeded Truth and Reconciliation Commission of Canada commissioner Grand Chief Wilton Littlechild (Wyton, 2020). In 2021 Morin was succeeded by the current Treaty Six Grand Chief Vernon Watchmaker, the elected Chief of Kehewin Cree Nation (Confederacy of Treaty Six First Nation, n.d.)

Local Economy

Like many Indigenous communities in Alberta, Enoch Cree Nation has a relationship with the oil and gas sector. The Nation's economy has a primarily agricultural history, but the Nation has benefitted from oil and gas royalties after oil was found on the Nation in 1947. Together with revenue from Band businesses and funding and grants from Indigenous and Northern Affairs Canada (INAC), now Crown-Indigenous Relations and Northern Affairs Canada and Indigenous Services Canada (CIRNAC), these have been the primary revenue sources of revenue for the community. Looking to diversify from the volatility of oil prices and secure an alternative source of revenue, the Nation completed the River Cree Resort and Casino in 2006 (ECN Corporate, n.d.).

Relationship Between Enoch Cree Nation and the City of Edmonton

Enoch Cree Nation is unique in its proximity and relationship to a large urban centre and associated municipal services and infrastructure. Enoch Cree Nation is the closest and largest neighbouring First Nation to the City of Edmonton, sharing an eight-kilometre-long border with the municipality (City of Edmonton, n.d.-a). The Nation and the City of Edmonton formally

signed a Memorandum of Understanding (MOU) on March 10, 2017 (Enoch Cree Nation and the City of Edmonton, 2017). The MOU between Enoch and the City of Edmonton provided the foundation for the MOU signed between Enoch and EPCOR Utilities in 2019 during the planning and engagement process for the proposed E.L. Smith solar farm.

Indigenous leaders, Elders, and urban Indigenous community members proposed renaming Edmonton's twelve electoral wards with Indigenous names to reflect their understandings of and connections to these places (City of Edmonton, n.d.-b). These ward changes were included in Bylaw 19366 which was passed on December 7, 2020, and will come into effect on election day, October 18, 2021 (City of Edmonton, n.d.-c). Enoch Cree Nation borders the western edge of Edmonton and Ward sipiwiyiniwak, and the neighbourhoods that are part of present-day Ward sipiwiyiniwak are former Enoch Cree Nation reserve lands. In nêhiyawêwin (Cree), Ward sipiwiyiniwak, translates to river people or river Cree people, sîpîw meaning river and iýiniwak meaning people (CBC Edmonton, 2020). The name reflects the Nation's identity as River Cree, which stems from their proximity and connection to the North Saskatchewan River (CBC Edmonton, 2020).

Alberta

The Alberta Energy Sector

The language of "petroculture" has been used to illustrate "energy's pervasiveness across contemporary experience," from transportation, the design of cities, the household and gendered family dynamics, our relationships to consumer goods, and advertising and media (Wilson et al., 2017). The challenge of overcoming the prevalence of fossil fuel-based energy sources, products, and meanings is highly palpable in the context of Alberta. The extent that the energy sector has been entrenched into the provincial identity has led to characterizations of Alberta as a "petro-

state," where much of government revenue, provincial GDP, and direct and indirect employment are tied to the oil and gas industry (Adkin, 2016).

Alberta has the highest greenhouse emissions in all of Canada, at 38% of the national share, and these emissions have been steadily climbing (Dusyk et al., 2021; Government of Canada, 2021). As of 2017, total greenhouse gas emissions in Alberta reached 272.8 megatonnes (MT) of carbon dioxide equivalent (CO2e) (Canadian Energy Regulator, 2021). With a population of 4,444,277 (as of April 1, 2021), Alberta's per capita emissions of 64.3 tonnes is more than three times the per capita national average of 19.6 tonnes (Government of Alberta, 2021; Canadian Energy Regulator, 2021). Alberta is the largest producer of crude oil in Canada, and over three quarters of that oil production is in the form of oil sands raw bitumen from northern Alberta's Oil Sands (Canadian Energy Regulator, 2021). Alberta is also a major producer of natural gas, producing 65% of the national total as of 2018 (Canadian Energy Regulator, 2021). Around 50% of Alberta's emissions are attributed to the province's oil and gas sector, which emitted 137.1 MT CO2e in 2017 (Canadian Energy Regulator, 2021).

The Alberta oil sands have transformed the landscape of northern Alberta, with a footprint of 142,000km^2 across the Athabasca, Cold Lake, and Peace River regions (Government of Alberta, n.d.-a). In the 2016-2017 fiscal year, the industry contributed $1.48 billion in revenue to the provincial economy (Government of Alberta, n.d.-a). Oil sands yield a combination of sand, clay, water, bitumen, and other fuels (Government of Alberta, n.d.; Westman et al., 2019). Extraction and processing of the bitumen from oil sands, or extra-heavy crude oil, is extremely water, energy, and financially intensive (Government of Alberta, n.d.-a; Westman et al., 2019). The Athabasca oil sands is the site of the largest oil reserves, and it is also the only area with reserves that are shallow enough to mine, up to 75 metres deep (Government of Alberta, n.d.-a).

The remaining 80% of bitumen reserves are too deep for surface mining and require wells to be drilled, known as in-situ recovery (Alberta Energy Regulator, n.d.). The provincial landscape is dotted with an estimated 159,000 active wells, 97,000 inactive wells, and 73,500 'orphan' wells that have been abandoned by the developer (Government of Alberta, n.d.-b). Annual emissions from the Alberta oil sands amount to an estimated 83 Mt (Dusyk et al., 2021).

Stemming from the establishment of fossil fuel extraction in this region and the entrenchment of the oil and gas industry in the identities and livelihoods of countless of Alberta families, this region has long been considered by many to be a frontier, wilderness, or hinterland where exploration, new opportunity, and an entrepreneurial spirit thrive (Westman et al., 2019). But this landscape has always been a homeland to Indigenous peoples of the area (Westman et al., 2019). Northern Alberta is Treaty No. 8 territory, a territory which also extends into British Columbia, the Northwest Territories, and Saskatchewan. Treaty 8 spans 840,000 km^2 and is the homeland of 39 primarily Cree and Dene First Nation communities (Treaty Eight First Nations of Alberta, n.d.; Westman et al., 2019). These areas of the province are also homeland to Métis peoples, including eight Métis Settlements (Government of Alberta, n.d.-c; Westman et al., 2019). Understanding this region as a "commodified landscape" or hinterland is at odds with its significance as a "sentient landscape," with longstanding knowledge systems, connections to place, and human and non-human relationships (Westman et al., 2019, p. 10).

Indigenous Peoples & Energy Development in Alberta

Westman & Joly (2019) centre Indigenous lived experiences in their review of the impacts of oil sands extraction on Indigenous peoples. They detail the profound impacts to humans and non-humans, in the areas of land, air, water, health, and socio-economic impacts. The oil sands region has seen a decline in wildlife and overall biodiversity, as pipelines, wells, roads, and cutlines criss-cross the landscape and disturb wildlife transportation routes and

habitats. Damage to species and ecosystems has negatively impacted land-based practices, as well as the cultural continuity maintained through engaging in those practices across generations. Indigenous communities have concerns for water quality, due to frequent spills and groundwater contamination. Water use for oil sands operations has also impacted water quantity and falling water levels in the Peace Athabasca Delta have created a difficult environment for downstream communities to navigate. Air quality concerns and severe impacts to health are also well documented in communities who border these extractive operations. Socio-economic impacts are not limited to experiences of racism in the workforce, underrepresentation of Indigenous peoples in higher level positions relative to construction jobs, and violence against Indigenous women, girls, and Two Spirit peoples largely attributed to an influx of migrant workers to industrial work camps sited near Indigenous communities (The Firelight Group, 2018; Westman & Joly, 2019).

For many Indigenous communities, resource extraction in the Alberta oil sands has led to socio-economic benefits, although these benefits accrue unequally to some communities more than others (Westman & Joly, 2019). Impact Benefit Agreements (IBAs) have become standard practice in how Indigenous communities and energy developers in the oil sands region relate to one another (Caine & Krogman, 2010). IBAs are negotiated between Indigenous communities and extractive industries, and they outline a number of benefits to communities, including economic returns, employment and skills training, and investments in community infrastructure, in exchange for consent to the development of land and the subsequent limitations on land use (Caine & Krogman, 2010). However, these agreements are often confidential and as a result, the extent of community benefits that IBAs provide is not well understood (Westman & Joly, 2019). There is also a lack of clarity on how the commitments made in these agreements are monitored, and how violations to these agreements are addressed (Caine & Krogman, 2010). Faced with the

"perceived inevitability of the development and enormous wealth of the proponent" and out of a desire to see some benefits from that development, many communities may perceive IBAs as "the best we can do," or feel that they "do not have a right to say 'no' to development" (Caine & Krogman, 2010, p. 86; Westman & Joly, 2019, p. 238).

Electricity generation & Renewable electricity breakdown

The dominance of the fossil-fuel based energy system means that 91% of electricity in Alberta currently comes from fossil fuels, 49% from natural gas and 43% from coal (Canadian Energy Regulator, 2021). Renewable energy sources contribute the remaining 8% of total provincial electricity makeup, broken down as 6% from wind, 3% from hydroelectricity, less than 1% from biomass/geothermal, and less than 0.1% from solar (Canadian Energy Regulator, 2021). Alberta has particularly high solar and wind potential. The wind resource in the province has the potential to generate an estimated 150 GW, and Alberta has the second highest solar energy potential in the country (Patel & Dowdell, 2018; Canadian Energy Regulator, 2018). Both Alberta's wind and solar resources are concentrated in the southern part of the province, and this is reflected in where most projects are located (Patel & Dowdell, 2018).

Alberta Electricity Market

Unlike many jurisdictions across Canada, the Alberta government does not own and operate a utility company (Alberta Electric System Operator, n.d.). Prior to deregulation, electricity generation in Alberta had historically been the domain of large vertically integrated utilities – firms that control generation, transmission, and distribution – who controlled over 85% of market (Alberta Electric System Operator, n.d.; Brown, 2017). The province moved to deregulate the electricity market in 1996 to foster a more efficient and competitive electricity sector, and the market became fully deregulated in 2001 (Alberta Electric System Operator, n.d.; Government of Alberta, n.d.-d; Brown, 2017). The Electric Utilities Act established a

competitive wholesale electricity market through which all electricity is bought and sold, the Power Pool of Alberta, and this market sets an hourly price for electricity (Government of Alberta, n.d.-d; Alberta Utilities Commission, n.d.-a; Brown, 2017). The price fluctuates based on supply, influenced by factors like outages or wind speed, and demand which is largely influenced by season or the time of day or night (Utilities Consumer Advocate, n.d.). The power price determines the potential revenue for generators as well as the cost to consumers (Alberta Utilities Commission, n.d.-a). The Alberta Electric System Operator (AESO), a not-for-profit corporate entity established under the Electric Utilities Act, manages the power grid and operates this market (Alberta Electric System Operator, n.d.; Alberta Utilities Commission, n.d.-a).

There are four stages to the Alberta electricity system – generation, transmission, distribution, and end user (Utilities Consumer Advocate, n.d.). The Alberta Utilities Commission (AUC) approves all applications to develop or update generation, transmission, and distribution facilities (Alberta Utilities Commission, n.d.-b). Generation is open and unregulated, in which all generators compete to sell power to market for a set price (Alberta Utilities Commission, n.d.-a). Following the restructuring of Alberta's electricity market, the five largest firms, TransCanada, TransAlta, ENMAX, ATCO, and Capital Power, control 70% of generation capacity, with twenty additional firms making up the remainder (Brown, 2017). Transmission and distribution, or 'the wires', are the processes through which large amounts of power are moved from local substations to individual customers (Alberta Utilities Commission, n.d.-a; Utilities Consumer Advocate, n.d.). Both transmission and distribution are still regulated (Alberta Utilities Commission, n.d.-a). Transmission infrastructure is predominantly owned by public for profit companies like AltaLink, ATCO, EPCOR, and ENMAX, and distribution owners include private companies, municipalities, and cooperatives (Utilities Consumer Advocate, n.d.). The final stage,

end use or retail sale of electricity, is largely deregulated, as the consumer can choose their electricity provider (Alberta Utilities Commission, n.d.-a).

Political Context

Ending a sixty-year legacy of Conservative governments in Alberta, the left-of-centre New Democratic Party and Premier Rachel Notley were elected in 2015 (MacArthur, 2017). The NDP government introduced Alberta's Climate Leadership Plan, a commitment to climate action and economic diversification never before seen in the historically Conservative province (Government of Alberta, 2018). The Climate Leadership Plan was oriented around four key pillars: capping annual oil sands emissions at 100 megatonnes per year (up from its current 83 Mt); putting a price on greenhouse gas emissions; phasing out coal-fired electricity and developing renewable energy; and reducing methane emissions (Government of Alberta, 2018; Dusyk et al., 2021). As part of the former Climate Leadership Plan, the NDP government introduced Bill 27: the Renewable Electricity Act (Powell, 2016). The Renewable Electricity Act articulates a commitment to meet the target of '30 by 30', where at least 30% of electricity produced in Alberta is from renewable energy sources by the year 2030 (Government of Alberta, n.d.-e; Province of Alberta, 2016). A program of the Alberta Climate Leadership Plan, the Alberta Indigenous Solar Program provided funding for Indigenous communities to install solar at community-owned sites (Government of Alberta, 2017). The province also rolled out the Renewable Electricity Program (REP), which in its second round required a minimum 25 percent Indigenous equity ownership in partnership with the private sector and resulted contracts for large scale wind energy projects (Government of Alberta, 2018a).

In 2019, the province elected the United Conservative Party (UCP) and Premier Jason Kenney, and the newly formed UCP government cancelled the Alberta Climate Leadership Plan (French & Graney, 2019). A 2021 report from the Pembina Institute finds that nation-wide,

planning for transitions and climate action has been inadequate, and that neither the provinces, territories, nor country, are on track to make climate targets (Pembina Institute, 2021). For Alberta, this report points to the successful plan to phase-out of coal fired-electricity generation by 2023, but it also finds that the current 8% of renewable electricity generation leaves the province with a lot of ground to make up to meet the 30 by 30 target (Dusyk et al., 2021). The report gives the province a failing grade, showing little to no policy direction, in the areas of emission reduction; climate action planning; climate accountability and governance; reconciliation; equity; and transportation (Dusyk et al., 2021).

The Truth and Reconciliation Commission of Canada's 94 Calls to Action

The Truth and Reconciliation Commission of Canada (TRC) has prioritized shedding light on the 'truths' of the colonial history and present of the settler-colonial state known as Canada. The TRC was formally created as part of the Indian Residential Schools Settlement Agreement, a legal settlement between Survivors, the Assembly of First Nations and Inuit representatives, the federal government, and church bodies (National Centre for Truth and Reconciliation, n.d.; n.d.-a). The mandate of the TRC was to inform Canadians about the realities and atrocities of the residential 'school' system which forcibly apprehended First Nations, Métis, and Inuit children for the purpose of erasure of languages and cultures, and assimilation into Canadian society. The TRC underwent an extensive process of research and gathering first-hand accounts from Survivors, their families and communities, former school employees, and church and government officials and compiled ninety-four recommendations for prioritizing collective healing in the "Truth and Reconciliation Commission of Canada: Calls to Action" (National Centre for Truth and Reconciliation, n.d.; Truth and Reconciliation Commission of Canada, 2015). The 92nd Call to Action is to the corporate sector, including the energy companies and

utilities who extract, generate, develop, and distribute energy across this country. This Call to Action acknowledges that these entities and their infrastructure are founded upon the displacement of Indigenous peoples from their homelands, and that they have a role in reconciliation. It proposes that the corporate sector adopt UNDRIP as a guiding framework for all operations involving Indigenous peoples and lands. It lays out a baseline of respect between Indigenous peoples and corporations in all relationships including consultation processes. It mirrors the language of UNDRIP in its recommendation for the corporate sector to obtain the free, prior, and informed consent of Indigenous peoples before proceeding with development projects. It necessitates that Indigenous peoples have equitable access to opportunities for employment and education in the corporate sector, and that Indigenous communities are the long-term beneficiaries of economic development projects. It outlines the role of these corporate entities to evaluate their internal operations and provide education and training for their own employees on Treaties and Indigenous rights, intercultural competency, and anti-racism (Truth and Reconciliation Commission of Canada, 2015, p. 10).

The United Nations Declaration on the Rights of Indigenous Peoples

The United Nations Declaration on the Rights of Indigenous Peoples outlines a mandate to respect and recognize Indigenous rights; decision making institutions; and social, political, economic systems, as well as the responsibility of states in upholding these rights (United Nations, n.d.; United Nations, 2007; United Nations General Assembly, 2007). Canada voted against the adoption of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), along with Australia, New Zealand, and the United States, at its adoption by the United Nations General Assembly on September 13, 2007 (United Nations, n.d.). At the time, UNDRIP faced opposition from the federal Conservatives around what the language of obtaining

"free, prior, and informed consent" (FPIC) for the development of Indigenous territories would mean for the approval process of large resource development projects (Wilt, 2017; Abedi, 2019). After years of inaction and opposition, Canada officially adopted UNDRIP "without qualification" in 2016 (Fontaine, 2016; Wilt, 2017). In 2020, the federal Liberals introduced legislation to implement UNDRIP, and on June 21, 2021, Bill C-15, the United Nations Declaration on the Rights of Indigenous Peoples Act received Royal Assent (Government of Canada, n.d.). The Act is a mechanism to ensure that current federal laws are consistent with UNDRIP and to inform the process of developing or amending laws, but it does not establish new legal principles, like FPIC, and it remains to be seen how the UNDRIP will be put into practice (Duncanson et al., 2021).

Review of Key Theories and Concepts

In the following section, I review several relevant concepts that inform the thinking and development of this study. Transition studies provides insights on the actors and steps in transitions, as well as the barriers to transitions of socio-technical systems, like energy, that are characterized by deeply entrenched features or lock-in mechanisms. Literature on a just transition outlines the considerations of benefits and harms and the dimensions of justice that must guide the energy transition. In support of a just transition, community energy is defined, both in the literature and in the provincial Small Scale Generation Regulation, as an ideal project type distinct from private and centralized energy generation. Community energy projects centre communities in decision making, deliver on local outcomes, and retain a degree of local ownership. Next a review of the growing body of literature on Indigenous-led and owned renewable energy is presented, with particular attention to settler colonial contexts and the

themes of project ownership; renewable energy and reconciliation; and motivations, opportunities, and challenges for Indigenous renewable energy.

Transition Studies

Transitions studies offers insights into how transitions unfold at multiple scales and how all communities can be catalysts for large scale transformations. Transitions of energy systems are socio-technical in that they encompass a web of technology, regulations, user practices, markets, infrastructure, and cultural meanings (Geels, 2005). Through the interactions of actors within this web, the socio-technical system is created, reinforced, and evolves (Geels, 2005). A multi-level perspective on energy transitions is a way of understanding how socio-technical transitions take place through dynamic process and interactions of actors at three distinct levels: niches, socio-technical regimes, and the socio-technical landscape (Geels, 2005; 2011; 2014)

Socio-technical landscape

The socio-technical landscape encompasses the surroundings of the socio-technical system where trends gradually develop (Avelino, 2009). The socio-technical landscape is the material and immaterial aspects of the external environment including societal values, demographics, political ideologies, the arrangement of cities and infrastructure, and economic patterns (Geels, 2005; 2011). The socio-technical landscape includes changes to physical climate that happen very slowly over time, rapid external shocks, and long-term directional trends or demographic shifts (Geels, 2011).

Socio-technical regime

The socio-technical regime is the dominant configuration of actors and structures that operate to protect and maintain the status quo (Avelino, 2009). Transitions within socio-technical systems are shifts from one regime to a new regime (Geels, 2011). This regime or set of rules is what leads to stability or 'lock-in' of the existing socio-technical system, through mechanisms of

shared beliefs, lifestyles and user practices, core skills and competencies, and institutional arrangements and regulations (Geels, 2005; 2011).

Niches

Niches are characterized by non-conformity with the dominant socio-technical regime (Avelino, 2009). Niches are 'incubation rooms' or 'protected spaces' that provide a starting place for radical innovations that deviate from existing regimes (Geels, 2005, 2011). Niches hold promise for transforming or replacing a regime characterized by lock-in and "provide the seeds for systemic change" (Geels, 2011, p. 27).

How do transitions occur?

Transitions are reciprocal processes by which niches gain momentum, landscape changes put pressure on the regime, the regime destabilizes, and windows of opportunity open for niche innovations (Geels, 2011). As niches gain momentum, they begin to accumulate and cluster (Geels, 2011; Avelino, 2009). Through knowledge sharing and network formation, the momentum created by niche accumulation can have significant transformative potential (Kemp, 1998; Geels, 2005; Geels, 2011). "Windows of opportunity" are created for niches as a result of factors at the landscape level, like changes in policy, climate, and consumer or societal values, that put pressure on the regime (Geels, 2005, p. 451). Niches cannot enact systemic change alone, and the successful formation and accumulation of niches relies equally on changes outside the niche as on the innovations of niches themselves (Kemp, 1998).

Barriers to transitions

Transitions are impeded through lock-in mechanisms that create path dependence, feeding the momentum of the existing system and leading to resistance to changes of the socio-technical system (Geels, 2005). These lock in mechanisms include "complementary assets" or

"sunk investments" in the form of specialized infrastructure or skills that may become irrelevant or obsolete with transitions; and the cultural meanings and embedded nature of existing socio-technical systems in lifestyles, and livelihoods (Geels, 2005; 2011). Transitions explicitly oriented towards more sustainable systems are plagued by lock-in mechanisms in the form of complementary assets, such as electricity grid infrastructure; political lobbying from incumbents; and consumer lifestyles (Geels, 2011).

Power dynamics in transitions

In the process of socio-technical transitions where niches cluster to destabilize and eventually take over the regime, regimes are portrayed "monolithic barriers to overcome" and assumed to exert power over niches (Avelino, 2009; Geels, 2014, p. 23). But niche actors have power in their ability to mobilize resources and skills in new and necessary ways to create change in ways that regimes, limited by the status quo, cannot (Avelino, 2009). As niches cluster and gain momentum, they exercise 'transformative power' in their ability to redistribute resources, replace old resources with new resources, and develop new structures and institutions (Avelino, 2009). However, multi-level perspectives have been criticized for this over-emphasis on the capacity of niches to lead transitions, or a "bias towards bottom-up change models" (Geels, 2011, p. 32). In energy transitions in particular, niche innovations may be less likely to replace the incumbent regime energy systems because of the barriers outlined above (Verbong, 2010). The emphasis on niches also raises questions around the burden of responsibility, and if niche or community-level actors, who may have more to lose, should be responsible for leading the transition of a sector that they are disproportionately affected by, often not included in, and that has led to social and environmental impacts that they did not cause (Avelino, 2016).

Just Transition

With its origins in labour movements, a just transition offers a promising pathway for transitions. Healy & Barry (2017) argue that an approach to energy transition that considers justice and equity is essential, and that without it, the transition is at risk of replicating the very system it seeks to transform.

> Without an energy justice dimension decarbonization strategies run the risk of 'locking in' patterns of exploitation and dispossession that characterize the current global political economy, even while seeking to overcome carbon 'lock in' (p. 451).

A just transition is defined as a "a fair and equitable process of moving towards a post-carbon society" (McCauley & Heffron, 2018, p. 2). Recognizing the socio-economic costs of decarbonization is at the forefront of a just transition, including considerations for the fossil fuel energy workforce and the communities who will feel the impacts of this shift in the energy system and economy (Healy & Barry, 2017). It also pays particular attention to how these costs along with the benefits of the energy transition will be distributed (Healy & Barry, 2017). McCauley & Heffron (2018) put forth a just transition framework that encompasses distributional justice, procedural justice, and restorative justice. Distributional justice is concerned with how inequalities are distributed, and the burden of risks relative to responsibilities (McCauley & Heffron, 2018). Procedural justice is concerned with community engagement, involvement, and long-term buy in (McCauley & Heffron, 2018). Restorative justice, in the context of energy transitions, encompasses the following considerations.

> it is not simply the loss of jobs from associated industries that will require restorative justice solutions. There are questions surrounding past damages that have already occurred, existing crimes perpetrated against not only individuals, but also the environment and the climate, as well as the unforeseen harms that will be administered throughout the transition to a post-carbon world (p. 5).

Restorative justice refers to the social responsibility of the energy sector to right these wrongs of energy development (McCauley & Heffron, 2018).

In Indigenous worldviews, just transition as a concept represents a transformation of settler-Indigenous relationships, healing historical trauma, fostering sustainable economies and dignified livelihoods, and following teachings to respect 'all our relations' (Goldtooth, 2020). The Indigenous Principles of Just Transition[1] for communities across Turtle Island were prepared by the Indigenous Environmental Network and are articulated by Goldtooth (2020). These guiding principles are organized into the core principles of responsibility and relationship; sovereignty; and transformation for action.

Community Energy

A just transition is highly compatible with greater citizen involvement in the transition of the energy system through the democratization of energy systems, in which energy systems are more democratically owned and controlled, and the decentralization of energy generation through community-based renewable energy (Healy & Barry, 2017). Together with decarbonization, a just transition has "great potential for the re-localization of the economy around human-scale enterprises rooted more closely in the communities they serve" (Healy & Barry, 2017, p. 455). Two relevant dimensions have come to define the study of community energy projects, project outcomes and project processes. The process dimension refers to who develops, runs, and has influence over the project (Walker & Devine-Wright, 2008). This ranges on a spectrum from an open and participatory process to a closed and institutional process (Walker & Devine-Wright, 2008). The outcome dimension refers to the spatial and social distribution of project benefits. This ranges from local and collective to distant and private

[1] The Indigenous Principles of Just Transition are available at https://www.ienearth.org/justtransition/

distribution of these outcomes. Community energy projects are characterized by varying degrees and combinations of an open and participatory process, along with the local and collective distribution of outcomes (Walker & Devine-Wright, 2008). An ideal community energy project is "one which is entirely driven and carried through by a group of local people and which brings collective benefits to the local community (however that might be defined)—a project that is both by and for local people" (Walker & Devine-Wright, 2008, p. 498). Community energy projects often have a degree of ownership through financial investment from the community group, and ownership can range from sole community ownership to a wide variety of shared ownership arrangements (Walker, 2008). The communities that undertake community energy projects can be defined at various scales. Communities of interest are groups of people who share a common interest but are not always in geographic proximity to one another, and communities of locality share a local context and the resulting benefits are retained locally for the collective benefit (Walker, 2008). Examples of communities involved in community generation include Indigenous communities, rural or urban municipalities, cooperatives, and community leagues. Community energy projects may be an avenue to ensure community acceptance of renewable energy projects, provided they meet the elements of procedural justice, distributional justice, and trust (Shaw et al., 2015). Engaging in community-owned energy production can have a variety of benefits and incentives for those individuals involved. These motivating factors can include local income and job creation; local control over project decision making; lower energy costs; self-sufficiency and a reliable energy supply; and environmental commitments and emission reduction (Walker, 2008; Brisbois, 2019, St. Denis & Parker, 2009).

Community Energy in Alberta - Small Scale Generation Regulation

The former provincial NDP government (2015 – 2019) introduced the Community Generation Program as part of the Climate Leadership Plan (Government of Alberta, 2018b). This included the Small Scale Generation Regulation, which was introduced on November 22, 2018, and came into effect on January 1, 2019 (Kauffman, 2019). The distinguishing feature of a community generating unit as it is defined here is that it must demonstrate social, environmental, or economic benefits to a community that are explicitly outlined in a community benefits agreement or a community benefits statement (Kauffman, 2019; Province of Alberta, 2018). In the Small Scale Generation Regulation community generation is defined by the following parameters:

> "a small scale power producer who owns a small scale generating unit that is the subject of a community benefits agreement or a community benefits statement may apply to the Commission to have it qualified as a community generating unit under this Regulation" (p. 5).

Community generation is distinct from micro-generation, which is considered self-supply generation as it enables producers to supply their own electricity needs or receive credits for excess electricity that they send back to the grid (Alberta Utilities Commission, n.d.-c; Government of Alberta, n.d.-f; Alberta Utilities Commission, n.d.-d; Province of Alberta, 2008). Community generating units are distribution connected, meaning they are connected to infrastructure that enables the project to supply electricity to the grid (Government of Alberta, 2018b; Kauffman, 2019).

The three core elements for a project to be considered a community generating unit that are most relevant to this analysis are use of a renewable or alternative energy source; the presence of community benefits agreement or community benefits statement; and clearly defined benefits to a community group that owns the project. First, an eligible community generating unit

is one that exclusively uses renewable or alternative energy, including solar, wind, hydro, fuel cell, geothermal, or biomass (Province of Alberta, 2018). Next, community generation applications must include a community benefits agreement or community benefits statement that details how the community group will benefit from the community generating unit (Kauffman, 2019; Province of Alberta, 2018). A community benefits agreement is defined as a legally binding contract between a small scale power producer and a community group that details the social, environmental, or economic benefits of the small scale generating unit to the community group (Kauffman, 2019; Province of Alberta, 2018). A community benefits statement is a statement in writing by a small-scale power producer that is a community group, that outlines the social environmental or economic benefits for the community group as a result of the small scale generating unit that is wholly owned by the community group (Kauffman, 2019; Province of Alberta, 2018). Third, a community generating unit is fully or partially owned by a community group, including and not limited to Indigenous communities, both a band as defined in the Indian Act or a Métis settlement under the Métis Settlements Act; a society under the Societies Act; a municipal authority; a co-operative; or the board of post-secondary institution (Province of Alberta, 2018). Community generating units can be located within or outside of an isolated community (Province of Alberta, 2018).

Indigenous Renewable Energy

Community energy in settler colonial contexts - Indigenous-owned renewable energy

The distinguishing feature of community energy is the degree to which community members are brought into decision making, and this separates it from privately led and controlled modes of energy development. In a scan of community energy plans across Canada, Wyse & Hoicka (2019) find that community energy is distinct in the areas of participation, ownership, and capacity. In this understanding of community energy, energy decision making is not the

realm of "technical elites", but rather it models the inclusion of diverse array of community actors who are brought into decision making beyond simply consultation, but as participants in a "two-way exchange" where members feel listened to, involved, and empowered (Wyse & Hoicka, 2019, p. 885). Community-ownership and capacity-building are also defining features of community energy (Wyse & Hoicka, 2019). Community energy is understudied in settler colonial contexts like Canada and Aotearoa (New Zealand), and these contexts provide particularly insightful environments to explore Indigenous-led and owned renewable energy projects (Bargh, 2010; MacArthur & Matthewman, 2018; Hoicka & MacArthur, 2018). In Canada, Indigenous communities are asserting a leading role in clean energy transitions through varying degrees of ownership in renewable energy projects. Projects range from wholly Indigenous-owned, majority Indigenous-owned (51-99%), a 50-50 shared ownership model, or some degree of minority Indigenous ownership (1-49%) (Hoicka et al., 2021). Agreements such as a Memorandum of Understanding (MOU) or an Impact Benefit Agreement (IBA) do not align with the defining features of community energy as they are considered "weak and short lived," and often used to grant industry the social license to develop in Indigenous territories while failing to rebalance power dynamics and give true community control (Hoicka et al., 2021, p. 6).

Indigenous-owned projects can be owned by an Indigenous political organization (Band Council) or an Indigenous Economic Development Corporation (a for profit entity that operates in the interests of Nation member shareholders), shared ownership between equity partners, a joint venture between business entities, or private ownership (Hoicka et al., 2021). Not all ownership models are synonymous with the open and participatory decision making of community energy. One Indigenous community is made up of multiple communities, not limited to leaders, Elders, and young people. Some ownership models may not have a place for all

community members in project design and decision making. In particular, Band Councils as a governance model have been described as a product of the Indian Act, and even in cases where the project is community-owned, it can be unclear how that ownership translates to individual community members (Campney, 2019). Hoicka et al. (2021) find that current projects lack representation of a community's "moral authorities" that bring a broader scope of community perspectives into projects, such as community organizations, social enterprises, Elder's councils, and governance structures that are informed by Indigenous legal systems and knowledges. Community energy's principles of community participation through open and participatory decision making are good guidelines to determine community support for a project. Community ownership does not always equate to uniform levels of support for projects, rather suggesting that community support for a project is determined by the depth of community involvement in project design, development, and maintenance (Stefanelli et al., 2018). Jaffar (2015) describes how Indigenous-owned community energy projects support "horizontal governance" in Indigenous communities, which places importance on bringing all community members into the decision making process. Cases of T'Sou-ke First Nation and Skidegate, Haida Gwaii illustrate the central role of community members in the development of community-driven Comprehensive Community Plans, which outlined member priorities and ultimately led to renewable energy initiatives that reflected those priorities (Ozog, 2012; Jaffar, 2015; Cook, 2019).

