

Assessing Opportunities to Embed Energy Management Curriculum in Indigenous Post-Secondary Education and Training

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This project was conducted under the mentorship of BC Hydro's staff. The opinions and recommendations in this report and any errors do not necessarily reflect the views of BC Hydro or the University of British Columbia.

Positionality

My name is Janna Wale and I am a proud member of the Gitksan Nation; I am also Cree-Metis through my mother. Growing up, I loved traditionally fishing. Over the years, it was difficult to watch as salmon numbers dwindled, and to watch my family have to work harder than the year before to catch what we needed. In response, I entered the Bachelor of Natural Resource Science program (B. Nrs) at Thompson Rivers University in order to attempt to become part of the solution. Upon completion, I made the decision to continue my education at University of British Columbia – Okanagan Campus in the Masters of Science in Sustainability program (M.Sc. – Sustainability), where my research focuses on climate resilience and adaptation in Indigenous communities. In my current role and over the duration of my post-secondary career, Indigenous

people and communities are coming into this space by storm, and are using generations of knowledge to meet their community needs and goals.

While I would agree that my experience in academia has been positive, I would also admit that the supports and specific training for Indigenous people and communities could be improved upon. In this way, it is my hope that the recommendations in this report would further allow Indigenous people to participate in the climate and clean energy space on their own terms, in a way that will uplift their communities in a way that is meaningful to them, and for the organizations working with them to listen to their aspirations and goals, and to help provide the relevant training that is needed to meet those targets in a way that is culturally appropriate and community-led.

Executive Summary

Indigenous people are strong and resilient, and are now looking at ways to become more sustainable, and to further their capacity for climate action and energy management. This project highlights opportunities to embed climate action and energy management curricula into Indigenous post-secondary education and training. It was undertaken in two phases: 1) an assessment of programs of interest and Indigenous student statistics at post-secondary institutions in BC, and 2) interviews with Community Energy Champions (CECs). The findings in Phase One indicate that Thompson Rivers University, the University of British Columbia, Vancouver Island University, and Okanagan College performed well in terms of Indigenous student headcounts and student spaces. Specifically, Trades and Arts & Science programming had high Indigenous participation, and high percentages of credentials earned. Phase Two generated four themes: 1) Energy management can support Indigenous sovereignty, 2) Indigenous people have longstanding caretaker roles, and generations of knowledge, 3) Indigenous people are proactive, and are willing to lead and to learn, and 4) Indigenous people value knowledge continuity, and the connection between generations. Key recommendations from this study include: 1) Begin by focusing on schools with high Indigenous enrolment and retention, 2) Work with communities on their goals and aspirations towards climate action and energy management, according to their laws and practices, 3) Create and maintain long-term funding opportunities.

Introduction

Indigenous communities have continually demonstrated strength and resiliency. Since time immemorial, Indigenous people have held and continue to hold deep relationships with their lands and territories. They are now in a good position to actively participate in deciding their own priorities and their own futures related to resource management within their territories. Many Indigenous communities are now looking for ways to participate in the low-carbon economy according to their own worldviews and laws. However, higher education and training outcomes for Indigenous people remain considerably lower compared to the provincial average.

In order to seek ways to support Indigenous people in the development of skills, knowledge, and capacity to advance energy management and climate action in their communities and territories, this project highlights opportunities to embed relevant climate and energy management curricula into Indigenous post-secondary education and training. This research is intended to 1) provide better support and opportunities to Indigenous people interested in clean energy and climate training 2) position Indigenous peoples to take advantage of new economic opportunities in the low carbon economy, and 3) seek to further understand how the Indigenous worldview and Indigenous ways of knowing and being can be applied to improving learning and knowledge transmission outcomes within climate action and energy management courses, programs, and training within British Columbia (BC) post-secondary institutions.

In order to achieve these goals, this research was conducted in two phases: (1) an assessment of programs of interest and Indigenous student statistics at post-secondary institutions in BC, and (2) interviews with Community Energy Champions (CECs)¹. CEC is a BC Hydro program term, and the Nations may have different titles for these positions, that fits with their context. The recommendations of this report will be of interest to organizations looking to work collaboratively with Indigenous peoples on climate action and energy management training opportunities. The recommendations from this report will help to inform decisions around the development and implementation of Indigenous-focused climate action and energy management education and training interventions within BC.

Background

¹ A CEC is a part-time or full-time staff resource employed by a First Nations Band or Tribal Council who dedicates their time to developing and implementing plans, policies, and projects that advance climate action and energy management initiatives across the community.

Indigenous people have lived in what is now known as BC since time immemorial. Colonization began with the arrival of settlers on our shore – and in the 300 years that followed, our lands and territories were divided up and sold, which set the tone for the relationship between Indigenous peoples and settler governments that still exists today. (MacMath and Hall 2018). In the years after that initial contact, many Indigenous people succumbed to diseases (Gosnell-Meyers 2019). 1763 was marked by the signing of the Royal Proclamation, which was the first document to give recognition to First Nations rights and title in what is now known as Canada. Since this document affirms that Indigenous territory cannot be seized without being bought or ceded by the crown, “Indian eradication efforts” were translated into legislation and policy that created favourable outcomes for the settler populations (Sponsel 2007). The Indian Act, which exists largely untouched from its creation in 1876, allowed for the creation of the reservation system; This system reduced Indigenous lands to a fraction of what they once were, and introduced and prioritized western systems of resource management (Smith et al. 2019). Further under the Indian Act, 1870 marked the introduction of residential schools. For 160 years, Indigenous children were forcibly removed from their communities and families, and were made to suffer through mental, physical, and sexual abuse mandated by the Canadian government and the catholic church (Turner and Clifton 2009; Sanchez 2018; Smith et al. 2019). The last of these schools closed in 1996.

