Decarbonizing Electricity and Decolonizing Power: Voices, Insights and Priorities from Indigenous Clean Energy Leaders

NEEGAN BURNSIDE

Clean Power PATHWAYS

DAVID SUZUKI FOUNDATION

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Acknowledgment and thanks

Thank you to the David Suzuki Foundation for the opportunity to interview Indigenous clean energy leaders and contribute to the Clean Power Pathways project. We would like to specifically thank Tom Green, Stephen Thomas and Sabaa Khan.

We would like to express our sincere gratitude and appreciation to the interviewees who shared their time, experience, insights and expertise with us. Our conversations were extremely enjoyable and illuminating. Their work is incredibly important. We hope this project helps to highlight and uplift their efforts. Any misinterpretations or errors are the author's sole responsibility.

This report would not have been possible without the work, ideas and contributions from the following people:

- Basil Goodchild, Biigtigong Debenjigan (Pic River Energy);
- Charlene Aleck, Tsleil-Waututh Nation Sacred Trust Initiative;
- Kwatuuma Cole Sayers;
- Daphne Kay, Cowessess First Nation;
- Don Richardson, Anwaatin;
- Jordyn Burnouf;
- Mihskakwan James Harper;
- Rob Macintosh, Three Nations Energy Solar Farm;
- Wayne Ross, Coral Rapids Power Corporation; and
- William David.

We made every effort to compile a diverse group of participants from all regions of so called Canada. Unfortunately, we were unable to secure interviews with anyone in Quebec, Nova Scotia, New Brunswick, P.E.I. or Newfoundland and Labrador. The lack of representation from these regions regrettably presents a significant gap in our understanding and perspective. We have attempted to address this gap by providing project spotlights from these regions within this report.

We would like to thank all Indigenous leaders, communities, economic development corporations (EDCs), organizations and networks that are engaged in and leading Indigenous rights, climate and clean energy related movements.

NEEGAN BURNSIDE

Neegan Burnside is a majority, Indigenous-owned and directed engineering and environmental consulting company focused on serving Indigenous communities and organizations across Turtle Island to meet their development, economic, environmental and governance goals while remaining sensitive to their cultures, values and world views.

Neegan Burnside feels humbled and fortunate to work across Turtle Island with First Nation, Métis, Inuit and non-Indigenous clients. We recognize and respect the past and ongoing Indigenous stewardship and governance of the lands and waters we work within, as well as the vibrant spirit, culture and vision of all communities we work with and in. Our staff seek to demonstrate reciprocity, integrity, openness and respect in our professional and daily lives. We strive for continuous improvement in our corporate, individual and shared path of truth and reconciliation for a just, equitable and sustainable future.

We collaborate across many unceded territories, ancestral lands, homelands and treaty lands. We recognize that the lands and waters where we work and reside hold stories and histories as diverse as the Indigenous groups that have and continue to use and occupy these areas since time immemorial.

Photo: Jeremy Williams

EXECUTIVE SUMMARY

As part of the David Suzuki Foundation's Clean Power Pathways project, Neegan Burnside Ltd., in partnership with Dean Jacobs from Walpole Island First Nation, was contracted to engage Indigenous perspectives on the transition to 100 per cent clean electricity in Canada by 2035.

Indigenous communities have and will continue to play a significant role in clean energy projects in Canada. With involvement in more than 197 clean energy projects over one MW (ICE, 2021b), Indigenous communities are the largest owner of clean energy assets in Canada after Crown and private utilities (Clean Energy Canada, 2021). Where earlier projects may have offered minor benefits and agreements, Indigenous communities are increasingly seeking equity ownership and control in clean energy projects on their land.

Despite current successes and future opportunities for Indigenous-led clean energy development, several significant and institutional barriers to entry and expansion exist. Challenges include but are not limited to regulatory, policy and program barriers, political barriers, lack of capacity and lack of access to equitable financing opportunities.

Through thoughtful and insightful interviews with Indigenous clean energy leaders, we have identified six broad themes that need to guide planning and development to achieve 100 per cent clean electricity in Canada by 2035:

1. Indigenous world views and knowledge need to be incorporated and respected within broader societal and economic value systems;
2. Meaningful, rights-based and consent-based consultation needs to become common practice for all clean energy projects;
3. Existing Indigenous leadership needs to be honoured and advanced through support for capacity, ownership opportunities and jobs;
4. Indigenous leaders require a seat at decision-making tables, as decarbonizing electricity must also mean decolonizing power structures;
5. Solving systemic infrastructure gaps for Indigenous communities through focused just transition measures must be prioritized as part of the clean energy transition; and
6. Economic reconciliation must be central to the clean energy transition by removing barriers to accessing financial capital, ownership and other project benefits.

These six foundational themes must be applied to decolonize existing power structures held by Crown corporations and utilities, and to empower Indigenous communities to advance their interests through meaningful and sustained involvement in the clean energy transition. This includes not only advancing Indigenous-led, -owned, and controlled clean energy projects, but also engaging in and directing regulatory, planning and policy processes at the municipal, provincial and federal levels.

Institutional barriers need to be addressed, starting with solving existing infrastructure gaps within Indigenous communities, building internal capacity, education and training, and providing equitable financing opportunities. Indigenous capacity must be developed and empowered to meet employment needs for entry- to senior-level positions — within communities as well as the private and public sectors — to fulfil a significant role in the transition to 100 per cent clean electricity in Canada by 2035 and in the associated workforce and economy.

Photo: Natural Forces Wind Inc.

INTRODUCTION

Indigenous Peoples and communities worldwide and in Canada are disproportionately impacted by climate change, despite being among those least responsible for causing the crisis. They are also disproportionately demonstrating effective climate leadership through the assertion of Indigenous rights and title to delay or cancel fossil fuel extraction and expansion, implement community-based climate mitigation and adaptation solutions (including innovative clean energy projects) and participate in climate diplomacy at local, regional and international levels. Empowering Indigenous Nations is pivotal to Canada achieving its domestic and international climate commitments to keep global temperature rise to below 1.5 C (Klein, 2020).

As stated by Whyte (2017), colonialism and capitalism are inextricably tied together and have laid the groundwork for the carbon-intensive economics, which is driving climate change. Reconciliation — a term that some argue is at risk of not holding any meaning on account of being over- or mis-used — is about the genuine restructuring and transformation of the relationships between Indigenous and settler people (Hoicka et al., 2021; McGregor, 2019). Pathways to advance reconciliation and Indigenous self-determination are instrumental to Canada's approach to climate change.