Renewable energy & Reconciliation

The involvement of Indigenous communities in renewable energy development has been explored as an avenue for reconciliation between Indigenous peoples, colonial governments, and energy utilities (Campney, 2019; Hoicka et al., 2021; Savic & Hoicka, 2021; Scott, 2020). This research will use the language of reconciliation however I recognize the critiques of this term

made by Potawatomi scholar Kyle Powys Whyte (2018). Whyte defines political reconciliation as "the aspiration to transform violent and harmful relationships into respectful relationships" that are morally grounded in trust and accountability; just, or economically fair and mutually empowering; and preventative of harms (Whyte, 2018, p. 277). Whyte describes how perceptions of Indigenous peoples as dependents of the state prevail, and Indigenous aspirations for reconciliation, which are not limited to upholding Treaty commitments, creating restorative justice processes, and territorial reclamation or Land Back, are still considered by many to be "undeserved privileges" (Whyte, 2018, p. 278; Yellowhead Institute, 2019). Indigenous peoples are proposing and leading pathways for reconciliation, and Whyte (2018) critiques settler attempts at reconciliation as not following through on those pathways, rather opting for symbolic gestures that further entrench rather than transform systems of settler colonialism.

A balanced approach to economic development that supports environmental stewardship has been found to be one avenue for reconciliation and healing (Schultz, 2017; Stefanelli et al., 2018). But the degree to which renewable energy development can align with reconciliation efforts varies. Campney (2019) explores the relationship between community energy and reconciliation, finding that the degree to which a renewable energy project reflects the principles of community energy, particularly local control and participation in decision making, is also the degree to which a project may contribute towards reconciliation. For some communities, equity ownership is a necessary mechanism through which reconciliation can be realized (Hoicka et al., 2021). Campney (2019) finds that while projects that reflect the principles of community energy hold promise for reconciliation, projects with minority ownership where Indigenous communities are not significant project partners are unlikely to lead to reconciliation with governments and industry. Based on current trends, projects with Indigenous ownership do not

always have Indigenous communities in sole or majority ownership roles. Hoicka et al. (2021) find that since the 1970s, equity ownership for Indigenous communities has risen, but equally the number of projects without Indigenous ownership and control has also risen and outnumbers those projects with Indigenous equity ownership. In the analysis of a dataset of 194 renewable energy projects across Canada with Indigenous participation, only 41 had a controlling ownership stake (≥ 51%) for the Indigenous community (Hoicka et al., 2021).

Many have cautioned against viewing renewable energy as an inherently positive and beneficial mode of development or as a natural pathway to reconciliation, as exploitative and ill-intentioned renewable energy development does occur (Lowan-Trudeau, 2017; Stefanelli et al., 2018). There are many examples in Canada and globally where renewable energy perpetuates colonial systems of resource development. The devastating impacts of large-scale hydroelectric projects developed without regard for Indigenous rights have displaced communities from their homelands and rendered landscapes unrecognizable in the name of renewable electricity generation (Lowan-Trudeau, 2017; Stefanelli et al., 2018; MacArthur & Matthewman, 2018; Walker et al., 2019). In northern Alberta's Peace Athabasca Delta, the second largest drainage basin in North America, Treaty 8 First Nations are calling attention to the impacts of hydroelectric projects, including the in-development Site C Dam. Communities are witnessing changes in flood frequency on the Peace River, a decline in shorebirds and waterfowl, and lower water levels and altered flow patterns (Baird et al., 2021).

Berka et al. (2020) point out that the transformative power of local community energy (LCE) or community energy is neither a given nor universal, but rather it is contingent on factors such as technology type, scale, ownership model, dependence on state and private actors, and degree of community engagement. Stefanelli et al. (2018) find that for the renewable energy

sector to contribute to reconciliation, it must follow free, prior, and informed consent, enact the TRC's 92nd Call to Action, and commit to upholding Indigenous rights outlined in UNDRIP. Projects that are Indigenous-led, build community capacity, and deliver socio-economic benefits to communities are demonstrating such possibility (Campney, 2019).

Motivations and Opportunities for Indigenous Renewable Energy

Individual Indigenous communities have a variety of motivations for pursuing renewable energy, and similarly experience a wide range of accompanying benefits from these projects. The primary motivations and the opportunities that communities experience as a result of projects are not easily delineated. In some cases, a desire for autonomy and self-governance may be a motivating factor and the benefits may be economic prosperity and community development, while in other cases communities may be motivated by economic prosperity and community development, and as a result gain greater autonomy and self-governance as an ancillary benefit (Stefanelli et al., 2019; Rezaei & Dowlatabadi, 2016). Cook (2019) similarly describes how benefits can accumulate to contribute to longer term outcomes. The community of Skidegate, Haida Gwaii experienced a variety of benefits, which together contributed to a greater sense of self-determination and resilience (Cook, 2019). The community also experienced different types of benefits, both more tangible or measurable benefits, such as reduction in greenhouse gas emissions and energy cost savings, as well as less quantifiable benefits, including a greater connection to their energy use and feelings of community pride (Cook, 2019).

With this understanding of the overlap of motivations and benefits, there are a number of themes present in the literature that capture community motivations and opportunities associated with Indigenous renewable energy development. Renewable energy projects are largely viewed as avenues through which Indigenous communities can gain independence and be self-sufficient both economically and in their energy use. Renewable energy projects have the potential to

generate a long term, own source of revenue for Indigenous communities that is not associated with the federal government, facilitating the move away from "dependency culture" and upholding the larger goal of independence from colonial institutions like Crown-Indigenous Relations and Northern Affairs Canada (Jaffar, 2015, p. 55; Rezaei & Dowlatabadi, 2016; Stefanelli et al., 2019). Indigenous renewable energy projects contribute to overall community economic development by both generating a new source of revenue and addressing gaps in investment into community services and infrastructure (Stefanelli et al., 2019). Ownership of a renewable energy project means that communities are saving on costs of energy from a source outside the community, and this keeps funds within the community to be reallocated into other areas (Cook, 2019). These projects can facilitate investments into education, youth mentorship, job training and other necessary community programs and infrastructure (Stefanelli et al., 2019). These projects also enable communities to reduce their reliance on external energy providers, to be self-sufficient in meeting their energy needs, and to have a more reliable source of energy (Jaffar, 2015; Rezaei & Dowlatabadi, 2016; Cook, 2019). Ultimately these projects can strengthen community autonomy and the ability to self-define their goals for sustainable development, and energy sovereignty through reclaiming decision making about their energy use and the ability to define how they see their energy future (Brewer II et al., 2018; Walker et al., 2019; Cook, 2019)

Alignment with worldviews & Indigenous alternative economies

Each Indigenous community has distinct relationships with their local environment, and accompanying values of stewardship, respect, and reciprocity. Much of the literature refers to the tension that arises when Indigenous people come to be defined by these values and their connections to land, as if this limits them from pursuing economic development or engaging in

sectors characterized by technology and innovation. Lowan-Trudeau (2017) illustrates this misconception in saying that often, Indigenous communities are:

> held back by outsiders' over-romanticization of Indigenous environmental traditions; they don't want Indigenous peoples to embrace and become leaders in contemporary technologies as it challenges their outdated notions of Indigeneity (p. 601).

These perceptions confine Indigenous peoples to an 'either-or' of the "false binaries of Indigenous sovereignty and contemporary development" (Lowan-Trudeau, 2017, p. 601), or of "ecological natives or colonised subjects" (Bargh, 2012, p. 281). Lowan-Trudeau (2017) argues that through renewable energy development, Indigenous communities are occupying a 'Third Space' outside of these binaries, asserting sovereignty and pursuing economic growth, while also upholding Indigenous knowledge and values to "live lightly on the land" (p. 606). Rather than being at odds with Indigenous values and worldviews, renewable energy offers an avenue for economic development to coexist with values of stewardship and connection to place. Renewable energy projects offer a "win-win" from an economic perspective without compromising values of environmental stewardship (Jaffar, 2015). Indigenous communities are not opposed to economic development at all costs, but rather support "the right kind of economic growth — one that respects land, water and people" (Walker et al., 2019, p. 8).

Indigenous-led renewable energy projects are modelling an approach to energy development that is informed by Indigenous worldviews and values. Schultz (2017) describes how Alderville First Nation in Ontario used the culturally relevant principles to guide the development of their community solar project. MacArthur & Matthewman (2018) describe how Māori energy development is grounded in Te Ao Māori, or the holistic Māori worldview. Bargh (2012) finds that projects and futures can be imagined with the guiding Māori 'ethical coordinates' of mana (authority), utu (balance), katiakitanga (guardianship), whakapapa

(genealogical connections) as the starting point. Māori geothermal enterprises grounded in these ethical coordinates which stem from Māori law are modelling "new ways of speaking about and doing economic development" (Bargh, 2012 citing Gibson & Graham, 2006). Māori geothermal enterprises are part of diverse, alternative Indigenous economies that are based on relationality, interconnectedness, and responsibility to non-humans and future generations (MacArthur & Matthewman, 2018; Bargh, 2012). Indigenous economies resist the language of commodification and individualism and are founded on accountability to the community, centring around community engagement and consultation; a commitment to sharing and wealth redistribution; and reciprocal relationships between land and community members (MacArthur & Matthewman, 2018; Schultz, 2017). This recognition of Indigenous economies as formal, layered, and progressive systems capable of development and innovation is a step away from the 'false binaries' that surround Indigenous peoples and economic development (Bargh, 2012; Schultz, 2017).

Positive associations with energy

Indigenous communities are disproportionately impacted by and often benefit the least from resource extraction on their lands and territories, and as a result energy development can carry negative and harmful connotations (Bargh, 2010). Renewable energy is creating positive associations with energy through feelings of community pride and hope for community-led visions of an alternative energy future. Jaffar (2015) describes how choosing renewable energy development can be solutions-based and action-oriented and come out of a desire to 'be part of the solution.' They describe how communities may feel that "we can't always be saying not in my backyard" (NIMBY), and through renewable energy development Indigenous communities are actively proposing viable solutions and energy futures (Jaffar, 2015, p. 63). Lowan-Trudeau (2017) similarly discusses how communities increasingly reject the confines of narratives of

conflict, in favour of proposing alternatives grounded in Indigenous resurgence - alternatives that simultaneously resist while also reviving Indigenous lifeways, fostering community-based initiatives, and positioning Indigenous peoples as innovators and leaders. Indigenous renewable energy projects are enabling communities to realize their visions for a sustainable fossil fuel free future (Cook, 2019). This future-thinking mindset is also reflected in the role of future generations in decision making. It is in keeping with the Seven Generations Teaching held by many Indigenous communities for decision makers today to consider how their choices will be felt seven generations from now (Stefanelli et al., 2018; Walker et al., 2019). Projects are also generating a sense of pride that Indigenous communities are actively diversifying their local economy (Jaffar, 2015). Ownership and control of projects may lead to a noticeable change in community morale, as these projects are challenging perceptions of Indigenous peoples and their capacity to be innovators and leaders (Jaffar, 2015). Bargh (2010) describes how community pride is an important component of projects, regardless of project type, finding that in both Indigenous-led renewable and non-renewable energy development, communities exhibited clear motivations to instill a sense of pride through member involvement.

Capacity building

Renewable energy development in Indigenous communities contributes to capacity building within individual communities and across multiple communities. Schultz (2017) describes the case of the Alderville First Nation community solar project, and how Nation members built their capacity through both training opportunities and experience at the planning and leadership level of project development. The case of T'Sou-ke First Nation has been frequently referenced as a model for sharing knowledge and capacity across communities (Ozog, 2012; Jaffar, 2015; Lowan-Trudeau, 2017). T'Sou-ke First Nation completed a community solar project in 2009, and there was interest in the applicability of a similar project in Skidegate, Haida

Gwaii (Ozog, 2012). Graduate student Sarah Ozog worked with T'Sou-ke First Nation and Skidegate, Haida Gwaii to explore this relationship in which T'Sou-ke acted as a "solar mentor" to Skidegate, through what Ozog calls a First Nation-to-First Nation renewable energy partnership (Ozog, 2012). Jaffar (2015) describes that communities are not singularly motivated by benefit to their own communities but are invested in the shared success of the "larger community of Indigenous communities" (p. 61) who are reshaping the role of Indigenous peoples in energy transitions.

Challenges for Indigenous Renewable Energy

Krupa (2012b) list a number of barriers associated with Indigenous renewable energy development including high cost and access to financial resources; preconceived societal notions that First Nations lack the capabilities to develop sophisticated enterprises; uncertainty around different technology options; lack of community awareness of the long-term importance of renewable energy; complexities associated with unsettled land claims and developing unconstrained within their traditional territories; and socio-economic inequalities (Krupa 2012a; 2012b). As much as community energy projects are the product of local action, external challenges at the regime level are often the most detrimental to the success of these projects. Berka et al. (2020) point to the role of regime level factors in either creating or denying 'windows of opportunity' for niche or grassroots innovations to gain momentum. Within the context of Aotearoa New Zealand, they find that community energy led by Māori and other grassroots actors has been plagued by lengthy feasibility stages and high rates of failure. They attribute this to an unsupportive regime context characterized by a lack of market access for community energy projects; a lack of policy coordination and collective government strategy for energy transition and community energy; a lack of recognition of the socio-economic and environmental benefits of community energy; and the dominance of incumbent energy players in

renewable electricity generation. MacArthur (2017) finds that community energy in Canada is similarly impeded by a lack of national level policy direction, electoral cycles, and powerful energy incumbents. In Alberta, the 2015 election of the NDP after decades of Conservative governments has been referenced as a particularly transformative shift, demonstrating the power of electoral cycles to bring in targeted support for community energy and Indigenous renewable energy projects (MacArthur, 2017). Lowan Trudeau (2017) describes this shift as a 'promising' development for Indigenous renewable energy, given that pre-election Alberta had only fifteen clean energy initiatives in eleven communities, compared to British Columbia's 153 and Ontario's 82. The likelihood that the most recent political shift and the 2019 election of the United Conservative Party has had a similar albeit negative transformative impact on the growth of Indigenous renewable energy in Alberta is the starting point for the current research.

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Chapter 2: Methodology

Personal Introduction & Statement of Position

Relationship was at the core of many of the interviews that make up this research, from sharing family histories to our shared gardening pastimes, and this is the approach I follow here. I would like to begin with an acknowledgement of my positionality (Carlson, 2017), a "self-location exercise" (Snelgrove et al., 2014, p. 4), by simply introducing myself (Wilson, 2003). I am a second-generation white settler, the granddaughter of immigrants from the Netherlands who came to Canada following WWII. The place now known as Edmonton has always been home, but my understanding of this place and the surrounding region is continuously evolving. My family has deep roots here and my parents are alumni of the University of Alberta and MacEwan University, both institutions a short distance from the site of Beaver Hills House. I grew up spending time camping and hiking in Alberta's national and provincial parks, both Indigenous homelands and places that hold histories of forced removal for many Indigenous peoples. Now I attend the University of Alberta, situated on Papaschase homeland, an understanding that I came to know once I began my undergraduate degree and encountered a network of scholars and advocates, including professors like Dr. Dwayne Donald and his much beloved river valley walk, in which he shared this significance of this place as Amiskwaciwâskahikan. Tuck & Yang (2014) and Snelgrove et al. (2014) write about "settler moves to innocence," strategies that relieve the settler of their guilt, responsibility, or complicity, and may even grant settler scholars praise for their self-awareness. Snelgrove et al. (2014) reflect on how one such move to innocence, the declaration of 'I am a settler' has become a performative action. In many spaces, including many of my own personal circles, land acknowledgements and personal declarations have become norm, and may lack disruptive impact

(Snelgrove et al., 2014). Despite how this acknowledgement has become token in many ways, in certain contexts a personal declaration may be especially effective in opening up dialogue around setter responsibility and ongoing colonial violence (Snelgrove et al., 2014). I see this as a call to action for settlers, to continue to be disruptive, especially in spaces where it is uncomfortable or not expected. Given that Smith (2021) sees that "no real progress has been made to decolonize major knowledge and political institutions of academia," (p. xii), I feel that it is especially important and potentially disruptive to begin with a statement of positionality in this context. I do this not as a 'move to innocence', but to simply introduce myself and how I am coming to this research, and as a measure of self-accountability to my personal ongoing commitment to anti-colonial work.

Settler colonial studies, Indigenous & Anti-colonial methodologies

In *Decolonizing Methodologies,* Māori scholar Linda Tuhiwai Smith begins with the following invitation to recognize of how research is intertwined with the colonial systems within which it operates.

> it is surely difficult to discuss research methodology and Indigenous peoples together, in the same breath, without having an analysis of imperialism, without understanding the complex ways in which the pursuit of knowledge is deeply embedded in the multiple layers of imperial and colonial practices (p. 2).

In the third edition of this seminal work, Smith reaffirms what she first wrote more than twenty years ago, that "research remains a dirty word for many of the world's Indigenous peoples" (Smith, 2021, p. xi). Understanding the relationships between research and Indigenous peoples in Canada requires an understanding of Canada as a settler colonial context. The distinguishing feature of settler colonialism is that settlers "came to stay", to make a new home through dispossession of Indigenous lands with the intent of settlement (Carey & Silverstein, 2020, p. 5; Tuck & Yang, 2012; Carlson, 2017; Snelgrove et al., 2014). The primary motive of settler

colonialism is land, which encompasses land, water, air, and subterranean earth (Tuck & Yang, 2012). Indigenous Hawaiian scholar Manulani Aluli Meyer writes that "Indigenous people are all about place", and this occupation of Indigenous land is done with the intent of erasure of both Indigenous peoples and relationships to land (Aluli-Meyer, 2008, p. 4; Tuck & Yang, 2012; Snelgrove et al., 2014). Through settler colonialism, Indigenous land is recast as property, a source of capital, and where the settler makes their home (Tuck & Yang, 2012, Snelgrove et al., 2014).

> Land is what is most valuable, contested, required. This is both because the settlers make Indigenous land their new home and source of capital, and also because the disruption of Indigenous relationships to land represents a profound epistemic, ontological, cosmological violence. This violence is not temporally contained in the arrival of the settler but is reasserted each day of occupation. (Tuck & Yang, 2012, p. 5).

Settler colonialism is actively maintained and operates through mechanisms like imprisonment, surveillance, policing, and schooling and through the "the expropriation of fragments of Indigenous worlds, animals, plants and human beings" (Tuck & Yang, 2012, p. 4). These everyday methods of settler colonialism construct a "settler colonial common sense", a taken for granted notion where "the legal and political structures that enable non-Native access to Indigenous territories come to be lived as given" (Rifkin, 2013, p. 322; Snelgrove et al., 2014). Settler colonial studies as a distinct field emerged out of criticisms of 'post-colonialism' led by Black and Indigenous thinkers. Postcolonialism has its origins inquiring into the effects of colonialism in former colonial empires that have been dismantled and where self-governance has been restored (Carey & Silverstein, 2020). Critics of postcolonialism point to the monolithic nature of the term that implies a universal colonial experience, and the fact that it does not account for contexts where "the colonisers never left," and where power differentials remain (Carey & Silverstein, 2020). Postcolonialism, and similarity the term decolonization, "facilitate

the ability of academics to position colonialism as being something of the past, as in 'colonialism is over and now we can decolonize'" (Carlson, 2017, p. 500).

Despite the need for an awareness of the unique context of settler colonialism, it has been critiqued as primarily a settler framework, where good-intentioned settler scholars think about colonialism without any significant shifts in the power imbalances between Indigenous and non-Indigenous peoples, ultimately perpetuating settler colonialism as the status quo (Snelgrove et al., 2014). It views Indigenous peoples "through the prism of colonialism" (Carey & Silverstein, 2020, p. 9 citing Konishi, 2016) and their relations to colonial society, rather than centring Indigenous agency, and "exploring histories of Indigenous experience that do not revolve around settler colonial domination, expropriation, or exploitation" (Carey & Silverstein, 2020, p. 9). Settler colonial studies has been critiqued for overshadowing Indigenous studies in the academy, primarily work around Indigenous resistance and resurgence (Carey & Silverstein, 2020; Snelgrove et al., 2014). Snelgrove et al. (2014) describe Indigenous resurgence as "not a new phenomenon," and define it as the following.

> By Indigenous resurgence we mean ways to restore and regenerate Indigenous nationhood (Corntassel, 2012) and the "repatriation of Indigenous land and life" (Tuck & Yang, 2012). By centering Indigenous resurgence, we resist the disavowal of a colonial present still defined by Indigenous dispossession, we center transformative alternatives to this present articulated within Indigenous resurgence, and we remain attentive to the very ground upon which we stand (p. 2).

Cherokee scholar Jeff Corntassel (2012) writes of "re-envisioning and practicing everyday acts of resurgence" in which Indigenous peoples confront and disrupt colonial institutions and imagine life beyond the policies and structures of the colonial state (p. 88). These everyday actions facilitate the achievement of the following objectives of Indigenous community regeneration and resurgence: restoring Indigenous presence on the land through land-based practices; an increased reliance on traditional diets; the transmission of Indigenous teachings and

knowledge among Elders and youth; strengthening Indigenous cultural, social, and governance institutions; and generating sustainable land-based economies (Corntassel, 2012 citing Alfred, 2009). Decolonization is the process of actively engaging in these everyday acts of resurgence (Corntassel, 2012). This understanding of decolonization as an action in the efforts of Indigenous resurgence aligns with Tuck & Yang (2012) where they assert that "decolonization is not a metaphor." Tuck & Yang describe how the language of decolonization has been used by settlers as a "swappable term for other things we want to do to improve our societies and schools" to relieve settler guilt, without recognizing Indigenous sovereignty, without redistributing power and privilege, without giving Land Back, and ultimately without much change at all (Tuck & Yang, 2012, p. 3; Yellowhead Institute, 2019). When used in this way, decolonization "entertains a settler future" (p. 3). Tuck and Yang (2012) conclude that rather, "decolonization is accountable to Indigenous sovereignty and futurity" (p. 35). The significance of decolonization and Indigenous resurgence is in dismantling the power structures which maintain settler colonialism, re-centring and re-invigorating Indigenous liberation and Nationhood, and articulating alternative and transformative visions for Indigenous and settler futures (Snelgrove et al., 2014). Indigenous resurgence also holds the possibility for settlers to be "transformed through anti-colonial resistance" by acknowledging our position within the settler colonial power differential (Snelgrove et al., 2014, p. 18).

For settler scholars, Carlson (2017) articulates an explicitly 'anti-colonial' research methodology. The language of anti-colonialism conveys that setter colonialism is a current reality that is actively maintained, and that being anti-colonial is an active refusal of that reality (Carlson, 2017). This anti-colonial methodology draws from Indigenous methodologies and anti-oppressive methodologies. Indigenous methodologies and research agendas have been notably

articulated by Margaret Kovach, Shawn Wilson, and Linda Tuhiwai Smith (Wilson, 2001; Wilson, 2008; Kovach, 2009; Smith, 2021). Indigenous methodologies can be understood as the following approach to research.

> an Indigenous methodology means talking about relational accountability. As a researcher you are answering to *all your relations* when you are doing research. You are not answering questions of validity or reliability or making judgements of better or worse. Instead you should be fulfilling your relationships with the world around you (Wilson, 2001, p. 177).

Indigenous methodologies "require situational appropriateness" which asks "Do you have an Indigenous worldview, history and experiences? Can you position your process in an Indigenous worldview and framework?'" (Carlson, 2017 citing Kovach, 2009). As a white settler scholar, I follow Carlson and do not attempt to utilize an Indigenous methodology here. Despite my awareness of the Indigenous lands and territories I occupy and my attempts to uphold my role in Treaty relationships, my understanding of Indigenous worldviews and knowledges will always be limited by my position as a settler, and I can never claim to fully understand Indigenous experiences (Carlson, 2017).

At the centre of this anti-colonial thinking is Indigenous resurgence, and the role of white settler scholars is at the periphery, leading with humility, despite fear and denial around our complicity, and "making space, and pushing back against colonial institutions, structures, practices, mentalities, and land theft" (Carslon, 2017, p. 500). Community-based participatory research methods are part of a commitment to anti-colonial research. Carlson outlines eight principles of anti-colonial methodology for settlers, one of which is egalitarian, participatory, and community-based methods. This necessitates that research is aligned with needs expressed by the community, community members contribute to shaping the research and the researcher does not elevate themselves to the position of expert, and that there are opportunities for co-

authored research (Carlson, 2017). Carlson also outlines that an anti-colonial approach holds a commitment to reciprocity, in which "anti-colonial settler researchers focus on what they can give, contribute, and collectively build," and share their findings for widespread benefit and social change, rather than personal advancement (Carlson, 2017, p. 501). This background understanding of anti-colonial thinking, and the use of community-based participatory methods is the starting place for the current research.

Community-based Participatory Research

Community-based participatory research (CBPR) challenges conventional ways of doing research and proposes an approach to research that recognizes power imbalances between academic institutions and Indigenous communities (Castleden et al., 2012). It is strengths-based and builds on the existing skills, resources, and relationships that already exist within the partner community, and it actively combats deficit-oriented approaches to research with Indigenous peoples (LaVeaux & Christopher, 2009). It empowers communities through shared decision-making power and involvement in all phases of the research process (Castleden et al., 2012). CBPR includes the research protocols of respect, relevance, reciprocity, and responsibility; as well as ownership of, control of, access to, and possession of (OCAP) the knowledge shared during the research process (Castleden et al., 2012; Schnarch, 2004).

Research capacity and expertise already exist within Indigenous communities, as Indigenous peoples have always been asking questions, observing changes, and carrying out research in their communities (Koster et al., 2012). Ideally research concerning Indigenous people should continue to be led by Indigenous communities, highlighting a need to foster and support Indigenous researchers and institutions to take on this work (Koster et al., 2012; Ball & Janyst, 2008). CBPR is a way to bridge that divide, and even when drawing on external support

from academic researchers, the community still knows their research needs and has control of the research agenda (Koster et al., 2012). Recognizing Indigenous research capacity means acknowledging Indigenous research paradigms or methodologies and working within them. While there is no single Indigenous research paradigm, research partnerships that are guided by these paradigms recognize that conventional approaches to research are not the only way, and that there is room to blend Indigenous and conventional methodologies more effectively (Koster et al., 2012; Castleden et al., 2012). General protocols include forming a research partnership to co-create the design of the research process; deciding on research goals and conducting the research in a way that is respectful, ethical, and is informed by Indigenous perspectives; deciding how the community will benefit from the partnership; ensuring community control of information generated, and deciding how it will be used and shared; establishing a strategy for Indigenous partners to revise drafts and findings; and developing and maintaining relationships (Koster et al., 2012).

Community-based research supports processes of co-learning, mutual benefit, and reciprocity (LaVeaux & Christopher, 2009). For Indigenous communities, a community-university partnership can be an opportunity for community members to gain new knowledge, explore topics of interest, network with other individuals or organizations, and learn new skills in research, including data collection, analysis, and research communication (Ball & Janyst, 2008; Castleden et al., 2012). By engaging in this process of mutual learning, non-Indigenous researchers engaged in these partnerships also have much to learn about community-specific protocols, and Indigenous ways of knowing, living, and communicating, all of which can lead to deeper more nuanced understandings of research and the role of conventional institutions (Ball & Janyst, 2008; LaVeaux & Christoper, 2009; Castleden et al., 2012). For researchers engaging in

community-based research, LaVeaux & Christopher (2009) identify the need to acknowledge the underlying experiences that bind that community together, while also recognizing that there is a great diversity among community members. There may be different levels of language learning or participation in traditional activities among members (Laveaux & Christopher, 2009). Many members "live in a bi-cultural world," balancing traditional ancestral worldviews while also participating in the institutions and systems of the majority settler culture (Laveaux & Christopher, 200, p. 3). Community-based researchers must take time to become familiar with the community-specific knowledges and experiences of the individuals they are working with (Laveaux & Christopher, 2009). Research paradigms that champion Indigenous ways of knowing can generate new insights on how to address critical issues such as climate change and energy transition (Castleden et al., 2012).

Content Analysis

Content Analysis or Conventional Content Analysis is an approach to data analysis that aims to transform large amounts of textual data by grouping similar excerpts into categories, patterns, and themes for the purpose of generating knowledge about a specific phenomenon or case (Hsieh & Shannon, 2005). Content analysis allows themes to emerge directly from the data, rather than imposing predetermined categories (Hsieh & Shannon, 2005). This is a data-driven or inductive process in which theory can guide the analysis, but the overall 'picture' or meaning of the research is "there waiting to be rendered" by the researcher (Mayan, 2016, p. 86). The general steps of content analysis are achieving immersion in the data through multiple readings and memoing first impressions; highlighting relevant text; identifying codes or repeating ideas; creating categories; and identifying themes (Auerbach & Silverstein, 2003; Creswell, 2007; Green et al., 2007; Hsieh & Shannon, 2005). Coding and the overall process of content analysis

is described as an iterative process (DeCuir-Gunby et al., 2011; Fereday & Muir-Cochrane, 2006; Weston et al., 2001). These steps are not linear, rather they are circular, forming what has been described as a "data analysis spiral" of "analytic circles" (Creswell, 2007, p. 150; DeCuir-Gunby et al., 2011; Mayan, 2016). The researcher undergoes a process of "constant comparison" by developing codes, returning to the data, and refining the coding as they expand their understanding of the research topic (Creswell, 2007, p. 160). This process culminates with a point of saturation upon which no new insights have emerged (Creswell, 2007).

Methods – Semi-structured interviews with Enoch Cree Nation members

Research scoping & Relationship building

This project began with a period of relationship building and coming to a place of mutual recognition of the value of this project both for members of the community and for the entire research team. My supervisor Dr. John Parkins connected me with Grant Bruno, a recent graduate of this Master's program who at the time was working for Enoch Cree Nation as the Communications Coordinator. In June 2019, I approached Grant for an initial meeting to ask if he was aware of any active discussions that our project might be able to contribute to around current or future renewable energy projects in Indigenous communities that he has relationships with. Grant identified that at the time there were active discussions around renewable energy development in Enoch Cree Nation, and he made an introduction to the Nation's Environmental Stewardship Coordinator, who became my primary contact for the early portion of this project. The Nation's proximity to the University of Alberta campus enabled John and I to meet with Naomi in person just outside of the community at the end of August 2019. Following that initial meeting, I shared an overview document to introduce myself and detail the potential for our collaboration. These early conversations with Grant and Naomi were formative in the overall project approach and direction. Grant shared experiences from his Master's research and the

importance of a strengths-based approach to research with Indigenous communities. Throughout our conversations he iterated his position as an advocate for community-based research within the Nation and the importance of establishing a mutually beneficial relationship. Naomi confirmed the potential for this research to bring awareness to the Nation's current and future clean energy initiatives, and to their challenges of not being met halfway by the provincial government.

I continued to stay in contact with Naomi into the Fall, and in October she shared with me that based on the initial proposal document, she had received approval from Council to move forward with our work together. We agreed that the next steps would be to develop a more detailed work plan and timeline for the project. In November, I shared a detailed project proposal and proposed timeline. It was also at this point that we began to have conversations about bringing a Community Research Partner from the community into the research team and hiring them on to the project. As we began to shape the research, our goal was to identify the priorities and active conversations happening in the community and how our research could contribute to that. At the time, Naomi was working on a solar retrofit pilot project on Elder's homes, and initially we thought that our collaboration could be a part of the community engagements for that project. We also discussed holding a community information night or participating in an upcoming community open house to begin to build some familiarity between myself and the research team and Nation members. The Nation also had an active solar working group, and we had plans to connect with those Nation members who were already doing the work to advocate for solar in the community.

Research Protocol

Throughout November and December, we worked on developing a number of relevant documents, including the Research Protocol, the Information Sheet & Consent Form, & the

Interview Guide. Each of these documents went through a series of revisions with both Grant and Naomi providing their feedback and comments. The Research Protocol (Appendix A) is an agreement that was developed after referencing the publicly available Six Nations Research Ethics Committee Protocol as well as the Research Protocol for the project *Tracking Change: The Role of Local and Traditional Knowledge in Watershed Governance*, which was shared directly with the research team by the Tracking Change Principal Investigator Dr. Brenda Parlee. Our research protocol is organized around the areas of Research Objectives; Design & Methods; Intellectual Property; Project Extension, Termination, or Amendment; and the Research Team roles. At the end of January 2020, the research team met in person on the Nation at the River Cree Resort & Casino. At this meeting we discussed the Community Research Partner role, the next steps for finalizing the Information Sheet & Consent Form that would be shared with community members in an interview setting; the interview guide and potential interview participants; the appropriate protocols and honoraria for our participants; and the significance of a Cree project title. This in person meeting was a critical opportunity to continue building our research relationship. In the days following that meeting we each signed the Research Protocol and Grant obtained a Letter of Support for our project from Enoch Cree Nation Chief Billy Morin.

Significance of Community Advisors & Community Research Partner

Throughout January, the research team continued to refine what the role of the Community Research Partner would look like and who we could hire for that position. As they were both already employed in positions with Nation, Grant and Naomi did not have the capacity to be hired for this position. On Grant's suggestion, we concluded that they would both be jointly involved in the project as the Community Advisory Committee, to review and provide their feedback on the research process and to ensure that community interests are being represented.