In the 25 years since the closure of the last school, while we have made some progress towards healing the past, there remains a lot of work to be done. Particularly, Indigenous people are disproportionately affected by climate change (Abate and Kronk 2013). The location of Indigenous communities, the history of dispossession and marginalization, and the deep and spiritual connections to land and territory held by community members situate Indigenous people on the frontlines of these climatic changes (Vinyeta et al. 2015; Whyte 2017).

“In a time of land-claims settlements, and moves towards self-government all over Canada, Indigenous people with scientific and technological education are needed to manage resources, build and maintain infrastructure, and deliver other scientific services to their own people” (Snively and Williams 2016). The way in which climate action and energy management curricula is implemented will ultimately determine if it is a move towards reconciliation, or a continuation of colonization (MacMath and Hall 2018). The real work begins with deconstruction: we must begin by asking how Indigenous knowledge, ways of knowing, and histories have been ignored in the past, and from there begin to reconstruct our future plans and curriculum opportunities that are better designed to operate within the Indigenous worldview (MacMath and Hall 2018). Indigenous students are underrepresented in almost all post-secondary education outcomes, and are over-represented as first-generation learners in post-secondary institutions (Bell and

Santamaria 2018). Current student development theories fail to consider the diverse cultural, socioeconomic, and academic experience of Indigenous people as they navigate training and programming in post-secondary contexts (Freitas et al. 2013). The Truth and Reconciliation Commission of Canada (TRC) published 94 Calls to Action in 2015 stresses the importance of education as reconciliation; opportunities to increase and enhance Indigenous learning and participation in climate and energy management programming in B.C. is a small start, but is worthy a contribution to realizing this Call to Action.

Research Approach

This research was carried out in two phases: (1) phase one includes a literature review and scan of the post-secondary and Indigenous-controlled training institutions in BC, and (2) phase two is informed by semi-structured interviews carried out with Community Energy Champions.

Phase One | Literature Review & Post-Secondary Scan

The first phase of this research was inclusive of a literature review, a scan of post-secondary education and training institutions in BC, and a scan of the Indigenous-controlled education and training institutions in BC. The literature review focused mainly on but was not limited to: the historical relationship between Indigenous peoples and the provincial and federal governments, Indigenous people educational outcomes within post-secondary institutions, and a scan of relevant government documents and provincial legislation.

This section is focused on BC Public post-secondary institutions, which are authorized under provincial legislation to deliver post-secondary training and education in BC. This is divided into statistics on Indigenous student headcounts, Indigenous student spaces, and programs of interest in post-secondary institutions in BC.

It should be noted that separate from this analysis, there are a number of Aboriginal controlled post-secondary institutions. These institutions offer a range of courses and programs that include but are not limited to: post-secondary credentials, such as diplomas and degrees, adult basic education, adult dogwood diplomas, and occupation-specific training. Since many of these institutions are largely band-controlled, it is recommended that climate action and energy management for these institutions be approached in a place-based manner, which works with the nation to determine opportunities and priorities. For this reason, these institutions will be left out of the scope of this report. A complete list of the Aboriginal controlled post-secondary institutions can be found in Appendix A.

Phase Two | What We Heard

BC Hydro recognizes the value of providing organizations with resources in order to embed the capacity and support the development of knowledge to drive change. BC Hydro is interested in supporting Indigenous nations to advance community energy and climate action initiatives in their own communities. As a part of this, BC Hydro supports CECs; CECs are change agents who are often community leaders, trusted advisors, or go-to resources for community energy and climate action. BC Hydro began supporting these positions through a pilot initiative in 2017, and will be developing a CEC program offer for Indigenous Nations moving forward.

The second phase of this research was conducted through semi-structured interviews with CECs, and informs the “What We Heard” section of the findings in this report. Interviewees were contacted via email and had the opportunity to participate in our research process.

Results

Literature Review & Post-Secondary Scan

BC has 25 public post-secondary institutions, inclusive of four research-intensive universities, seven teaching-intensive universities, eleven colleges, and three provincial institutes. While there has been an increasing number of Indigenous learners attending post-secondary institutions in BC, the Indigenous experience in academia differs significantly compared to non-Indigenous learners in terms of institutions attended, programs completed, and credentials earned. During the 2015-2016 academic year, Indigenous learners attended colleges and teaching-intensive institutions at higher frequencies compared with attendance rates at institutes and research-intensive institutions for full-time equivalent enrolments (FTE) (Figure 1). FTE is the number of full-time and part time enrolments, converted to represent the number of students carrying a full-time course load. It should be noted that in this case, and throughout this study Aboriginal carries the same definition as Indigenous: a collective name for First Nations, Inuit and Metis peoples.