These statements are not intended to overgeneralize or dismiss recent advancements of meaningful Indigenous participation in the fossil fuel sector. Through their own expression of self-determination and economic reconciliation, some First Nation leaders support and even lead fossil fuel projects. For example, Nisga'a Nation developed a proposal with its partners to build a $10 billion liquefied natural gas export facility on its treaty lands in northern B.C.[1] While

participation can bring benefits to communities, the involvement of First Nations in major fossil fuel projects is often complicated, multifaceted and sometimes controversial among membership and leadership (e.g., Coastal GasLink and elected council versus Wet'suwet'en hereditary chiefs). This report does not consider in detail the range of Indigenous participation in the fossil fuel sector, other than to highlight the diversity of economic realities, priorities and opportunities that exist throughout Indigenous territories.

Relevant to this report is the opportunity for Indigenous participation and leadership in the transition to 100 per cent clean electricity in Canada by 2035. As the largest single owner of clean energy assets in Canada after Crown and private utilities (Clean Energy Canada, 2021), Indigenous communities are already involved in more than 197 clean energy projects over one MW (ICE, 2021b). However, Indigenous involvement ranges from partnership agreements and impact benefit agreements to ownership. Only 41 projects are controlled (51 per cent ownership or more) by Indigenous communities, all of which are situated on reserve or settlement lands (Hoicka et al., 2021). Some key examples of sizable Indigenous-led clean energy projects include the Saulteau First Nation (majority owner) and Natural Forces 15 MW Sukunka Wind Energy Project, the West Moberly First Nation (minority ownership) and Natural Forces 15 MW Zonnebeke Wind Project, Three Nations Energy (3NE) 2.2 MW Fort Chipewyan Solar Farm and the Cowessess First Nation 1.3 MW Cowessess Renewable Energy Storage Facility and 10 MW Awasis Solar Project. Case studies highlighting these successful projects are provided on the following pages of this report.

Of the 634 First Nations, 53 Inuit and eight Métis communities in Canada, approximately 544 are grid-connected (Savic and Hoicka, 2021). Many remote, off-grid communities are pursuing clean energy sovereignty projects. Further, all the renewable energy potential in Canada resides on unceded Indigenous territories or treaty lands (Hoicka et al., 2021, p. 2). Indigenous communities are increasingly seeking equity ownership and control in clean energy projects on their land, which is not limited to reserve or settlement land but includes unceded territories and treaty lands.

Case Study:
Saulteau and West Moberly First Nations – B.C. Treaty 8 territory

Clean energy initiatives: Northeastern B.C. is rich in natural gas and has been heavily impacted by the oil and gas industry. A recent landmark B.C. Supreme Court decision (Blueberry River First Nation (Yahey) v. BC), found extractive resource activities have cumulatively eroded and infringed upon treaty rights. While Blueberry River First Nations launched the landmark court case, the motivations and implications of the decision are shared throughout B.C. Treaty 8 territories. Blueberry River First Nations demonstrated that 73 per cent of their traditional territory was within 250 metres of an industrial disturbance and 84 per cent was within 500 metres. With less than 14 per cent of forests left intact, the number of moose, caribou and other wildlife has clearly declined.[2] The decision resulted in a temporary moratorium on any further industrial development in the area. Any future development must be conducted in a way that fully upholds and enforces treaty rights.

Meanwhile, as an alternative to the oil and gas sector, B.C. Treaty 8 First Nations have been demonstrating their ability to balance environmental and cultural stewardship with economic development. Treaty 8 First Nations are forging ahead with significant clean energy projects that align with their values, governance and interests and that assert their self-determination, rights and title. The 15 MW Sukunka Wind Energy Project[3], for example, was developed by majority owner Saulteau First Nation and its partner, Natural Forces. This project now represents the largest majority-owned Indigenous green energy project in B.C.[4] The nearby 15 MW Zonnebeke Wind Project[5] was developed in partnership between West Moberly First Nation (with minority ownership) and Natural Forces. Each of these projects will generate clean, renewable energy that is sold to BC Hydro and Power Authority under separate 40-year energy-purchase agreements.[6] Saulteau First Nation and West Moberly First Nation are also partnering on the first Indigenous plant nursery in the northeast region of B.C. With funding through B.C.'s First Nations Clean Energy Business Fund, they are able reduce their carbon emissions by shifting from fossil fuels to a biomass heating unit for the nursery.[7]

The focus on clean energy and sustainable economic development aligns with their existing environmental and cultural stewardship initiatives. Saulteau First Nation and West Moberly First Nation are partnered on a bold and experimental effort to save the endangered Klinse-Za caribou herd from extinction.[8] Recovery efforts involve airlifting female cows by helicopter to a mountaintop pen enclosure (supervised by First Nation Guardians) for protection and providing them with handpicked lichen in hopes of increasing cow and calve survival.[9] These drastic efforts are needed to protect such a cultural keystone species from the cumulative effects of extractive, carbon-intensive resource development.

Barriers overcome: The Sukunka Wind Energy Project was constructed during the global COVID-19 pandemic, which presented unique challenges for the project team. As described by Chief Justin Napolean, "this was a complex project undertaken during very difficult times. I am very proud of our whole team. Our partners, contractors and suppliers had to be smart, flexible and adaptable to overcome the challenges posed by the pandemic. We all stayed on course to complete this major project, and together we delivered it on time and on budget."[10] To achieve this, the team had to develop new tactics for project design, environmental protection, construction management and investment and financing.[11]

Looking to the future: As stated by John Brereton, president, Natural Forces, "we strongly believe that, as we continue to electrify our economy using green energy, there is a bright future for low-cost, low-carbon, Indigenous-led projects".

Case Study:
Three Nations Energy (3NE) – Fort Chipewyan, Alberta

Clean energy initiatives: Three Nations Energy (3NE) was formed by the Athabasca Chipewyan and Mikisew Cree First Nations and Fort Chipewyan Métis. The Fort Chipewyan Solar Farm is a 2.2 MW facility owned by 3NE that sends power to the Fort Chipewyan electrical grid. The project was completed in partnership between 3NE and ATCO Power, with ATCO acting as the general contractor. ATCO Power owns the Third Lake (diesel) generating station located next to the Fort Chipewyan Solar Farm, as well as its own adjacent solar farm. ATCO Power also runs the local electrical power grid and 1.5 MWh battery storage system.[12]

The 3NE solar project addresses several concerns and considerations of the communities. Growing power loads were identified as a potential future issue. The communities also had concerns about continuing to truck diesel fuel as their main power source, due to ice roads and ice bridges becoming increasingly unreliable and expensive to maintain. All three Nations have business interests in the oilsands in Fort McMurray and have a substantial interest in participating in the transition to a cleaner economy as the world demands a lower-carbon fossil fuel industry. The project represents a reduction in greenhouse gas emissions of 2,145 tonnes CO2eq/year.[13]

Natural Resources Canada and the Government of Alberta contributed to the approximately $7.8 million total cost of the project. The Government of Canada and Alberta shared the communities' growing interest in non-diesel options and were interested in demonstrating support for Indigenous climate action. This was the first project approved by Alberta's Small Scale Generation Regulation as a community generator and the first community generator registered with Alberta Electric System Operator for electricity sales.[12]

The 3NE board was uncomfortable with conventional land-clearing practices, including pile burning. As an alternative, and to maximize the use of the cleared forest, the trees harvested for the solar farm were salvaged for use as wood fuel. 3NE purchased a wood-processing machine to create wood fuel for the community from the solar farm site and other harvested areas.[14]

Direct benefits to the community identified included:

- Maintaining a significant amount of money in the community with self-reliance on energy compared with purchasing diesel fuel from outside of the community;
- Developing skills and capacity to participate in the energy industries of the future beyond their communities as well as within them; and
- Reduction of approximately 25 large tank truck trips to and from the community each year.