The Community Research Partner would be directly involved in each phase of the research, including seeking out and inviting participants for an interview, conducting the interviews, and in the analysis and creation of outcomes. The current Enoch Youth Council is very active on issues of energy, the environment, and climate change. Hiring a young adult or a post-secondary student on the Youth Council as a Community Research Partner would strengthen research capacity and be a good fit with their priorities as a Council. Shortly after our in-person meeting in the Nation, Naomi shared her recommendation for the position of Community Research Partner, and we began to make the necessary arrangements to hire her onto the project on a part-time, casual basis. A member of the Youth Council, Lorell is an undergraduate student in the Faculty of Native Studies with a certificate in Aboriginal Governance. Lorell, Naomi, and I had an in-person meeting on the University of Alberta campus where we discussed what Lorell's interests were and what her role in this project could look like. This introductory meeting took place in person on March 12, 2020, the day after the World Health Organization classified COVID-19 as a global pandemic (World Health Organization, 2020). At this point we began to shift our focus and transition the project to this new normal. Our priority was navigating how to carry out interviews and give protocols and honoraria with the utmost consideration for the safety of Nation members and in keeping with the health measures on the Nation. At this time, we were still uncertain about the extent of in-person contact we would have with any of the interview participants. In April, I also received the news that due to the pandemic, Naomi had been temporarily laid off from her position with the Nation. This was a significant loss for the project, but we continued to adapt the project to the virtual environment and took the necessary steps to hire Lorell as the Community Research Partner. In mid-April I developed a job description as well as a work plan and timeline for the Community Research Partner position,

placing emphasis on the flexibility to determine their level of involvement and to work on something of value to them. The possible responsibilities of the position outlined in these initial documents included identifying, scheduling, and conducting interviews; transcribing interview audio recordings to text; analysis of interviews and creation of outcomes; verifying the accuracy of transcripts with participants; and being accountable for protecting the anonymity of participants and overseeing the long-term storage of data within the community. Lorell signed a formal Offer of Employment for the position on a casual hourly appointment with a start date of May 1, 2020.

The appointment of a Community Research Partner is to ensure partnership in research and to bring community member perspectives and experiences into the research as much as possible. The position is also aligned with an overall commitment to mutual benefit. Lorell came to this project with a willingness to share her lived experiences in the community, a depth of knowledge of the community and its strengths, a familiarity with potential interview participants, and an ability to identify and communicate community goals, particularly those of the Enoch Youth Council. Due to health restrictions, I was unable to visit the community and develop in person relationships with potential interview participants. Lorell was essential in her role of identifying and contacting members of the community who she saw as a good fit to participate in the project. Her position as Community Research Partner was also an opportunity for Lorell to strengthen her research skills and to develop her understanding of post-secondary opportunities. Following her appointment, we held a virtual meeting with the Community Research Partner, the Community Advisor, and myself. Despite the uncertain circumstances of the ongoing pandemic, Grant confirmed that he had capacity to continue as a Community Advisor, supporting Lorell, providing assistance on participant recruitment, and reviewing project outputs. However, we

knew that without in person contact it would be difficult to recruit as many community members as we had initially planned for, and it was at this meeting that we discussed how we could adapt the project going forward. Due to the pandemic and more pressing community priorities, along with the lack of movement on the Nation's renewable energy initiatives since our project started, we decided to broaden our scope. It was at this time that I began work on gathering perspectives from key stakeholders in the field of Indigenous renewable energy in Alberta and across the country to give context to our ongoing work with Enoch Cree Nation.

Following an amendment to our approved application to the Research Ethics Board to formally add Lorell as a member of the research team, we began our work together. On the recommendation of the Community Advisor, Lorell completed the TCPS 2: CORE (Course on Research Ethics) online ethics training. She also had access to "The Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans" as well as "Setting New Directions to Support Indigenous Research and Research Training in Canada"[2], published by the Canadian Institutes of Health Research (CIHR), the Natural Sciences and Engineering Research Council (NSERC), and the Social Sciences and Humanities Research Council (SSHRC). My role was supporting her in developing a familiarity with each stage of the research process, from background reading; free, prior, and informed consent procedures; interviewing; and interview transcription and coding. At each point in the research process, I created and shared plain language how-to guides on conducting interviews, transcribing interviews, and analysis. At our weekly meetings we went over the Information Sheet & Consent Form and she made edits to the

[2] Government of Canada. (2018). Tri Council Policy Statement – Ethical Conduct for Research Involving Humans. Retrieved from https://ethics.gc.ca/eng/documents/tcps2-2018-en-interactive-final.pdf

Government of Canada. (2019-2022). Setting new directions to support Indigenous research and research training in Canada. Retrieved from https://www.canada.ca/content/dam/crcc-ccrc/documents/strategic-plan-2019-2022/sirc_strategic_plan-eng.pdf

questions in our Interview Guide. She shared her insights on how to invite people for an interview, and how the questions and honoraria procedures would change depending on if we were speaking with Elders, youth, leadership, or other community members.

To develop some comfort and familiarity with interviewing before our first interview, we did a practice interview together. This was an opportunity to go over the importance of the free, prior, and informed consent procedure, and for Lorell to share some additional relevant questions to ask members of the community. This was also a valuable experience for myself, as during this conversation Lorell told me about her community, her family, and memories of growing up in the community. She shared her understanding of the meaning of Maskêkosihk, place where the medicine is, and her experiences with her family in sacred areas in the community where medicines like sage and tobacco grow, gathering medicines and engaging in other land-based activities. As a member of the Youth Council and a young person who cares about environmental initiatives, she also shared her perspective on community priorities in the areas of the environment and climate change. She talked about the generational gap between youth and older generations on awareness of environmental issues and identified that land-based learning opportunities are a priority among youth in the community. We talked about a link between young people seeing solar and learning about the sun as an energy source, and a greater connection with the environment and the land in the community. She also posed questions about how renewable energy could contribute to overall community wellness.

As the pandemic progressed, Grant and Lorell and I had a meeting to reassess how our project was fitting with current community priorities. Grant shared that in addition to navigating the pandemic, the main priority in the community at that time was negotiations around Yekau Lake settlement. The settlement was the result of negotiations with the federal government after

evidence of live, heavy action explosives from WWII were found in the community at the site of the former Yekau Lake Practice Bombing Range (Gerson, 2014; Muzyka, 2020; Crown-Indigenous Relations and Northern Affairs Canada, 2020). At this time Grant was also transitioning out of his position at Enoch to start his PhD program but confirmed his capacity for support where needed.

Interview Guide Development

Based on our research scope, I compiled an initial interview guide informed by the methods, appendices, and supplementary information of numerous Indigenous energy studies[3]. I shared iterations of the interview guide with community advisors and the community research partner who provided feedback and suggested questions that would be valuable for the project and relevant to ask community members. We followed a semi-structured approach when interviewing, and this meant that the research partner and I prepared questions tailored to youth, leadership, and other community members and placed more emphasis on certain questions depending on the participant's role in the community (Appendix C).

Participant Recruitment

Lorell developed a list of potential interview participants and contacted community members to invite them for an interview. Participant recruitment was done through Facebook messages, phone calls, text messages, and emails. She also made a post in the community Facebook group sharing our research and inviting people to contact her for a phone or video interview. The Community Advisor also provided essential support with recruitment and shared a list of names and contact information for seven potential participants, some of which I personally emailed to invite for an interview.

[3] Ozog, 2012; Rodman, 2013; Jaffar, 2015; Krupa et al., 2015; Necefer et al., 2015; Rezaei & Dowlatabadi, 2016; Fitzgerald, 2018; Rakshit et al., 2018; Cook, 2019; Rakshit, 2019; Zurba & Bullock, 2019.

Free, Prior, and Informed Consent Procedure

All participants received the information sheet prior to the interview (Appendix B). Together we went over the information sheet at the start of the interview, and participants had the opportunity to ask questions or seek clarification. The information sheet included a plain language summary of the background and purpose of our project. It outlined the benefits of this research to the participant, in the form of honoraria, and to the community overall, through the potential to inform policies and decisions around renewable energy development in Enoch Cree Nation. Potential risks of involvement were discussed, including the possibility that they may be recognized from their unique insights, and the possibility of the interviews including topics that they may find difficult to discuss, such as climate change, energy development in Alberta, and relationships with government, past and present. We iterated that their participation is voluntary, and they may refuse to answer any questions during the interview or withdraw any or all contributions within three months of the interview date. We went over our commitment to confidentiality and protecting their anonymity. Three of the four participants consented to have their name appear, and as their participation was not conditional on being recognized by name for their contributions or having their knowledge attributed to them, all participants were anonymized for consistency. These considerations form the foundation for free, prior, and informed consent, and only when we had gone through these steps were participants invited to give their oral or written consent. Two participants provided their written signature of consent and two participants provided oral consent.

Data Collection - Semi-structured Interviews & Participant Follow Up

Interviews were done with a total of four Enoch Cree Nation members. The Community Research Partner and I conducted our first interview together on an audio-only video call in early June, and our second interview over a three-way phone call in early July. Lorell and I conducted

two interviews together, while I completed two additional one-on-one phone interviews with community leaders in September and October. All interviews were recorded using the recording function of Google Meets or through an external recording application. The interview participants also referred us to other community members to contact, none of which resulted in an interview. Together, Lorell and I transcribed verbatim the first two interviews, while I transcribed the remaining two, and each participant received a copy of their transcript. I was able to have a follow-up phone call with three of the four interviewees. This was a critical step in the verification process, and during these calls we went over the transcript together and ultimately came to mutual understanding that the contents of the transcript accurately reflected our conversation. These follow up calls were an opportunity for both me and the participant to ask questions and seek clarification, and participants expressed that they looked forward to seeing how the results were shared with the community.

Honoraria & Protocol

As a gesture of appreciation for sharing their knowledge and time, community members who participated in an interview were given honoraria in the form of electronic gift cards. In April, early on in the pandemic when we were still determining the extent of our in-person interactions with community members, we sought out the best ways to safely give protocol (tobacco, gifts) to community Elders and knowledge holders. The Community Advisor reached out to a community leader who generously shared with us the community's approach to giving protocol and in person contact with Elders and knowledge keepers (social distancing, accepting their handshakes when offered, and offering hand sanitizer). He shared that the community had developed a system of hand delivering protocol to Elders and knowledge keepers every two weeks in keeping with social distancing guidelines. Due to the severity of the pandemic and the lack of time spent in person in the community, as well as the fact that we did not speak with

Elders and knowledge keepers during our interviews, we did not give protocol in this way. Based on discussions with the Community Advisor, members in leadership positions received a $50 electronic gift card and youth received a $25 electronic gift card.

Data Management

In keeping with OCAP, I expressed to participants that they retain ownership over any knowledge they share and that participating in an interview does not waive ownership of their personal information and knowledge. I expressed that their information will be stored to ensure that it is valued over the long term, but that information is accessible only to members of the researchers named in the information sheet. Interview audio files, and all electronic copies of consent forms, and interview transcripts are stored in a shared Google Drive that was created on my private computer and that the Community Advisor and Community Research Partner can access at any time. This research was conducted while working at home in accordance with the University of Alberta's COVID-19 guidelines, and as a result printed copies of the interview transcripts are being stored in a secure home office. Printed copies of the interview transcripts will be stored for five years as is the University research ethics policy, upon which they will be destroyed.

Deliverables - Communicating our research to community members

The research team had many conversations about the potential outcome of the Community Research Partner's appointment and the community deliverable of the research overall. Grant shared that we could utilize the Enoch Echo, a monthly community publication, for participant recruitment and sharing our research with the community. As the summer progressed, we continued to talk about community deliverables that were attainable in the time left in Lorell's appointment, particularly a presentation or report with youth in the community in mind as the audience. In August, Lorell was preparing for the start of the Fall semester and a

personal matter arose, and we were not able to prepare a presentation to the youth council. In September, I sat down over a video call with the Community Advisor in an informal interview setting to reflect on the project up to that point, which makes up the final section of this chapter. In May 2021, I reached out to Lorell to talk about putting an article together for the Enoch Echo about our work. The Enoch Echo is a monthly online publication that features pieces written by Nation members and includes sections about community events, Cree language learning, updates on initiatives that require community input, and celebrates the successes of Nation members. Lorell told me that many Nation members read the Enoch Echo and that she was excited to put together a submission. Lorell wrote a piece reflecting on her experience as a research partner, and how significant it was for her to have in-depth conversations with community members and to do this research about her home. Following contributions from myself and the Community Advisor, we submitted the piece for the Enoch Echo September 2021 Edition (Appendix E).

Methods – Semi-structured Interviews with Key Informants

Qualitative data collection for this research was completed in two phases, and the key informant interviews took place simultaneously with the period of relationship building with Enoch Cree Nation. A key informant approach was taken to situate the community interviews within the larger field of Indigenous energy; identify themes to guide the conversations with Enoch Cree Nation community members; and identify shared experiences and points of difference. Key informants were selected based on the researcher's knowledge of key players in the fields in community generation and Indigenous renewable energy. Recruitment was primarily focused within Alberta, but also included individuals from British Columbia and Ontario given the high clustering of Indigenous clean energy projects in those provinces (Indigenous Clean Energy, n.d.; Indigenous Renewable Energy, 2016). I conducted an initial recruitment of

prominent and recurring individuals from publications, news media, peer-reviewed academic literature; members of the former provincial government's Indigenous Electricity Technical Working Group (IETWG); and participants in the Indigenous Clean Energy (ICE) 20/20 Catalysts Program. Participants were contacted through publicly available email or phone accessed through company or organization websites, University profiles, and LinkedIn. This initial recruitment was followed by referral sampling until a total of twenty-two key informants were interviewed. With a non-response from members of the Government of Alberta Ministry of Indigenous Relations I identified that I had reached a saturation point.

Interviews were conducted one-on-one between me and the participant with the exception of three group interviews done together with two and four participants. These conversations were guided by a semi-structured approach to questioning that supported relationship building and the emergence of personal narratives (Appendix D). Interviewing was carried out from May to November 2020, and in keeping with the public health guidelines around the COVID-19 pandemic, all interviews were done over the phone or through video conferencing. Interviews were completed with First Nation Councillors who championed community-owned renewable energy; representatives from Métis governance bodies; an Indigenous-led environmental advocacy group; renewable energy advisors and developers; non-profit, research, and public education groups; grant organizations, municipal administration; academia; and a utility company (Table 1). Six of the twenty-two key informants self-identified as First Nations or Métis during the initial introductions of our interview, and all interviews followed the protocols of community-based participatory research (CBPR) that have been outlined here. As part of a commitment to ensuring the participant's free, prior, and informed consent, interviewees received the Information Sheet and Consent form in advance of the interview and had the

opportunity to ask questions about the study, the interview process, the research outcomes, and the use of their information. Consent was given orally or written via signed consent form sent through email directly following and in some cases prior to the interview. Interviews were recorded with prior consent using an external audio recorder or through the built-in video call recording features. All interviews were transcribed verbatim either manually or using the transcription software Otter AI. Following the transcription period, all participants received a copy of their interview transcript to verify its accuracy, and some interviewees took the opportunity to make changes to the transcription.

Table 2. Participant Categories – Key Informants

Key Informant Categories	**Participants (n)**
First Nation Councillors *Ermineskin Cree Nation; Mikisew Cree Nation*	2
Métis Governance Bodies *Métis Settlements General Council; Métis Nation of Alberta*	2
Indigenous-led Environmental Advocacy *Keepers of the Water*	1
Energy Advisors and Developers *Meridian Sustainability Partners; SkyFire Energy*	2
Non-Profit, Research, and Public Education *Solar Alberta; Momentum; The Pembina Institute; Indigenous Clean Energy*	6
Grant Organizations *Municipal Climate Change Action Centre; Alberta Ecotrust Foundation*	2
Municipal Government Administration *City of Edmonton*	3
Academia *University of Alberta Department of Engineering; Economics*	2
Utilities *EPCOR*	2
Total	22

Data Analysis

The analysis of all interviews followed a content analysis approach. This inductive approach was specifically taken to allow themes and lived experiences to emerge, rather than being driven by predetermined theories. All analysis was conducted manually without the use of analysis software. I read through printed and electronic copies of the transcripts multiple times to immerse myself in the text and to begin generating initial analytical impressions. In addition to the transcripts, I created new files of relevant text to make the data more manageable, which I then compiled into a single document to electronically search for key words more easily. I used a series of data tables in Microsoft Excel to organize sentences and paragraphs of the transcripts first by code, and then grouped into broader categories. In the initial phases of analysis, I coded all interview transcripts together. As I continued to code, I realized that it was necessary to develop separate coding schemes for Enoch Cree Nation members and for Key Informants to highlight experiences specific to the Nation's renewable energy efforts. In the coding scheme I used in vivo labels, the exact words used by the participants, to identify the codes. For example, the label "when the sun shines, we're generating revenue" captured passages about potential for equity ownership in renewables to generate revenue (Creswell, 2007).

In the case of interviews with Enoch Cree Nation members, developing the Community Research Partner's skills and familiarity with data analysis would have been a significant success of this project. As we completed transcription, we discussed the next phase of analysis, and the intention was for Lorell and I to co-conduct analysis of the transcripts of community member interviews. I developed a plain language how-to guide for coding transcripts and shared literature on content analysis. Unfortunately, a personal matter arose and as a result, all data analysis was conducted by myself.

Reflections on Community-Based Research

The decision to include reflections on our research process was informed by methods of autoethnographic research, in particular co-constructed narratives and interactive interviewing (Davis & Ellis, 2008). Co-constructed narratives are the process of "helping relational partners construct a story together to depict their experiences," and interactive interviewing involves "a conversation in which the researcher and the research participants engage in joint sensemaking" (Davis & Ellis, 2008, p.). These techniques equalize power dynamics in research and include the voices of members of the research team to capture how they understand their own realities rather than how researchers evaluate their realities (Davis & Ellis, 2008). By including the community research partner's verbatim reflections on the research process along with reflections of the researchers, Koster et al. (2012) have modelled how this approach can align with the principles of community-based participatory research. Their reflections on the meaning of partnership, meaning of research, and the value of research outcomes have greatly influenced the reflections that follow here. This narrative method is a commitment to recognize multiple ways of knowing and to highlight what community-based participatory research means in the community partners' own voice. By mutually acknowledging the effects of our individual lived experiences and positionality within the research on the research process and outcomes, we can co-write and co-construct the story of our research experiences (Davis & Ellis, 2008; Koster et al., 2012).

At the same time in CBPR literature, "little attention has been paid to the experiences of graduate students who, along with communities, are often on the frontlines of interpreting and realizing what and how principles of community-based research can be enacted" (Wray et al., 2020). This gap in understanding served as an impetus for myself, a graduate student, and Grant, the primary Community Advisor on this project and a former graduate student who is

experienced in community-based research, to share our insights, particularly the direct quotes from Grant. Through our reflections, we attempt to shed light on our process for the purpose of our own reflexivity and to contribute to the broader scholarship of graduate students engaged in community-based research.

It was with this in mind that I approached Grant to participate in a conversation to reflect on the successes and challenges we experienced during our project, and about community-based research more generally. I shared some guiding questions that I had been reflecting on in advance of our conversation, and we met virtually together in September 2020. While we went through the procedure of free, prior, and informed consent, I iterated my hope that this was more of a two-way conversation rather than a formal interview. At the same time, I guided the conversation based on the questions I had shared. This conversation served as a wrap up of the data collection phase of our research and we reflected on the specific successes and challenges of our project, and I reflected on my positionality as an outside researcher. Grant also generously shared his perspectives on best practices for community based and Indigenous-led research. We discussed the legacy of extractive research; Grant's role as a community advisor and the role of our community research partner; key takeaways for researchers doing community-based research and our successes and challenges in following them during our project; the significance of Indigenous-led research; and the systemic barriers to Indigenous-led research.

Grant is an alumnus of this Department, Resource Economics & Environmental Sociology, and completed his Master of Science in Risk and Community Resilience in 2019. For the majority of our time working on this project together, Grant was employed as the Communications Coordinator for Enoch Cree Nation, before moving on to start a PhD program. From our first conversations together, Grant iterated how his previous research experience led

him to see research questions and potential in all areas of the Nation. Grant identified the possibility of our research to address an active priority in the community; to tap into an existing network of people in the community already doing this work and to grow that network; and to strengthen the research capacity within the community, and we went into the project with those intentions.

> one thing that I noticed was that there was a lot of research potential in Enoch. Whether it was environmental sociology, or health, or business, or social work, it could be really anything and I would see all these different little research questions kind of everywhere. And so I wanted to bring in my research network a little bit. And so from there, I just was kind of in Chief and Council's ear all the time, all the time saying, okay, let's find some evidence for this. Let's try and develop some research capacity here in the community.... And so I believe that's when your supervisor John reached out to me…. Because I knew that there was opportunity and people within the community already trying to work towards that.… And so I knew that there was definitely interest there…. And so it was good for me to be able to kind of bring in different people to try and get some evidence to see exactly how much community interest there was.

The Legacy of Extractive Research

I asked Grant why he is an advocate for research and for the community to be involved in conducting research. The starting point for the importance of community-based research is to understand the historical and current ways that researchers have conducted work with Indigenous communities with extractive and predatory intentions. Researchers approach communities with a pre-defined question or research scope and are unwilling to adapt their work to reflect community priorities. This is something that I have reflected on many times, as I approached Grant with a pre-determined research focus, and our research ultimately originated outside the community, from myself, my supervisor, and our funders. At the same time, adaptation and flexibility was at the core of our research. We experienced staff layoffs, a recent change in government, and a global pandemic, and we responded to changing priorities in the community and adapted by broadening our research scope.

> A: Why is that important to you, do you think, to have the community involved in conducting research?
>
> G: Well if you start from the very beginning, so one thing that I find with research when it comes to our communities is that a lot of researchers already have these questions in mind that they want answered, but they might not actually fit what the community wants. For example, we talked about how your research and how you conducted research changed along the way. So one thing that I find is you need to be very flexible. When it comes to community based research. You need to adapt to the wants and needs of the community rather than them adapting to you.

The Roles of Community Research Partners & Insider Research

This legacy of extractive and predatory research informed how Grant approached his position on this project. His role became one of gatekeeper, as he was tasked with making a responsible assessment of who has access to community members and through what kind of research approach.

> I actually took on the role of gatekeeper too. Like I understand it's publish or perish in the research world. I understand that. But when it comes to our communities, you just can't take that attitude. Because there can be harm that's done through research. And you got to be very careful about who you're bringing into the community too.

In many ways this illustrates how Community Partners and Advisors must wear many different hats, from liaising with researchers and institutions, ensuring that the project is aligning with community priorities and that the community is being represented accurately, and protecting the community against ill-intentioned research approaches. It is difficult to expect one person to fill all these roles, as was the case on our project after the loss of one member of our Community Advisory Council to temporary layoff. We were not able to bring more members of the community into the research team or to tap into the existing community networks around renewable energy, in particular the Solar Working Group. This would have broadened which community members were involved in shaping the research and more deeply reflected not only the community's existing efforts in renewable energy, but their current and future priorities.

Although there was never a sense of the Community Partner being unable to meet the needs of this role, this was perhaps a shortcoming of our project.

The structure of our research team and the virtual nature of our working environment meant that the Community Research Partner, a student and member of the Enoch Youth Council, was my most immediate connection to the community and I relied on her to lead participant recruitment. The first two interviews in which Lorell was actively participating as an interviewer reflect the influence of Lorell's position as an insider researcher, as a member of Enoch Cree Nation with previous relationships to the participants. These interviews included conversations between Lorell and the participant about their shared experiences, and in some cases the participant would speak directly to Lorell in reference to people from the community or significant sites within the community. In some instances, I took the role of the active observer, taking the opportunity to learn how members talked about their community to understand their priorities as a Nation. It is likely that because Lorell was a part of these interviews that participants were more open and willing to share their perspectives. The interviews that I completed alone were no less rich in their content, but they followed a more semi-structured format and lacked the input of an insider researcher. The expectation that the community research partner would be able to easily produce interviews with community members illustrates my lack of understanding of how the community operates and how community members relate to one another.

> A: ...that's something that Lorell and I talked about too. Being able to sort of access community members. And even from her perspective, as someone who is a member of the community, she doesn't automatically have access to everyone in the community, whether it be, members of leadership or Elders, and she wasn't always comfortable making those connections because it's not always people that she knows or that she feels comfortable with.

> G: I can exactly understand where Lorell is coming from, as a student and somebody who hasn't seen the, I don't know if she's ever seen it, but the way Chief and Council operates and the executive team. Very fast paced, and sometimes you need to be a little aggressive. Not too much. Just have to, put your foot down and say this is kind of what I need from you and are you able to do it?

My expectation that we would be able to conduct more interviews was a factor of not being able to spend any time getting to know community members in person and ultimately, we experienced difficulty in recruiting participants, conducting a total of four interviews with community members. The virtual environment meant that our project suffered from a lack of support and buy-in from community members beyond just our research team, not because they opposed it necessarily, but because they didn't have an opportunity to know about it. Additionally, many months passed between signing the research agreement and conducting our first interview. While renewable energy was closer to the forefront of conversations in the community when we began our project initially, this delay meant that we were unable to 'strike while the iron was hot' and align our project with those active conversations. By the time we began interviewing, there were many other priorities in the community, including serious concerns regarding COVID-19 outbreaks within the community, as well as active negotiations around the Yekau Lake settlement.

Takeaways for Researchers

> And that's one of the key things that I think I'm going to keep on telling you about is, we have certain, I guess takeaways from researchers that I think need to be fulfilled. The obvious ones are reciprocating, respect, relationships.

Understanding the harmful legacy of many research projects forms the foundation for why research with Indigenous communities must be done in partnership, and Grant shared key takeaways around what elements a good partnership needs to be built upon. Many of these takeaways informed how we approached our project, and they also set out a roadmap for how

researchers should approach and design research projects with Indigenous communities. Research partnerships must be relational first and foremost; strengths-based; be resilient to challenges and discomfort; have clearly defined roles and responsibilities; be mutually beneficial; and deliver on community defined priorities.

Relational first & foremost - Individual & Institute-to-Nation relationships

Grant reminded me that "partnership is just another word for relationship." Research partnerships between researchers and Indigenous communities are first and foremost relationships. Researchers must start with the intention of getting to know the community, its members, and its priorities, and only then can the research at hand be addressed. This relational approach combats extractive research practices, and it solidifies a strong foundation for a relationship that extends beyond a single research project, but rather one where the researcher and Nation members might become part of one another's long term community or network after the research is completed.

> We're all about relationships, we're all about making sure that there's respect and you're trying to meet somebody where they're at and developing those kinds of relationships that are going to be somewhat sustainable. And so anytime a researcher will cold email me...I say, if you want to go for coffee and have the conversation, I'm more than willing to do that, but I'm not just going to set something up for you.

Committing to this relationship building process can require all parties to dedicate a significant length of time, and years can pass without the project reaching the point of any 'data collection,' a time commitment that must be considered by Master's students in a two year program. Our project was a unique case where there was some familiarity among the research team when we began our work together. It is likely that our project would never have been thought of as a possibility or been successful without the pre-existing relationship between Grant and the Principal Investigator, my supervisor Dr. John Parkins. This familiarity enabled us to

shorten the process of getting to know one another, and Grant felt confident in supporting this project to move ahead because we were committed to doing our work in a good way.

> I didn't want you to just struggle for years trying to build those relationships…. So I wanted to be that bridge in between a research institute like the University of Alberta, and Enoch. And to really streamline that relationship building. And of course, like I'd mentioned, I know John. I took a class with your supervisor as well as he was the chair for my thesis defence. And so I knew him quite well and I knew that he was in it for the right reasons. And so that's key too.

At the same time, the strength of the relationships within the research team suffered by not being able to meet in person. Members of the research team met in person a total of three times, with all subsequent interactions taking place virtually. We were also unable to spend any significant time in the community, only meeting on the Nation once to sign our Research Agreement. Critically, our project would have benefitted from significant time spent in the community unrelated to conducting research, getting to know people and having them get to know the research team. This also would have provided a good foundation for my understanding of how the community is structured and who we should be talking to when it came time to carry out our research. While what I learned about Enoch through word of mouth from the research team and during the interviews was formative for me in shaping how I approached this research, it pales in comparison to building relationships face to face.

> one of the things that I kind of regret not doing with you, Andrea is bringing you into the community first. At least a little bit to kind of build some relationship, right, like maybe we could have went to the powwow. They do ceremonies all the time. They do medicine picking, stuff like that. I know we're pretty late into it, but eventually I think we should do something that's a little less formal, where you can just go meet people...and see what Enoch's really all about at the grassroots level.

Our research together was also a small step towards building a stronger relationship between Enoch Cree Nation and University of Alberta overall. There may be relationships between individual researchers and the community, but there is no formal relationship between

the Enoch and the University of Alberta. The distinctions of University and community are blurred, as the University is made up of numerous Indigenous students and staff, some from Enoch and others from neighbouring Indigenous communities who now live in Edmonton. But given the proximity to the City of Edmonton and to the University, the absence of a strong relationship is a glaring dereliction of the wider community and of the numerous Indigenous students and staff at the University. Establishing this relationship would also be an opportunity to put the University's Acknowledgement of Traditional Territory into action. Grant has been involved in conversations with the Nation and the University around how to strengthen an Institute to Nation relationship to address areas of mutual research interest.

> the other thing I noticed about Enoch and Edmonton is there's quite good relationships between most institutions. The one that was kind of lacking was the University of Alberta actually. And so I've been having conversations both with Chief Billy and some of the Vice Provost's office to try and develop some of that relationship. And so, I think that's going to be another success here, is just making sure that those relationships are being built. And if I can bridge the two then great. But of course, that's a lot of work. And I don't think there's ever been an Institute to Nation relationship. Not that I can know of, especially around research.

A strengths-based approach

The need for research with Indigenous communities to actively combat a deficit-oriented approach is something that I kept in the forefront of my mind following my very first meeting with Grant. This is echoed in Tuck (2009) who critiques damage or deficit-centred approaches to research "in which oppression singularly defines a community" (p. 413). Grant spoke from his experience in health research about how a deficit lens may be more prevalent in certain disciplines. We agreed that a unique strength of this research focus on renewable energy was that it was showcasing a positive and innovative side of the community, and this ultimately was a significant success of our project

> just trying to make sure that you're putting the community in the light that you think are what they need to be put in, really. So I find that a lot of research in First Nations

> communities can be very deficit oriented, right. So trying, they make things a lot worse than they are. And so that's the one thing I liked about your research question is you just wanted to see people and their perspectives on solar and how feasible that would be within community. You weren't asking, what was our negative footprint on carbon or anything like that.

Resilient to challenges & discomfort

Not all partnerships are going to work out smoothly. Community based research can experience difficulties in communication and hearing back from people, limitations of technology like Wi-Fi on reserve, and leadership with busy schedules. Recognizing that your partnership may be a bumpy road and working from a foundation of honesty and transparency will result in a stronger partnership overall.

> with partnerships, a couple things you need to expect is a little bit of discomfort. I think the more discomfort any partnership can handle the better, the more growth will be within that partnership.

Grant advises that researchers would do well to adapt to the pace of the community, and "tell yourself that things are going to happen fast and then they're going to happen really slow too." Researchers may also need to adapt to different modes of communication, such as Facebook. We encountered these challenges during our research, at one point even re-evaluating if the partnership would be possible at all. Ultimately, we were able to weather our challenges and maintain a good working relationship and remain on good terms. I attribute this to the efforts of our community partners in outlining what our partnership needed to look like in order for it to be successful, and in many ways sharing their non-negotiables for community-based research.

Clearly defined roles & responsibilities

Community-based research partnerships benefit from clearly defining the roles and responsibilities of members of the research team. Our initial research team consisted of two community advisors, myself, and my supervisor. Grant identified that there was an opportunity for another student from the community to be brought onto the research team. The community

advisors had their own portfolios and other commitments and did not have the capacity to take on a paid position. The community advisors recommended Lorell for the position, and they took on the role of supporting her with participant recruitment when needed, as well as providing guidance regarding community dynamics, such as protocols for giving honoraria. This was also done as part of ensuring mutual benefit.

> you need to establish the roles within each party. So what are the roles of the researcher? And then what are the roles of community, and who's expected to do what? Right. And so that's why I think early on, I really wanted to hire somebody within the community. That wasn't just me. Because I understood that getting anybody from the community, some research experience would just benefit the community later.

Mutually beneficial

Through extractive methods, researchers have benefited greatly from working with Indigenous communities, and communities can be left with nothing to show for how their knowledge has been used. Combatting this approach requires a commitment to reciprocity or mutual benefit in research.

> you are taking something from the community, right? And so, if you're not giving something back, then that relationship isn't reciprocal.

The ways in which I benefited from this process are perhaps obvious, the largest benefits being the relationships I made with the research team, and the opportunity to talk with Nation members and have their contributions shape my Master's thesis, which would not have been possible without their time and generosity. But it was also a formative experience for me to evaluate my own community, and by understanding their proximity to the City and the University, I began to see the people I met from the Nation as my neighbours. We treat our neighbours with a level of care and respect. Neighbours look out for each other and have shared interests in safety and creating community. Seeing Enoch in this new light means taking care to steward the knowledge that was shared with me and committing to always lead with a strengths-

based approach. This is my commitment to actively combat extractive research, deficit-oriented lenses, and harmful colonial and racist tropes in research contexts or any other interactions beyond research. This foundation will shape any future opportunities where our paths cross, as well as how I work with Indigenous communities going forward from this experience.

I believe that the most significant benefit for the community that came out of this project was the opportunity to strengthen the research capacity of our research team. This was in response to Grant identifying early in the process that this project was an opportunity to develop more local research capacity. We did this by bringing a U of A undergraduate student and member of the Enoch Youth Council on to the project in a paid position. During Lorell's contract, my focus was equally on supporting her to develop her research skills as it was conducting interviews together. For Grant, "just getting her that experience to me was a success." This was our attempt towards delivering long lasting benefits to the community and maintaining long term ties after the research is complete, as I hope to continue supporting Lorell throughout her postsecondary experience and beyond. This also aligns with part of the conversations that Grant and I had, discussed in a later section, around supporting Indigenous communities to lead their own research initiatives.