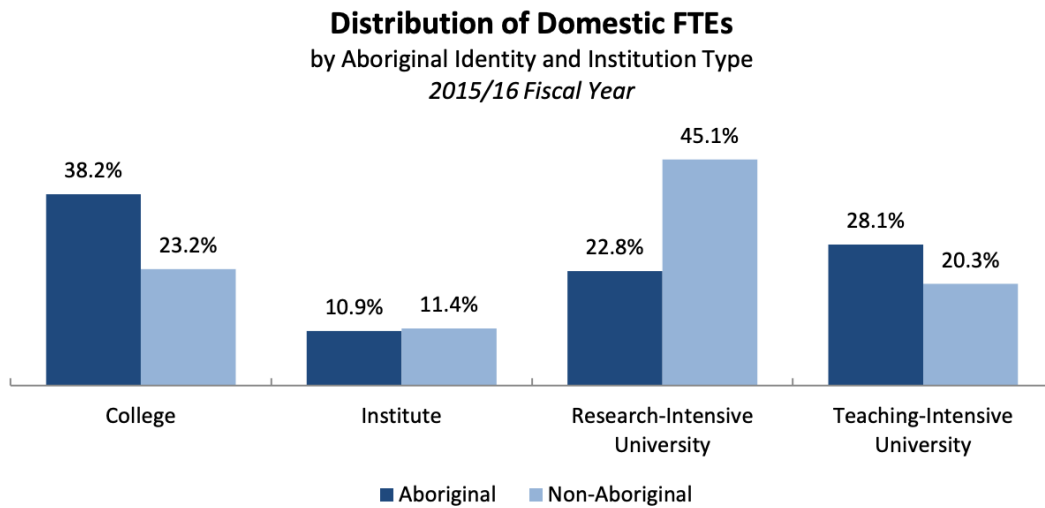


Figure 1: The distribution of Domestic FTEs between Indigenous and Non-Indigenous learners.

Colleges are predominately focused on adult basic education, career, technical, trades, and academic programming leading to certificates, diplomas, and applied bachelor degrees (Ministry of Advanced Education and Skills Training 2020). Institutes offer specialized programs (Ministry of Advanced Education and Skills Training 2020). Research-Intensive universities offer both graduate and undergraduate instruction, and have a number of professional certificate and diploma programs, whereas Teaching-intensive universities provide career, technical, trades, and academic programs leading to certificates, diplomas, as well as degrees (Ministry of Advanced Education and Skills Training 2020).

Indigenous Student Headcounts

A “student headcount” can be defined by the number of students registered in all reported instructional activity, including skills courses and developmental activities (Ministry of Advanced Education and Skills Training 2021). Indigenous learners are students who self-identify as Indigenous at their BC public post-secondary education. It should be noted that the non-Indigenous categories could include Indigenous students who have not self-identified.

Provincially, Thompson Rivers University holds the highest Indigenous student headcount (2,935); followed by the Justice Institute (2,370), Vancouver Island University (1,805), the University of British Columbia (1,731), and Okanagan College (1,515) (Figure 2). A comprehensive list of Indigenous student headcounts in BC can be found in Appendix B.

INDIGENOUS STUDENT HEADCOUNTS 2019-2020	
INSTITUTION	HEADCOUNT
1) Thompson Rivers University	2,935
2) Justice Institute	2,370
3) Vancouver Island University	1,805
4) University of British Columbia	1,731
5) Okanagan College	1,515

Figure 2: Institutions with the highest Indigenous Student Headcounts in the BC Public Post-Secondary Institutions.

Indigenous Student Spaces

Every academic year, Institutions in BC are required to submit an Accountability Plan and Report to the Ministry of Advanced Education, Skills and Training. One of the metrics included in this annual report is Indigenous student spaces. Indigenous student spaces indicates the accessibility of the system for self-identified Indigenous learners; in practice, this statistic is the number of full-time equivalent enrolments of Indigenous students delivered in all program areas (Ministry of Advanced Education and Skills Training 2020).

For the scope of our report, actual (rather than target) Indigenous student spaces were compared for the 2019-2020 academic year. The institutions with the highest number of Indigenous student spaces are the University of British Columbia (1,516), Thompson Rivers University (1,379), Vancouver Island University (1,217), Okanagan College (1,000), and the University of Victoria (935) (Figure 3). A complete list of Indigenous student spaces per post-secondary Institution can be found in Appendix B.

INDIGENOUS STUDENT SPACES	
2019-2020	
INSTITUTION	SPACES
1) University of British Columbia	1,516
2) Thompson Rivers University	1,379
3) Vancouver Island University	1,217
4) Okanagan College	1,000
5) University of Victoria	935

Figure 3: Number of actual reported Indigenous Student Spaces for the 2019-2020 academic year in BC Public Post-Secondary Institutions.

Programs of Interests

According to the most recent census data, the highest headcount statistic of Indigenous learners are enrolled in Arts & Science programs at 22.8% (Figure 4)(Ministry of Advanced Education 2018). This is followed by Trades programming (15.3%) by Developmental Programs (15.3%), and by Human and Social Service Programs (11.4%). On average, there are higher proportions of Indigenous learners enrolled in the Trades, in Human and Social service programs, and in Developmental programs compared non-Indigenous learners; There is a lower proportion of Indigenous learners enrolled in the Arts & Sciences than non-Indigenous learners.