Barriers overcome: Fort Chipewyan is a fly-in community, and only way to bring in large materials is through barging and winter ice roads. The winter road was a challenge and is expensive to maintain. The winter roads and ice bridges have also become unreliable due to changing climate conditions.[14]

Winter ice roads opened only briefly in February for heavy truck transport in 2020 when construction started. The ice road seasons are unreliable and sometimes present only a short window of opportunity for heavy truck transport.[14]

Photo: Cowessess Wind Development Ltd.

Case Study:
Cowessess First Nation – Cowessess Ventures Inc., Saskatchewan[15]

Clean energy initiatives: Cowessess First Nation (CFN) has aspirations to become one of the greenest nations in Canada. Through the Treaty Land Entitlement process, CFN purchased various land holdings in Southern Saskatchewan with the objective of future development and higher economic return. Partnered with the Saskatchewan Research Council, CFN began investigating its wind resource and conducting wind studies on various lands away from the home reserve. After securing a 20-year SaskPower Power Purchase Agreement and project funding, Cowessess Wind Development Limited Partnership built a hybrid renewable energy system, the first of its kind in Canada, in 2013. The Cowessess Renewable Energy Storage Facility includes an 800 kW wind turbine, 500 kW of photovoltaic solar panels and 400 kW of lithium-ion battery storage located three kilometres southeast of Regina.[16] Funding partners included CFN capital investment ($1.8M), Saskatchewan Research Council in-kind ($180,000), Natural Resource Canada's Clean Energy Fund ($2.78M), AANDC ($248,000) and Saskatchewan's Go Green Program ($1.39M).

With their success in renewable energy, CFN looked to keep the momentum going by exploring larger utility-scale energy development. The 10 MW Awasis Solar Project is under construction in partnership between the CFN-owned Awasis Nehiyawewini Energy Development Limited Partnership and Elemental Energy Ltd. Through the Awasis Solar Project funding, a community energy specialist was hired from within the community to enter the renewable energy sector in a mentorship position. They also

trained 11 community members in solar PV installation through the Canadian Solar Institute accredited program, a highly sought-after accreditation for solar installers. On top of capacity-building and job creation, CFN will also benefit from ownership experience and equity returns on this majority-owned solar project.[17]

The CFN leadership had a desire to bring renewable energy technology closer to home for direct community consumption, and so the Community Buildings Solar Project was developed and then completed in 2021. The project consisted of more than 800 panels installed on five community buildings on the CFN reserve. Supported by the Low Carbon Economy Fund, the project has a combined capacity of 321 kW, saving the CFN band approximately $28,000 annually in energy spending. SkyFire Energy, contracted to lead the installation, also hired four community members in the installation.[18]

Aiming for utility-scale wind production next, Awasis Nehiyawewini Energy Development Limited Partnership won a bid to SaskPower's request for proposal to supply 200 MW of renewable power to the grid in partnership with Renewable Energy Systems. The Bekevar Wind Energy Project will see the construction of 35 to 40 wind turbines in 2022-23, located south of Kipling, Saskatchewan. The project will be built on a combination of privately owned (non-Indigenous) land and on CFN reserve land.[19]

Barriers overcome:

1. Access to capital
   First Nation communities have limited access to capital funding reserves to invest in economic development initiatives. First Nations have high-pressure funding areas like education, justice, housing and health care. It is difficult to direct source dollars to new long-term investments when there are urgent pressures every day. Therefore, it is critical for First Nation communities to access federal funding supports, which help close the equity gap and to enable participation in utility-scale renewable energy development.
2. Saskatchewan's power procurement
   SaskPower has a monopoly on utility power production in Saskatchewan. SaskPower utilizes a competitive request for proposals process to secure independent power producers to develop, construct, finance, operate and maintain new generation facilities in Saskatchewan. ANEDLP was unsuccessful in two wind RFPs prior to securing the PPA for the Bekevar RFP in 2021.
   "SaskPower is the only game in town in terms of procuring utility-scale energy, so it's critical to be competitive, which means having the right partners, the right location, a strong advisory team and access to financing. This can make it difficult for Indigenous communities to break into the renewables space in Saskatchewan."
   – Daphne Kay, Community Energy Specialist, Cowessess First Nation

3. COVID-19 pressure
   Throughout 2021, commodity prices increased significantly. The 10 MW Awasis Solar Project faced increased steel prices and international shipping costs, in addition to longer than expected delivery times. Additionally, flooding in November 2021 wiped out the B.C. road network, which caused a backlog at the Port of Vancouver. The impact to Awasis Solar was that more than 30 shipping containers of critical-path materials were delayed 60 days in port. These pressures affected the overall commercial operation date, leading to an approximate three-month delay.
4. Indigenous participation
   Lack of capacity-building opportunities is a huge barrier when it comes to Indigenous Peoples participating in the renewable energy sector. Providing access to training and mentorship are ways CFN is strengthening investment in the workforce. Likewise, ensuring adequate representation at executive levels within partnerships and requiring contractors and subcontractors to meet indigenous person-hour targets are crucial aspects of equity, which CFN values.

Looking to the future:

CFN wants to continue developing renewable energy projects that will benefit their community and surrounding neighbours.

A majority of the Bekevar Wind Energy Project is to be built on private non-Indigenous lands and 480 acres of CFN Reserve Lands. Due to the CFN Lands included in the project area, the "duty to consult" was triggered, resulting in requirement for the federal government to notify other First Nations in the area of the project. Being a proactive neighbour, CFN provided further accommodating opportunities for their First Nation neighbours to learn more about the project rather than simply being notified of the intent to develop. During this time, CFN is also seeking contractors within and of those Nations that have the potential to be involved in the project locally.