In his role of Community Advisor, Grant also strengthened his research skills, and he shared that being in this position was a learning curve for him. During his time with this project and more generally during his position with the Nation, he was able to advocate for research and talk with community members about how research can benefit the community, to hopefully open the door for more research in the future. Our project was part of his larger goals to gauge the research interest in the community and to support future research there.

> I think even just being able to have this experience for myself was a success as somebody, as a learning experience. Because I know that eventually down the road, I'm going to be doing more of this work and trying to connect more people.

Delivering on community-defined priorities

In keeping with a commitment to mutually beneficial relationships, partnerships should deliver on community-defined priorities. As Grant says, the community already knows what they need, and the role of researchers can be to support those needs with the 'evidence' that results from research, in whatever form that takes. Researchers can translate a research question into something actionable that the community can use at policy decision-making tables. However, this distinction between community knowledge of their own needs, and the need for 'evidence' led by research institutions suggests that somehow the community knowledge alone is not enough and it needs external support or validation. It is indicative of deeply held systemic issues around what types of evidence are valued over others in these decision making spaces. Indigenous knowledges are in fact evidence based, and no less rigorous than conventional research-based evidence. Researchers can elevate what community members already know to where it may be better received by decision makers, but rather than putting research-based evidence on a pedestal, there is a need support Indigenous-led research and for it to also be seen as evidence-based.

> one thing I always tell people is that the community already knows the problems, right? And what they need for the researcher is to come bring in that technical skill to find the solutions to those problems and evidence for them. So that they can bring that to other people and start to develop policies or advocate for more funding and stuff like that. So we know the solutions, and we know the problems. We just need the more technical skill from the researcher and making sure that they're not just in it for themselves as well.

Indigenous-led Research

Relationships between communities and researchers can be strong and meaningful and extend beyond working relationships to close friendships of mutual respect over many years of

working together. However, in all community-based research, researchers must place equal if not more importance on strengthening local research capacity as they do on conducting the research, to get to a place where Principal Investigators from a research institution are no longer necessary and to foster Indigenous-led research. This is not to eliminate the role of the external researcher or graduate students, but rather to re-balance the power dynamics in these research relationships and centre communities in leading their own research design and decisions.

> we need more Indigenous graduate students, right. So that was key to getting some of the work in Enoch. There's two undergrad students, I was able to connect with researchers and get them some better experience. And then we need more independent researchers. There are individuals from our communities who have PhDs, but I don't think they're that interested in doing research. So getting more individuals who have PhDs, who can conduct independent research to show exactly, this is what insider research can be and this and how effective it can be too.

Challenges to Indigenous-led and Community-Based Research

Recognizing the value of research

Certain challenges for Indigenous-led research open the door for support from external research partners. It may be the case that the community might not recognize where there is research potential or see the value in research for the community. How research is perceived in many communities is shaped by the lived experience of predatory research practices that have extracted community knowledge without any benefits or contributions to the community. It might also be the case that the community does not have the capacity to conduct their own research. When done in a good way, there can be a critical role for researchers to address barriers to the community in conducting their own research, to generate more awareness and interest in the research process, and to ultimately support Indigenous-led or insider research.

> Just getting more people interested in research. A lot of people just don't understand. So maybe having an information session or, sometimes they have job or career fairs. Just getting the word out there a bit more.

Funding

There are significant and systemic barriers to Indigenous communities fully and completely conducting their own research, one of which is funding. Funding for research at an institutional level is often siloed by discipline and comes from large organizations like CIHR, SSHRC, and NSERC. Research reliant on this institutional funding may require projects to adhere to certain funding requirements, address certain research questions, and deliver on certain outcomes and these factors would limit the community to realize their own research questions and outcomes.

> one of big challenges is how expensive research can be though. Right. Especially when you have funders and you need to adhere to those certain criteria that the funders want to see…. I don't know but I don't think the big three, so CIHR, SSHRC, and engineering, I don't think they've ever released funds just to a community. So I think there's some systemic issues there as well that need to be addressed. To allow us to conduct our own research, right.

Next Steps for Indigenous-led research

Regardless of where the research question originates, if the funding is coming from external institutions, these institutions will to some degree shape the research. However relinquishing control in this matter is a significant challenge. This is a longstanding barrier articulated by Wray et al. (2020), in which they identify the challenges related to the structure of funding bodies and a lack of funding models that enable communities to have complete control of funding, as well as an unwillingness from researchers to give up control of funding. Future research is required here to envision new and alternative funding mechanisms and research designs. For some communities, this might look like eliminating the role of the researchers or institution entirely and handing complete control of the funding over the communities.

> I understand that you still need funding at the university level. And you need to be able to adhere to those funding requirements in order to keep that funding. And so you want to make sure that there's something in the middle there, a mechanism, that allows for both to come together in a way that isn't so hierarchical, I guess. Because when you're doing

> research in community you have power over people. Like when you're, when you're the researcher and not the researched, there's a power imbalance.

Moving forward in a way that supports Indigenous-led research, Grant suggests that an ideal next step for future community-based research between Enoch and the University is to establish a 'front door' policy or relationship.

> what I would really like to see is, kind of a front door at the university institutional level. So let's say, Enoch has a question around a business statistic that they need. They could approach the University, and the University would connect somebody with them. And so it would be a community based decision and research question that's being developed.

This comes with a strong Institute to Nation relationship discussed earlier and would involve matching a community-identified need or research scope with the research capacity at the university. This can be on any scale, from one-time support to a long-term research partnership. The University would clearly benefit from communities' skills, knowledge, and understanding of place to inform how all research is conducted at this institution. The re-imagining of our communities and seeing Enoch and surrounding Nations as our neighbours puts the onus on researchers to cultivate the kind of university community and wider community in which our 'front door' is always open to our neighbours.

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Chapter 3: ohci pîsim: From the sun – Community-led Energy Transitions in Enoch Cree Nation

Introduction

In Alberta, Indigenous communities have not been the equal beneficiaries of a lucrative provincial energy economy centred around fossil fuels, and energy transitions risk replicating this system. Combatting this, community-led energy transitions are creating new roles for community members in project design and decision making and resulting in projects where the benefits are felt locally. Maskêkosihk, Enoch Cree Nation is part of a growing network of Indigenous communities who are developing renewable energy in Treaty 6 territory and across the province. This research aims to explore ongoing innovative renewable energy development and energy transitions in Enoch Cree Nation. The Nation is growing their renewable energy portfolio while also participating in provincial energy transitions outside of the community. This case of Enoch Cree Nation offers a unique example of renewable energy development in a community with both close ties to an urban centre, strong values of stewardship for the surrounding landscape, and an active and engaged member base, particularly among the Nation's youth. We highlight how momentum to pursue renewable energy has been impeded by the recent provincial election, and how despite challenges related to the external policy environment, Enoch is continuing to assert a role in provincial energy transitions beyond the community, in their engagement around the E.L. Smith solar farm and their equity investment in the Cascade natural gas power project. These projects both align with and divert from the community-centric approach and participatory decision-making process that characterize the Nation's community-led energy transitions. But in a challenging provincial environment for community-owned renewable energy, these projects are carving out a leading role for Enoch Cree Nation in the

provincial energy economy they and offer insights for other communities in Alberta seeking to participate in the energy transition.

Research Methods

Using a community-based participatory methodology to co-create the research process with Community Advisors and the Community Research Partner, we explore how Enoch Cree Nation members imagine community-level energy transitions within the Nation, and what they imagine the role for Enoch Cree Nation to be in the province's emerging clean energy economy. Our findings reflect the perspectives of the four Enoch Cree Nation members with whom we carried out semi-structured phone interviews. This research has also been shaped by conversations with our two Community Advisors and the Community Research Partner, a post-secondary student and member of the Enoch Youth Council, in which they shared information about the community, current community priorities and concerns, and suggested research outcomes that would provide the most value to the Nation. This research does not claim to speak on behalf of the community nor to represent the opinions of all community members, but only to reflect the perspectives that have been shared with members of the research team. We attempt to articulate how these participants speak about their Nation as a whole and its priorities, rather than to generalize a universal perspective held by all individual community members who are part of the Nation. A detailed account of the research methods is contained in Chapter 2.

We begin by introducing Enoch Cree Nation and the Nation's community-led energy transitions. We then describe decision making processes in the community, and how community involvement in decisions is the mechanism through which a sense of ownership in energy projects is created and maintained among Nation members. Regarding current and future projects within the Nation, we identify what factors were motivating the community to develop renewable energy, and what the most significant obstacles have been. We close by examining

how the Nation is asserting a role in provincial energy transitions occurring outside the community through both equity ownership and in creating new relationships with the mainstream energy players initiating renewable energy projects.

Findings

Enoch Cree Nation & Connection to Place

This research begins as conversations with community members began, in a relational way. Describing Enoch Cree Nation is best done by those who call this place home, Maskêkosak or people of the land of medicines, and in sharing excerpts of how participants describe their community, that is what this research attempts to do. This introduction illustrates the community's connection to place and provides an essential foundation for understanding why Enoch Cree Nation makes certain decisions about land use, environmental stewardship, and renewable energy development. This Enoch Cree Nation Councillor describes the meaning of Maskêkosihk, which can be understood as land of medicine or place where medicines grow. He describes the connection that many Nation members have to several culturally and ecologically significant areas within the community, and how members spend time in these places.

> what it refers to is place of medicine, where a lot of medicines grow. And, a long time ago when different tribes were set up, or they decided to settle in a certain area it was usually around lakes. So you hear reserves like Saddle Lake, Frog Lake, and so on. A lot of the tribes set up alongside these lakes for one is sustenance, like there was fish in this area. But also around these areas, a lot of muskeg. And muskeg is a word that derives from a Cree word. You know, muskeg, Maskêkosihk, Maskêkosak, it's a place where medicines were plentiful. So this place had a lot of muskeg area, and we had this Yekau Lake, Yekau. And, around this lake, where a lot of medicines grow. And, in the Sandhills is another really important and sacred area for us…. So we harvest moose out here in Enoch. We harvest white tailed deer. We harvest rabbits, chickens, like prairie chickens or grouse. We harvest geese and ducks. And, that's all here in Enoch.
>
> Enoch Community Leader 1

This natural environment in the community is significant both ecologically, and for the Nation's efforts towards revitalization of culture and language. The Nation has prioritized language and

culture among its members through their nehiyaw pimatisiwin Division, meaning Cree way of life. From the perspective of one Councillor, "we want the language to live everywhere within the Nation, in the workplace, in our homes, the school." The Nation is seeing the positive outcomes of these efforts to foster language learning and culture in all aspects of life in the community. This leader shares that "we can see the seeds growing within Maskêkosihk. People are really wanting to know who they are and where they come from." The community also has an active youth population, and the Enoch Youth Council provides young people the opportunity to participate in decision making and to lead their own initiatives within the community. For this former Youth Council member, investments in language and culture revitalization are investments into the future of the community that will be felt by today's young people as well as generations to come.

> I think that Enoch is special in the way that they've always prioritized culture and language and invested in any way that they can so that way, there is a future for the next generation and the generation after that to still be able to have a place to go home.
>
> Former Youth Council Member

In Enoch Cree Nation, protecting the environment that Nation members call home is central to their language and culture revitalization initiatives. The urgency of protecting the environment in the community is rooted in the need for these significant places and the teachings they hold to be available for young people to access today and into the future. Through curriculum development as well as land-based learning and culture camps, the Nation has embedded language and culture into education, and is ensuring that young people can grow their knowledge of the significance of these places as well as experience them firsthand. Through time spent in these places, young people are strengthening their connection to language and culture, as well as building and maintaining relationships with Elders in the community. Through these connections to place and to community knowledge holders, young people are strengthening their understanding of the

history and significance of these places so that those understandings are maintained for generations to come.

> there's so much history within the land. And there's so many teachings that young people still need to experience and that keeps that connection between the Elders and the youth. And that oral history that we have, there's so many young people that still attend those culture camps, to be able to pass that down to the next generation and the next generation…. I don't think I've met one kid in our community who isn't passionate about learning their language or culture in some way, shape, or form.
>
> Former Youth Council Member

The relationship between Enoch Cree Nation members and this landscape has changed over the decades of colonial settlement and displacement in the region now known as Edmonton and the surrounding areas. Given the boundaries created by the establishment of the reserve and disconnection from traditional territories and former reserve lands, community members are actively expressing the need to protect the land that the Nation now calls home.

> we are very small in size, we're four by five miles square. So we really do want to protect the land and the environment that we have existing and beyond that, our traditional territories, and beyond that, Mother Earth. So, our traditional values are still intact. People are very much aware of that.
>
> Enoch Community Leader 2

Community-led energy transitions in Enoch Cree Nation

In Enoch Cree Nation, community members and leaders have initiated several energy transitions that are in varying stages of completion (Table 2). Participants shared that the Nation completed a community energy plan and energy audit of energy use in core buildings within the Nation. From that energy audit, the community identified high energy use at the recreation and arena centre and had planned to retrofit the building with solar to offset that energy use. In 2019, the Nation celebrated the opening of a new Kindergarten to Grade 12 school, Maskêkosak Kiskinomâtowikamik (Kitaskinaw Education Authority, n.d.; Bench, 2019). The school was completed with energy efficiency in mind and with the infrastructure to support solar retrofits in

the future. The Nation was also successful in constructing a new water facility, including pump house, waterline, and reservoir, that is retrofit with a solar field to offset operating costs. Building on that momentum, the Nation was interested in pursuing a large-scale community renewable project, and in 2017 the community completed a Renewable Energy Options Analysis and Pre-Feasibility Study in which they identified that solar would be the most optimal, primarily due to the high solar resource in the community and sufficient land and roof space for solar PV (Enoch Cree Nation & Urban Systems, 2018). In 2018, the Nation worked with consultancy Urban Systems to develop a detailed feasibility study of the options for developing, owning, and managing a 10MW community solar farm (Enoch Cree Nation & Urban Systems, 2018). The Nation was actively working to design the project that would involve an offtake agreement to supply electricity to the Nation's River Cree Resort and Casino. Ultimately that project has not moved past the feasibility stages due to a change in provincial funding opportunities. An additional initiative that the community had planned to pursue in the future was to use the solar farm revenue along with grant support to complete home solar retrofits for Elders whose utilities are covered by the Nation.

Table 2. Community-led energy transitions in Enoch Cree Nation

Project	Description	Funding Source	Project Status
Community energy plan, Energy audit & Energy efficiency upgrades	Community energy plan & energy audit of core buildings within the Nation Energy efficient lighting	Energy audit grant funded through Alberta Climate Leadership Plan	Completed
Solar installation on arena and recreation centre	Planned solar installation on arena and recreation centre to offset high energy use identified in energy audit	80% grant funded through Alberta Climate Leadership Plan and 20% Nation funded	Incomplete, grant applied to water pumphouse project

Solar project on water pump house	Solar field to offset new pump house, waterline, and reservoir	$13.6 million federal funding, grant funded through Alberta Climate Leadership Plan[4]	Completed in 2019
New school build	Construction of Maskêkosak Kiskinomâtowikamik completed with energy efficiency in mind and infrastructure to support future solar	$22.5 million federal funding, $1.5 million Nation funding, grant funded through Alberta Climate Leadership Plan[5]	School completed in 2019, solar pending renewed funding
10MW solar project	Large-scale solar farm within the Nation	Nation funded and grant funded through Alberta Climate Leadership Plan	Advanced feasibility stages, pending renewed funding
Solar installations on Elders' homes	Plan to retrofit Elders' residences with solar to offset cost of utilities		Pending renewed funding

Community energy in Enoch Cree Nation - Participatory decision making

In Enoch Cree Nation, the decisions to pursue renewables reflect the Nation's participatory decision making process that prioritizes member involvement. One participant describes how the collective decision-making process within the Nation is guided by the principles of the four directions, which makes space for the perspectives of Elders and youth, along with the masculine, feminine, and two-spirited, and identifies this approach to decision making as one of the Nation's greatest strengths.

> it always seemed like the current leadership cared about and wanted to honor their Elders and their youth. And make sure that they have their pieces heard, because that's traditionally how our people would do it, you would go to the Elders Council, you would go to the matriarchy, the women, and you would go to the youth, and you would make sure that they have everyone, it was that, the four directions, and making sure that everyone was on the same page, and to hear the concerns of everyone. And I feel like our current leadership has been so good with honoring that
>
> Former Youth Council Member

[4] Ross (2019)
[5] Indigenous and Northern Affairs Canada (2018)

This approach contrasts a colonial mindset where decision making is top down and oriented around one person or a small group of people holding ultimate decision making power for the whole. This inclusive model of decision making fosters community support for any projects or initiatives undertaken in the community.

In Enoch Cree Nation, decision making has centred around planning for the future. The Nation is working to anticipate what the community's needs will be as the population grows in the coming decades, and what that will mean for development and land use within the Nation's borders. In 2018, the Nation completed an integrated land use plan that was adopted into bylaw by Chief and Council, and this is the guiding framework for decisions around land use in the community. Through land development approvals and community referendums, Nation members are involved in decisions around which areas of the community are developed, and what type of development takes place. The land use planning process has enabled Enoch to understand their unique land use needs and has created space for members to express their priorities for land use within the Nation. The Nation recently held a community referendum to understand which development types were supported by community members. Members were clear in their support for development types like cultural tourism, retail, and health centres, and in their opposition to heavy industry projects in the Nation. This engagement process has provided leadership with a clear mandate for development and it illustrates how Nation members are brought into decision making around community and economic development. In addition to designating areas within the community that are suitable for development, the Nation has also identified areas for environmental protection that will remain free from development. This process of designating sacred sites within the community illustrates the effectiveness of community planning and decision making around the protection of their local environment.

For energy decision making for Enoch Cree Nation, this same process of participatory decision making and community buy-in is the starting point. Involving members in project design ensures that decisions around projects best reflect both individual community members interests and the collective goals of the Nation. Throughout the land use planning process, the Nation concluded that not only is renewable energy development aligned with Nation member's visions for community land use, but it is also entirely possible given the limitations on land development within the Nation's borders. With this established decision making process and the involvement and support of community members, the Nation is well equipped to pursue their future renewable energy goals. While Enoch Cree Nation are the sole owners of their clean energy initiatives on reserve, community ownership is created and maintained through community participation in these land development approvals and community referendums. Through these participatory decision making mechanisms, members have a say in how reserve lands are developed and this builds in a sense of ownership over prospective projects. In this case, ownership is not held only by an economic development corporation or a small group, but a sense of ownership is held by all community members who have been active in decision making.

> if we're talking about initiatives that are on reserve, I think [ownership is] very important. You know, the way that we ensure community participation in projects is really through the mandate that we get with land development approvals.
>
> Enoch Community Leader 3

Community energy planning is one further way for members of the community to be involved. With the development of their community energy plan, Enoch Cree Nation is taking deliberate steps to understand what community members would like to see and to realize both the vision for their own transition, as well as to plan for their inclusion in the provincial energy transition.

> We had completed a community energy plan to support our policy environment going forward to support our transition, and our role to play in the transition, the broader transition to green energy.

> Enoch Community Leader 3

What factors are motivating Enoch Cree Nation to carry out their own energy transition?

Concern for Climate Change & Opposition to Conventional Energy Development

Participants described how seeing the impacts of climate change on a global scale and the lived experience of climate change in their own community is driving the Nation to act on these concerns. The need for energy transitions is part of larger concerns around witnessing the impacts of climate change manifest as changes to their local environment. Developing renewable energy is one measure towards climate action.

> I think that with climate change, we see it happening, it seems to be getting worse. As the years go by, we need to do everything that we can to try and, again, protect our Mother, Mother Earth. And, my hope would be for all Nations to be able to have that capacity to be able to have these green initiatives on their Nations.
>
> Enoch Community Leader 1

In Alberta, this lived experience of climate change is directly tied to the impacts of the energy sector centred around the extraction of fossil fuels. Enoch Cree Nation members are not uniform in their opposition to conventional energy projects and there are varying degrees of support for the energy sector at the leadership table. From the perspective of this Enoch Cree Nation Councillor, Indigenous peoples globally are disproportionately impacted by climate change and the impacts of energy development. The environmental impacts of both climate change and resource extraction are compounding to limit the ability of Indigenous communities to practice traditional ways of living on the land that were guaranteed in the signing of the Treaties.

> it's been Indigenous communities, and not just in Canada, but around the world, that have really become sort of the environmental refugees of climate change. We have been impacted, probably the most from climate change, because we rely on the environment, as we use it for a lot of our traditional ways of living. And in fact, Treaty guaranteed our traditional way of living. And that has changed over time, because of industrial development. And so, we have been impacted the most by effects of the energy development sector.
>
> Enoch Community Leader 3

From the perspective of this community leader, his opposition to energy development is not separate from the identity of Enoch Cree Nation as a Cree people or the connection held by members to their local landscape and traditional territories. For this leader, his understanding of the Creation story informs both how he views himself in relation to the land, and how the community makes decisions around protecting the local environment. He told us that this story is not his knowledge alone, but rather it is an understanding within the community that has been shared with him. We thank this community leader for sharing it with us, and we recognize that this is only one part of a larger Creation story of Cree people. In this understanding, pîsim (the sun) and yôtin (the wind) are more than just renewable sources of energy, but they are part of this story of Creation and of nehiyaw pimatisiwin (Cree worldviews, way of life). For him, this worldview is the foundation for his opposition to conventional energy projects, any damage to the environment through resource extraction is inherently damaging to Indigenous peoples and communities.

> I guess the importance of it for me is that the understanding of our Creation story and how we came to be…. There's a creation story that talks about that sun, that pîsim, I noticed you have that ohci pîsim here. So, it's a creation story that talks about when God created us, he took a piece from that sun and he put it in our hearts and that's our spirit, that's our soul. And, that's where that sun is important to us, it's a helper. It was one of God's helpers that sun…. Our sun, the thunderbird. Yôtin, the wind. That was the breath from Creator that put breath into our lives…. And it's this understanding of my connection to okâwîmâwaskiy, to Mother Earth, my connection to the sun, my connection to the animals, to the plants and the trees is, why would I be a part of destroying something that I'm a part of? It's like, I'm destroying myself.
>
> Enoch Community Leader 1

Addressing the way in which these conventional energy projects are currently operating is an impetus for a community-led approach to energy development going forward. In addition to perpetuating harms on landscapes and communities, conventional energy development has not centred communities in project design and decision making. This participant describes the

experience of developers who have largely failed to ensure the free, prior, and informed consent of Indigenous communities or adequately fulfill the duty to consult and engage with impacted communities.

> a lot of the communities, they just see things happen without taking meaningful engagement and consultation…. I see a small change in that manner, but sometimes it's just lip service.
>
> Enoch Community Leader 2

Resource extraction is further being carried out in violation of agreements made in the signing of the Treaties. For this community leader, his understanding of these Treaty commitments is the foundation for his opposition to conventional energy development projects at the leadership table. The signing of the Treaties represented the coming together of sovereign Nations in a peace agreement, and Indigenous Nations never surrendered their rights to their lands and resources. Treaty guaranteed the rights of Indigenous Nations to live on their lands as they have for time immemorial, and only permitted settlers to share and use these lands "to the depth of a plow." Through the ongoing extraction of these resources, these Treaty commitments, and the rights of Indigenous peoples to decide if and how these lands should be developed have not been honoured. Further, communities have not always been the economic beneficiaries of the sectors that have been built upon the exploitation of Indigenous lands and territories.

> And, in the Treaties, when the settlers came here, it was only to the depth of a plow that they were able to utilize the lands. Nowhere in the Treaties does it say that they were able to extract oil, extract gas, extract, gold, minerals, silver, all these things and that's why we hear people say that the Indigenous peoples of this Turtle Island, right, Turtle Island, should be the richest people in this territory. But we're the poorest. Because it's our understanding that we never gave up those rights to those resources, and by us signing into these pipeline agreements, is us kind of giving manufactured consent of these resources that we never truly gave up.
>
> Enoch Community Leader 1

Energy development in the Alberta context

In Alberta, conversations around energy transitions are inseparable from the realities of the province's oil and gas economy and the mandate of the current provincial leadership. For one Enoch Cree Nation leader, it is a well-accepted reality that the economy and identity of Alberta has been and remains centred around the oil and gas industry. Since their election, the UCP has been clear in their mandate that they see no alternatives to this fossil fuel economy, and that this is the kind of Alberta that they want to foster and support.

> for as long as I've been alive, this province has focused on oil and gas. And the current government is very much focused on oil and gas, and the energy sector and jobs, and keeping that very much alive.
>
> Enoch Community Leader 2

The province cemented their position to protect and prioritize the oil and gas sector with the introduction of Bill One. Bill One, the Critical Infrastructure Defence Act, came into effect on June 17, 2020 amidst widespread opposition to the Trans Mountain Pipeline Expansion project as well as the growing Black Lives Matter movement in the United States and globally (Government of Alberta, n.d.-g). The scope of Bill One is to protect critical infrastructure, including pipelines, from blockades, protest, or other comparable activities (Government of Alberta, n.d.-g). From the perspective of this former Youth Council member, this Bill has been designed specifically to restrict gathering and peaceful protest regarding resource development, and its passage is an act of "blatant racism at Indigenous people and water and land defenders" (Former Youth Council Member). At the same time, successfully developing renewable energy amidst this political climate is a point of pride for this former Youth Councillor. Clean energy initiatives in the community were largely developed during the former provincial government's tenure, but these projects have lasting effects. They demonstrate that the Nation is a leader in the renewable energy sector in this province, and they signal the kind of future that members

envision for their community and their young people. They also signal to the growing network of communities and other Indigenous Nations in the region who are envisioning a different way forward that a green energy future is possible in Alberta.

> I think it's always important to see that someone's doing something because Alberta is so oil and gas…. I feel like they feel like it's impossible to see renewable or green energy used in a realistic way. And so I think that it's important for the neighbours around us to see that, it is possible. And that, if our community can do it, hopefully there'll be a follow the leader ripple effect. And the surrounding cities and towns can follow after and do that for their communities. Whether it be on a big scale or small scale and just start out like, it just takes one for the domino effect. And so I think that, it's super important to be able to showcase that and be a leader when it comes to using renewable and sustainable energy.
>
> Former Youth Council Member

A Role in Shaping Project Design and Decision Making

The harms perpetuated by conventional energy development highlight the need for Indigenous-led projects and transitions. For this community leader, community ownership is an alternative to energy projects owned by private companies headquartered far away, who benefit from the extraction of resources which were never surrendered by Indigenous peoples.

> if Indigenous Nations did own these, it's not so much the projects, if you look at it, it's these big corporations that get rich, right? It's the Trans Mountains, it's the Kinder Morgans. Kinder Morgan's from a Texas based company, and they're here, but they're getting rich, and again, not about the money, but they're the ones that are reaping all the benefits and the Indigenous Nations basically get trinkets, they'll offer them, if they're going through their territory, short term work. But that's that Indigenous person's resource that we never gave up. It's big corporations that are benefiting from all that. And so, I think having, Indigenous owned I guess companies that will, that can own these things, it'll be a good thing.
>
> Enoch Community Leader 1

Energy transition is an opportunity to highlight what Indigenous communities can contribute to project design and decision making, and to centre those contributions in project development. For these Enoch Cree Nation leaders, Indigenous worldviews and understandings of their local environment are one of the many strengths of Indigenous involvement in renewable energy development and of Indigenous leadership in the energy transition. For one Enoch Cree Nation

leader, the Nation's values and the depth of traditional knowledge of their environment are "where our people can fill in the gaps" in energy development that has typically been developed with a singular focus on the bottom line. Projects that take a holistic approach informed by Indigenous traditional knowledges are more expansive in their consideration for traditional land use and recommendations for project location, and allowances for time taken to give protocols and build respectful relationships.

> I think the involvement of the communities in these projects helps in terms of hearing, what it is that we have to offer in terms of our traditional knowledge, even our input into how things are done, as an organization. Sometimes, projects are, they don't take into consideration the full scope of what a project should be. Things like, traditional land use and ensuring that, where these projects are occurring, aren't causing harm in another way. And you know, our people are very connected to the land base and they have a lot to offer to make sure those things are considered.
>
> Enoch Community Leader 2

Indigenous involvement must extend beyond contributions to project design, to involvement in shaping what the energy transition will look like and who it will serve. From the perspective of this Councillor, "Indigenous perspectives need to shape the policies and the options that will lead us" to the coming green energy future (Enoch Community Leader 3).

Youth & Future Generations

The perspectives and values of young people are given particular emphasis in the collective and inclusive decision-making process in Enoch Cree Nation. With their growing awareness of the urgency of climate change, both young people and Elders in the community are expressing the need to act on environmental protection and sustainable energy use in the community. The priorities expressed by young people in direct engagements between youth and community leaders has given leadership a clear directive to pursue renewable energy development in the community.

> the Elders are ones that say that we need to be more, or we need to take the energy and the things from the land and use them properly and protect our environment. So, the Elders are saying that, the youth especially are saying that.
>
> Enoch Community Leader 2

> We've had a series of community engagements with different demographics, including our youth populations in the community. And really got a sense of what the priorities are for our Nation moving forward. And, looking to some of the vision boards that were developed from our youth engagements, green energy and sustainability are right at the top of the priorities for youth. And so that's where we're trying to pay some attention to, because certainly the future that we're building, really is for them.
>
> Enoch Community Leader 3

Seeing this relationship between the directive outlined by youth and the successful implementation of the solar field and water facility creates a sense of pride in taking tangible action on the concerns of young people. This project represents a successful outcome of the community's engagement and decision making processes.

> I think it was initially sort of a sense of pride, to drive by and visually see us take a step in the direction that our youth, our young people want us to take. It's a small project, but it's symbolic, of the direction that we know that we need to go. And so, I think it's more a source of pride…and really, it shows that we can do it. So, I think it was a signal in the right direction.
>
> Enoch Community Leader 3

For leaders in the community, transitioning energy use in the community towards cleaner and more renewable sources is a step towards addressing not only the concerns of today's youth, but is aligned with a commitment to care for future generations.

> we all leave a footprint and, I want to do my best to try and leave a good footprint for the younger people coming up. And, the really important thing our Elders talk about all the time is, there's seven generations coming behind us. And what are we going to leave for them?
>
> Enoch Community Leader 1

Young people are invested and engaged in decisions made around environmental protection in the community, and the Enoch Youth Council is one way to amplify their voices and concerns. Participants identified that education and curriculum development are necessary steps to

continue to build awareness among the younger generations about protecting environments in the community. Education is a tool to connect youth with knowledge holders about the culturally significant environments within the community and to begin to bridge the gap in knowledge between younger and older generations on the urgency of climate action. The visibility of the solar field along with continued conversations around energy, the environment, and climate change are an opportunity for education across all generations.

> ECN Community Leader 1: I think another important piece would be education. So kind of what we're talking about right now, this should be shared in our schools in our curriculum for our young kids coming up. So they know, right? A lot of this stuff, it's not taught in school, you kind of have to do your own research, you have to talk to people, you've got to talk to Elders and knowledge keepers to get this understanding, and why we want to protect it. So it's, but it should be taught in the schools for sure. The importance of protecting what we have left, it's little. It's not much. But we should protect what we have left.
>
> Community Research Partner: I agree. I cannot stress enough about education, because it's important, and it goes a long way.

Community economic development & Participation in the new energy economy

Participants describe the value of renewable energy in contributing to sustainability and self-reliance while also creating economic opportunity. Transitioning part of the community's energy use towards renewable sources represented an opportunity for the Nation to reduce their reliance on fossil fuels, namely coal, and to use energy that is not only more sustainable, but that is self-generated from within the Nation. The decision to pursue solar energy was also part of larger goals for community economic development, with the possibility of reinvesting any revenue generated or savings on energy costs into necessary community programs and services. The proposed 10MW solar project was largely driven by this economic opportunity. This project had the potential to generate an own source of energy for the Nation's River Cree Resort and Casino. By buying the electricity from themselves, the money allocated to buy power from outside sources would be kept within the community's economy, capturing "economic leakage"

(Enoch Community Leader 3) while generating an own source of renewable electricity. Any revenue generated from the solar project would then be reinvested into the community to support investments into infrastructure and community programs. Revenue would be used to implement the community energy plan, retrofitting Elder's homes with solar and implementing other energy efficiency measures for residences and Nation buildings. This is illustrative of both the immediate benefits in the form of an own source of electricity revenue and energy cost savings, as well as the "trickle down effects" (Enoch Community Leader 3) of how the revenue and the learning experience of the project would generate momentum for the community meet their goals for transitions.

As much as the coming energy transition represents a shift in energy generation, this participant shares that it also brings a transition of the energy economy and the opportunity for Indigenous communities to actively participate and share in the economic success. Community economic growth is part of a larger desire for the Nation to be the beneficiaries of the energy sector in this province through participation in the new energy economy.

> I think that it's a transition of economy as well. And for far too long, Indigenous people have been left out of the economy that the energy sector creates in this province. And, so I think, from just an economic participation perspective, and finding kind of our rightful place in this province, it's important to participate in that way, too.
>
> Enoch Community Leader 3

Just as ongoing resource extraction within Indigenous territories has been done in violation of the Treaties, the opportunities of renewable energy and the transition to a greener economy are well aligned with the commitments initially agreed upon in those Treaties. Treaty is an ongoing relationship, and as Treaty people, all settlers have a responsibility to uphold this relationship. Supporting Indigenous led energy transitions and an overall greener economy is in line with a

shared responsibility to protect the environment for all Treaty people and to ensure economic opportunity and prosperity for all.