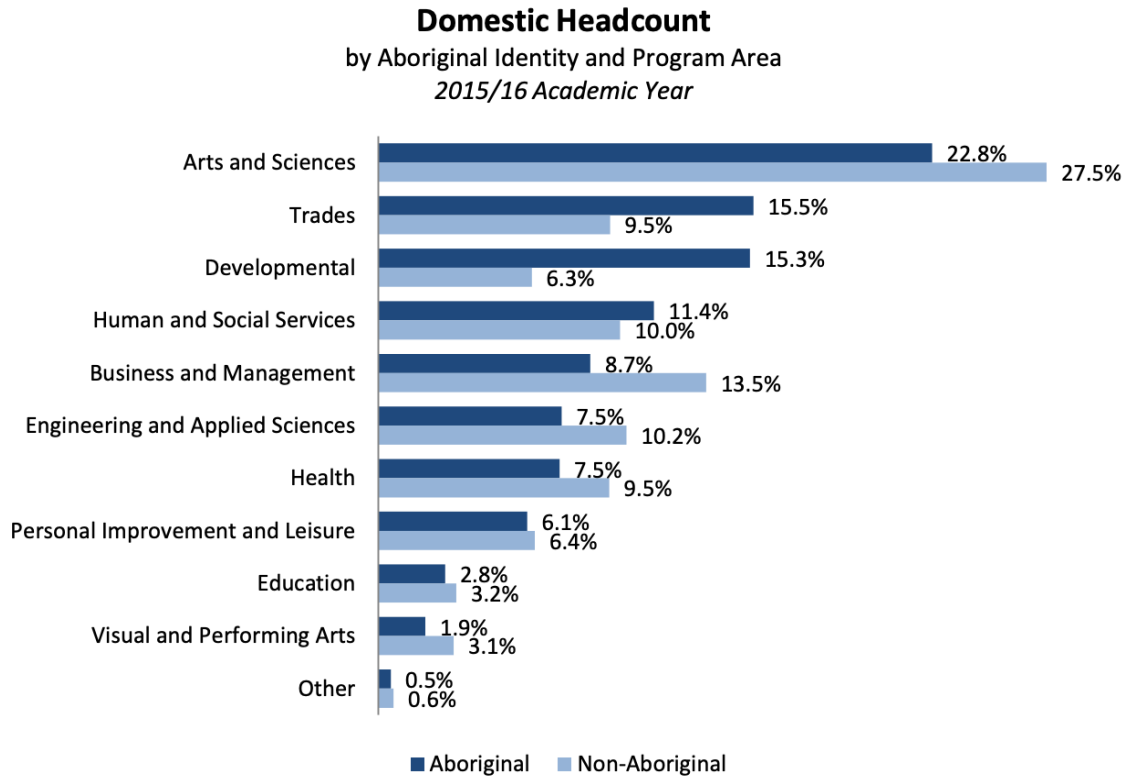


Figure 4: Indigenous Identity by Program Area Headcount

The programs that have the highest Indigenous retention and completion of training are Trades programs (22%), Arts & Sciences (17%), followed by Human & Social Services (13%), Business Management (13%), and Health (13%) (Figure 5). Of these, Trades and Human & Social Services have a higher proportion of Indigenous learners earning credentials compared to the non-Indigenous learners.

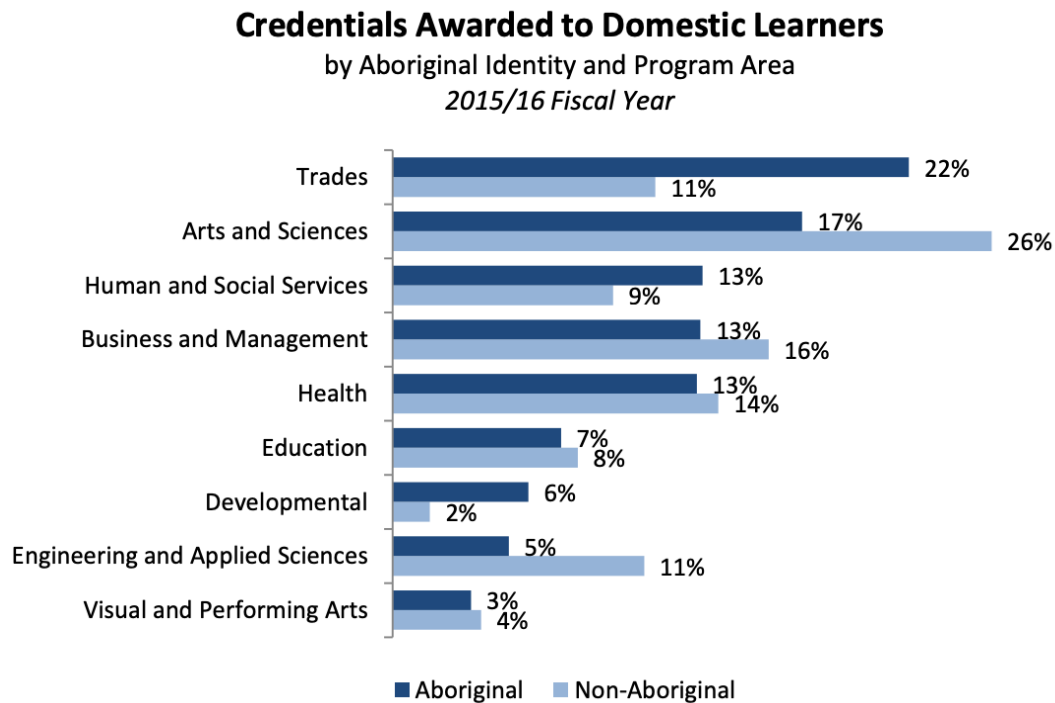


Figure 5: Credentials awarded per program.