Daphne Kay, Community Energy Specialist, has advice for success to other First Nations: *"When other Nations ask us what our key to success is, our advice is always: start small. It's fundamental to have these big ideas but in order to get there, it's always better to start with a smaller project and once complete, take that feeling of accomplishment and the lessons learned to continue on the path."*

> *"...I don't consider big dams to be clean...I think about 1/3 of BC's power is powered by big dams, if not more. So, I always say what is the true cost of power? When you factor in these big dams in the colonial history, because there's a high cost to your cheap hydroelectricity."* – Cole Sayers

Despite current successes and future opportunities for Indigenous-led clean energy development, several significant and institutional barriers to entry and expansion exist. Challenges include but are not limited to regulatory, policy and program barriers, political barriers, lack of capacity and lack of access to equitable financing opportunities. There are several Indigenous-led organizations leading crucial work to address these issues and elevate Indigenous rights, self-determination, governance, economic development and climate leadership. We would like to highlight and encourage all readers to explore organizations such as Indigenous Clean Energy (ICE)[20], Indigenous Climate Action (ICA)[21], First Nations Power Authority[22], First Nations Major Projects Coalition[23], Anwaantin[24] and Shared Path Consultation Initiative[25].

Renewable energy, as part of extractive and resource development economies, has not been inherently positive for Indigenous communities (Savic and Hoicka, 2021; Hoicka et al., 2021). There are numerous historic and current examples of renewable energy projects across Canada that have displaced Indigenous Peoples from their land, violated Indigenous rights, led to devastating environmental, cultural, spiritual and social damages and contributed to environmental racism and health consequences. Many of these examples are related to large-scale hydroelectricity projects such as Smallwood Reservoir and Churchill Falls in Labrador, Grand Rapids dam in Manitoba, Lac Seul Conservation Dam in Ontario and Site C dam in British Columbia — and toxic, nuclear waste associated with uranium mining and consumption in Saskatchewan and Ontario (Savic and Hoicka, 2021). Grievances also exist with energy transmission, such as Kwikwetlem First Nation v. British Columbia Utilities Commission[26].

The David Suzuki Foundation's Clean Power Pathways project has taken a deliberate approach to defining "clean electricity" in modelling potential pathways to achieve 100 per cent clean electricity in Canada by 2035. The Clean Power Pathways modelling will not include new large-scale hydroelectricity projects (>100 MW); new nuclear generation (including small modular nuclear reactors; SMRs); grid-scale biomass generation; fossil fuel generation with carbon capture, utilization and storage; or unabated fossil fuel generation of any kind. Since these energy sources are excluded from the Clean Power Pathways scope of work, the term "clean energy" used throughout Indigenous engagement and this report is assumed to comprise technologies like wind, solar, geothermal, small-scale hydro projects (<100 MW) and storage.

Photo: Three Nations Energy (3NE)

INDIGENOUS ENGAGEMENT STRATEGY

Neegan Burnside Ltd., in partnership with Dean Jacobs from Walpole Island First Nation, (herein collectively "Neegan Burnside") was contracted by the David Suzuki Foundation's Clean Power Pathways team to engage Indigenous perspectives on the transition to 100 per cent clean electricity in Canada by 2035 (the project).

Neegan Burnside developed an engagement strategy to reach a diverse and broad range of perspectives, ideas and strategies from Indigenous individuals, employees of First Nations EDCs, organizations and networks in all regions of Canada within the project scope. We chose to conduct targeted interviews rather than group virtual engagement sessions to garner more candid conversations and perspectives.

We contacted 17 Indigenous clean energy EDCs that met the project scope, in nine of the 10 provinces. We were unable to identify or contact an Indigenous clean energy EDC in Newfoundland and Labrador. The lack of representation from Quebec and the East Coast of Canada regrettably presents a significant gap in our understanding and perspective. We have attempted to address this gap by providing project spotlights from these regions within this report. We also contacted 12 Indigenous clean energy thought leaders residing across Western and Central Canada. Two people we interviewed were non-Indigenous but were representatives of First Nations organizations. We met with the Director of Housing, Infrastructure and Emergency Management and the Director of Economic Development at the Assembly of First Nations. We contacted the Assembly of First Nations Senior Climate Policy Analyst as well, but they were unavailable to meet.

Project spotlight:

Mesgi'g Ugju's'n Wind Farm, Quebec

The Mesgi'g Ugju's'n Wind Farm, which means "Big Wind" in Mi'kmaq, was developed in a 50-50 partnership between the Mi'gmawei Mawiomi Business Corporation and Quebec-based renewable energy company Innergex. The Mi'gmawei Mawiomi Business Corporation is a collaboration between three Mi'kmaq communities (Gesgapegiag, Gespeg and Listuguj) in the territory of Gespe'gewa'gi (also known as the Gaspe Peninsula).

The wind farm is located on public lands in the Avignon Regional County Municipality in Quebec and consists of 47 wind turbines with a total installed capacity of 150 megawatts. Completed in 2016, it generates enough electricity to power the equivalent of approximately 30,000 households. About 110 workers from the Mi'kmaq communities were employed in construction of the wind farm, and the project estimates profits of $200 million for the Mi'kmaq over 20 years.

http://www.muwindfarm.com/

We had identified several Indigenous organizations we hoped to engage on the project; however, the timing of our engagement conflicted with preparation for and participation at the Conference of the Parties 26 in Glasgow, Scotland. Therefore, after speaking with the DSF project team, we altered our scope of work and continued to focus on individual interviews with Indigenous clean energy EDCs and thought leaders.

A total of 32 individuals were contacted, and 12 interviews were conducted (with one participant rescinding their involvement in the project). Quotes attributed to individuals in this report have been approved for use.

Most people we contacted and interviewed were First Nations. We did not contact any Inuit communities, EDCs or Inuit individuals. At least two people we contacted and one person we interviewed identified as Métis. Our focus on First Nations engagement is representative of the current clean energy landscape in Canada. Of all renewable energy projects associated with Indigenous communities across Canada, Hoicka et al. (2021) found no projects associated with Métis communities, only six associated with Inuit communities and the remainder First Nations. Unless specifically referring to First Nations, Inuit or Métis communities, we used the generally accepted term "Indigenous" throughout this report.

Project spotlight:

Neqotkuk (Tobique First Nation), New Brunswick

Wocawson Energy Project

The Wocawson Energy Project was developed in partnership with Natural Forces and majority- owned by Tobique First Nation (Neqotkuk). The Wocawson Energy Project is named for a Wabanaki legendary mountaintop spirit bird, whose wings make the wind. Completed in 2020, its five wind turbines produce 20 MW for the New Brunswick power grid. The project brings pride and hope to the community. The Nation expects to see returns of $800,000 to $1.2 million annually. The financial returns will contribute to a greater quality of life by enabling the community to address its chronic housing shortage.

https://www.cbc.ca/news/canada/new-brunswick/tobique-neqotkuk-first-nation-wind-project-1.6232553

https://www.naturalforces.ca/wocawson-energy-project.html

We will herein refer to Indigenous engagement participants as "Interviewees." Interviewees were offered honoraria for participating in interviews, as well as the option to defer their honoraria as a donation to a residential school survivor program, which Neegan Burnside would make on behalf of the project. Interviewees were provided prepared questions ahead of time. Interviews were scheduled for 1.5 hours. Video recordings and transcripts were saved as reference for report writing but are not to be distributed.