> if you talk about the spirit and intent of Treaty, which is what matters to me, and what matters to Indigenous people, Treaty people, they'll tell you that, the principles, the spirit and intent of Treaty was about sharing the land. And guaranteeing our respective ways of life and living in peace together. And in prosperity together. Of course, that's not how things have happened over the past hundred and fifty years…. When we talk about sharing the land, that also comes with a responsibility to that land, a shared responsibility. And so, I think that's exactly where, green energy and a greener economy fits in because we look at the status of the land right now, we know that our way of life has been impacted, our traditional ways of life have been impacted by development and the cumulative effects of development in our Treaty territories.
>
> Enoch Community Leader 3

What are the barriers to renewable energy development in Enoch Cree Nation?

Community infrastructure & More immediate priorities - "Solar is a privilege"

This community leader identifies that capacity, in particular the necessary infrastructure to support renewable energy, has presented the Nation with an obstacle to development.

> So from the energy audit, we identified that we wanted to do a solar retrofit to the recreation and arena centre. So we were on that process. And then we come to realize that the engineer said that they would have to reinforce the roof for that structure, and it was gonna cost an additional 300 grand to reinforce the roof to be able to support the solar panels. So, we didn't have the funding to be able to do that. And, so we have to pull out of that project.
>
> Enoch Community Leader 1

The need to first repair and reinforce the roof to support a solar installation factored into the community being unable to install solar on the recreation centre and arena. These infrastructure deficits are all manifestations of the systemic ways in which investments in critical infrastructure have been diverted from Indigenous communities.

> if you think about the hundred years of deficits, right, that we are facing in terms of housing and infrastructure. You know, we probably have easily, half a billion dollars of infrastructure deficits. You know we, as wealthy as we are, still have housing issues, like there's not going to be enough money in the world to help us catch up in the timeframe we want to catch up to the hundred years of neglect and oppression that we've been under.
>
> Enoch Community Leader 3

Infrastructure deficits are just one of the constraints on community capacity to develop a renewable energy project. Indigenous communities may also be constrained by the more immediate and pressing need to dedicate time and investment into other areas of community development. The reality is that many Nations are working towards securing rightful basic needs for their members such as housing, clean drinking water, and healthcare. For Enoch Cree Nation, these trade-offs are part of the decisions that leaders must make. While investing in a renewable energy project on the Nation may be a priority, leaders are often faced with the trade-off to first invest in community services and infrastructure that take precedence. Renewable energy may be viewed as something that communities only have access to once the necessities of their members have been taken care of.

> it's really tough to think about, without support without external supports and investments, how we divert, limited resources from the community that could go towards building a home for a family, towards a solar panel. So, there's trade-offs, and there are necessary decisions that we need to make. And we need to make those investments first in the critical infrastructure that support our community. You know, really at the end of the day, solar is a privilege.
>
> Enoch Community Leader 3

Funding Availability

The availability of funding opportunities is identified as a main determinant of the successful development of renewable energy initiatives in Enoch Cree Nation. The Nation made use of grant opportunities through the former provincial NDP government's Alberta Climate Leadership Plan in addition to their own funding contributions to carry out a number of their clean energy initiatives. While the use of provincial grants in the Nation has led to successful projects, it also illustrates the impact on projects when those funding opportunities are taken away. The election of the United Conservative Party (UCP) and their removal of the Alberta Climate Leadership Plan in their first provincial budget created considerable uncertainty for Indigenous communities looking to make use of those grant opportunities to support in-

development projects to completion or realize future projects. Those grants provided the impetus to move forward with clean energy initiatives, and without the availability and security of those grants, Enoch Cree Nations lost much of their momentum to develop.

> with the change government, and the change in policy and focus on energy and renewable energies, that program died on the vine. And now we don't have really the economic driver to pursue those.
>
> Enoch Community Leader 2

The UCP's elimination of the Alberta Climate Leadership Plan and failure to implement a comparable program to support Indigenous communities to pursue renewable energy has created a significant gap in funding for these projects provincially. In the case of the proposed 10MW solar farm, Enoch Cree Nation had invested into the technical feasibility stages of the project, through own source funding and grants provided by the previous NDP government. But the financial feasibility remained the biggest hurdle for that project. One Councillor shares that the success of that project was contingent on the availability of provincial grants and following the changeover in government and the cancellation of those grants, the project was not able to move forward. up. Similarly, the observation of another leader is that it will take a significant change in the mandate of the current government or a complete change in government to see renewed support for these projects that is comparable to the policy environment created by the NDP.

A Role for Partnerships

Shared ownership can ease high upfront costs

The previous section identified the factors that presented obstacles to renewable energy development in Enoch Cree Nation. Infrastructure, more pressing community investments, and funding availability related to the last provincial election each represent a constraint on the Nation's capacity to develop community-owned renewable energy. Of these constraints, the current lack of available project funding for Indigenous communities in Alberta to invest in

renewable energy projects had the most significant implications for community ownership in Enoch Cree Nation. From the perspective of this Councillor, a degree of community ownership is a necessary piece of project development, but an equity ownership stake in a renewable energy project can require Nations to contribute a high initial financial investment into project development. In the absence of provincial funding, some Nations are limited in their ability to be the sole funders of these projects as they lack the surplus capital to invest in a project or the assets to lend against in securing a loan. This community leader identifies that in light of funding constraints, shared project ownership with private partners can make these projects more financially feasible.

> in regards to ownership, I guess one of the challenges is funding, a lot of First Nations don't have the funding, so they need to partner in that aspect. So funding is one of the major challenges for Indigenous tribes to kind of be in the driver's seat, they would need a lot of capital, a lot of assets to be able to jump in the driver's seat for different things like that.
>
> Enoch Community Leader 1

Social responsibility of industry players

For this Councillor, partnerships with industry are also part of the social responsibility of the private sector in recognizing their disproportionate contributions to the climate crisis and global emissions. As they increasingly make corporate commitments around climate action and energy transition, these powerful actors in the conventional energy sector need to invest in supporting the communities that are disproportionately affected by that crisis in their own community-led transition efforts. In Alberta, there is also a role for the private sector to fill the gap in funding created by the change in government. The last election cycle made it difficult for communities to invest in projects without the certainty of supportive provincial policies and grant opportunities. In light of these political shifts, partnerships with the private sector can

provide a secure and sustained investment that enables communities to be involved in the energy transition while retaining a degree of local ownership and control.

> the only thing that could be done differently is really encouraging, the big players in the energy sector, whether it be the Suncors, the Shells, the Imperials, those players that have been responsible for contributing to climate change, and large greenhouse gas emissions, and I think many of them are committing to, and recognize and are committed to supporting the transition of the economy. And you see it a lot in the kind of their corporate sort of goals and statements…. We're at the behest of governments, and as you know, those are highly polarizing and ideological based policy decisions. But if industry really wants to be authentic in their efforts to contribute to climate leadership, then they need to be looking at investing in these kinds of projects with First Nations as well.
>
> Enoch Community Leader 3

What is the role for Enoch Cree Nation in provincial energy transitions?

Cascade Natural Gas Power Project & the E.L. Smith Solar Farm

For Enoch Cree Nation, the realities of the current policy and funding environment has meant that the Nation has looked to partnerships and relationships with the energy sector for opportunities to participate in energy transitions. Enoch announced equity participation in the Cascade natural gas power plant, and the Nation has been engaged throughout the development of EPCOR's E.L. Smith solar farm. While in many ways they deviate from the ideal of community energy projects, the Cascade Power Project and the E.L. Smith Solar Farm represent opportunities for Enoch Cree Nation to assert their leadership in clean energy transitions in the current political climate. To varying degrees, both projects retain as well as depart from the core values associated with community energy, such as participatory decision making; local benefits; ownership; and connection to a community of interest or place. This section will explore both how these projects are diversions from community energy and how they replicate conventional energy systems, but also how they deliver on some of the core elements of community energy that are upheld in the Nation's own community-led transitions. For this Councillor, both the

Cascade Power Project and the E.L. Smith solar farm align with community values and visions for an energy future.

> I look at the mandate that I have as an elected leader, and I look at the engagements that I've had with my community, and particularly my youth. And, a very direct challenge to start supporting a greener economy. And so I see support of the Cascade energy plant as, and certainly the solar project at EPCOR, is rising to that challenge.
>
> Enoch Community Leader 3

Cascade Power Project

The Cascade Power Project is a 900MW high-efficiency, combined cycle natural gas generating facility that will be in operation by 2023 (Kineticor, n.d.). The estimated $1.5 billion project is being developed on a 52-hectare site of Crown Land in Yellowhead County, twelve kilometres southwest of Edson, Alberta (Kineticor, n.d.). Enoch Cree Nation is one of the equity partners in Cascade as part of the Indigenous Communities Syndicate LP, a consortium including five other First Nations: Alexis Nakota Sioux Nation, Kehewin Cree Nation, O'Chiese First Nation, Paul First Nation and Whitefish Lake First Nation (Kineticor, n.d.-a). In 2020, the Indigenous Communities Syndicate LP (ICS) secured a $93 million loan guarantee from the Alberta Indigenous Opportunities Corporation (AIOC) to support their equity investment in the project (Cryderman, 2020).

Location & Connection to Place

The location of the Cascade power project is perhaps the most apparent departure from on-reserve community energy initiatives in Enoch Cree Nation. While the location selection process and the extent to which the Indigenous partners were included in that decision is unclear, the project is located far from the community, and it lacks the same outcomes that come from an on-reserve project that is immediately visible to community members, such as pride, opportunities for education, local employment, and direct community control over the project. However, for Indigenous communities the connection to place and to a geographic community that community energy holds as a core value means considering connections to places beyond

reserve boundaries and into traditional ancestral territories. Located south of Edson and bordered on either side by Highway 47 and the McLeod River, the Cascade power project is situated within or nearby the ancestral territories of a number of Indigenous groups including Cree, Métis, and Stoney Nakoda. This traditional territory has significance for some of the First Nation partners that make up the Indigenous Communities Syndicate LP, including Enoch Cree Nation.

> We also head out west to hunt, too. Like towards Edson and Hinton we have traditional hunting grounds out there, so we also go there.
>
> Enoch Community Leader 1

From the perspective of this community leader, the Nation's size has been a limiting factor in the ability of the community to pursue a large-scale energy project within the Nation's borders. With its off-reserve location, the Cascade power project is enabling the community to be involved in and benefit from large-scale energy transitions regardless of the limits of the reserve's boundaries.

> it's difficult for us with the limited space that we have. And, bringing in different types of renewable energy projects, depending on the scale and the scope, whether it's even appropriate to be in the community. Now, if you look at the project that was recently announced this morning, that's not in our community, but we have direct financial involvement. So, those are the kinds of opportunities that will, if they're larger scale like that, they would more likely be, that's how we would be involved.
>
> Enoch Community Leader 2

The Alberta Indigenous Opportunities Corporation & Access to Capital

The Alberta Indigenous Opportunities Corporation (AIOC) was established in 2019 by the current provincial government to "facilitate investment by indigenous groups in natural resource projects and related infrastructure" (Province of Alberta, 2019, p. 2). The AIOC identifies that access to capital is the primary barrier for Indigenous communities to invest in natural resource development (The Alberta Indigenous Opportunities Corporation, n.d.). To make up that financial shortfall, the AIOC provides loan guarantees, starting at a minimum of $20 million to a maximum of $250 million, which are eligible to either individual Indigenous

communities or consortiums where an Indigenous group is a participating investor making up at least 25% of the total Indigenous investment (The Alberta Indigenous Opportunities Corporation, n.d.; n.d.-a). Loan guarantees ease the financial risk for communities by providing access to capital where a third party assumes the debt obligation (The Alberta Indigenous Opportunities Corporation, n.d.). According to the AIOC this investment is available to support Indigenous groups in the areas of energy, including oil and gas, renewables, and coal; mining; and forestry (The Alberta Indigenous Opportunities Corporation, n.d.-a). The Cascade Power Project models a unique method of project financing that eases the risk of investment and makes up the gap in available funding (von der Porten & Posdlasly, 2021). However, from the perspective of this Enoch Cree Nation community leader, the AIOC and their mandate to support the involvement of Indigenous communities in natural resource development is indicative of the direction that the province is taking around energy transition and sends a message about the extent to which they prioritize climate action.

> the government is looking to encourage energy projects. I just don't know to what degree those energy projects would be necessarily focused on climate change.
>
> Enoch Community Leader 2

For this Enoch Cree Nation Councillor, the role of the Alberta Indigenous Opportunities Corporation is replicating conventional approaches to engagement and consultation with Indigenous communities. While the project is undoubtedly an opportunity to grow Indigenous participation in the energy sector, it also mirrors the tokenistic community involvement and photo-ops of many large-scale conventional energy projects.

> to be politically correct, there's political incentive to have more Indigenous involvement as well, because it just looks better in the news, and it looks better in the pictures.
>
> Enoch Community Leader 3

Shared Ownership

This project is aligned with the ideals of community energy in that Enoch Cree Nation is a part owner. A consortium of six Nations, the Indigenous Communities Syndicate LP is evidence of how support from a network of Nations can mitigate the capacity constraints of individual communities that might present barriers to their equity participation in a project like Cascade. The shared ownership model between six Nations is a way to scale the benefits of the project beyond individual wins for one community, to where multiple communities can benefit. From the perspective of this Councillor, this shared ownership model together with five other area First Nations shows that communities are stronger when they work together towards shared goals and for mutual benefit.

> Like a blade of grass easily, you can pull it and break it. But when you tie blades of grass together in a braid and make a sweetgrass braid, you try pulling that apart, that's not going to happen very easily. So, that's kind of the way we look at things sometimes, is it's sometimes better to work together and be stronger together that way. And these projects are more likely to be successful if it's approached in that manner.
>
> Enoch Community Leader 2

In addition to the Indigenous Communities Syndicate LP, Cascade is part owned by OPTrust, a legal trust that manages one of Canada's largest pension funds; independent portfolio management firm Axium Infrastructure headquartered in Montreal; and global independent infrastructure fund manager DIF Capital Partners (Kineticor, n.d.-a; OPTrust, n.d.; Axium Infrastructure, n.d.). It is unclear how individual Nation members are represented in decision making by the Indigenous Communities Syndicate LP, or the extent to which these corporate partners are guided by social responsibility or frameworks such as the TRC's 92nd Call to Action.

Incremental Transitions

For this Councillor, Enoch Cree Nation's equity investment in the Cascade Power Project and their support of the E.L. Smith solar project (discussed below) reflects a realistic view of what opportunities for community involvement and leadership in energy transitions exist in the

current political climate. For this Councillor that reality is one where oil and gas is entrenched in the economy of this province, and the scale and pace of energy transitions remain slow and niche. The role of Nation leadership is to "strike that balance" of pursuing more sustainable energy sources and showing climate leadership, while also creating opportunities to participate in and be the beneficiaries of the current energy economy.

> this has been a province whose economy is built on the energy sector, and primarily oil and gas, and that isn't going to change, probably in my lifetime. But I will see a transition towards more renewable sources of energy, in my lifetime, or sustainable uses of energy. And so I think that we're really, as leadership of the day, I think we're at a cusp, right, where we have to start making policy decisions that, A) recognize that this is the economy we live in, and we need to support it. But we also need to balance support for the energy industry with also support for a transition to other sort of energy sources and forms.
>
> Enoch Community Leader 3

For this Councillor, transitioning is about taking incremental steps to move away from energy sources that the community currently uses, primarily coal, and towards less environmentally damaging and emissions-intensive sources. Natural gas as an energy source is preferred from the standpoint of environmental impact and emissions. Leaders must weigh the costs and benefits of participation and investment in all energy opportunities and all energy types, and this leader sees Cascade as a step in the right direction for the community. Through their investment in Cascade, the Nation is being realistic about their capacities and goals as a community and transitioning on their own terms.

> we're coming from a place where a lot of our energy was extremely dirty in terms of coal. And, of course, oil and gas is not the cleanest, but natural gas is cleaner than coal, right? So it's taking incremental steps towards less greenhouse gas emissions at the end of the day. And those that create less impact on the environment, and natural gas is better than coal in terms of the spectrum. Is it as good as wind or solar? No, it's not. But we have to be, realistic about taking those incremental steps towards the future that we want, and not expecting that there's going to be this big jump. And just allowing ourselves the patience to get there.
>
> Enoch Community Leader 3

Revenue & Self Reliance

This project also has the potential to deliver on a variety of tangible community benefits that will be felt by Nation members. Enoch Cree Nation is a dynamic community, with a growing population and changing needs that will mean necessary investments in the future of the Nation. The River Cree Casino provides the Nation with their primary revenue source, but as the community grows that revenue has largely stayed constant. With their equity investment in Cascade, the project will provide Enoch Cree Nation with an additional revenue stream to bridge that gap and enable the community to continue making necessary investments into services and infrastructure to support their growing population into the future.

Meaningful Input

The Nation's involvement in Cascade will also lead to project outcomes that are emblematic of larger shifts in how Indigenous communities are involved in project design and decision making in the energy sector. Indigenous ownership in projects represents a shift away from energy projects carried out without meaningful community involvement, towards community leadership in all phases of project development. Community ownership also secures a role for the Nation in determining what outcomes the project will provide to the community. For this community leader, their role in Cascade will provide Enoch Cree Nation with revenue, employment opportunities, economic and community development, and create opportunities for the Nation to continue to grow and succeed.

> But a lot of the interest in these kinds of projects is to have meaningful input into how those are run, how those are providing a return the Nations, to help us with employment, with dollars that would be reinvested into other economic development. To improve our social programming. All those things are, really what some of the communities are looking for is, doing better. And jobs are always important. And it doesn't necessarily mean that you have to have a job strictly on your Nation, but just to have those opportunities and break down some of the systemic barriers that do occur for us…. So, my push for all this is to look for opportunities that are sustainable for our people.
>
> Enoch Community Leader 2

E.L. Smith Solar Farm

Location and Connection to Place

EPCOR Utilities Inc. is a public utility and its sole shareholder is the City of Edmonton (EPCOR, n.d.). EPCOR is governed by a Board made up of business and community leaders from across Canada appointed by and fully independent of the shareholder (EPCOR, n.d.). As Edmonton's water utility, EPCOR operates the E.L. Smith Water Treatment Plant, and the E.L. Smith solar farm is proposed for this site overlooking the North Saskatchewan River. This piece of land and access to the river is former Enoch Cree Nation reserve land, which was illegally taken to be sectioned off and sold for settlement in 1908. While development of the water treatment plant and the surrounding residential neighbourhoods have transformed this landscape, it still holds the memories of when it was forcibly taken from the community, and the significance of this place for Enoch Cree Nation is still very much "known to the people of the land" (Former Youth Council Member). Stories about this land and its meaning live in the community and are shared among generations. This former youth councillor spoke about how she learned about this place from her grandmother. It was a site of Sundance and ceremonies, and a place to gather healing medicines that grow there.

> so many Elders, and so many people remember, times when their parents or their grandparents, how important that piece of land is to us. And how small our reserve has been getting, by the decade.
>
> Former Youth Council Member

For these reasons, the construction of the E.L. Smith solar farm and the disturbance of the land at this site has been contested among Enoch Cree Nation members and leadership. Archeological work at the site found physical evidence that Sweat Lodges and Sundance ceremonies took place here, confirming what community Elders and knowledge holders have always known about the

significance of this place. In June 2019 Enoch Cree Nation withdrew their support for the project to take time to consider these findings and the way forward for the project (Junker, 2019).

> when EPCOR wanted to create the solar farm that was down by the river valley. Enoch traditionally, our lands went past the river valley, that's where our people traditionally, if you look in archives, had ceremonial land there, they found artifacts
>
> Former Youth Council Member

EPCOR and Enoch began re-engagement to work to address the Nation's concerns, and the outcomes of this engagement reflect priorities identified by Enoch Cree Nation, including and not limited to full community access to archeological data; commitments to bring ceremony back to this area; making the land accessible for medicine harvesting by community members and for land-based learning opportunities for youth; gifting the project with a name that reflects the area's history and current significance; and collaboration on the design of publicly accessible spaces and interpretive sites (Edmonton City Council, 2020). In February 2020, the Nation issued a letter of support for the project (Edmonton City Council, 2020). On September 1, 2020, this engagement process culminated in the signing of a Memorandum of Understanding between Enoch Cree Nation Chief Billy Morin and EPCOR President and CEO Stuart Lee (EPCOR, n.d.-a). Based on the Enoch Cree Nation and City of Edmonton MOU, this step creates a strong foundation for future collaborations, a medium for facilitating open and transparent communication, and outlines commitments to realize the Nation's visions for design, access, and use of the site. It is also a recognition that this a mutually beneficial relationship, and in particular the role of the E.L. Smith Water Treatment Plant in providing clean water to Enoch Cree Nation through their new water line. The most recent step in project development was a City Council Public Hearing on October 6, 2020, which addressed rezoning the site to allow for renewable energy development in the river valley and for future expansion of the water treatment plant (Edmonton City Council, 2020). The project has varying degrees of support within Enoch

Cree Nation, and at this hearing community members spoke out both in support and opposition of the solar project (Edmonton City Council, 2020). After hearing speakers during the three-day hearing, City Council voted 7-6 in favour of rezoning the site (CBC News, 2020).

Relationship Building & Reconciliation

The ideals of community energy are in part represented in E.L. Smith through the trust and transparency between parties and through the community's involvement in decision making. The community engagement process of building relationships and ultimately the signing of the Memorandum of Understanding represents an intention to build long-lasting working relationships based on open communication and mutual interest. This Councillor recognizes that as much as there is a role for community-led energy transitions, there are powerful incumbents like EPCOR who still drive decision making in the energy sector. In their support of E.L. Smith, the Nation is taking an active role to be involved in those opportunities in a way to ensure that community interests are being attended to.

> from my perspective, we can't sit back and complain that we've been left out if we're not willing to participate. And, the only way that we're going to be involved is if we intentionally get involved, and you can only get involved in the industry and in the sector if you create relationships with the people that are in them, and drive them. So creating a relationship with EPCOR allows us to take more of an affirmative action towards getting included in consultation processes that are respectful of protocols that we want to see.
>
> Enoch Community Leader 3

The relationship between Enoch Cree Nation and EPCOR is also a tangible example of how energy transitions can support ongoing reconciliation efforts. This Councillor shares that creating this working relationship with EPCOR, who owns and operates a water facility on former Enoch reserve land, is a step towards reconciling with the history of forced sale of that land. The Councillor shares that reconciliation with colonial governments is only one piece of that overall journey, and that reconciliatory actions are the responsibility of anyone who benefits from the

occupation of sites of cultural and historical significance. Reconciliation only happens through dedicating time and effort to building relationships.

> It's important for us too, in terms of just reconciliation. The reality is reconciliation cannot just be with government, a lot of the places that are important for us, and a lot of the things that are important to us, is not just vested within government, a lot of it happens on private lands, privately owned lands, municipally owned lands, provincially owned lands. So reconciliation is going to take an effort from sort of a cross sectional view. And so, for example, reconciling with the lands that were taken from us in 1908, there's really no role for the federal government in that, but there's a big role for EPCOR in that. That only happens if we create that relationship and the intent to make things right. And so the MOU from a relationship perspective, and being involved and coming to the table, to voice the things that matter to us, and to invite people to sit at that table with us and find collaborative ways forward, to address areas of mutual concern, it's necessary.
>
> Enoch Community Leader 3

Discussion & Conclusions

Throughout these interviews, participants have shared that not only are clean energy initiatives in Enoch Cree Nation community-owned, but they are truly community-led through participatory decision-making processes informed by the four directions that ensure members buy-in to and feel ownership over projects that ultimately reflect their priorities and visions for the Nation's energy future. Through land use planning, community referendums, and community energy planning, all members have an opportunity to contribute to how reserve lands are developed. These processes align projects with community values and priorities and build in a sense of ownership over prospective projects. Renewable energy development is a legacy for the community that will have a long-term footprint, and community buy-in to a project is the starting point for long term community support.

For these Enoch Cree Nation members, the significance of community-led energy transitions is tied to the relationships between Indigenous peoples and the actors within the existing energy system. Through the extraction of resources and the transformation of landscapes, resource development companies and energy utilities have violated Treaty

commitments to share in these lands only “to the depth of a plow.” Commitments to share the land for the mutual prosperity of all Treaty people have not been upheld, as Indigenous peoples have not been the equal beneficiaries of the prosperity of an energy economy based on the exploitation of Indigenous lands and resources. In this system, Indigenous communities may be in a position where they “see these things happen,” rather than one where they direct their own decision making regarding energy development. In the transition towards a climate-oriented economy, the energy transition represents a new opportunity for Indigenous peoples to be economic beneficiaries and to ‘find their rightful place in this province’, as was outlined in the Treaty commitments to shared prosperity. Community-owned and led energy transitions see Indigenous Nations asserting decision making control of how their lands are developed, and in Enoch Cree Nation, the community is leading their own energy transitions in the form of renewable energy projects, community energy planning, and energy efficiency measures.

In Enoch Cree Nation, an alternative energy future is aligned with nehiyaw pimatisiwin (Cree worldview, way of life). In this worldview, the natural world has a role in the Creation of how Cree people came to be, and damage to that environment is inherently damaging to Indigenous peoples and communities. In this understanding, pîsim (the sun) and yôtin (the wind) are more than just renewable sources of energy, but they are actors in this Creation story of Cree people. Investments like renewable energy development that are designed to protect places in the community that hold these teachings are also investments into culture and language that is at the core of nehiyaw pimatisiwin. Projects that are informed by these values, with considerations for community knowledge, traditional land use, and relationships based on mutual respect highlight the strengths of Indigenous-led energy transitions.

In Enoch Cree Nation, concerns voiced by young people and Elders, as well as the commitment to care for future generations has given leadership the mandate to support clean energy transitions. The work of the Enoch Youth Council and direct engagements between youth and leadership highlight the significant role of young people in community decision making. The visibility of the solar field in the community is generating conversations between Elders and youth about culturally significant environments within the community, making it a promising educational opportunity about not only renewable energy but about language and culture. This is well aligned with the community priorities to create land-based learning opportunities and to revitalize language learning and culture, the cores of nehiyaw pimatisiwin.

Renewable energy in Enoch Cree Nation is a source of pride both internally among community members and outwardly. These Nation members feel a sense of pride that the Nation has taken this visible step towards addressing concerns that young people have expressed. The success of the solar field on the water pump house "shows that we can do it" and is a significant first step in realizing their goals for energy transition. The project is also a symbol of Enoch's innovation and leadership that signals the possibilities of a green energy future to neighbouring communities. Enoch is part of a growing network of communities pursuing renewable energy, and their initiatives have the potential to create a "follow the leader ripple effect" or "domino effect" as other communities follow suit and lead their own energy transitions.

The case of community solar in Enoch Cree Nation provides concrete evidence of the impacts of the most recent election cycle and the subsequent cancellation of targeted policies and funding opportunities for Indigenous renewable energy. The Alberta Climate Leadership Plan funded the solar field on the water facility and supported the Nation to make the initial investments into feasibility studies for the 10MW solar farm. With the election of the UCP in

2019, policies like the Alberta Climate Leadership Plan along with any provincial support for energy transition and climate action "died on the vine" and the Nation's efforts to develop community-owned solar were left "hanging in the balance." While energy transitions in Enoch Cree Nation were financed in part by the Nation's own capital, the current lack of external support reinforces the fact that renewable energy projects are capital intensive projects. They require significant investments in pre-feasibility, feasibility, development, operations, and maintenance phases, often requiring external support to be financially feasible. Indigenous communities often need to put their capital towards more critical community services and infrastructure that take priority. Ultimately, "solar is a privilege" that not all communities have the financial resources to undertake. Communities may not be able to take advantage of grants without first making these investments into community infrastructure, and this was illustrated by Enoch's inability to utilize a grant to execute the plan to retrofit the arena and recreation centre with solar without first making the necessary roof repairs.

The Cascade and E.L. Smith projects highlight the role of partnerships and shared ownership in mitigating challenges related to project financing. Braiding together the capacities of multiple Nations through shared ownership in pursuit of a common goal can mitigate the challenges of a single Nation. The role of new relationships with energy and private sector actors highlights the 'social responsibility of industry players' to operationalize corporate climate commitments through investment in Indigenous energy projects. To varying degrees, both projects follow the guiding framework of community energy including participation of the community in project decision making; community ownership; delivering local benefits; and retaining connections to place. But in many ways these projects diverge from community energy and replicate conventional approaches to relationship building and project design in terms of

where they locate; who initiated the projects; who will benefit; and who owns the project. Despite this, these projects are part of the Nation's ongoing efforts to realize visions for their "own transition", and their participation in projects like Cascade and E.L. Smith is a step towards positioning themselves in the broader energy transition. For the Nation, energy transition means taking "incremental steps towards the future that we want" by evaluating all energy opportunities and all energy types and making the most of opportunities to be the beneficiaries of both the current energy economy, and the coming renewable energy economy. The community has been realistic about their goals and capabilities as a Nation, and a project like Cascade represents an incremental step in the right direction to transition their energy use in part from coal to natural gas. It is also an acknowledgement that the current government and energy sector are still firmly centred around the protection of the oil and gas industry, and projects are led by powerful incumbent players. A project like E.L. Smith illustrates a new relationship with an incumbent utility as part of an ongoing reconciliation journey. The energy transition will be equally about transitioning away from emissions-intensive project types as it will be a transition to project types where Enoch Cree Nation has ownership and decision-making authority to ensure their interests are represented. The Nation is continuing to grow their involvement in both renewable and non-renewable energy projects and assert a leading role in the provincial energy economy.

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Chapter 4: Approaches to Indigenous-led energy transitions in Alberta – Key informant insights from the fields of Indigenous renewable energy and community generation

Introduction & Approach

In the following chapter we take a key informant approach to situate the case of energy transitions in Enoch Cree Nation within the larger field of Indigenous renewable energy in Alberta and across Canada. First Nation, Inuit, and Métis communities are taking an active role in clean energy transitions in provinces and territories across Canada through equity ownership and other forms of participation. Two initiatives have mapped the landscape of Indigenous renewable energy in Canada. Led by Métis scholar Gregory Lowan-Trudeau, the Indigenous Renewable Energy Map documents 307 projects in 194 communities across Canada in an interactive map format, updated as of Fall 2016 (Indigenous Renewable Energy, 2016). Similarly, the social enterprise Indigenous Clean Energy has mapped 197 projects across Canada with Indigenous involvement and a capacity of over 1 MW (Indigenous Clean Energy, n.d.). In Alberta, Indigenous clean energy transitions have had a unique journey relative to our neighbours in British Columbia, or farther afield in Ontario, the two provinces where most of Indigenous energy projects have been developed. Projects here have largely remained niche and slow to develop until the 2015 election of the provincial New Democratic Party, a government that brought with it a supportive mandate for energy transitions and climate action, and the policies to enact that mandate. During the NDP's four-year tenure, the province experienced a short and fast 'bubble' of growth for Indigenous clean energy transitions, including many different project types, ownership models, and partnerships. Following the election of a new Conservative government in 2019, these programs have now ceased, but many of the resulting projects are still to come into fruition. This chapter compiles the perspectives of key stakeholders in the landscape of Indigenous energy across Canada in order to develop an understanding of the

role Indigenous-owned renewable energy projects are playing in Alberta's renewable energy sector, with a focus on how project ownership can support further Indigenous involvement and control in Alberta's energy transition. The key informant findings include the perspectives of experts who are working at the intersection of renewable energy development and Indigenous ownership, including the direct experiences of Indigenous leaders developing projects in their own communities. Key informants primarily include players in community energy and Indigenous energy in Alberta, as well as those working in BC and Ontario who contribute their experience to the understanding of the Alberta context. These findings share the results of semi-structured phone or video call interviews with twenty-two interview participants in the nine categories of First Nation Councillors; Métis Governance Bodies; Indigenous-led Environmental Advocacy; Energy Advisors and Developers; Non-Profit, Research, and Public Education; Grant Organizations; Municipal Government Administration; Academia; and Utilities. We begin with an examination of the current energy system which provides the impetus for Indigenous-led transitions and a just transition. We outline the many different project types and models of ownership through which Indigenous communities are asserting a leading role in energy transitions in Alberta. We examine the meanings and importance of retaining community ownership of renewable energy projects. We then explore the distinct factors that are leading communities to renewable energy development and the opportunities they are seeing as a result, as well as the obstacles that are presenting barriers to Indigenous energy.

Findings

A Just and Equitable Transition

Centring justice and equity in the transition is a commitment to reorganizing how the energy system operates and who it serves. The two components of a just transition, justice and

transition, encompass both a transition towards low carbon sources, but also a transition of how the energy system operates in both ecological and social terms. This participant describes that first, the transition must centre justice in its respect for and relationship to nature. Not only does the transition need to be low carbon and considerate of climate targets, but it also needs to reconsider the value of natural environments and species and the approach to restoring or 'reclaiming' these places.

> first of all, in terms of ecological terms, and this is before climate, this is ecologically. It needs to respect nature, and allow species and habitat to both be restored and conserved. Secondly, it needs to be low carbon.
>
> Non-Profit, Research, & Public Education #4

A just transition must also reconsider where energy decision making power is centred by democratizing who owns and governs the energy system, through participation of communities and publics in energy decision making, ownership, and governance of energy systems. It must redefine the centralized production of energy dominated by utilities by decentralizing and distributing the generation of energy closer to consumers.