CEC Interviews

CECs from 5 communities participated in our research, as well as a representative from the Aboriginal Housing Management Association (AHMA). The CEC interview participants were asked for feedback on a total of six questions. For a detailed list of the interview questions, please see Appendix C.

Q1 – Why is energy management and clean energy important to Indigenous people?

Many of the CECs noted that energy management and clean energy are important in working towards self-sufficiency and energy sovereignty. As well, nearly all of the CECs indicated that their communities have a strong desire to live sustainably in all aspects of life, and in accordance with their ancestral laws. Particularly, the energy management and clean energy space allows these communities to demonstrate that they are leaders, and are committed to fighting climate change. Two of the CECs noted that being able to get off of diesel generators is a positive step forward in both helping the community save money and in creating power that is in line with their worldview.

Q2 – Where can Indigenous people lead in terms of climate change?

All of the CECS interviewed noted that Indigenous people have long-standing generational knowledge that advantageously positions them when it comes to leading in climate action. Similarly, all CECs noted that relationships with the land are an important part in knowledge continuity, and in maintaining cultural connections. All of the CECs stated the willingness to lead, and to be properly acknowledged as leaders and stewards of their lands and territories.

Q3- Are you aware of any climate action or energy management work going on in your community?

Nearly all of the CECs noted their community was in the process of developing a community climate plan or community energy plan. Other projects that were mentioned included the creation of community gardens, heat pump and run of river projects, and completing energy efficient retrofits within community buildings. All of the communities interviewed expressed the desire to begin or continue the transition to more environmentally responsible or energy efficient solutions.

Q4 – What are community goals related to climate action and energy management?

Four of the CECs noted that their community wants to become more energy secure, and begin to transition to more renewable energy sources. All of the CECs mentioned that their communities have begun with projects like community gardens, home and building retrofits, and creating climate and energy plans. As well, all of the CECs noted that these are important steps in creating a better future for the generations to come.

Q5 – Are you aware of any partnerships between your community and any post-secondary or training institutions?

All of the CECs confirmed that there are continued partnerships between their communities and with post-secondary or training institutions. However, one CEC noted that the majority of these partnerships are predominately targeted towards language and cultural development, rather than climate action and energy management. Mentioned partner institutions include: BCIT, NVIT, VIU, UBC – Vancouver, SFU, and Camosun College.

Q6 – In your opinion, what do you think would be helpful in getting Indigenous youth interested in climate action and energy management?

As one CEC notes, ensuring that the skills acquired in post-secondary programs are employable is important. Further, hands-on skills and place-based knowledge led by Indigenous knowledge holders would be beneficial, and could foster a sense of pride and empowerment in Indigenous youth who are interested in the climate action and energy management space. Encouraging and supporting education was also common theme among CECs. Lastly, all of the CECs noted that

having wages and program subsidies that are competitive with the salaries of other industry jobs could encourage participation.

Key Findings

Considering the responses from the CEC interviews, we have developed four key themes, which have been summarized below (Figure 6).



Figure 6: Key themes taken from the interviews with the Community Energy Champions.

01 - Energy management can support Indigenous sovereignty

First and foremost, CECs noted that energy management and clean energy can help communities become self-sufficient, while operating within an Indigenous worldview. This work provides opportunities for employment, while allowing for more direct control from the community over the work being done in their territories. For example, many of the communities we spoke to are running projects like community gardens, which allow for less dependency on energy-intensive produce, while creating opportunities for knowledge continuity between community members. Many CECs noted that living within balance and living sustainably align with traditional

stewardship laws, and that energy management, climate action, and sovereignty all go hand in hand.

“Developing clean energy shows that we are leaders and are committed to fighting climate change, and creating clean energy jobs...while working towards self-sufficiency and energy sovereignty”

Further, many CECs expressed the potential for tapping into new economies, while demonstrating the potential for Indigenous leadership in this sector. Lastly, increased participation in energy management, climate action, and reducing reliance on diesel generation could be an avenue for increasing the standard of living on reserve, while making life in community more affordable and more accessible.

02 - Indigenous people have longstanding caretaker roles, and generations of knowledge

All of the CECs interviewed stated that Indigenous people hold deep and longstanding relationships with their territories, and that these relationships are underpinned by a responsibility as caretakers and stewards of the land.

“Living directly off the lands and waters for thousands of years has made our community keen observers of seasonal and other changes, and the general health of the lands and waters in the territory. Long before the term “nature-based solutions”, we worked to cultivate the shoreline and landscape in sustainable ways through many extreme weather conditions - this knowledge and understanding offers valuable insights to inform climate action”

Having knowledge that has been passed on for generations, Indigenous people have a lot of relevant experience and skills that can contribute to advancing energy management and climate action. Notably, one participant stated: “Climate action is often thought of as renewable energy and electric vehicles. When I think of climate action, I think of restoring our food ways, restoring our food systems, restoring our connections to water and animals, and reconnecting with the plants.” In this way, the knowledge already held by Indigenous people would be strengthened by continuing to get out on the land, and reconnecting with culture.