Along with other Clean Power Pathways project details, Interviewees were informed that the Clean Power Pathways modelling platform cannot consider existing land uses, local priorities, ecological constraints or Indigenous rights and title. The results of the Clean Power Pathways were understood to be exploratory in nature and not to prescribe where specific clean energy projects should be developed.

In keeping within the project scope, we did not engage leaders who are involved with clean energy projects that are not connected to the provincial grid, including small-scale projects, microgrids or off-grid energy sovereignty projects. Therefore, we did not engage any remote or northern communities. We also did not speak with any communities affected by resource mining linked to clean energy projects, as it falls outside the project scope.

Project spotlight:

Glooscap Energy Projects, Nova Scotia

Amherst Wind Farm, Whynotts Wind Farm, Seakist Solar Array, Glooscap Landing Solar Array

Glooscap Energy, owned by Glooscap First Nation in Nova Scotia, explores and implements renewable energy projects. The organization already produces more energy than the Glooscap First Nation community uses from four implemented projects:

- Amherst Wind Farm – 6 MW from two wind turbines in Amherst, Nova Scotia
- Whynotts Wind Farm – 4 MW from two wind turbines in South Shore, Nova Scotia
- Glooscap Landing Solar Array – 25 kw in Hantsport, Nova Scotia
- Seakist Solar Array – 75 kw in Yarmouth, Nova Scotia

https://www.glooscapenergy.com/

Project spotlight:

Beaubassin Mi'kmaq Wind Management Company

Millbrook Wind Farm, Truro Heights Wind Farm, Whynotts Wind Farm, Amherst Wind Farm

The Mi'kmaq are demonstrating leadership in Nova Scotia's clean electricity sector. Four wind energy projects developed by the Beaubassin Mi'kmaq Wind Management Company, owned by the 13 Mi'kmaq communities in Nova Scotia, produce 20 KW of clean energy. These four projects produce more energy than the Mi'kmaq communities in N.S. use, making them net energy producers. They may be able to add more capacity in the coming years through the Nova Scotia Solar Program, with 11 new solar projects approved.

https://www.cbc.ca/news/canada/nova-scotia/mi-kmaq-energy-and-innovation-summit-wind-farm-turbine-1.3781065

https://novascotia.ca/news/release/?id=20181015006

http://communitywind.ca/projects/

Photo: David Dodge, GreenEnergyFutures.ca

INDIGENOUS CLEAN ENERGY LEADERS – INSIGHTS AND PERSPECTIVES

We aspire to convey the key themes and take-aways from our Indigenous engagement in this report. Our main focus in writing this report is to centre Indigenous voices and perspectives. Any misinterpretations or errors are the lead author's sole responsibility. We have supplemented our findings with background research, to the extent appropriate and within our project budget.

Centring Indigenous world views, rights and decision-making

Done right, the transition to 100 per cent clean electricity in Canada by 2035 will break the destructive cycle of the fossil fuel based energy sector and will represent an enactment of Indigenous rights, self-determination and treaty relationships — offering a potential pathway to reconciliation through addressing some of the root causes of climate change. However, if the clean electricity transition is built on the same colonial and inequitable foundation as our current energy sector, it will perpetuate the same injustices and violation of Indigenous rights, stewardship and governance.

Six main themes emerged through engagement with Interviewees:

1. Indigenous world views and knowledge need to be incorporated and respected within broader societal and economic value systems;
2. Meaningful, rights-based and consent-based consultation needs to become common practice for all clean energy projects;
3. Existing Indigenous leadership needs to be honoured and advanced through support for capacity, ownership opportunities and jobs;
4. Indigenous leaders require a seat at decision-making tables, as decarbonizing electricity must also mean decolonizing power structures;
5. Solving systemic infrastructure gaps for Indigenous communities through focused just transition measures must be prioritized as part of the clean energy transition; and
6. Economic reconciliation must be central to the clean energy transition by removing barriers to accessing financial capital, ownership and other project benefits.

Indigenous Peoples worldwide have always been at the leading front of climate action and protection, despite the oppressive colonial forces they have had and continue to endure, resist and overcome. Where Indigenous knowledge systems are key to combating the climate crisis and provide invaluable insight to climate adaptation, the exercise of Indigenous rights and self-determination offers a tangible form of climate mitigation. Indigenous land defence and resistance to the expansion of oil and gas infrastructure has stopped or delayed greenhouse gas pollution equivalent to nearly one-quarter (24 per cent) of annual U.S. and Canadian emissions combined (Goldtooth, 2021). Further, Indigenous land management, stewardship and conservation is responsible for 80 per cent of global biodiversity (Raygorodetsky, 2018) and significant global carbon sinks. Therefore, empowering Indigenous Nations worldwide is a key component to achieving the international climate commitment to keep global temperature rise below 1.5 C (commonly referred to as the Paris targets).

> *"We need to relieve ourselves of this notion that we own the earth, and we own the land. Right now, we're being threatened by the very thing that we think that we can control…and it's ridding itself of us."* - Jordyn Burnouf

> *"[The First Nations-led clean energy industry]…it's really enacting the right to self-determination…indirectly honouring treaty rights… it's, you know, an actionable pathway for reconciliation as a result."* – Cole Sayers

Within the Canadian context, honouring Treaties, empowering Indigenous self determination and advancing reconciliation to address climate change requires collaborative governance models, systems thinking and inclusion of Indigenous-led approaches. All levels of government, Crown corporations, regulators, utilities, the private sector and institutions should learn, embody and uphold treaty obligations, the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), the federal UNDRIP Act (and similar provincial acts, such as in B.C.), the Royal Commission on Aboriginal People, the Truth and

Reconciliation Commission and its Calls to Action, the National Inquiry into Missing and Murdered Indigenous Women and Girls and its Calls for Justice, and precedent-setting Canadian case laws that recognize and uphold Indigenous rights and title. A growing number of First Nations are articulating and asserting their own Indigenous laws, which are to be upheld in parallel to Crown laws throughout their territories.

Climate change is a global issue with widespread and localized impacts. Interviewees spoke of the need to decentralize decision-making and include Indigenous leaders as active participants in decision-making processes at every scale. This includes engagement during the drafting of climate legislation, policy, plans and programs at the federal level, to ensure Indigenous perspectives are foundational to Canada's approach to climate change. It would also extend to federal and provincial program delivery to prevent unintended consequences of climate policy from adversely affecting Indigenous communities. Similarly, First Nations should be empowered to exercise their jurisdictional authority, place-based knowledge and values at governance tables throughout their territories and at the municipal and provincial levels — including directing and governing the transition to 100 per cent clean electricity in Canada by 2035.