> Thirdly, it needs to be socially just, so that it evolves, we don't have a situation where the basic structure of energy colonialism that we have today, which is not just a common result of colonialism in a political context that we have in our country and others, but it's also conscious of where energy is. It's dominated by large companies like utilities, like large corporations, gas sector. And it's governed by large governments. I mean to me, a just transition of energy is fundamentally one which has energy being much more democratic. Both democratically owned and governed.
>
> Non-Profit, Research, & Public Education #4

As noted by research participants, this system of energy colonialism has operated through mechanisms like token minority ownership stakes that are used to grant utilities the licence to conduct their operations within Indigenous territories, without investing any significant time in building relationships with or delivering benefits to communities. This approach to energy development where power rests with utilities has left a legacy of harm in many communities.

> when they first built the infrastructure, they would just bulldoze their way through our reserves and traditional territories. Sometimes upending, sacred burial grounds. You know and, no consent. Like, get out the way, we're coming through. And now it's like, oh we gotta go do some upgrades…. Then they start saying, oh well we'd like to see some Indigenous ownership now, how's 5%? How's 3%? How's 1%?
>
> First Nation Councillor #1

With respect to the role of Indigenous communities in a just transition, decisions must be made with consideration for Indigenous rights and the commitments and relationships agreed to in the Treaties. Frameworks like the United Nations Declaration on the Rights of Indigenous People and the baseline of free, prior, and informed consent must guide the pathway away from energy colonialism and towards an energy transition that reflects Indigenous rights and Treaty commitments.

> it's incredibly important that energy transition, especially talking with Indigenous communities, being that Indigenous communities are leading Canada's clean energy transition, that those partnerships and projects are really grounded in Indigenous rights, documents like UNDRIP and FPIC. And moving ahead in a way that is very collaborative and inclusive, and doing projects specifically curtailed to the local community. So taking time to build relationships and foster strong community connections.
>
> Non-Profit, Research, & Public Education #6

Pillars of Justice & Equity – Distributional, Recognitional, Procedural

The pillars of distributional, recognitional, and procedural justice and equity can further guide each phase of the project development, and how transitions are ultimately realized in a community context. The outcomes of transition are more than simply emissions reduction through transitioning energy systems towards lower carbon sources. The potential of transitions brings new opportunities for revenue, community economic development, employment, and a shift in power imbalance through the inclusion of communities in energy decision making. Distributional equity considers what the benefits of transitioning are, where will the benefits locate, and who will be the recipients of those benefits.

> when we're talking about transition and moving to a future state of energy, the big thing for us is where we're looking at, where are the benefits accruing? You know, where's wealth accruing? And to whom? And at what scales and, what are the ancillary benefits of transitioning our economies and our energy systems from, traditional fossil fuel energy systems to alternative fuels? …. where's employment going? You know, what's the local economic development potential of these different energy systems?
>
> Grant Organization #2

Recognitional equity considers the "different social structures that make up and play into the communities that are having these projects happen on the ground" (Grant Organization #2). A recognitional approach meets communities where they are and recognizes what communities' goals and priorities are. It also acknowledges that each community has their own knowledges, authority figures, and decision-making processes. Procedural equity considers how the community is involved in project design, decision making, and governance. It determines the extent to which members have the opportunity to shape the project to the needs of their community, or whether they are simply the 'recipients' of a grant that must be used for a specific purpose, or of a project that has arrived in the community without any engagements.

> But also procedural. So what is the actual process? You know, what is the governance process? Is it participatory? Does the community have a say in what these actual processes, how these are designed? Are they at the decision-making table? Or are they just expected to be recipients of this handout, so to speak, with this grant funding?
>
> Grant Organization #2

The need for a just transition, and the levels of distributional, procedural, and recognitional equity opens the door to project types that align with these calls to action. Indigenous communities are leading their own renewable energy projects and realizing their own energy futures. Indigenous-led and owned clean energy transitions have the potential to embody these core elements of a just and equitable energy transition.

How are Indigenous communities participating in energy transitions in Alberta?

Through a wide spectrum of project types at various scales, Indigenous communities across Canada are taking a leading role in energy transitions. This section is designed to highlight the possibilities for Indigenous involvement in energy transitions. With a wide variety of project types, the underlying thread that connects them is that Indigenous communities are taking on new and significant roles in leading the design and decision making of their own transitions, "whatever that may look like" (Non-Profit, Research, & Public Education #5), and that each community is different in their needs and goals for energy transitions. This analysis will primarily use the language of renewable energy, although we recognize that the term clean energy may be more inclusive of efforts like community energy planning; energy efficiency measures; sustainable housing, heating, and transport. This analysis will primarily involve solar and wind energy development given the participants interviewed and the associated projects. This is also in part due to the study setting and the high wind speeds and high photovoltaic potential in Alberta, primarily in the southern part of the province (Natural Resources Canada, n.d.; Weis et al., 2010; Patel & Dowdell, 2018). It will also reference Indigenous-owned renewable energy, although not all initiatives mentioned in the analysis have a stake for Indigenous communities as sole, majority, equal, or minority equity owners, and in some cases the exact ownership stake of the Nations involved has not been made public. It will also employ the language of Indigenous-led energy transitions, although not all initiatives with Indigenous inclusion are inherently led by Indigenous communities, values, and ways of knowing. Many of the projects that will be examined here were made possible through the programs and funding of the former NDP government, but they are worth mentioning as these programs paved the way for many of the Indigenous-owned renewable energy projects in the province and set the precedent

for community generation. While these programs have ceased, some of these projects are yet to come into fruition, and there may be promising spillover outcomes for other communities and projects because of these initiatives that remain to be seen. Beyond a role for governments, some of these projects also model new and significant relationships with utilities and the private sector in the current absence of provincial leadership on energy transition, and these partnerships are mitigating the policy uncertainty for community scale projects created by these continual changes in government.

Some of these projects meet the requirements of community generation as defined in the Small Scale Generation Regulation (Province of Alberta, 2018). Other project types diverge from the norm of community energy in varying ways but incorporate the ideals of community energy as project starting points. Community generation on reserve can be entirely community led, follow deep community engagement processes, and deliver long-term community benefits. Partnerships with municipalities and between multiple Nations offer models of development that align with the core values of community energy while also meeting the need to scale up community energy and extend these benefits and opportunities across many communities over a more sustained period. At the same time, models at a significantly larger scale include private investment in projects with Indigenous equity through Round Two of the province's former Renewable Electricity Program; provincial and federal government procurement with Indigenous equity participation; and private offtake. These models are creating opportunities for Indigenous equity ownership while responding to the urgent need for large-scale changes to meet climate action and renewable electricity generation targets. The project types described here are entirely community-led, and others demonstrate the strength of collaboration and partnerships across multiple types of communities, including Indigenous Nations and municipalities; significant

roles for utilities in granting projects access to grid infrastructure; opportunities for investments from the private sector; and intentional procurement and policy certainty from governments.

Community Generation on Reserve - Sundancer Solar Project

The Sundance Solar Project is a case of utility scale community generation located on reserve. The 1 MW Sundancer Solar Project, located on Ermineskin Cree Nation reserve, officially opened on September 25, 2020 (Neyaskweyahk Group of Companies, 2020). The project is owned by Neyaskweyahk Sundancer LP, which is a wholly owned subsidiary of Ermineskin Cree Nation (Alberta Utilities Commission, 2020). The project was funded through a provincial grant from the Alberta Indigenous Green Energy Development Program, part of the Alberta Climate Leadership Program, and federal funding from Western Diversification Canada (Neyaskweyahk Group of Companies, 2020). The project is classified as a community generating unit under the Small Scale Generation Regulation based on the fact that Ermineskin Cree Nation meets the definition of a community group as defined in the regulation, and the project has been developed with clearly defined plan to deliver community benefits, including revenue and reinvestment into the community; the creation of construction jobs; a reduction in greenhouse gas emissions; as well as educational opportunities and engagement with students in the community (Alberta Utilities Commission, 2020).

Community Generation in partnership with municipalities - Métis Crossing Solar Project

The Métis Crossing solar project is an example of how rural and urban municipalities can work in collaboration with Indigenous communities on community generation. The Métis Crossing Solar Project is a partnership between the lead applicant the Town of Smoky Lake, and Smoky Lake County and the Métis Nation of Alberta (MNA). This project is qualified as a community generating unit under the Small Scale Generation Regulation (Alberta Utilities Commission, 2020a). The project application outlines that the project will be owned by the Métis

Economic Trade and Industrial Services Corporation (MÉTIS Corp.) which is wholly owned by the Métis Nation of Alberta, and who meets the definition of a community group under the Small Scale Generation Regulation (Alberta Utilities Commission, 2020a). The community benefits statement outlined that the project would create construction jobs, generate revenue to put towards a proposed community development fund as well as funding the Métis Nation of Alberta's climate change action plan (Alberta Utilities Commission, 2020a). Métis Crossing exemplifies a partnership between Indigenous and non-Indigenous communities and models how working together on mutual interests can scale the lasting benefits of one project across multiple communities (Alberta Utilities Commission, 2020a).

The Métis Nation of Alberta is the one of the governing bodies within the larger Métis homeland, which spans Alberta, Saskatchewan, and Manitoba, as well as Ontario, British Columbia, the Northwest Territories and the Northern United States (Library and Archives Canada, n.d.). It governs citizens of the Métis Nation who reside in communities and municipalities across the province of Alberta, and it is distinct from the Métis Settlements General Council, the governing body of the eight Métis Settlements within Alberta (Métis Nation of Alberta, n.d.; Métis Settlements General Council, n.d.). The MNA conducted a provincial engagement with its citizens in municipalities and towns across the province and distilled that feedback in several goals that would form the MNA climate change action plan, which has provided the impetus for a number of projects, including micro-scale solar projects and the Métis Crossing Solar Project.

The proposed 4.86 MW solar project will be located at Métis Crossing, a cultural interpretive centre operated by the Métis Nation of Alberta (Métis Nation of Alberta, n.d.-a). Métis Crossing is a part of the municipal district of Smoky Lake County and is located directly

south of the Town of Smoky Lake. The site is located on the North Saskatchewan River and comprises the river lot land titles of the first Métis settlers to the region, now Smoky Lake County (Métis Nation of Alberta, n.d.-a). The Métis Crossing Solar Project received $3.9 million in funding through the Municipal Community Generation Challenge, an initiative to fund municipalities to pursue community generation administered by the Municipal Climate Change Action Centre (MCCAC) and Alberta Innovates in 2019. Through partnerships with municipalities, this novel example of utility scale solar is enabling the Métis Nation of Alberta to be actively involved in energy transitions on a large scale. This project demonstrates that there are roles for urban and rural municipalities in supporting the involvement of Indigenous Nations in energy transitions. While the intention of the Municipal Community Generation Challenge was to fund community generation in municipalities, this project demonstrates a new role for rural and urban municipalities in reconsidering who makes up their communities and working together with their neighbours on shared interests for mutual benefit.

> the three prongs there from our perspective of an urban municipality, a rural municipality and an Indigenous community was something, really attractive to us. I think it's extremely important moving forward. You know, I think we see it more and more from the municipal associations that we work with, that having those good relationships with their surrounding Indigenous communities is very important, and so I think this is kind of a great example project to show how kind of all those different communities can work together and also work together towards something productive, being a part of the energy transition.
>
> Grant Organization #1

This unique partnership and ownership structure has the potential to scale up the outcomes of this single project and illustrates the potential long term and widespread effects of a single project. The success of this partnership and the visibility of this project could signal the possibilities for other communities and create a model for future community generation and shared ownership.

> they are looking to set up a fully independent project cooperative, that will be the one owning and managing the project through Métis Nation of Alberta. So, it's a model that I think, like I mentioned is something that's not been done in Alberta around a renewable energy project yet. So it'll be one of these pieces of community generation that if it works out the way they've kind of intended it to, it will be a really great example of how other projects can kind of follow in suit and set up something similar.
>
> Grant Organization #1

Community Generation partnerships between Indigenous communities – Three Nations Energy

The Three Nations Energy Solar farm is a new energy opportunity for Indigenous communities in the region of Alberta's oil sands. The Three Nations Energy Solar Farm in Fort Chipewyan, Alberta is a project that models both multi-Nation equity ownership and the role of private industry in supporting Indigenous energy transitions. The Three Nations Energy Solar Farm is owned by Three Nations Energy (3NE), an equal partnership between Mikisew Cree Nation, Athabasca Chipewyan First Nation, and the Métis Association of Fort Chipewyan (Three Nations Energy, n.d.), demonstrating the possibilities of collaboration between Nations in advancing shared goals for energy transition. Three Nations Energy developed a community benefits agreement signed by Athabasca Chipewyan First Nation, the Mikisew Cree First Nation and Fort Chipewyan Métis Local 125, and as a result the AUC approved this project as a community generating unit under the Small Scale Generation Regulation (Alberta Utilities Commission, 2020). Three Nations Energy and ATCO celebrated the completion and grand opening of the Three Nations Energy Solar Farm in November 2020 (Three Nations Energy, n.d.; ATCO, 2020). ATCO's involvement in the Three Nations energy project demonstrates a role for utility companies with grid access in remote areas in supporting projects with Indigenous equity by connecting these projects to the necessary grid infrastructure to bring them online. Off-grid Fort Chipewyan is 150 kilometres away from the nearest connection to Alberta's electricity grid, making this 2.2MW project the largest solar farm in a remote Canadian community (Three Nations Energy, n.d.; ATCO, 2020). The project is located south of the town of Fort Chipewyan

on a site adjacent to ATCO's Third Lake diesel-fired generating plant (Three Nations Energy, n.d.-b.; Alberta Utilities Commission, 2011). With a long-term Power Purchase Agreement in place, ATCO will purchase the electricity produced by the solar farm and distribute it to the community of Fort Chipewyan (Three Nations Energy, n.d.-a). The project will offset approximately 800,000 litres of diesel fuel annually from the remote community and meet 25% of the community's electricity needs (Three Nations Energy, n.d.). The project is funded from contributions from Natural Resources Canada and the Government of Alberta (Three Nations Energy, n.d.-c). This community-led project reflects the shared goals and values of the Mikisew Cree Nation, Athabasca Chipewyan First Nation, and the Métis Association of Fort Chipewyan. Three Nations Energy ownership of the project created and ensured opportunities for community involvement in each phase of project development. This landmark example of Indigenous energy highlights a unique community and industry partnership, and a strong collaboration between Nations in the pursuit of a common goal.

Renewable Electricity Program Round Two

Through the Renewable Electricity Program (REP) Round Two, the former provincial government created a favourable policy environment and attracted private investments into large scale wind energy projects with Indigenous equity ownership. Administered by the Alberta Electric System Operator (AESO), the REP was an open bidding process where private developers competed for contracts to develop large scale renewable energy projects in Alberta (Government of Alberta, n.d.-h; Hastings-Simon & Shaffer, 2021). The province advised AESO to develop the project in January 2016 as a step towards meeting the energy demands of the growing population and contributing towards the provincial "30 by 30" target, or 30% renewable electricity generation by 2030 (Alberta Electric System Operator, n.d.-a; Government of Alberta, n.d.-h; Government of Alberta, n.d.-e). Eligible projects in Round Two required a minimum 25%

Indigenous equity ownership maintained for at least three years after the project coming online (Alberta Electric System Operator, n.d.-b). The successful recipients of these twenty-year contracts are three large scale wind projects in partnership with Paul First Nation in Treaty Six, Kainai First Nation in Treaty Seven, and Sawridge First Nation in Treaty Eight. The proposed projects are the 48 MW Buffalo Atlee Wind Farms 1, 2, and 3 located near Brooks, Alberta and built in partnership with Sawridge First Nation and Ontario-based Capstone Infrastructure Corporation; the 202 MW Cypress Wind Power Project located near Medicine Hat and built in partnership with Kainai First Nation and EDF Renewables Canada Inc., a subsidiary of a France-based company; and the 113 MW Stirling Wind Project located near Lethbridge and built in partnership with Paul First Nation and Ontario-based Potentia Renewables Inc. (Government of Alberta, 2018). Once operational, the REP 2 projects will produce about 360 MW of electricity to meet the needs of about 150,000 homes in the province (Government of Alberta, n.d.-h).

Provincial procurement with Indigenous co-ownership

There are significant roles for governments to be intentional in supporting Indigenous communities to participate in energy transitions. The former provincial and current federal governments demonstrated that commitment through renewable electricity procurement for government facilities and operations with a requirement for Indigenous participation or equity ownership. Critically, these contracts represent a recurring opportunity for procurement of renewable energy with Indigenous equity ownership, as they open the door for more communities and projects upon expiry. Government of Alberta buildings and operations and have been powered by 100% clean electricity from wind generation since 2009 (CanSIA, 2019). With these wind contracts expiring, the former NDP government and Alberta Infrastructure issued a Request for Information (RFI) in 2016 for solar projects that could replace these contracts and keep the province on track to meet its target of 30% of the electricity produced in

Alberta coming from a renewable source (Province of Alberta, 2016; Stephenson, 2019). In February 2019, Ontario-based Canadian Solar Inc. was awarded 20-year contracts for three solar projects for a combined capacity of 94 MW, enough to power 55% of provincial government operations (Canadian Solar, 2019). The three new solar farms are a $100 million capital investment and will be built in southern Alberta, near the hamlets of Hays, Jenner, and Tilley (Stephenson, 2019). The three projects are co-owned by the Conklin Métis Local 193, who hold a fifty percent equity stake (Canadian Solar, 2019). The northeastern Alberta community of Conklin is located in the Athabasca oil sands region in between Fort McMurray and Lac La Biche (Canadian Solar, 2019). In January 2021, Canadian Solar announced the sale of its equity stake in the Hays and Jenner solar projects to Calgary-based BluEarth Renewables, who will manage the two projects and assume co-ownership responsibilities together with Conklin Métis Local 193 (BluEarth Renewables, 2021). Commercial operation of the Hays and Jenner solar project is expected to begin in 2021, while operation of the Tilley solar project is scheduled for 2022 (C&B Alberta Solar Development ULC, n.d.; n.d.-a; n.d.-b). Construction of the wind projects is expected to create 270 jobs in southern Alberta, and for Conklin Métis in the north of the province, revenue from the project has the potential to contribute to community and economic development (Stephenson, 2019; Beamish, 2019).

> even if you're not going to throw money at a program to promote renewables, or throw resources at a program to promote community renewables, you could do it through that corporate procurement. And I think that would be really useful. And, essentially, the province, the Notley government did that with its procurement. Because, in procuring the solar it was going to create the first large scale solar projects in the province. And it did that…. And that's where the resulting projects were, that were the lowest cost on that big comparison system, were projects with the fifty percent Indigenous, Conklin Métis partnering with Canadian Solar.
>
> Non-Profit, Research, & Public Education #1

Federal corporate procurement with Indigenous participation

In the absence of provincial direction on community generation and energy transition following the election of the United Conservative Party, there is a significant role for the federal government to show leadership through targeted, future-thinking programs. In April 2020, the federal government and Public Services and Procurement Canada (PSPC) sent out a Request for Information (RFI) regarding the procurement of wind and solar electricity from Alberta for use in all federal buildings through 20-year power purchase contracts (Olexiuk et al., 2020). In January 2021, PSPC announced the launch to the procurement process (Olexiuk et al., 2021). According to the PSPC news release, "each Request for Proposal incorporates mandatory requirements for Indigenous participation through equity holdings or set-asides under the Procurement Strategy for Aboriginal Business" (Public Services and Procurement Canada, 2021).

Private Offtake and Community Generation

In the wake of the cancellation of NDP programs, private offtake represents an opportunity where "in the absence of government programming on this, it's kind of the only player in town is to try and go after these private contracts potentially" (Non-Profit, Research, & Public Education #1). The REP approach set a precedent for private investment into utility scale projects, but this model has not been proven on the community scale, opening the door to the possibility of commercial offtake of electricity from community generation. After the dissolution of REP and other provincial programs, there is the potential for private industry to invest in projects with a higher degree of community buy in.

> And I think there's still an outstanding question of, do the companies that want to buy those contracts, do they have any interest in not only the environmental attributes of projects, so getting the RECs or getting the emissions offsets that they want, but do they also have an interest in the social attributes? Do they also potentially care that these projects will have more local support and social licence? Because of local investment and ownership?

What motivations and opportunities are associated with Indigenous renewable energy development?

With this level of nuance in project type and ownership model, each present different opportunities and obstacles for Indigenous communities. The following section will explore some of the opportunities that are motivating Indigenous communities to pursue renewable energy development, and what benefits communities are experiencing as a result of these energy transitions, including environmental motivations and alignment with values; economic development; participation in the new energy economy and economic reconciliation; and capacity building.

Lived experience of environmental harms & Alignment with values

The environmental impacts associated with conventional fossil fuels and resource extraction are numerous, ranging from the transformation of natural landscapes to the local effects from the transport and use of diesel fuel in remote communities. The need to address environmental concerns was a shared motivation by participants, and individuals with direct lived experience in the region of the Alberta oil sands articulated how the damaging environmental and social impacts of the oil and gas industry are a reality of the day-to-day realities of their lives and communities.

> I live it. Like I see it myself first hand. And, so I've seen drastic changes on the land, for twenty years. It was about twenty years ago when there was a boom, that would have been in about 2001. And at that time, things were relatively quieter. You know, people were employed the same. But then there was these oil booms, and it just created all kinds of issues. Like an influx of foreign people coming to the communities. Roads being blocked off. Land being cleared. Water being impacted. Air traffic increasing. Highway traffic increasing. Social issues increasing. So, yes people had jobs, but the consequences outweighed the benefits of what was happening
>
> Indigenous-led Environmental Advocacy

> I see the decline of the [Peace Athabasca] Delta. And I see that the decline of Wood Buffalo National Park and our water levels…. And, how can we do better as a Nation, but how can we do better as a society in our region of the oil sands?
>
> First Nation Councillor #2

Communities with lived experience of these devastating impacts have been actively opposing conventional energy development in spaces of government decision making and beyond. In Alberta, these efforts to defend lands and waters can confine many individuals and communities to narratives of protest, and that the legitimacy of their concerns and knowledge of their environments is questioned. Proposing the possibilities of renewable energy development empowers communities with tangible solutions.

> And we were seeing the devastating environmental impacts that were happening, and we were going to these rallies, and to these meetings, and we were just being labelled as, these angry protestors who are against everything. And I said I can't go into any more rooms like that anymore unless we're providing people with solutions. So we're saying, why we need to get off oil, or why the tar sands are bad, but what solutions are we giving them. So there was this kind of movement already growing with a lot of people of, we need to look at what is the alternative to this. And that's when solar was seen as an option.
>
> Indigenous-led Environmental Advocacy

While renewable energy is not a silver bullet solution to the climate crisis and to the growing demand for energy, for many "it gives people hope that there's ways to meet our energy needs and wants, where we don't have to go destroy entire landscapes and ecosystems that will never recover" (Indigenous-led Environmental Advocacy). Witnessing the cumulative impacts of conventional energy development and growing concern around the climate future has created growing uncertainty. Renewable energy is a viable opportunity that may allow many communities to channel their concern and take a concrete step towards mitigating anxieties around both local environmental impacts and changes in climate.

> there's a lot of knowledge and education on climate change, but that a lot of these projects are also leading, are the kind of connection from education and, worry and anxiety

> around climate change and changes to land, and the connection into action. Like actually seeing a tangible articulation of a different vision.
>
> Grant Organization #2

With this concern for the impacts of climate change and resource extraction on the broader environment comes a desire to take steps to protect the local environment. Each Indigenous community who pursues a renewable energy project holds their own connections to their local landscape. Choosing renewable energy is an act of care for that local environment, and pursuing these projects is in line with the distinct values and connection to place held by each Indigenous community. Participants identified that renewable energies are in line with the teachings and understandings that inform their worldview. For this participant, that worldview informs every decision this community makes, including their approach to taking care of their local environment.

> And when we are having this ongoing relationship with this world, our world, now we're using technology also to relate back. You know, for us we're using these solar farms, now we're generating revenue from it. So the world now, the concepts are similar, but we are applying business techniques to our relationship with the world. It's sort of a, when we do business, how does it relate to our culture? How does it relate to who we are? And, that's with any business, it doesn't need to be renewables. But it's, everything that we do, would relate back to who we are as people. Our culture, our language. We try to, we keep those teachings and apply them to our business. And to whatever we do. And including renewable energy.
>
> First Nation Councillor #1

Energy transition is aligned with the values that have guided how communities have always lived on their lands and territories. These values and understandings of their local environment make Indigenous communities the natural and rightful leaders in transitioning the energy use in their own communities to renewable sources.

> we are the stewards of the lands. We're the first people of these lands, that rightfully, we should be directing, and we are still directing how we treat our Mother. And, as we transition, it's weird to say transition as, we're stepping back into the past and trying to live the way that they used to, and not taking more than we need.
>
> First Nation Councillor #2

Community economic development & Participation in the new energy economy

Participants identified that many Indigenous communities are motivated to pursue renewable energy projects and be involved in energy transitions for the promise of community economic development. This can encompass revenue, savings on energy costs, and the opportunity to invest into community development. Smaller scale renewable projects within a community that offset electricity from other sources can mean significant savings on the community's own energy costs, and these savings can be reinvested into community programs, services, and infrastructure. The opportunity to invest in education and curriculum development, youth programs, Elder care, and community infrastructure illustrate the direct link between community and economic development. The savings can also be invested in additional economic development projects, including future renewable energy projects or clean energy initiatives.

> it literally cut the energy bill by 60% I think? In one year. So, imagine that, across an entire community. That pays an arm and a leg for energy consumption that really is basically money just going out of the community. Imagine that money coming right back into the community.
>
> Métis Governance Body #1

While the transition represents a shift in energy generation, it also involves a transition from an economy oriented around fossil fuel extraction towards a climate-oriented economy, and with this comes the promise for Indigenous communities to be the beneficiaries of these new economic opportunities. Participants are motivated by this opportunity, with one individual describing how bringing solar into their community was out of a desire to "do something better that was geared towards a climate friendly economy" (First Nation Councillor #2). Indigenous communities have not always been the recipients of the resource wealth created by the energy sector in this province. Energy transitions have the potential to create avenues for tangible acts of reconciliation between Indigenous peoples and the energy sector. A leading role as beneficiaries of the new economy and new opportunities for community economic development that are not

tied to the oil and gas sector can be an avenue for reconciliation with that system. The language of economic reconciliation has been used to encompass efforts to reconcile with the energy economy and to create concrete economic opportunities. But at the core of economic reconciliation or "reconcili-action" as this participant calls it, is action. Political will is needed to actively operationalize economic reconciliation through targeted policies and investments.

> But the new government and the political realm it is now is about economic development, and economic reconciliation. Which I call reconcili-action, because I think it's just a silly word, because it's just words, and if you want to make an impact, you got to do action, right.
>
> First Nation Councillor #2

Capacity building

Opportunities for capacity building and knowledge transfer can occur in all phases of the renewable energy development process, in the planning stage, when community leaders and champions are entering the renewable energy sector for the first time and seeking opportunities for learning and networking; in the development phase through relationships with project developers and partners; and as a project outcome, where knowledge mobilization beyond one project in one community is built into the design of the project. For many communities, the renewable energy sector is still relatively unexplored, and lack of visibility or awareness around the opportunities has been an obstacle for some communities to develop their own project. Participants identified that entering the renewable energy sector presented them with a steep learning curve. The complexities of the renewable energy development process and the electricity system in Alberta requires an understanding of technical and regulatory pieces and the capacity to engage with fields like finance, environmental assessment, and engineering. Many participants were involved in bringing the first renewable energy pilot project to a community. But while participants may feel they lack the initial know-how for project development, the

successful completion of a project is a valuable learning experience that builds individual knowledge and contributes to overall community capacity.

> And, we were learning about solar, as well, right. So it's not something I was familiar with at all. So just learning about the system and now I'm, I feel like I'm definitely more knowledgeable.
>
> First Nation Councillor #2

Within one community, an initial pilot project can ease any unfamiliarity about renewable energy in the community and be a catalyst for developing a large-scale project in the future.

> So, it also introduced solar to them, and the potential, and the possibilities..… so now, they're building a solar farm up there. And I'd like to think that the pilot project definitely was a contributing factor to that, because it was, a bigger introduction but not a huge one, of the potential, and having actual solar panels in the community.
>
> Indigenous-led Environmental Advocacy

Peer to peer learning and knowledge sharing

During project development, capacity is built within a community and in turn can be shared across communities. Sharing the skills and capacities from one project between communities can create momentum for other communities to follow suit. Capacity is built and shared in informal and more formalized sites of knowledge exchange through both peer-to-peer learning and relationships with non-Indigenous mentors. Peer communities who have successfully executed a project and the individuals who championed them become an invaluable resource for other Indigenous communities looking to build their capacity in the renewable energy sector or develop their own projects. One participant gives an example of this communication, sharing that "when [anonymized] was doing her project, she called me about just, what worked, what didn't" (Indigenous-led Environmental Advocacy). Participants describe the feeling of trust that comes with learning from a peer community or a project champion who has been through project development. But there is also a role for non-Indigenous mentorship. Participants shared cases where the non-Indigenous advisors and consultants they encountered along the way became

personal mentors in their renewable energy journeys. These networks and relationships created over the course of a project are impactful in addressing knowledge gaps and building individual and community capacities. Among participants, more formalized sites of knowledge sharing such as the Indigenous Clean Energy 20/20 Catalysts Program and the Indigenous Electricity Technical Working Group, were celebrated for fostering Indigenous and non-Indigenous mentorship and strengthening the capacity of communities and champions to enter the renewable energy sector.

Indigenous Clean Energy 20/20 Catalysts Program

The social enterprise Indigenous Clean Energy (ICE) runs the 20/20 Catalysts Program, an annual gathering that brings mentors and community leaders together to connect and learn from one another (Indigenous Clean Energy, n.d.-a). Through this program, a cohort of Catalysts gain firsthand experience visiting other communities and learning about their community-led clean energy initiatives. Seeing these successful projects elsewhere can be a catalyst for other communities to make the decision to pursue renewables, and for this participant, there was a direct relationship between those firsthand experiences and the success of the projects in their own community.

> I got to see First Nations that have done large scale solar, large scale wind, and large scale hydro. And we also got to hear their stories in their communities, of the good, the bad, and the ugly. It was a success, what they had, in their communities. They were really proud of what was going on in the renewable area side of things…. It really helped me be more knowledgeable in our own project that I was working on.
>
> First Nation Councillor #1

The Indigenous Electricity Technical Working Group (IETWG)

The Indigenous Electricity Technical Working Group (IETWG) was an initiative of the previous NDP government and represented a unique model of communication and relationship building between First Nations and Métis leaders, provincial and federal government representatives, the Alberta Electric System Operator (AESO), and technical professionals. The

goal of the group was to learn about the complexities of Alberta's electricity market and to foster Indigenous capacity in the renewable energy sector. Many Indigenous community leaders who were a part of this group were successful in developing their own projects and remain key players in the field of Indigenous clean energy in Alberta. This was also a space of mutual capacity building and knowledge transfer, where Indigenous representatives shared their experiences and concerns with an audience of government and energy players. For this former member of the IETWG, coming together to build new relationships between these energy players and Indigenous representatives was a step towards reconciling those relationships, and part of the larger journey of reconciliation.

> Let's utilize this new growing industry as part of, reconciliation as part of, future building and let's try to, build capital from one another, let's learn from, your experiences, your concerns, areas that you're not comfortable with…. So it was a good space of sharing where everyone really learned from one another and the government conceded, Yeah, we learned lots from those conversations. In addition, the technicians from the respective Indigenous communities learned lots too.
>
> Energy Advisor

Knowledge mobilization built into project design

In some cases, capacity building and knowledge sharing is built into the design of the project. In the case of the Métis Crossing solar project, a partnership between the Town of Smoky Lake, Smoky Lake County, and the Métis Nation of Alberta, knowledge transfer was explicitly outlined in their application for project funding. Detailing their plans to share the knowledge of this experience with other communities, through site tours, educational materials, and website updates is ultimately part of what made this project a successful grant recipient. This unique partnership has the potential to demonstrate the possibilities of community generation in Alberta to other interested communities. For the project funder, it was important to not only fund this solar project, but to lower barriers around community generation and make knowledge around this relatively new sector more accessible for future projects.

> we really wanted to make sure that with the funding that we were putting in, that we wouldn't just be funding the completion of these individual projects, but that we'd be funding, the development of knowledge transfer activities that these projects would develop to be able to share through us and others to, lower barriers for others who might want to do projects of similar types.
>
> Grant Organization #1

What does ownership mean for Indigenous communities and how does ownership support Indigenous involvement and control in the renewable energy sector?

The above section explored the opportunities that Indigenous communities can see as a result of renewable energy projects where communities have varying degrees of involvement, ownership, and control in shaping project design and decision making. Community equity ownership distinguishes community energy from those projects that are privately led and owned by actors outside the community. The following section will focus on the specific meanings of equity ownership – in particular what does ownership look like, what is the significance of equity ownership, and what does ownership mean for the role of communities on projects and in the renewable energy sector overall.