03 - Indigenous people are proactive and willing to lead and to learn

Many of the communities the CECs belong to are undertaking climate and energy work. For example, community gardens, home retrofits on reserve, and building climate and energy plans and vulnerability assessments. Many communities are already working on energy efficiency and climate action, and are interested in exploring other avenues that could lead to restoring their relationships with their lands and territories. Importantly, many of the communities cited the motivation behind proactivity as a responsibility towards future generations. Some examples of avenues being investigated include blue carbon marine restoration, tidal power, and housing retrofits.

“Our community is interested in transitioning to more environmentally responsible and energy efficient solutions”

Indigenous communities are also willing to learn; nearly all CECs noted partnerships with organizations or universities, at differing capacities. While many of the existing partnerships relate to Indigenous culture, language, and history, these play a key role in the conversations around climate action and energy management in the context of the Indigenous worldview.

04 - Indigenous communities value knowledge continuity, and the connection between generations

Lastly, all of the CECs interviewed want to see Indigenous youth empowered and confident. One participant noted that having youth on the land from a young age alongside elders would foster place-based and hands-on knowledge, while allowing for natural knowledge continuity. The sooner Indigenous youth are brought in on climate action and energy management conversations, the more likely they are to have the confidence to share their knowledge and lived experience.

“Climate change is very scary to a lot of people and they don’t want to think about it; but if we highlight what the nation is doing, we could get youth interested in operating from a place of hope and feeling confident and excited, rather than being stressed out.”

Many of the CECs also voiced barriers to getting youth involved and interested in the climate action and energy management space. Some examples include: limited availability of long-term funding, and ensuring that the skills brought back from training are actually employable. On the other hand, many of the CECs also cited that having more readily available educational and training opportunities presented in a culturally appropriate manner could really boost confidences and generate interest.

Recommendations

In order to best support the development and integration of climate action and energy management into Indigenous post-secondary education and training, we have developed three key recommendations. However, it is important to note that these recommendations should be supported with cultural safety training, and education on the history between Indigenous peoples and state-run institutions.

01 – Focus on schools with high Indigenous enrolment and retention

To start, the best initial place to embed Indigenous-focused climate action and energy management curricula would be at schools with high numbers of Indigenous recruitment and retention. In other words, institutions that have reported high Indigenous student headcounts and student spaces. Further, it would be beneficial to design the curricula in a program-specific

manner. Initial efforts should focus on the program areas that have high Indigenous participation and completion rates. By focusing initial efforts on programs have documented high proportions of Indigenous learners and Indigenous credential-earners, the uptake of the pilot programming should be more effective.

According to our research, five schools to focus on are Thompson Rivers University, the Justice Institute, Vancouver Island University, the University of British Columbia, and Okanagan College. At these post-secondary institutions, Trades programs and Arts & Sciences programs have the highest Indigenous participation and the highest proportion of credentials earned, and are good place to start.

1# - Thompson Rivers University (TRU)

Trades programs at TRU that would be a good fit are Industrial/Construction Electrician, and Power Engineering. For Arts & Sciences, the Bachelor of Natural Resource Sciences and the Geography and Environmental Studies programs both have opportunities for integration.

2# - Justice Institute

At the Justice Institute, the Emergency Management program is the best avenue for climate action related curricula interventions.

3# - Vancouver Island University (VIU)

Relevant Trades programs at VIU are Aboriginal Construction and Electrician. VIU has many relevant science programs that would be a good fit, including Forestry resources, and resource management. VIU also offers Indigenous studies and Earth studies in the Bachelor of Arts program. Two relevant certificate programs are the First Nations Housing Manager Certificate program, and the First Nations Building Officials Certificate program.

4# – The University of British Columbia (UBC)

Relevant UBC programs include Earth & Environmental Sciences, Natural Resource Conservation, Electrical Engineering, Environmental Design, and Forest Bioeconomy and Technology. UBC also offers an Electricians program. Additionally, UBC offers an Indigenous community planning stream within the School of Community and Regional Planning. Relevant graduate programs at UBC include the Masters in Clean Energy Engineering, and the Masters in Energy Leadership.

5# - Okanagan College

Interventions at the Okanagan College would be best focused on the Diploma of Environmental Studies, the Sustainable Building Technology Diploma, and in the Engineering Diplomas.

Aboriginal Controlled Post-Secondary – Nicola Valley Institute of Technology (NVIT)

While this report does not focus on Aboriginal Controlled Post-Secondary Institutions, NVIT has a high degree of Indigenous enrolment and offers programming that would create good opportunities for further partnerships. For example, Aboriginal Community & Health Development Certificate, Environmental Resource Technology Certificate/Diploma, and the Renewable Energies Technology Diploma would be good opportunities for intervention.