> *"You know my ancestor, my relative is a signatory of Treaty 8. I was taught that the treaty is actually one of the most, if not the biggest environmental stewarding documents in our shared history. And that's because the clause, all the clauses of the Treaty, are tied to 'as long as the grass grows, the waters flow and the sun shines.' And those you know, as nice as those phrases sound it actually means that for the Treaties to still be valid and hold up their legitimacy the environment must be protected. And it's in our interest as well as the colonial state, it's in their best interest too. This is what we agreed to. So, when I think about clean energy projects, it's a method of honouring that clause and it's ultimately honouring that you know the spirit and intent of the Treaty."* – Mihskaskwan James Harper

Indigenous scholars, however, found that Indigenous Peoples were "structurally excluded" from the process of developing Canada's two national climate strategies: the Pan-Canadian Framework on Clean Growth and Climate Change and A Healthy Environment and a Healthy Economy (ICA, 2021a; Reed et al., 2021). While the plans repeatedly reference Indigenous rights, Indigenous perspectives, knowledge and approaches had no influence on the actual development of the policies and plans (Reed et al., 2021). As a result, the plans "reflect a western, reductionist worldview" (Reed et al., 2021, p. 7). Current Canadian climate policies and plans focus exclusively on climate adaptation and mitigation, without adequately addressing and reconciling the root causes of the crisis, including the three "c's" driving catastrophic climate change: capitalism, colonization and carbonization (Reed et al., 2021).

The exclusion of Indigenous voices from Canada's climate agenda infringes on Indigenous rights, jeopardizes Nation-to-Nation, Inuit-Crown, government-to-government relationships and ignores the many obligations stemming from the federal government's own inquiries and reports (ICA,

2021a). Reed et al. (2021) offers some key principles in support of an Indigenous-led climate agenda, including prioritizing the land and emphasizing the need to rebalance our relationships with Mother Earth; positioning Indigenous Nations not as stakeholders but as Nations with inherent rights to self-determination; prioritizing Indigenous knowledge systems; and advancing climate solutions that are interconnected, interdependent and multidimensional (p. 3).

Interviewees recognize the tensions that exist between the urgency in which GHG emissions must be drastically reduced to address the climate crisis and the time and effort required to redress and reimagine governance and decision-making structures that uphold and advance inherent, treaty and constitutional Indigenous rights.

Consent-based consultation

Interviewees strongly advocated for rights-based, consent-based consultation. Consultation must shift from being an exercise in "checking the box" to consulting in collaboration with Indigenous Nations in accordance with UNDRIP, and specifically the principle of free, prior and informed consent.

Consent-based consultation processes should demonstrate collaboration with Indigenous Nations to determine, at a minimum and where appropriate, what, where and how clean energy projects are planned and developed; what, where and how energy is transmitted; and what, where and how source materials are mined, extracted or produced.

A consent-based consultation process will respect Indigenous governance, authority and consultation protocols, and demonstrate culturally appropriate application of the First Nation Information Governance Centre's principles of ownership, control, access and possession (OCAP®; FNIGC, 2021) with respect to the treatment of Indigenous knowledge, science and data.

Interviewees considered consent-based consultation an avenue to foster dialogue and negotiations to address how energy systems are managed and governed; how profit-sharing structures can equitably reflect inherent Indigenous, unceded and treaty rights and title (including to territorial resources); and how Indigenous procurement requirements can enhance project outcomes. Indigenous communities are increasingly seeking equity ownership and control in clean energy projects on their land, and free, prior and informed consent will be a key driving policy to achieve this (Savic and Hoicka, 2021; Hoicka et al., 2021).

> *"Clean power and environmental integrity is at the forefront of Aboriginal business and Aboriginal leadership. I mean, the protection of the waterways, the protection of our natural resources as well as the compensation for the use of those natural resources needs to be at the forefront of the government's mind as they look to the future for these projects. More often than not unceded lands and unceded treaty rights are not being taken into account throughout these developments and it needs to be more. I mean they love to talk about truth and reconciliation, but it needs to be more of a forethought rather than the afterthought."*
> – Basil Goodchild, Biigtigong Debenigan (Pic River Energy)

It was noted that First Nations have a reciprocal responsibility to come to the table during consultation processes. Every community is unique and has varying degrees of capacity to participate in consultation processes. The spirit and intent of consent-based consultation must be established and maintained. Proponents are encouraged to meet communities where they are, while at the same time communities should seek to build their internal capacity and governance systems to effectively respond and fully participate in consultation processes. Part of empowering Indigenous Nations is providing the time, space and resources to allow them to develop internal decision-making processes and prepare their leadership to assume delegated authority, jurisdiction and sovereignty.

> *"There's not enough time really, to delay renewable deployment such that people (get)…dragged into like a 20-year environmental (regulatory review) just because they ignored Indigenous rights on the front end." – William David, Indigenous Clean Energy Leader*

Indigenous engagement and participation are required at all levels to achieve 100 per cent clean electricity in Canada by 2035, from grid planning and identifying potential pathways and transmission routes down to project-specific approvals. These processes will have to adjust to scale. Where Nation-specific consultation is required for clean energy projects, the higher-level and more regional planning processes may rely on a different approach, while still respecting unceded and treaty territories.

National, provincial and regional Indigenous organizations will have an important role to play in higher-level clean energy planning processes and pathway discussions; however, individual Indigenous Nations must always have the option to directly participate if they have the interest and capacity to do so. Indigenous participation must be incorporated early in every process; i.e., at the onset of the conversation. Bull (2021), Reed et al. (2021) and Savic and Hoicka (2021) also provide informative overviews of consultation requirements and consideration for meaningful Indigenous engagement and consultation on clean energy projects.

Clean energy – A natural fit for Indigenous leadership

Interviewees described Indigenous-led clean energy initiatives as being in alignment with community values and cultural teachings such as reciprocity, interconnectedness and only taking what is needed. Indigenous-led clean energy projects offer an own-source revenue stream for communities, without compromising ecological and cultural stewardship values. This alignment invokes a spiritual element to the work, as First Nations can respectfully and sustainably harness the power of the elements provided to them by the Creator, while simultaneously caring for their people and the lands for past, current and future generations.

> *"If we could just remind one another that those basic things are what we need: Fresh water, fresh air, food to eat and a place to live. And where can we go from there?"* – Charlene Aleck, Tsleil-Waututh Nation Sacred Trust Initiative

As described by Interviewees, revenues generated through

clean power generation stay within the community and are often used to fund or supplement much-needed social, cultural and environmental programs (e.g., language, land-based activities, harvesting, etc.), build internal capacity and self-sufficiency, and address critical infrastructure gaps that would otherwise remain under- or unfunded.