Community engagement & buy-in

Community energy projects build and maintain a sense of ownership and buy-in to the project through a process of open and participatory decision making with community members. Ownership is not synonymous with community support, and if community members have not been brought into the decision making process for a community-owned project it may lack community buy-in. It is critical that community energy initiatives begin with community engagement so that members see their contributions to project design and their hopes for the future of the community reflected there.

> irrespective of ownership, community buy-in and engagement is number one…. But again, the model for how these things are done, does need to be tailored to the specific community and to the problem or the energy system that we're trying to solve. So whether that's a co-op ownership model, an actual corporation, if you're doing a

> community bond issue, there's tons of different models that you can go forward with, but, the intent is community engagement and buy-in.
>
> Grant Organization #2

An ownership stake does not inherently mean member involvement in project design and decision making, or tangible outcomes for the local community. In many energy projects, a community ownership stake has come to mean a tokenistic symbol in place of relationship building and community engagement. An ownership model where a community has an equity stake will not deliver the same benefits to community members without this process of deep community engagement. For this community leader, their renewable energy journey began with "talking to the community and seeing what actually has the most value" (First Nation Councillor #2). This process involved meeting with Nation members, Elders, and leadership and evaluating how the project aligned with the community's overall goals, and how it would deliver collective benefits for the community as a whole. For this community leader, these conversations with Nation members were also an opportunity to build energy literacy and a deeper understanding of energy use in the community.

Revenue Generation & Self Reliance

There are many different models of community ownership, and typically financial investment into a project secures an equity ownership stake for a community, either as the sole owner or together with other equity partners. Perhaps the most tangible opportunities associated with equity ownership in a project is revenue generation and community economic development. While small-scale community renewable energy initiatives can contribute to offsetting electricity costs and create space to reinvest savings into other areas of the community, Indigenous equity investment on a large scale project can be a significant generator of new revenue for the community. Provided that a long-term contract is in place to sell the electricity generated for a

set price, ownership means a secure and guaranteed source of revenue that will be in place for the long term, often over the lifespan of a multi-year agreement.

> equity ownership is how there's going to be some major gains, and they'll be able to utilize that ownership in a project because these projects are pretty sustainable revenues. There's not a lot of up and down of the revenues. If they have a good power purchase agreement or an off take agreement, they know what price they're gonna be selling the power for. And solar, or wind, only really varies plus minus 10% in a year, typically, so they're pretty consistent returns. So having equity is great.
>
> Energy Advisor

For some Indigenous communities in Alberta, much of their revenue may come from extractive industries developing in Indigenous territories. Every community has a unique relationship with the extractive industries in this province, and the energy industry has allowed some communities to accrue significant economic benefits as well as make necessary investments into fostering language and culture. But at the same time, the relationship to the energy sector in Alberta is contentious for many communities, who may be pressured to enter into agreements with extractive industries "because that was the option provided" (Indigenous-led Environmental Advocacy". For communities in Alberta, ownership of a renewable energy project can generate a diversified revenue source for Indigenous equity partners that is comparable to "what you would get from an oil and gas project, except what was more exciting about it was they were owners of these projects" (Indigenous-led Environmental Advocacy).

A secure and reliable energy source also contributes to community self-reliance, both in their energy use and from a financial standpoint. Revenue and cost savings associated with community-owned projects can bring self-reliance from external sources of funding and free up funds to reinvest into community programs and initiatives. Renewable energy projects can move communities one step closer to independence from current energy supplies coming from coal and natural gas and towards self-reliance on own source energy. This participant describes that in

addition to independence from incumbent utilities and energy providers, a community-owned project has larger implications for self-reliance from financial support provided by colonial institutions. Independence from these bodies paves the way for community sovereignty, a level of control and authority over energy related decision making for the future.

> Ownership meant independence in the future. And it gave us a track forward towards energy sovereignty in the community and moving away from the utility and municipality in the future. And that's my true vision is to be, you know, self sufficient away from the Queen, and away from provincial and municipal bodies.
>
> First Nation Councillor #2

Ownership over the decision-making process

Community ownership takes on added meaning of ownership over the decision-making process. Financial equity ownership is a mechanism that secures community control over project decisions and positions communities on an equal footing to negotiate with other equity partners. This establishes a role for communities in all decisions related to the project, including offtake and revenue generation, funding mechanisms, partnerships, job creation, project location, and how the project is communicated to the community.

> Ownership puts you at a seat at the table. And ownership gives you decisions. And that's the most important reason for ownership. If you cannot be part of the decision, who to buy, who to get hired, how to get financed, where it will be done, you lack power. So ownership is material from that standpoint.
>
> Non-Profit, Research, & Public Education #4

Rewriting harmful legacies of energy development

Community ownership can offer a new way forward in light of energy development carried out with disregard for the free and informed consent of Indigenous communities prior to development on their lands. This participant describes how the establishment of Alberta's electricity system carries a harmful legacy, as communities received few to none of the economic benefits of the initial development of electricity infrastructure on their lands. Community

ownership represents an opportunity for Indigenous communities to lead a new approach to doing energy development.

> if you see big power lines going through the reserve. TransAlta or ATCO or AltaLink. Those permits were probably in place in the 20s. And you never had to, all you had to do was go to Indian Affairs. Some company could just go to Indian Affairs and ask, apply for a permit. And cut through the reserve. So, we used a permit. To build our project that is 100% owned by the Nation. So it's like, we are the utility, just like you guys do TransAlta, or ATCO pipelines, when you offer these permits, these energy permits that go through our reserve. We're doing the same thing, except we own the company.
>
> First Nation Councillor #1

In light of this legacy, Indigenous ownership is embodying a just transition that is in line Treaty rights, as well as guiding frameworks such as the United Nations Declaration on the Rights of Indigenous Peoples and the commitment to free, prior, and informed consent.

> that's [community ownership is] how it's supposed to be, because it goes back to free, prior and informed consent. So when you're talking about free, prior, and informed consent, which is related to UNDRIP, it talks about acknowledging that First Nations have sovereign rights. And Treaty rights. And that they should be involved in things when, before it's even a thought. Bring the people to the table and involve them so that they can be involved in all kinds of ways. Like the building of the project, creating the project, doing all the groundwork, all of the different aspects of a project, the First Nations would be involved in, and have say, and be helping to build this, project…. that's why we fight so hard for consultation, is to not come with a package already wrapped and say, oh here's your project, and then we've had no say.
>
> Indigenous-led Environmental Advocacy

Community ownership is an opportunity to build capacities and to recognize and amplify a community's own inherent capacities and expertise to manage their resources. Energy development that is not first and foremost community-led has not been guided by the community's need or understanding of place. Knowledge and lived experience of their community makes communities the experts who are best equipped to make decisions about any development that will affect their resources, communities, and territories.

> owning an energy utility is, there's so much opportunities in, ownership rather than, [pause] what's been happening in the past, this sort of like, can we find an expert who can do this for us. You know, we need to be those experts.

First Nation Councillor #1

> We have our own means. We have our own capacity.... And that's why I fought for our Nation, and a community member to be the president of the solar farm. Because why put somebody that is not part of the community, that doesn't live here, at the top of a company or at a lead role when they have no past or they have no future here. So, the ownership always, and the positions always need to go to Indigenous communities.
>
> First Nation Councillor #2

Building new relationships with energy players

Renewable energy developers are new energy actors who are building and rebuilding relationships between Indigenous communities and the energy sector. In one case, this was done by creating opportunities for members to be involved in how a community-owned solar project was communicated within the community. Sundancer is a 1 MW solar project owned by the Neyaskweyahk Group of Companies, the corporate arm of Ermineskin Cree Nation, and developed by SkyFire Energy. During the solar installation, Ermineskin Cree Nation and SkyFire Energy worked with the organization Reel Youth to coordinate a Youth Elders Film Program. Through the program, students and Elders created five short films that explored histories of the community, perspectives on energy and the environment, and the new solar project. The example of the Youth Elders Film Program illustrates one way that the project developer was able to extend the benefits of their involvement with the community beyond the solar project itself and create a lasting and tangible community outcome as a result of their time in the community. Through this engagement with Elders and youth, the solar project has received widespread community support (SkyFire Energy, n.d.)

> And what the proposal was that they wanted to work with the youth, to work with Elders, and talk about, growing up here and, even our project. So I think it was a really great approach for trying to get buy in. And it's, I've never heard anything bad about it. I've never heard anything bad about solar or any other projects that we were working on. They, we love it.
>
> First Nation Councillor #1

This initiative also illustrates the significance of this dual meaning of ownership as buy in. The project is owned by the Nation's economic development arm, but all members who were involved in the project may now feel a sense of pride in the steps the community is taking to realize their goals. The deep community engagement and the positive associations with the solar project have created a sense of ownership in the project among members who see their contributions reflected there.

> the work we did in engaging with that community, we were really able to build a stake, for those different groups, to really build some ownership over the project with those groups and some pride about what the community was doing
>
> Energy Developer

The energy sector in Canada has a role to play in efforts towards reconciliation, and these new relationships with project partners and developers are particularly aligned with the Truth and Reconciliation Commission of Canada's 92nd Call to Action on the corporate sector. Renewable energy players like solar installers are bridging the gap between Indigenous communities and the energy sector and working to rebuild relationships and mistrust in the energy industry. These partnerships are in turn building new relationships with young people, which is especially important to reshaping the narratives of the energy sector. For some developers, the Calls to Action are a guiding framework for how they conduct their business, including evaluating their internal operations and setting expectations with their staff around how to work with Indigenous communities. But they are also a starting point for developers to critically reflect and evaluate what they can do beyond the minimum requirements outlined by the TRC to leave lasting benefits in the communities they work with.

> as far as fulfilling on the 92nd Call to Action. We've really used that as the guiding light of how we operate. But we've also questioned is that, there's been questions around well, should we be doing more than the 92nd Call to Action?
>
> Energy Developer

What obstacles are presenting barriers to Indigenous renewable energy development?

As much as community energy projects are a product of community leadership and vision, in many ways the success of these projects is contingent on external factors that can create obstacles to development. Projects are often impeded by obstacles related to financing, navigating partnerships, and the external policy environment. Obstacles include the risks of community ownership and negotiating with equity partners; distinct challenges related to the nature and availability of grants; and policy uncertainty and a lack of long-term support frameworks.

Risks of Community Ownership

High Initial Investment

Every Indigenous community is different in their relationships with the energy sector and their requirements for project ownership. Participants point out that for some communities, majority ownership may not be the right fit, as investing in a project and having a sole or majority equity ownership stake involves certain risks and responsibilities. Renewable energy projects are predominantly a high upfront cost, with low ongoing operations and maintenance costs relative to the initial investment. Significant investments are made from the lengthy pre-feasibility and feasibility stages to the point when construction begins. In the early stages of investing, projects reach a point where either the project is deemed feasible and the investment has been worthwhile, or where the investments do not materialize in a successful project. This point is the origin of the majority of the risk for communities who have already made significant investments to assess if a project will be feasible, without the certainty of that it will get built or generate significant revenue. Given the risks and responsibilities associated with a majority ownership stake, communities need to determine what ownership mechanism is right for them

and carry out good due diligence to evaluate the merits of the project opportunity as well as their capacity to take on development, ownership, or management of a large infrastructure project.

> these communities, whether they're Indigenous or non-Indigenous, they're not businesses. And so, project development inherently is fairly risky. When you originate a big project or a decent sized project, you have to spend, hundreds of thousands or millions of dollars depending on the scale to develop it to get it, the environmental studies, the geotechnical studies, the designs, the stakeholder engagement, the resource studies, doing the financial analysis, all of that costs a lot of money. So, if that project then doesn't get financed and built, all that money is gone. And so that's pretty high risk for an Indigenous community to take on.
>
> Energy Advisor

Navigating relationships between partners

To some extent, a shared ownership model with equity partners can alleviate some of this risk while still providing benefits and opportunities to communities. A shared ownership model enables communities to enter the renewable sector in a low risk setting and with a degree of confidence that they will not be solely responsible if a project fails. But not all partnerships are created equal, and in the experience of this participant, communities must do their thorough "due diligence on partners" they enter into deals with to assess the merits of that deal and its effectiveness in providing community benefits. In evaluating their partnerships, communities hold partners accountable for delivering on what has been agreed to. This participant outlines the expectation that equity partners take initiative in securing financing or taking on the upfront financial risk, creating long term community employment opportunities, and liaising with stakeholders like utilities and governments.

> finding the right partnerships, that actually make sense with a proven track record of working in communities, of having good relationships, that have good pieces of equity for the community, that have true employment long term, not just construction jobs, are some of the key arrangements that are required for a project before even starting them. Also, anybody can do a project feasibility study, and I mean, anybody with an engineering degree who can put together, a 200 page document and understand the process. However, what people can't do necessarily, is turn that into tangible action, because that involves, working with the regulators, working with utilities, working with

> government, fundraising money. And you have to understand that your partner can actually do those things for you.
>
> Non-Profit, Research, & Public Education #5

Regardless of whether a project is community-led and seeking outside support or initiated by a developer and seeking the buy-in of a community to build a project on their territory, the starting point is recognizing that it is a partnership first and foremost. A partner must be willing to respect the community's non-negotiables or "no go's" for development, and work within the boundaries that the community has established for the project that will not be crossed. A relational approach grounded in mutual respect is the foundation for ensuring lasting benefits in the community and maintaining a long term working relationship.

> emphasizing that partnership and that respect. I've heard a lot of my colleagues talk about no go's for projects, and is the partner willing to respect the community enough to say, okay, if this is a no go, if we don't want this on our traditional land or where it's going to come in the way of medicines, or different migratory patterns of animals, then it's a no. And we're okay with then not building the project maybe at all.
>
> Non-Profit, Research, & Public Education #6

Grant Funding

Outside of own source funding and loans, communities can seek grant funding for projects from governments, foundations or philanthropy, and private industry. Grants from provincial or federal governments very often make up at least part or all of the project funding. But accessing grants can often present unique challenges, including the application process and the one-time nature of grants. Grant applications may require that communities have the staffing capacity to both find and apply for these grants. Grants as a funding mechanism may also be short sighted in their scope. They are an initial offering to fund project development, but any ongoing funding, for project operations and maintenance for example, can be reduced or lacking entirely. This lack of long-term funding for necessary maintenance has implications for the lifespan of the project and can leave communities responsible for finding additional funds. This

approach to funding also fails to account for investments adjacent to the project itself, such as the necessary rooftop infrastructure to support solar. This lack of holistic consideration for the necessary investments in all phases of the project can be a detriment to the project and means that available funds may not actually be used in the community.

> you got grants for the solar project, but then only later you realize that you first have to fix the roofs that went under the solar and then they didn't have grants for roofs. So the funding and all the resources they applied for the solar installation was lost because they couldn't really fix the roofs. So it was a very frustrating process. So their feedback was if there was some sort of roadmap to help you pursue these renewable projects in a more holistic way. So that they knew where to allocate their limited resources for applying for grants, would be very helpful.
>
> Municipal Administration #3

Grants offer a critical infusion of capital that often enable projects to get off the ground, but as a funding mechanism they are oriented towards a one-time use, often for a first of its kind pilot project in a community. What is next after a grant funded pilot project for a community looking to scale up? Participants describe the need for strategies that enable communities to scale up from a single pilot project and continue growing their involvement in the renewable energy sector in ways that deliver on key community priorities. Sustained project financing mechanisms can ensure community control over energy decision making and foster community ownership and involvement in new, decentralized energy systems.

> the grants themselves were, as a funding mechanism were a great kind of catalyst, and a spark. But, all of these projects and communities are now looking to scale, and if that's the spark, what's the long term fuel? For this kind of employment, for these kinds of projects. Because they can't just simply be grants year after year.
>
> Grant Organization #2

Policy-level obstacles

Policy uncertainty & Lack of long-term support frameworks

Layered on top of financial barriers is the lack of support on a provincial level and the policy uncertainty created by the new government's cancellation of many favourable programs. For the first time in Alberta, the former provincial NDP generated momentum for energy

transition and climate action along with targeted policies for community generation. Following the 2019 provincial election of Jason Kenney and the United Conservative Party, and subsequent replacement of the New Democratic Party and former Premier Rachel Notley, the momentum that was created out of the NDP's programs slowed dramatically. This new regulatory environment and the policy uncertainty created by the cancellation of the Alberta Climate Leadership Plan has presented perhaps the largest obstacle for community generation and Indigenous ownership.

> So there's huge policy uncertainty after the provincial government changed out, and then there's big policy uncertainty before the federal election…. So all of a sudden, there was massive uncertainty. So, that puts a huge obstacle that delays any of those Indigenous projects.
>
> Energy Advisor

Community energy relies on the supportive policy environment created by the combination of community generation regulations, programs that fund community energy projects, and strong voices of support within political spheres. This environment is tied to election cycles and lacks any real stability or certainty. The urgency of energy transition and the need to invest in renewable energy can be politically polarizing and heavily debated within governments. With a change in provincial or federal government, the programs, funding opportunities, and the larger mandate around renewable energy and energy transition also changes. For communities seeking this external support, "it's a consistent challenge to have to respond to a dynamic environment" (Non-Profit, Research, & Public Education #3). The cancellation of a program like the Alberta Climate Leadership Plan is evidence that a shared vision and commitment to transition the energy sector and to addressing the climate crisis is lacking in this province.

> it's important to recognize the urgency so that we actually have a continued vision, because that's what's missing between governments right now. Let's say the NDP gets back into power in three years or whenever it is, right. After the next election. Everything will change again. Well you can't have community generation be successful if

> regulations go up and down like that, right. So you need stability, and in order to get stability, independent of which party we vote for, we need to come to terms with the fact that we have to reduce our sixty five tonnes per person in order for Canada to reach it's Paris commitment.
>
> Non-Profit, Research, & Public Education #2

While there is no shortage of community energy champions in Alberta, under the current provincial government there is little support for the energy transition let alone targeted support for community generation, and this lack of political will has been detrimental. The urgency of climate action requires it to be a non-partisan issue, with programs designed to meet these challenges that are not associated with a particular Party or ideology. Rather, there is an opportunity for climate commitments to be part of long-term support frameworks in the form of base programming and targets for renewable energy generation, with the funding to back them up, to keep these policies in place for the long term and ease the risk for community generators.

> government programs can't come and go, they need to be long term and durational. So, there's that understanding of base programming. I think one of the hardest things is for programs to come and go, and for Indigenous communities to always have to rearrange it around, what's the current lay of the land in terms of programs.
>
> Non-Profit, Research, & Public Education #3

> But to the extent that it would become sort of a non-partisan issue, so it's governments setting things up in way that it's not necessarily, that it lives kind of beyond their individual mandates… that it's not necessarily an orange or a red or a blue stripe on a particular policy, but it's this is kind of the right thing to do and will, hopefully lives on sort of beyond the, past a couple elections. I think, it's the starts and the stops that ends up hurting a lot of these little long term projects.
>
> Academia #2

This kind of stability and supportive environment has implications for the continued success and growth of the renewable energy sector beyond pilot projects. Pilot projects are an initial entry into the renewable energy sector, but the next step is often for communities to grow their involvement in the renewable energy sector and scale the size of their next project to begin to generate significant benefits for the community. It is difficult for communities to know what the

opportunities are and to take on the risk of investment if the policy environment is uncertain. With long term certainty and a shared vision for transition, communities are able to move away from "pilot project syndrome" of one off projects and towards transformative change of our energy generation and distribution.

> you want to get past sort of what I like to call sort of pilot project syndrome, where you end up with a one off project that looks great, and then you never sort of see the follow up to it. So it's kind of that long term strategy that I think is, needs to be in place
>
> Academia #2

Inclusion in policy design & Decolonizing energy policy

Coupled with the above policy change is the need to include Indigenous communities in shaping energy policy early on in policy creation. This participant feels that Indigenous communities are "underestimated in our knowledge", and it is evident when a program has been created without Indigenous inclusion in decision making. She gave an example of Elders navigating an online application for energy efficiency retrofits only to have a technician who they do not know show up at their door, demonstrating how program design can be inaccessible and not relational in nature. Communities are the experts on how programs will be realized in their local contexts, from how members might apply for initiatives to how technicians approach communities.

> And, it was obvious that it was no Indigenous involvement in the creation of this program. So when they came to us, already with the program created, to say, well this is the program, this is how you can access it, it didn't fit into the communities. So, what we said was we should have been involved. And we need to be at the table when you guys are creating these projects so we can work together to help you understand how our communities work.
>
> Indigenous-led Environmental Advocacy

The policies and programs that guide community energy and all energy development are the domain of settler colonial governments and of utilities founded upon the extraction and exploitation of Indigenous territories. Indigenous communities may be brought into energy

decision making, but ultimate authority still lies largely with the settler colonial state. Beyond simply inclusion in these processes of energy decision making and policy design, this participant calls for a more transformative change. There is a need to decolonize energy policy – to decentralize energy decision making from exclusively the domain of governments and to recognize Indigenous authority and ownership of decision making around resources and territories that were never surrendered.

> in the purest form, energy policy needs to be decolonized. Right now, governments and utilities and regulations that govern energy generation and distribution, are fundamentally set by colonial governments…. So it's kind of re-prioritizing and decolonizing where we are right now. To give true decision making and ownership of how energy is utilized and used as a commodity on Indigenous peoples' lands.
>
> Non-Profit, Research, & Public Education #3

Participants describe the significance of policy direction on Indigenous rights at the federal in supporting Indigenous-led energy transition. The federal government has a responsibility to show strong direction on Indigenous rights through making significant strides in advancing both the 94 Calls to Action outlined by the Truth and Reconciliation Commission of Canada and the United Nations Declaration on the Rights of Indigenous Peoples.

> just government direction around policy, of prioritizing Indigenous communities, setting targets, supporting those targets to be established, and then just policies that recognize the legal and inherent rights of Indigenous communities all the way from UNDRIP to TRC. So, policies that reflect respecting Indigenous rights and self-determination and aspects like that.
>
> Non-Profit, Research, & Public Education #3

These steps are a starting point, but what may be required is a generational change, and as this participant puts it, "the next generation of leaders need to have a better relationship with Indigenous peoples" (First Nation Councillor #1). The seeds of this generational change have been sown and are flourishing through the efforts of community leaders who are dismantling

systems based on broken promises and mistrust and repairing relationships to create a strong foundation for transformative changes.

Scaling Up from Community Generation

At many scales and in many jurisdictions, transitions are already well underway. At the same time, the scale of change necessary is not well understood. The current energy system is so deeply entrenched that the level of change required to meet provincial and territorial, national, and international targets for climate action and renewable energy generation will be transformative. Community generation is a starting point rather than the finish line of energy transitions. We will need to employ all approaches, not just one, given the level of transformative change ahead. The transition will require clear policy direction and a systemic reorientation of our priorities along with projects at a micro and utility scale. It will require "not settling for pilot projects and grants" but rather new financing mechanisms and policies that lower the barriers for community energy and lead to transformative changes for communities (Grant Organization #2). It will mean renewable energy projects, but it will also encompass energy efficiency, housing, and sustainable heating; smart grids and upgrades to grid infrastructure; and advancements in energy storage. It will require us to rethink how our energy system is designed and which places and actors are at the centre of energy production, generation, and consumption. Transitions at the community level can accumulate and generate significant momentum but may not be enough to give communities sovereignty over energy decision making unless accompanied by systemic changes.

> the scale of change that needs to happen is, above and beyond that. And so you need to have more than individual or community action. There's going to be some large scale development, large scale change, large scale policies, frankly, large scale projects…. So not to dismiss the community side of things, but I think sometimes there's...an over expectation in terms of what sort of small scale projects can deliver, compared to, the need for the overarching and larger scale changes that need to happen.

Academia #2

> we need to be looking at models and mechanisms that are A, that are going to fundamentally shift the way that we imagine our energy systems. The way that we imagine where energy is being produced. Who, how, where it's travelling to and where it's being consumed. And I think, the scale of change that we really need is so massive that it's, we need community ownership but we also need to scale community ownership. We need to find financing mechanisms that are going to unlock the ability for communities to have energy sovereignty
>
> Grant Organization #2

Each of these new approaches must follow the principles of justice and equity. Unless the transition is socially and ecologically just, follows pillars of distributional, recognitional, and procedural equity, and recognizes the legacy of energy colonialism, it will be at risk of perpetuating the structures of the very system it seeks to replace. Transition on such a transformative scale must not be limited to energy types, but a transition who the energy system serves, and who has ultimate authority over energy policy and decision making. Community energy can inform how a just transition will unfold and who it will serve. Community energy offers an alternative way of thinking about our energy system that aligns with a just transition, through a commitment to participatory decision making, trust, reflecting local values, and delivering local benefits. The value of community generation is largely in this reimagining of energy systems oriented around benefits to a select few in positions of power and influence, and in positioning communities as not only consumers, but as energy generators, decision makers, and ultimately beneficiaries. While the scale of change needed is great, large scale projects are non-synonymous with harmful or extractive modes of development. Community-led projects are modelling how transitions can take place in keeping with justice and equity, and Indigenous communities are demonstrating their innovation and their capacity to be involved in major development projects as true project partners.

Discussion & Conclusions

Tangible alternatives to resource extraction

Alberta is a unique context in which many Indigenous communities have relationships with the oil and gas sector. Indigenous communities have not always been the beneficiaries of the energy economy in this province, and community-led energy transitions are positioning First Nations and Métis communities in Alberta as active participants in the province's renewable energy economy. Equity ownership in a renewable energy project can be a significant generator of new revenue and lead to transformative investments in community development, for which many Indigenous communities have historically relied on oil and gas revenues. In Alberta, many Indigenous communities have generational lived experience of the impacts of resource extraction on their lands and territories. Communities who have been actively opposing resource extraction and defending their lands and their inherent rights may feel that their concerns are not being heard. Through witnessing and monitoring changes on the land and seeing the impacts in their communities and on their members, communities also have knowledge of the realities of climate change. Many communities may feel anxiety or fear around the uncertainty of our climate future. Community-led energy transitions and renewable energy development are translating the knowledge from firsthand lived experience and feelings of fear and frustration, into action. Renewables are shifting conversations from how communities are impacted and what they oppose, and equipping communities with viable, solutions-based ideas oriented around an alternative energy future. Developing renewable energy in their communities is a "tangible articulation of a different vision." Renewable energy development can be a source of feelings of opportunity, pride, and hope for an alternative energy future. Community-led renewable energy is redefining energy as something positive, actionable, and beneficial for communities.

Capacity building

As much as project development can be a learning curve, it is also a valuable learning experience for community champions who may be developing the first pilot project in their community. These projects also create momentum, where the familiarity and capacities gained in one project can be the impetus for developing another, larger project in the future. Capacity is built among members in one community, but that capacity is also shared to others within a growing network of other communities, champions, and experts. Peer communities who have successfully executed a project and the individuals who championed them are an invaluable resource for other communities to learn form, and communities are also forming valuable and meaningful relationships with non-Indigenous mentors over the course of project development. The potential of these projects to build and share capacity demonstrates how one project can be a catalyst for the success of other communities and projects.

Significance of community ownership

Community energy or community-owned renewable energy projects are characterized by an open and participatory decision-making process, which ensures the project reflects community priorities, delivers on those priorities, and that community members will buy in and develop a sense of ownership of the project. Regardless of equity ownership, community energy projects must begin with this level of deep community engagement. Ownership is an opportunity to build capacities and to recognize and amplify a community's own inherent expertise to manage their resources, rather than relying on external experts who 'have no future' in or lived experience in their communities and no understanding of their priorities or how they operate. Equity ownership gives communities decision making power and ensures that they can negotiate with project partners. For Indigenous communities, equity ownership is an alternative to the ill-intentioned approaches to energy development that largely informed historical energy

development and continue to be present today. Indigenous ownership is embodying a just transition that aligns with Treaty rights and guiding rights frameworks such as the United Nations Declaration on the Rights of Indigenous Peoples and the commitment to free, prior, and informed consent. Community-led and owned renewable energy projects are creating opportunities for new relationships with the energy sector, through equity partnerships with incumbent utilities. Renewable energy players like solar installers are working to rebuild relationships and mistrust in the energy industry and building new relationships with the next generation.

Considerations for Community-Equity Partner relationships

These findings provide valuable insights into what partnerships must look like, both considerations for communities navigating ownership and establishing relationships with equity partners, and for partners working with communities. The high initial investment to finance a renewable energy project as well as the many steps of pre-feasibility, feasibility, and development mean that equity ownership can be risky venture for communities. In a shared ownership model, equity partners take on the responsibility of shouldering some of that risk. Partners are required to ensure that Indigenous communities have a significant equity stake, as a degree of Indigenous ownership is largely seen as a requirement for the social licence to develop on all land which is Indigenous homeland. In addition to ownership, the role of partners should include having a proven track record of good relationships in their work with communities; fostering long term employment and career development, not just construction jobs; liaising with regulators, utilities, governments and acquiring the necessary approvals; and contributing to project financing. Partnerships must begin with a foundation of mutual respect, and equity partners must be willing to respect the community's non-negotiables or "no go's" for development, and work within the boundaries that the community has established for the project.

In rebuilding relationships with Indigenous communities, the TRC's 92nd Call to Action puts the onus on the corporate sector, and this can be a starting point for how all energy players approach working with Indigenous communities.

In light of the risks and responsibilities of ownership, projects require thorough due diligence. Indigenous communities need to consider if ownership is right for them and assess which ownership mechanism they have the capacity to take on. In shared ownership with equity partners, not all partnerships are created equal and communities need to do their "due diligence on partners." They must assess the merits of the deal; set their expectations with partners in negotiations, their 'no go's; and hold partners accountable for what has been agreed to. Communities and partners must work to establish the importance of each element of their partnership, such as hiring a community liaison, and then build these considerations into project design and budget.

If that's the spark, what's the long-term fuel? - Scaling up community energy for a just energy transformation

Many of the barriers discussed here revolve around how to sustain the momentum to move beyond 'pilot project syndrome' and to see significant and transformative changes in communities, and to respond to the need for complete energy *transformation* – a reimagining of where energy is produced relative to where it is consumed, who has ultimate authority over energy policy and decision making, and who benefits – that will be required to meet climate targets. Project funding in the form of grants is largely short-sighted in scope and one-time in nature, resulting in difficulties for communities to fund ongoing operations and maintenance or to generate the momentum to scale up from a single pilot project. Continual changes in government pose difficulties for communities and investors, particularly in Alberta. The recent provincial election in this province illustrates a lack long term support frameworks to insulate

programs and funding from these election cycles and create stability for communities. There is a need for policies that 'live beyond the mandate' of a single government, but rather are part of a longer term, non-partisan commitment to energy transition and climate action because it is 'the right thing to do.' Layered on top of this policy uncertainty is the fact that policies and funding opportunities that communities may rely on for project development remain the domain of colonial governments. To decolonize energy policy is to decentralize energy decision making from exclusively the domain of governments and to recognize that communities are experts in how policies will be realized in their local contexts, and that they must have a significant role farther upstream in the design of energy policy. Indigenous-led and owned renewable energy projects are demonstrating the possibilities of a just transition that is ecologically just, low carbon, and socially just, in rejecting the system of energy colonialism for energy development that is democratically governed and owned, and in line with Treaty rights and direction outlined in UNDRIP.

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Chapter 5: Discussion

This research contributes to several areas that have been identified for future research. Berka et al. (2020) find that a greater understanding of the benefits of community energy projects would be beneficial for improved adoption of these projects, and that the "promotion of a variety of trail blazer projects with diverse objectives would help to articulate a role and build a positive narrative on the benefits of LCE [local community energy] projects" (Berka et al., 2020, p. 177). This research highlights the role of several 'trail blazer' project in Alberta's energy transition that vary by location, scale, community leadership, ownership model, and involvement of partners. We aim to demonstrate clear benefits and opportunities that other community energy proponents can learn from.

We aim to bridge a gap in research on Indigenous renewable energy in Alberta, which has been limited and typically included in Canada-wide scans of Indigenous renewable energy (Stefanelli et al., 2018; Hoicka & MacArthur, 2018; Walker et al., 2019). Community-based research on Indigenous renewable energy in Alberta is even more limited, and specific cases of Indigenous renewable energy are largely present in unpublished media only (Laboucan-Massimo, 2016).

Motivations for Indigenous renewable energy are not generalizable to all Indigenous communities across Canada, but rather vary on a case-by-case basis (Stefanelli et al., 2018). In order to better understand these motivations, Stefanelli et al. (2018) find that "more inquiry, including community-based studies with and led by Indigenous peoples, is needed to explore the dynamics within Indigenous communities throughout the process of implementing (or choosing not to implement) renewable energy initiatives" (Stefanelli et al., 2018, p. 102). In our community-based research partnership with Enoch Cree Nation, we shed light on the specific

motivations held by this community, and key informants highlight the distinct motivations of many other communities. We find that Indigenous renewable energy in Alberta has experienced significant momentum, and a discussion of key findings across both findings chapters is presented here.

Youth, Future Generations, and Intergenerational Cultural Continuity

Renewable energy as a form of development that aligns with a commitment to future generations, or Seven Generations teachings, is a theme that is present in the literature (Stefanelli et al., Walker et al., 2019). The current research builds on this theme by demonstrating tangible examples of how youth and future generations are considered in the design, decision-making and communication of renewable energy projects in Alberta. In the case of the Three Nations Energy solar project, the decision-making process was about "everybody making a decision for the children and for the grandchildren to come," (First Nation Councillor #2) as three communities came together in a shared commitment to the future generations who will call that region home.