02 – Work with communities on their goals and aspirations towards climate action and energy management, according to their laws and practices

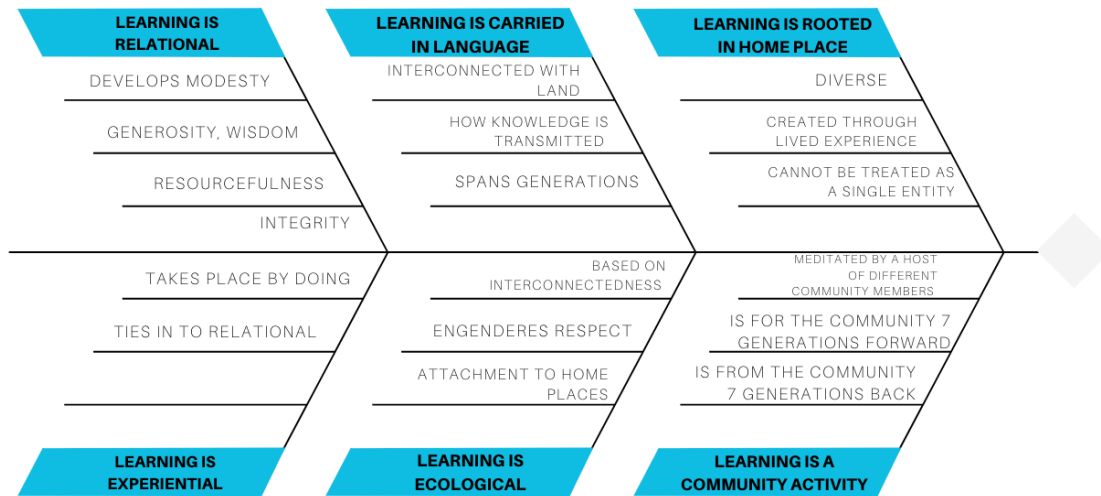
Secondly, working directly with communities on what programs and initiatives they would like to see strengthened would support both Indigenous sovereignty and would ensure there would be interest in what is being developed. In this way, communities would have a stronger sense of what is being taught, areas where they are able to lead, and would create more opportunities to integrate key aspects of culture. Having more direct involvement on the development of the climate action and energy management curricula would create better relations, and would ensure that it is being done according to the correct laws and practices of the specific communities.

One avenue to accomplish this would be working with Indigenous people to create climate action and energy management curriculum that integrates Indigenous perspectives, and includes relevant examples from Indigenous communities. Ideally, this curriculum would be flexible, and would provide space for communities to adapt it according to their own context and goals. Working with the Industry Training Authority (ITA) could accelerate the development of the curriculum, rather than working with each institution individually. However, existing partnerships between nations and post-secondary institutions may also be a good avenue for the development of a more specific curriculum.

The curricula would be thoughtfully developed, and would better support the “Indigenous Learner”, by creating space for the development of specific learning pathways (Figure 7).

Food for Thought: Indigenous Learning

In Chapter 3: "Coming to Know": A Framework for Indigenous Science Education, in *Knowing Home: Braiding Indigenous Science and Western Science* by Snively and Williams (2016), Indigenous learning and education is broken down into six pillars. When beginning to think about opportunities to embed climate and energy training into BC post-secondary education, specifically tailored educational tools by Indigenous peoples for Indigenous peoples could increase the chances of successful uptake by Indigenous communities.



INDIGENOUS EDUCATION

Figure 7: Indigenous Learning as proposed by Snively and Williams (2016).

03 – Create and maintain long-term funding opportunities

Lastly, every CEC noted the lack of long-term funding opportunities to support programming, community employment, and Indigenous youth in the climate action and energy management Sector. Creating long-term funding that is comparable to industry wages is imperative for the success of the embedding of climate action and energy management curricula in Indigenous post-secondary education. Education and training ultimately need to lead to working in the field; supporting job creation, retention, and youth work within communities will ultimately generate more interest in the field, and will lead to more participation and success of the embedded curricula. This could be achieved through continued funding of Indigenous scholarships, and the further development of funding programs in conjunction with each community in order to get the best outcomes possible for their specific situation and according to their specific needs. Finally, supplementing the current CEC program with training and development opportunities will further position them to spearhead some of the climate action and energy management work being done within communities.

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Appendices

Appendix A: Complete list Aboriginal Controlled Post-Secondary Training Institutions in BC

These institutes are governed by an Indigenous board. For more information, please see <http://iahla.ca/institutes/>.

Institution	Description	Potential For Energy Management Interventions
Ahousat Education Authority	Support for Ahousat members working towards post-secondary education	Mainly provides career coaching and funding supports
Blueberry River First Nation Adult Centre	Total community population (498) Treaty 8 territory	Limited Information Available
CFDC of Central Interior First Nations	Assist with Indigenous Human Resource and Skill Development, that reflect experience, needs and background of our clients and communities and remain linked to the overall economic, social, political and development of the Indigenous people	Pre-employment training programs
Chemainus Native College	Support for Stz'uminus members working towards post-secondary education	Mainly provides career coaching and funding supports
Coastal Training Centre	Provides workforce, industry training, and career development	Variety of certificate training Nothing energy specific
Cowichan Tribes - Quw'utsun Syuw-entst Lelum	Provides educational support for Cowichan tribes members	Mainly provides career coaching and funding supports
En'owkin Centre (Okanagan Indian Educational Resources Society)	Provides educational support for Syilx members	College Readiness program