Due to the broader alignment with community values, the benefits of Indigenous-led clean energy projects are thought to outweigh potential adverse effects or trade-offs (e.g., land use requirements for solar farms). Most often, Indigenous-led clean energy projects start off with a deep understanding of existing constraints based on knowledge of their own territory (e.g., landscape-level planning, biodiversity/wildlife values, land-based activities like hunting, fishing, trapping, medicinal, etc.). When potential impacts are identified, they can be sufficiently mitigated, often through engagement and community-based solutions. We cannot emphasize enough the need for early and direct engagement with Indigenous communities for proponent-led projects (see Section 6.2). Proponents can expect significant and unnecessary delays if projects are proposed without first understanding local community values and environmental, cultural and archaeological constraints.

> *"[I] see wind energy as a good investment that can provide jobs, business opportunities and other important benefits to (my) community"*
> – Dean Jacobs, Walpole Island First Nation

Indigenous-led clean energy projects provide a stream of revenue generation that not only avoids adverse impacts but can enhance the exercise of Indigenous rights (such as harvesting) and stewardship activities through clean and safe access to the land. Indigenous-led clean energy projects are therefore a pathway to prosperity in both the sustenance and market-based economy, while contributing to climate change mitigation to protect those same values.

Indigenous communities and EDCs are the largest single owner of clean energy assets in Canada after Crown and private utilities (Clean Energy Canada, 2021). Common motivations for engaging in renewable energy projects include economic development, self-sufficiency, asserting autonomy and self-determination, and environmental reasons (such as reducing GHG emissions) (Hoicka et al, 2021, p. 3); however, as described by Interviewees, holistic co-benefits are often realized. The transition to 100 per cent clean electricity in Canada by 2035 must leverage and empower continual growth of Indigenous leadership in the sector.

As noted by Interviewees, Indigenous communities must have broad support to prioritize and address their most critical and unique needs. Clean energy technologies must be selected based on specific local criteria and planning time horizons of the community, which may or may not achieve the greatest GHG reductions compared to alternative technologies. Top-down directives — such as the federal government or energy provider strategically advancing specific technologies — will not necessarily serve Indigenous communities or achieve a shift to clean energy. Broad-brush approaches do not always work at the local level and Indigenous Nations maintain the right to choose the best available technologies to meet their unique individual needs.

Solving infrastructure gaps — A component of the clean energy transition

Energy efficiency, or demand side management, was identified by Interviewees as a critical component to reducing GHGs, increasing affordability and aligning with cultural teachings and practices. Energy efficiency was considered a resource in and of itself, at the Indigenous community level but more broadly at the societal level.

Achieving energy efficiency in Indigenous communities can be a difficult task due to substandard housing, infrastructure, services and access. For Indigenous communities to achieve energy sovereignty or fully participate and potentially lead the grid-connected clean electricity transition, Interviewees insist critical infrastructure gaps must be permanently closed, including services for basic human rights and needs, such as clean drinking water, sanitation, safe housing, access to reliable energy and high-speed internet.

Significant, long-term and sustained investments in infrastructure for Indigenous communities (including operations and maintenance) will stimulate the economy, contribute to Canada's domestic and international climate targets and potentially lead to further Indigenous investment, capacity or participation in clean energy.

> *"It [just transition] doesn't really acknowledge or reflect the reality that me and my community have been and continue ongoing…as much as I would love to say for sure no one is going to get left behind. I just want to make sure that people are aware that all this time there have been people that have been left behind. So, what about them? You know, what about us?"* – Mihskaskwan James Harper

An economic analysis conducted by ICE demonstrated that housing upgrades, retrofits and new energy-efficient homes in Indigenous communities require an estimated investment of $5.3 billion (ICE, 2021a). This investment would return significant direct economic benefits, including the creation of 47,000 full-time equivalent jobs, $1 billion in household savings, $11 billion in asset enhancement and extended durability and lifespan of the housing inventory (ICE, 2021a). Indirect economic benefits include the creation of over 26,000 secondary jobs and a future 5.2 million tCO2e of GHG emissions avoided over the course of 10 years, in addition to wide-ranging induced impacts, externalities and societal outcomes such as reduced health care costs (ICE, 2021a).

Decarbonizing the electricity grid must also mean decolonizing power structures

We heard from Interviewees that Crown corporations and utilities currently exercise ultimate jurisdiction and authority over how power is produced, purchased, managed, transmitted and distributed, which tends to exclude or underserve Indigenous communities and can be a barrier for full Indigenous participation in the clean energy market.

Indigenous EDCs require compelling economics and an enabling regulatory, policy and program landscape to participate in the transition to 100 per cent clean electricity in Canada by 2035. Without the ability to sell energy to the grid and generate revenue, Indigenous-led clean energy projects would quickly become stranded assets. There was a sentiment among Interviewees that the fate of Indigenous clean energy projects is at the whim or mercy of Crown corporations and utilities. These imbalanced power dynamics inhibit the advancement of self-determination and reconciliation, and by extension the ability of Canada to achieve its domestic and international climate targets.

> *"...if we keep thinking in this mentality of take, take, take where we're consumers... That's all we are right now, as humans, and we need to become conservationists. Every single one of us needs to become a conservationist and truly understand what that means. And there's no space for capitalism in that world view."* - Jordyn Burnouf

Attributed to its highly deregulated and competitive energy market that fosters innovation, Interviewees identified Alberta as best-positioned to expand the clean energy sector and elevate Indigenous economic development. Interviewees identified other provinces, such as B.C. and Ontario, as providing comparatively little incentive for future Indigenous investment in clean energy projects due to a lack of long-term and equitable power-purchasing agreements and access to diverse energy markets.

The majority of medium- to large-scale Indigenous renewable energy projects are in B.C., Ontario and Quebec, on account of provincial policies, programs, partnerships and larger number of Indigenous communities (Bull, 2021; ICE, 2020a; Hoicka et al., 2021). However, as described by Interviewees, these provinces lost their investment appeal as many of the enabling policies have been removed, become uncertain or are time-restricted (Savic and Hoicka, 2021). Ontario, for example, rescinded its enabling policies in 2018 (Hoicka et al., 2021), and the cancellation of 758 renewable energy projects disproportionately affected First Nations (MacLaren, 2021).

Energy transmission is a key consideration from both an Indigenous governance and economic development perspective. Provincial grids and cross-jurisdictional transmission lines currently transect unceded territories and treaty lands. In light of the potential need for greater connectivity between regions, it is important to remember Indigenous rights, stewardship and governance obligations are not constrained to the same colonial border constructs on which existing grids are based, and necessitate Indigenous representation at negotiating, decision-making and governance tables regarding energy transmission and distribution.