In Enoch Cree Nation, we heard from participants that the priorities outlined by young people in youth-specific engagements were one of the largest motivators behind the Nation's decision to pursue energy transitions. Energy transitions in Enoch Cree Nation also hold educational potential, and they are creating space for conversations between Elders and youth about significant places in the community, as well as teachings like the role of pîsim (the sun) and yôtin (the wind) in the Creation story of how Cree people came to be. This cultural continuity between Elders and youth supports the Nation's ongoing efforts to uphold nehiyaw pimatisiwin, Cree Worldviews or Way of Life, which at its core has included fostering language learning and cultural revitalization within the Nation (Makokis, 2008; Johnson, n.d.). Johnson articulates nehiyaw pimatisiwin as the "the principles and related laws connected to the Cree way of life," and the core of nehiyaw pimatisiwin is maintained through relationships to the land, and

nehiyawewin (Cree language) learning (Johnson, n.d., p. 1). Makokis (2008) similarly articulates the Cree Natural Laws that guide nehiyaw pimatisiwin. This research demonstrates how the outcomes of renewable energy can support education, language learning, and cultural continuity, the cores of nehiyaw pimatisiwin. Corntassel (2012) identifies that this cultural continuity and "the transmission of indigenous culture, spiritual teachings and knowledge of the land between Elders and youth" is a pathway towards the collective efforts of Indigenous regeneration and resurgence (p. 97).

One key informant similarly shared how natural laws guided how the community approached their renewable energy project, and how through renewable energy their community was 'using technology to relate back' to that relationship with the natural world. The Sundancer solar project at Ermineskin Cree Nation demonstrates how through a creative approach to communicating the project to Nation members, the project was a catalyst for supporting relationships between youth and Elders and making connections between energy and culturally significant places and teachings.

Cases in the literature demonstrate how renewable energy development has been guided by and grounded in culturally specific ethical coordinates and worldviews (Bargh, 2012; Schultz, 2017; MacArthur & Matthewman, 2018). Like many authors, we find that these worldviews do not limit Indigenous peoples to the "false binaries" of either Indigenous sovereignty or contemporary economic development, but rather these values can coexist with and strengthen development opportunities (Bargh, 2010; Bargh, 2012; Krupa, 2012a; Lowan-Trudeau, 2017, p. 601). These projects are modelling the ways in which Indigenous communities are innovative, pursuing viable and creative alternatives to the problems of our time, and imagining alternative energy futures.

Bargh (2010) argues that the alignment of Indigenous worldviews and renewable energy does not preclude communities from engaging in non-renewable energy development, which may be understood as "more exploitative and 'less Indigenous'" (Bargh, 2010, p. 18). Bargh (2010) suggests moving beyond the 'negatives' and 'positives' of each energy type, and rather seeing how both can contribute significantly to communities. We find support for this through the involvement of Enoch Cree Nation in the Cascade natural gas power project, a project that is associated with ownership, revenue, and community benefits, and does not negate the community's relationships to their environment and the steps they are taking towards climate action and energy transition. Like Bargh (2010) we find that "Indigenous peoples have their own priorities and are probably best placed to create their own categories for self-reflection" (p. 20). While Enoch Cree Nation's ownership of Cascade may detract momentum from community solar initiatives, it is part of an incremental approach where the Nation is seizing an opportunity that both aligns with community goals and moves them towards lower carbon energy sources.

Community Engagement and Ownership

This research provides support for community energy's characterization of project processes and outcomes as highly intertwined. The benefits of renewable energy are not inherent, and a project that does not follow an open and participatory decision-making process will have difficulty delivering outcomes that reflect community priorities and receiving community support. Also part of the definition of community energy, this research finds Indigenous equity ownership to be highly significant for many reasons. Equity ownership means revenue generation; influence and legitimacy in decision making circles with other parties; and the opportunity for Indigenous communities to reclaim control amidst a harmful legacy of energy development and to build new relationships with energy actors. Community equity ownership is a critical consideration in Indigenous renewable energy projects, a theme that was shared by all

participants. But community ownership is not always synonymous with community involvement in or support of a project (Campney, 2019; Hoicka et al., 2021). Perhaps a more significant indicator of project support is the extent to which community members have had an opportunity to shape the project, and the extent which the project delivers on community-defined needs and reflects community-defined priorities. These considerations build and maintain a sense of ownership over the project for the community members who see their contributions reflected there. Community energy supports opportunities for all members across the community to be involved in decision making, what Jaffar (2015) refers to as horizontal governance. The current research builds on this theme and gives concrete examples of how community involvement in all phases of project design is linked with community buy-in to a project.

In Enoch Cree Nation, direct engagements with the community's young people and the role of the Enoch Youth Council, as well as community energy planning and land use referendums are the mechanisms through which members' perspectives are brought into decision making. Decision making in the community is guided by the four directions as well as considerations for future generations, and deliberately makes space for all community members to participate, and this approach carries over energy decision making.

In the case of the Three Nations Energy project, the project is community-owned, but project decision making meant involving members across three communities. One participant shared insight into their process of deciding if this project was a good fit for their community: "I was just making a sound decision, and consulting with members and with Elders senate, and seeing if it was a good way for us to go" (First Nation Councillor #2) The central role of the Elders senate here is reflective of the "moral authorities," Indigenous governance structures

informed by Indigenous knowledge systems, that Hoicka et al. (2021) find to be lacking in renewable energy ownership and governance (Scott, 2020).

In the case of the Sundancer solar project, while the project is owned by the Nation's economic development arm, the involvement of community members creates a sense that they also have ownership over the project. The Youth Elders Film Program demonstrates a creative approach to how the project was communicated to the community. Engaging with youth and Elders could have posed a challenge as there isn't necessarily "a natural fit for Elders or youth on a solar construction site" (Energy Developer), but this project centres the perspectives of these members of the community, and as a result the project enjoyed widespread community support.

Building and Rebuilding Relationships with Energy Players

We find that through these new interactions with energy players, Indigenous renewable energy has potential to right the wrongs of energy development through rebuilding past relationships and building new relationships with renewable and non-renewable energy players. The case of the Sundancer solar project demonstrates a mutually beneficial relationship between the community and the project developer. This project sheds light on how a project developer, SkyFire Energy, approached this project with a sense of responsibility to the community that stems from the 92nd Call to Action for the corporate sector, which serves as the 'guiding light' to how they work with Indigenous communities. For the project developer, "with respect to reconciliation, it's really critical that we try to engage youth and Elders," and this perspective demonstrates how their approach to reconciliation is about rebuilding relationships and addressing harmful associations from the past, while also building new relationships with the next generation. In turn, this approach and the central role of Elders and youth translated into a high degree of community buy-in, pride, and long-term benefits for Ermineskin Cree Nation.

The case of Three Nations Energy demonstrates a significant role for incumbent utilities to support Indigenous renewable energy development. One limitation of this study, however, is the lack of insight into reciprocal relations between Three Nations Energy and ATCO or the extent to which ATCO may have been guided by social responsibility or the 92nd Call to Action, beyond "we were good partners with ATCO. They communicated with us throughout the whole thing and still do" (First Nation Councillor #2). We find this partnership to be mutually beneficial, where Three Nations Energy benefitted through project ownership, grid access, and the provision of electricity to offset diesel use, and ATCO gained the social licence to develop a project that would be celebrated as a unique example community-industry partnership in a remote community.

We find that the E.L. Smith solar project demonstrates a concrete example of the connection between a renewable energy project and efforts towards reconciliation, despite the project having no ownership stake for the Nation. Former Enoch Cree Nation reserve lands that were forcibly taken in 1908 are now the future site of a solar farm, demonstrating both the physical spaces and the relationships that need to be reconciled. In addition to Enoch Cree Nation, EPCOR engaged twenty-one Nations across the region who have connections to the project site, thirteen of whom participated in consultation activities and site visits, and seven of whom participated in archaeological work at the site. EPCOR and Enoch continued their engagement in response to the "no go's," or the non-negotiables for development identified by the community, namely the presence of archeological evidence that confirmed the ceremonial significance of the project site. But Nation leaders may have ultimately felt that they had to 'intentionally get involved' in order to see their interests met and protocols followed, as rezoning of the project site has been approved and final decision-making power remains outside of the

community. Reciprocity was at the core of this community-industry relationship, where EPCOR demonstrated a social responsibility to acknowledge the unsettled history of this site, and where Enoch will benefit from 'clean water from clean energy' in the future.

For the Cascade Power Project, Enoch Cree Nation, as part of the Indigenous Communities Syndicate LP, received a loan guarantee from the Alberta Indigenous Opportunities Corporation. The AIOC is addressing barriers around access to capital (von der Porten & Podlasly, 2021), and aims to create opportunities for Indigenous communities to be the beneficiaries of the provincial energy economy. The AIOC describes their role as "a Crown corporation that walks with Indigenous people toward economic reconciliation" (The Alberta Indigenous Opportunities Corporation, n.d.-b). However, action must be at the core of all reconciliation efforts, and the validity of the current provincial government's claims of 'economic reconciliation' are questioned by participants, as their actions around supporting Indigenous rights, and implementing UNDRIP and the TRC Calls to Action and show different intentions.

Limitations of the Research Approach

Rezaei & Dowlatabadi (2016) take a similar approach to the key informant method followed here, where they conducted interviews with Indigenous community leaders as well as representatives from government, non-profit, and the energy industry. They explicitly highlight the distinct motivations for remote community energy projects held by community leaders and those held by key informants and explore the potential reasons behind those differences. A limitation of the key informant approach taken in the current research is that the differences of opinion between the categories of key informants have not been explored. The positionality of each key informant is not considered, and while attempts are made to include Indigenous leaders' experiences with renewable energy in their communities in their own words, equal

weight is given to all key informants. A further limitation is that while this research makes many conclusions about the roles of the previous and current provincial governments in Alberta, a non-response meant that no interviews were conducted with a current member of provincial government.

Recommendations & Future Research Areas

This research finds support for the notion that an unsupportive regime context can be detrimental to the development of community energy (MacArthur, 2017; Berka et al., 2020). We also find that a supportive policy environment created a 'springboard' or a 'window of opportunity' for a numerous precedent-setting projects in Alberta (Berka et al., 2020). MacArthur (2017) describes the 'electoral tides' across Canada have supported or hindered community energy, and we build on this by demonstrating the impact of a regime shift on niche actors, namely the implications of the 2019 election of the UCP on the uptake of Indigenous community energy in Alberta. Community energy development is particularly impacted by the regime context due to the power of incumbent utilities, and the impacts of these frequent election cycles. In Alberta, community energy remains niche and does not "operate on a level playing field" with large incumbent utilities (MacArthur, 2017, p. 16). Lengthy time frames to develop community energy mean that these projects may not always fit within the mandate of a single government, and for Indigenous communities, the addition of community election cycles may add an additional layer of instability (MacArthur, 2017). This research offers a number of recommendations that may contribute to insulating Indigenous communities from the instability of the regime context.

We find that a shared vision oriented around the urgency of climate action and energy transition would lend a great deal of stability to communities seeking to pursue energy transitions. This shared vision would see support for community energy as a non-partisan issue,

that lives beyond the vision of a single government, and where community energy is part of shared commitment to meeting climate targets and to a just transition. Berka et al. (2020) echo this in their finding that the diffusion of community energy would benefit from "collective visioning and articulation of the key features and benefits of an inclusive energy transition, and a systematic effort towards brokering that vision" (p. 177).

Community energy has been limited by the lack of a national strategy for community energy in Canada (MacArthur, 2017) and similarly in Aotearoa New Zealand (Berka et al., 2020). This research provides valuable insights into the ways in which Indigenous communities can shape such a future policy. There is wide-ranging network of communities, mentors, advocates, and developers across Canada who have a wealth of experience in community energy and Indigenous-led energy transitions. Policy must reflect their lived experiences, and the needs that they identify. Communities are experts in how grant programs will be received in their local contexts, and they must have the opportunity to participate upstream in policy design and decision making and shape these programs before they are formalized.

We find that private industry, including incumbent utilities, have a role in stepping up to fill the gap created by the cancellation of favourable grants and programs in Alberta, through financing projects; enabling grid access; and procuring electricity from community generation for their corporate use. The TRC's 92nd Call to Action for the corporate sector offers a pathway for what these new relationships and partnerships must look like. The social responsibility of industry players in supporting innovative projects with a high degree of local buy-in is a promising area for future research. We recognize the burden of responsibility in which Indigenous communities are taking a leading role in transforming an energy system that is causing harms that they have not contributed to, and that they have not been the equal

beneficiaries of. Gobby et al. (2021) conclude that "Indigenous communities are doing most of the heavy lifting when it comes to resisting extractivism and working to transform conditions and structures in Canada" (p. 32), and Scott (2020) finds that through innovation in clean energy, Indigenous communities are "moving Canada's needles" on sustainable development goals around energy security and climate action (p. 490). There is a need for multiple approaches to energy transition to meet the scale of change required, and industry has a social responsibility to partner with Indigenous communities on all energy development that takes place on Indigenous homelands. Future research would explore the motivations for industry in partnering with Indigenous communities, and the extent to which relationships with Indigenous partner communities are replicating or departing from token involvement.

Last, where in other jurisdictions, including British Columbia and on a national level, UNDRIP is being adopted, we find that the failure to recognize UNDRIP in Alberta combined with a decline in supportive programs to be actively working against the need for a just transition (Government of British Columbia, n.d.). We find the need for increased direction from the federal government on Indigenous rights, as well as significant strides in furthering UNDRP & the TRC.

Alberta is home to many precedent-setting Indigenous-owned renewable energy projects. Current projects along with those that are in development will continue to have promising spillover outcomes. These projects are building capacity and expertise within communities, and with the support of knowledge sharing networks they are creating the precedent for other communities to learn from. As Indigenous communities begin to build new capacities and amplify their own inherent capacities; as more collaborations between communities, municipalities, and industry develop; and as the social responsibility of the regime begins to

shift, these projects will continue to gain momentum and communities will become more secure in their ability to foster innovation and be agents of change.

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Appendices

Appendix A. – Research Protocol

Research Team

Andrea Miller ("Researcher")
Graduate student, University of Alberta
Email: amiller1@ualberta.ca

Dr. John Parkins ("Supervisor")
Professor & Department Chair, Resource Economics & Environmental Sociology (REES), University of Alberta

Grant Bruno ("Advisory Committee")

Naomi ("Advisory Committee")

Department: University of Alberta, Department of Resource Economics & Environmental Sociology (REES)

Working Title of the Project: Indigenous-Owned Renewable Energy in Alberta: The Case of a Solar Pilot Project in Enoch Cree Nation

Proposed start date: December 2019
Proposed end date: December 2020

Funding

This work is part of the project "Measuring the Costs and Benefits of Energy Transitions", which is embedded in a University of Alberta interdisciplinary research area, Future Energy Systems. The project receives funding from the Canada First Research Excellence Fund. Future Energy Systems requires a brief progress update before the end of March 2020.

More information about the project can be found here:
https://www.futureenergysystems.ca/research/system-wide-enablers/communities-aboriginal/measuring-the-costs-and-benefits-of-energy-transitions

1. Research Objectives

Purpose

The purpose of this Research Project is to understand the most pressing priorities for Enoch Cree Nation community members on issues of energy, the environment, and climate change. This project will engage with community members around existing or proposed renewable energy initiatives, such as the pilot project to retrofit Elders' homes with solar panels. We hope to further the understanding of Indigenous-owned solar energy in Alberta and highlight the current policies and funding opportunities for these initiatives; bring awareness to this project and other renewable efforts; and learn from and share learnings with other First Nations.

Scope

The scope of this Research Project is outlined in two phases. Phase one will involve conversations with key informants about Indigenous ownership of and participation in renewable energy development in Alberta. Phase two will present a case study of renewable initiatives currently underway in Enoch Cree Nation, with an emphasis on the current pilot project, retrofitting Elders' homes with solar panels.

2. Ethics

This Research Project and Agreement will be submitted to and approved by the University of Alberta Research Ethics Board. The Researcher will adhere to the recommendations of the Ethics Board, as well as the Tri-Council Policy Statement of Ethical Conduct for Research Involving Humans.

3. Research Design & Methods

Community Research Partner & Advisory Committee

The project will hire a Community Research Partner on a part-time, casual basis. An Offer Letter will be provided, and the Research Partner will submit timesheets through the University of Alberta. The importance of hiring a Community Research Partner is to ensure a true partnership in the research process, which is guided by the principles of doing community-based, participatory research. Supporting full community participation throughout this process is a key objective of this research. The project will also involve two Advisory Committee members. The Advisory Committee will facilitate the researcher's involvement in the community, including interview participant selection. This role may overlap with the Community Research Partner.

Interviews

This project will carry out interviews as the primary method of engaging with community members and gathering information. We would aim to carry out between 10 and 20 interviews between January and March 2020. Interviews may be carried out one-on-one between the Researcher or the Community Research Partner and Participant, or together with both the Researcher and Community Research Partner present. The selection of the interview participants will be facilitated by the Community Research Partner, and through word of mouth referrals by other interview participants. The interview questions or guiding statements ("Interview Guide") will be co-developed by the Researcher and Community Research Partner, and submitted for review, revision, and approval by the appropriate channels. These interviews will be semi-structured, relaxed conversations, averaging one hour in length.

The initial phase of these interviews would be more general, scoping interviews with individuals who are knowledgeable in the area of community energy initiatives or Indigenous-owned renewable energy projects. This might include individuals in the community, or outside the community such as academics, individuals from organizations and advocacy groups, or municipal and provincial governments. This will expand our knowledge, gather relevant information for the project benefit, and provide context and background for the project. The scoping interviews will also guide the focus of research depending on the communities wants and needs.

Phase two of the interview process would involve conversations with individuals specific to the project, retrofitting Elders' homes with solar panels. We hope this will involve members of

the Enoch Cree Nation leadership, Elders who are participating in the pilot project, and other community members who are advocating for and involved in the renewable energy or sustainability portfolios. This may also involve young adults and in the community, such as Enoch Youth Council members, who are actively engaged in the areas of climate change activism and energy transition.

Participants will be encouraged to speak in the language they feel most comfortable with, and a translator will be organized if required. Participants will receive an honorarium or a token of appreciation for sharing their knowledge in the interview, either monetary or another protocol that is deemed appropriate. These interviews will take place at a time and place that is convenient for each participant, and at a location of their choice.

Focus Groups

The project may also include a series of focus groups or brainstorming sessions. This is an opportunity to involve more community members in the project and have dialogue in a more collaborative space. These focus groups will be done in the community to ensure equitable participation. Guiding prompts may include:

- What are your most pressing climate or energy-related concerns?
- How do you envision energy transition in the community?
- What will renewable energy initiatives mean for Enoch?

Document & Media Analysis

Other methods of gathering information might include analysis of documents, such as government regulations and funding opportunities, and community documentation such as renewable project proposals, feasibility studies, and the community energy plan. The project may also conduct an analysis of media and news coverage in the area of Indigenous-owned renewables.

Informed Consent & Verification

Individuals will be invited to participate in the project in the form of an interview. The participant will receive an Information Sheet and Consent Form to ensure they are aware of the nature of the Research Project. If the participant does not want to participate in an interview, it will not take place. Participants will be asked to both consent to participate in the interview, and to have the interview results used in reports or publications. Oral or written consent will be obtained from the participant. The participant will indicate if they would like to remain anonymous or be named in association with their interview, and if they consent to direct quotes being used in publication. The Researcher will share the interview transcripts with the interview participant within six weeks of the interview for their verification to ensure the information is accurate.

4. Intellectual Property

Ownership, Control, Access, & Possession

The information gathered from individuals during the interview process is the personal information of those who have shared it, and it will be treated as such. The interview participants will retain ownership over any knowledge they have shared. Giving consent to participate in an interview does not waive ownership of their personal information and knowledge.

In this partnership, the community will guide and control the research process. This is done by engagement in all phases of the process, from project planning, implementation, analysis, and dissemination of outcomes. The individual interview participants also have the control to voluntarily participate in an interview and to withdraw their consent at any time during the interview without penalty. They may withdraw part or all of the interview within three months of the interview date, and the interview material will not be used.

Individuals will have access to the information they share in the interview process at any time. Written transcripts of audio-recorded interviews will be shared with the interview participants to review and consent to that version being used in the analysis.

Possession of information is the means by which ownership is protected. The researcher will have access to the information during the research process. The information will only be used for the purposes of the project outlined in the Research Agreement. Upon completion of the project as it is outlined here, the information (i.e. transcripts and recordings from interviews, focus groups) will be stored with the Community Research Partner for future use in the community. A copy of this information will also be stored on a university server that is accessible only to the researchers named in this agreement. The information will be used for presentations or publications, pending the written permission of the community. If for any reason the information should be used in the future, the Community Research Partner will be contacted.

Reporting Research Outcomes

Within the community

This project will continue to evolve and be shaped as community participation in interviews, focus groups, and informal conversations takes place. The lines of communication between the Research Team and community members will be open to report on the project progress throughout each stage of this process. When findings are emerging, these will be shared with community members in a variety of ways. Methods of knowledge sharing may include written platforms such as brochures, reports, or website updates; and a community night to communicate the research process, outcomes, and next steps. The project will also produce a final report sharing our findings and detailing the feasibility and next steps for the Elders' home retrofit project.

Outside the community

Sharing the outcomes outside the community will have the benefit of creating awareness around Enoch's efforts in renewable energy development, and more generally, Indigenous-owned renewables energy in the province. This will inform other First Nations or communities pursuing similar goals. The outcomes of the project may be shared with other First Nations; media outlets; and in the form of conference presentations, a Master's thesis, and other academic publications which are made available to a wide audience. Co-authorship of publications with the Community Research Partner will be coordinated and agreed upon prior to publication. Use of outcomes for publications or presentations will be reviewed by the Community Research Partner before distribution, and all participants will be acknowledged for their participation.

5. Extension, Termination, or Amendment

In the event that the Community Research Partner has reason to believe that the terms outlined in this agreement are not being met by the Researcher, they may terminate the Research Project and this Research Agreement. Any amendments to this Research Agreement will be

carried out collaboratively between the Researcher and the Community Research Partner. If the Research Project is terminated, the Researcher will return all original and copies of raw data including video, audio, and written transcripts to the Community Research Partner.

6. Role of Community Research Partner

The Community Research Partner agrees to:

- Support the Researcher in gathering information, such as identifying and coordinating with potential interview participants
- Participate in and support the project (participation in interviews and focus groups, co-analysis of the results, provide feedback on the project, presentation of research outcomes within and outside the community)
- Review any reports and materials intended for public communication and distribution

7. Role of the Researcher

The Researcher agrees to:

- Proceed with the Research Project according to the terms and conditions set out in this Agreement
- Work under the direction of the Community Research Partner
- Act as an ongoing resource person for the community with respect to the Research Project and its topic

SIGNATURES:

_____ Date: _____

Community Advisory Committee

_____ Date: _____

Community Advisory Committee

_____ Date: _____

Andrea Miller
Researcher

_____ Date: _____

Dr. John Parkins
Supervisor, REES Department Chair

Appendix B. – Information Sheet & Consent Form for Enoch Cree Nation Members

ohci pîsim: Community-owned solar energy in Enoch Cree Nation

Andrea Miller
Graduate student
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Email: amiller1@ualberta.ca

John Parkins
Professor & Department Chair
Department of Resource Economics and Environmental Sociology, University of Alberta

Lorell
Community Research Partner

Grant Bruno
Community Advisor

Background
We are speaking to community members about energy, the environment, and renewable energy in Indigenous communities. We are interested in what is motivating Indigenous communities to develop renewable energy projects, any obstacles they are facing, and how project ownership can support Indigenous involvement and control. We hope to bring awareness to renewable energy initiatives in Enoch Cree Nation, and showcase community knowledge and perspectives around renewable energy. You are being invited to participate in this graduate student research project because we believe you will have insightful views about renewable energy development in Enoch Cree Nation.

Purpose
The research project will expand the knowledge of Indigenous-owned renewable energy projects in Alberta and bring awareness to sustainability and renewable energy initiatives in Enoch Cree Nation. The information that we gather will be used to create materials to be shared within and outside the community. This may include community resources; information workshops; a graduate student thesis; academic publications; conference presentations; and resources for policymakers. We also hope to learn from, and share our learnings with, other First Nations in Alberta.

Study Procedures
You are invited to participate in an interview about renewable energy development in Enoch Cree Nation. If you decide to participate, the interview will take place at a time that is convenient for you, over a phone or video call. The interview will be a relaxed conversation, around one hour in length. With your permission, the interview will be audio-recorded and typed up to ensure accuracy. For this project, we will be looking for themes, perspectives, and values among the participants.

Benefits & Risks
You will receive an honorarium to compensate you for your time and to show our appreciation for your participation. There are no costs to being part of this study. Sharing your perspectives will help the Enoch Cree leadership develop policies about renewable energy and may help policymakers and developers work with Indigenous communities to build renewable energy projects.
We do not anticipate any risks associated with participating in this project. It is possible that you may be recognized from your unique experiences and insights. The interview may also involve

conversations about topics that you find difficult to discuss, such as climate change, energy development in Alberta, and relationships with government, past and present.

Confidentiality
You will be kept anonymous throughout the project, and any information that identifies you, such as your name, will not be shared without your consent. If you wish to be named and acknowledged for the knowledge you have shared in the interview, we will include your name. You may also give or withhold your consent to using direct quotes from your interview in the public research materials. The information you share will be used only for the purposes outlined here, and any future use will be at the discretion of the community. If there is any information that you would not like to share publicly, please let me know. This information will be stored within Enoch with the Community Research Assistant and on a secure University of Alberta server to ensure that your information is valued over the long term. Your information is accessible only to the researchers named here, and you will have access to any information you share in the interview at any time.

Freedom to Withdraw
Your participation in this project is completely voluntary. You may refuse to answer any questions that you are not comfortable answering, and you may end the interview at any time without penalty. After the interview, you may withdraw part or all of the interview within three months of the interview date, and the interview material will not be used. You will also receive a copy of your written interview transcript within six weeks of the interview date.

Additional Contacts
If at any time you have questions or concerns regarding this project, the interview process, or the interview questions, please contact any of the researchers listed. The plan for this study has been reviewed by a Research Ethics Board at the University of Alberta. If you have questions about your rights or how research should be conducted, you can call (780) 492-2615. This office is independent of the researchers.

CONSENT FORM:

Signing this form indicates that you understand the information on this consent form and that you agree to participate voluntarily. You may also give your oral consent to all or part of the study as it is outlined here. The information gathered during the interview process is your personal information and it will be treated as such. You retain ownership over any knowledge you have shared. Giving consent to participate in an interview does not waive ownership of your personal information and knowledge. A copy of this consent form will be given to you to keep.

Please circle below for any items to which you agree:

Do you understand that you have been asked to be in a research study? **YES / NO**

I have received the information sheet and had an opportunity to ask questions **YES / NO**

I agree to participate in an interview for this project **YES / NO**

I consent to an audio-recording of this interview which will be transcribed **YES / NO**

I consent to having my name appear in research findings and public materials **YES / NO**

I consent to having my name appear in the research acknowledgements **YES / NO**

I consent to the use of my direct quotes in the research findings and public materials **YES / NO**

I consent to a copy of my interview being stored at the University of Alberta **YES / NO**

Oral consent given **YES / NO**

_____	_____	_____
Signature of Participant	Name (please print)	Date

I, as the researcher, agree to abide by the terms and conditions described in the information sheet referenced above.

_____	_____	_____
Signature of Researcher	Name (please print)	Date

Appendix C. – Interview Guide for Enoch Cree Nation Members

ohci pîsim: Community-owned solar energy in Enoch Cree Nation

These questions are designed to generate a conversation around your most pressing priorities related to issues of energy and the environment in Enoch Cree Nation. We hope to discuss the community's current and future renewable energy goals. By sharing your perspectives and experiences, we hope to understand the community's position among the growing number of Indigenous communities pursuing renewable energy across Canada.

About you and your community

Can you tell me about yourself?
Can you tell me about your community? What are some of Enoch's strengths?
Can you tell me about the natural environment here?

Energy and the Environment

Do you support oil and gas energy development in the province?
Do you have concerns about the environment or climate change?
Do you think the province is heading towards an energy transition?
Do you support renewable energy development in Alberta?
Is it important that Indigenous communities are involved in developing renewable energy?
How should these projects be developed?

Renewable Energy in Enoch Cree Nation

Can you tell me about the current renewable energy projects here in Enoch?
Does having renewable energy here benefit the community?
What are the community's renewable goals? Have they changed?
What have been the biggest challenges for renewable energy development in Enoch?

Community Ownership and Partnerships

Do you support community ownership of renewables?
How do you envision future renewable energy development in Enoch?
What support is needed for Indigenous energy projects in the future?
What role should governments play in Indigenous-owned renewable projects?
Who else should we be talking to learn more about renewable energy in the community?
Thank you, do you have any other comments you would like to share?

Appendix D. – Interview Guide for Key Informants

INTERVIEW GUIDE
ohci pîsim: Community-owned solar energy in Enoch Cree Nation

These questions are designed to generate a conversation around energy transition, community energy, and Indigenous ownership of renewable energy projects in Alberta. I hope to discuss your unique experience in the field of Indigenous energy, including your affiliation with any specific projects and communities. By sharing your perspectives and experiences, we hope to contribute to the growing field of Indigenous renewable energy in Alberta and generate valuable insights and knowledge to be shared with communities pursuing renewable energy, particularly the current project context, Enoch Cree Nation, Alberta.

About you

Can you tell me about yourself?
[Where applicable] Can you tell me about your community?
[Where applicable] Can you tell me about the natural environment there?
Can you tell me about the work that you do? What is your role?

Energy and the Environment

Do you have concerns about the environment or climate change?
Do you have concerns about the environmental impacts of oil and gas development?
Do you think the province is heading towards an energy transition?
Do you support renewable energy development in Alberta?

Indigenous Renewable Energy Projects

Is it important that Indigenous communities are involved in developing renewable energy? In energy transition?

What do you think are the benefits of these projects for communities?

What barriers do you think exist for Indigenous involvement in renewable energy?

Under what conditions should renewable energy be developed on Indigenous territories, reserve lands, or Métis settlements? What factors are important?
[Where applicable] Can you tell me about the specific Indigenous energy projects you have been involved with?

Community Ownership and Partnerships

What project ownership structures best support Indigenous involvement?
What does a partnership need to look like to be successful?
What role should governments play in Indigenous-owned renewable projects?
What supports or partnerships are needed for Indigenous energy projects in the future?
Who else should we be talking to learn more about Indigenous renewable energy?
Thank you, do you have any other comments you would like to share?

Appendix E. – Submission for September 2021 Enoch Echo

Community Research Project – ohci pîsim: From the sun – Community-led energy transitions in Maskêkosihk, Enoch Cree Nation

Tansi, my name is Lorell, I am a proud member of Maskêkosihk. I am a student at the University of Alberta for my Bachelor in Native Studies and a certificate in Aboriginal Governance. Throughout 2020 I had the opportunity to work as a research assistant on a project about renewable energy with Andrea Miller at the University of Alberta. Andrea is a graduate student, settler, and researcher born and raised here in Treaty Six who is doing her Master of Science at the University of Alberta in the Department of Resource Economics & Environmental Sociology. This work was also possible because of our research partner and Maskêkosihk community member Grant Bruno, who studied in the same graduate program, and helped and guided us to design our study and do research in a good way.

Our project focused on green or renewable energy from the sun and wind in Indigenous communities. Here in Maskêkosihk, there are solar panels that offset the costs of powering our new water pump house, and our new school Maskêkosak Kiskinomâtowikamik was built with energy efficiency in mind. The main objective of our project was to hear people's perspective about renewable energy within the community. We wanted to hear if the community had concerns about energy or the environment, what they thought about renewable energy, and if they thought it was important for Maskêkosihk to have our own sources of renewable energy. In my position on this project, I was responsible for contacting members of Maskêkosihk and conducting interviews over the phone with those who were interested. We have gotten good information from our Nation members and it was great to hear what everyone had to say. For myself, it was exciting to have conversations with our Nation members and it brought me comfort and enjoyment that I was given the opportunity to work on a project that involves my home. I read about renewable energy and other communities who have developed their own projects. I learned how to transcribe the interview recordings into text form, for which Andrea guided me every step of the way. It was an honour working with her. Andrea and I worked together successfully, I was learning new things everyday while working on this project, especially hearing things from our members' perspective.

Community members shared with us that having green energy in our community is part of our goals for protecting our environment, both here in Maskêkosihk and beyond. It fits with what is important to many of our community members, especially our young people. We learned how important it is that any projects in Maskêkosihk are community-led, and that all Nation members have the opportunity to have their voices heard. We also learned that developing green energy can be challenging, but that many Indigenous communities in Alberta are already working on renewable energy projects and we can learn from their experiences. From the interviews we conducted, Andrea was then able to transcribe the interviews into documents that will be publicly available for others to learn from. Our research aims to show how Maskêkosihk is planning for our future with more focus on renewable energy and energy efficiency. It shows the value of funding opportunities and policies that support all Indigenous communities to develop their own renewable energy projects. This will be helpful for other communities who want to learn more about developing renewable energy, and for other students from our community and elsewhere who want to do research about renewable energy. This research

project wouldn’t be possible without the intuitive input from our Nation members of Maskêkosihk. I look forward to more opportunities like this again in the near future! Hy-hy.