Interviewees expressed interest in not only being energy generators, but also becoming energy distributors to unlock potential revenue from serving diverse markets. Part of decolonizing power structures is decentralizing capital, revenue generation and wealth distribution. Equity positions should not be limited to power generation; Indigenous economic opportunities should also extend to power transmission and distribution.

Interviewees called for regulatory and policy reform throughout much of Canada to enable expansion of Indigenous access, investment and ownership in clean energy projects, as well as to enable shared authority and management. Industry leaders, however, are thought to disproportionately influence the current regulatory landscape in Canada. Crown governments, corporations and utilities are called upon to facilitate and fund Indigenous engagement and interventions at regulatory and policy levels to address structural and institutional barriers and inequalities experienced by Indigenous communities and EDCs. This includes regulatory and policy work at the federal and provincial level, as well as at the municipal level, where significant potential leverage exists.

Achieving economic reconciliation through the clean energy transition

Interviewees expressed the need to creatively overcome significant institutional barriers to succeed in the clean energy sector, such as a lack of internal capacity, lack of progressive policies, political barriers and lack of access to financial capital. These are often steeped in centuries of colonial constructs and inherent racism. Interviewees identified equity ownership (50 per cent or higher) as an aspirational minimum standard for clean energy projects on their land and as a pathway to reconciliation.

Institutional barriers to accessing financial capital often relate back to the land, the Indian Act and insufficient and paternalistic federal funding programs. The Bank of Canada recently recognized more must be done to redress Indigenous access to labour markets and capital.[27]

Interviewees noted that numerous federal, provincial and utility-based funding programs are available to Indigenous communities and EDCs for clean energy initiatives; however, delivery of such programs is often problematic. Interviewees identified the need for funding programs to be more streamlined and co-ordinated across government departments, made more accessible and made more flexible to respond and adapt to unique realities and timelines of Indigenous-led initiatives.

While there are examples of First Nations achieving 100 per cent ownership and control of clean energy projects (e.g., M'Chineeng First Nation's Mother Earth Renewable Energy Project, Tsilhqot'in Solar Farm), the large majority require partnerships, which can be key to success and provide a myriad of benefits beyond the financial. Interviewees expressed the importance of partnerships based on trust, mutual understanding, alignment of values and priorities and a genuine commitment to improving community well-being.

> *"Jobs are nice, but equity and capacity building are nicer. How much are you willing to help us? As a seasoned veteran in this sector, how much are you willing to mentor? … We've been really fortunate to find partners who are sincere in, I guess you could call it reconciliation, right? Because our partners have a deep understanding of historical injustices, and I think that's why they're so willing to agree to allocate a portion of the project expenses towards a Community Energy Specialist hired by the Nation."* – Daphne Kay, Cowessess First Nation

To address internal capacity gaps, funding allocations specifically for training, education, capacity development and hiring permanent staff are critical. Clean energy projects are multi-year initiatives that require internal champions to navigate the regulatory process, manage the project and embed the project legacy within the community. Having staff, managers, political leadership and the community engaged in and informed of economic development projects is key to the initial success of a project, while retaining built capacity is essential for accumulating long-term benefits.

Construction, installation, operation and maintenance of clean energy projects provide economic and employment opportunities for Indigenous Peoples and EDCs, all of which require training and capacity development. Meaningful Indigenous employment contributes to the overall success of clean energy projects, and a sense of individual and community pride.

Interviewees noted that economic and employment opportunities reach far beyond community-specific projects. Indigenous capacity must be developed and empowered to meet employment needs for entry- to senior-level positions — within communities as well as the private and public sector — to fulfil a significant role in the transition to 100 per cent clean electricity in Canada by 2035 and in the associated workforce and economy.

> *"We [First Nations] should power the Just Transition"*
> – Cole Sayers

Notably, ICE is working to address and exceed the capacity gap through programs such as the Global Hub, Generation Power and the 20/20 Catalyst Program. ICE is promoting international Indigenous cooperation, enforcing UNDRIP through clean energy, introducing Indigenous youth to the clean energy sector and related careers and providing training to Indigenous participants on renewable energy projects, energy planning, energy efficiency and conservation and advanced energy systems (ICE 2020b). Many ICE 20/20 Catalyst alumni have proceeded to become local, provincial, national and international clean energy leaders.

The same barriers, capacity issues and opportunities were identified by Krupa (2012), Lynch (2017) and Bull (2021). Indigenous Clean Energy (2020a) maintains an inventory of all Indigenous-related clean energy projects and found Indigenous participation includes ownership, co-ownership, stipulated economic benefits, royalty agreements, Indigenous financing, revenue-sharing agreements, lease agreements, impact benefit agreements or partnership agreements (ICE 2020a). Of 194 projects analyzed by Hoicka et al. (2021), however, only 41 are controlled (51 per cent ownership or more) by Indigenous communities, all of which are situated on reserve or settlement lands. While all the renewable energy potential in Canada resides on unceded Indigenous territories or treaty lands (Hoicka et al., 2021, p. 2), it appears Indigenous equity ownership and control is not yet afforded to reflect indigenous jurisdiction over unceded territorial or treaty lands. Further, while some community aspirations (e.g., jobs and training) can be achieved through mechanisms such as IBAs, the benefits are often weak, short-lived and lacking legal recourse. Therefore, IBAs do not rise to the standard of reconciliation (Hoicka et al., 2021). Equity ownership is the only pathway to reconciliation (Hoicka et al., 2021; Savic & Hoicka, 2021).

Photo: Stephen Hall

CONCLUSION

The opportunities for Indigenous participation in the clean energy transition are endless; and the challenges and barriers real. Many of the solutions to the identified barriers are readily achievable but require sustained political will and resourcing, both externally and internally to Indigenous communities. Successes need to be celebrated and lessons shared so that an increasing number of Indigenous Nations can substantially benefit from clean energy projects.

> *"When we [First Nations] win, everybody wins."*
> – Charlene Aleck, Tsleil-Waututh Nation Sacred Trust Initiative

Structural and institutional historic and ongoing inequities must be redressed. There is cautious optimism that we are moving in that direction; however, the timeline for transformative action needs to be accelerated. An Indigenous-led clean energy transition will require the status quo to look and operate entirely differently by incorporating and centring Indigenous world views, values, governance and decision-making authority.

As observed through numerous examples throughout Canada, Indigenous communities are extremely innovative and adept at successfully implementing clean energy projects, grids and economies, despite the myriad of challenges they face. Empowering Indigenous Nations will unlock a whole new level of effectiveness in mitigating and adapting to climate change, including the transition to 100 per cent clean electricity in Canada by 2035 and in the associated workforce and economy.

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