Fort Nelson First Nation Community Education Authority (Chalo School)	Provides educational support for Fort Nelson members	Mainly provides career coaching and funding supports
Gitksan Wet'suwet'en Education Society	Provides educational support for Gitksan Wet'suwet'en members	Environmental Resource Technology Program
Gitwangak Education Society	Provides educational support for Gitwangak members	Community Training Program
Heiltsuk College	Provides educational support for Heiltsuk members	Mainly provides career coaching and funding supports
Ittatsoo Learning Centre	Focuses on Elementary and Secondary Programs	Mainly provides career coaching and funding supports
Jean Marie Joseph Adult School (Yekooche First Nation)	Focuses on Elementary and Secondary Programs	Mainly provides career coaching and funding supports
K'ak'ot'lats'i School	Partnerships with NIC, VIU, UVIC; provides educational support for Quatsino members	Mainly provides career coaching and funding supports
Kitimat Valley Institute	provides efficient training opportunities that meet academic, industry and institutional training needs	Variety of online courses available + on demand corporate training
Kwadacha Dune Tiiy	Provides educational support for Kwadacha members	Provides upgrading opportunities and post secondary support
Kyah Wiget Education Society	Provides educational support for Witset members	Offers some training courses (WHMIS, Flagging, etc)

Lip'alhayc Learning Centre	Provides educational support and cultural instruction for Nuxalk members	Courses mainly directed at cultural activities (blankets, cedar bark weaving)
Muskoti Learning Centre - Saulteau First Nation	Provides educational support for Saulteau members	Own Source Supported Employment and Training Program (unavailable at this time)
NEC Native Education College	The Native Education College is the college of choice for Indigenous learners who chose Indigenous cultural supports for the realization of their education and career goals	Office Administration and Employment Training Indigenous Land Stewardship Certificate
Neskonlith Education Centre	Neskonlith Education Center offers high school programming, adult education, and culture & language classes.	Mainly provides career coaching and funding supports
Nicola Valley Institute of Technology (NVIT)	"Indigenous centre for excellence"	Renewable Energies Technology Diploma Environmental Resources Technology Diploma and/or Certificate Electrician Pre-apprenticeship
Northern Shuswap Tribal Council	Partnered with TRU Seeks to build the capacity, employability and competency of our membership through education and skill development, while developing programs to meet the needs of our members, support members as they pursue education and training, and seek out funding programs to offer relevant training.	Mainly provides career coaching and funding supports
NTC Nuu Chah Nulth Tribal Council (NETP)	Provides employment related services and programs to all First Nation peoples living in the geographic service area covering the Vancouver Island West Coast from Ditidaht First Nation in the South, First Nation	Mainly provides career coaching and funding supports

	communities inland East to Port Alberni, to Ka:'yu:'k't'h'/Che:k:les7et'h' First Nation in the North.	
Pacheedaht First Nation	Provides educational support for Pacheedaht members	Mainly provides career coaching and funding supports
Penelakut Island Learning Centre	Penelakut Education will support students attending a wide variety of educational institutions in the province and deliver quality educational programs and services	Predominately provides cultural programming and funding support to Penelakut
Penticton Indian Band Adult Education	The Penticton Indian Band Education Department is a team of dedicated individuals who are striving to improve education services for all community members.	Mainly provides career coaching and funding supports
Prince George Nechako Aboriginal Employment & Training Association	The Prince George Nechako Aboriginal Employment and Training Association is pleased to present our new suite of services designed to meet the new "industry-based focus" of the national Aboriginal Skills Employment Training Strategy (ASETS) program.	Trades Access Programs (TAP) Pre-Trades & Trades Entry Programs
Saanich Adult Education Centre	Provides educational support for Wsanec members	Mainly provides career coaching and funding supports
Seabird College	Seabird College and Adult Education offer programs and courses in a variety of ways with a focus on wrap-around support to help students succeed. The college seeks to meet the individual needs of a diverse group of learners within a high-quality learning atmosphere.	Limited Information Available
Sechelt Indian Band Education Centre	Provides educational support for Sechelt members	Mainly provides career coaching and funding supports
Skeetchestn Band Education	Provides educational support for Skeetchestn members	Mainly provides career coaching and funding supports
Snuneymuxw First Nation/ House of Learning	Provides educational support for Snuneymuxw members	Mainly provides career coaching and funding supports

Sto:lo Nation	Provides educational support for Sto:lo members	Mainly provides career coaching and funding supports
Squamish Nation Trades Training Centre	Squamish Nation Training & Trades Centre is able to offer a variety of training programs thanks to the partnerships we have with these educational institutions: Capilano University Kwantlen Polytechnic University Industry Training Authority Squamish Nation Training & Trades Centre Programs	TBA
Ted Williams Memorial Learning Centre	Provides educational support for Lake Babine members	Mainly provides career coaching and funding supports
Tl'azt'en Adult Learning Centre	Provides educational support for Tl'azt'en members	Mainly provides career coaching and funding supports
Tsey Keh Dene Nation Learning Centre	Provides educational support for Tsey Keh Dene members	Mainly provides career coaching and funding supports
Ts'zil Learning Centre (Lilwat Nation)	Provides educational support for Lilwat members	Mainly provides career coaching and funding supports
Wabsuwilaks'm Gitselasu Adult School	Provides educational support for Kitselas members	Mainly provides career coaching and funding supports
Wilp Wilxo'oskwhl Nisga'a Institute	Wilp Wilxo'oskwhl Nisga'a Institute (WWNI) is a community driven, student focused Aboriginal post-secondary and training institute that works in three areas: academic, vocational and technical, and continuing education	Predominately provides cultural programming and funding support to Nisgaas

Appendix B: Complete list of Post-Secondary Institutions in BC

A complete list of Post-Secondary Institutions in BC, which are authorized under provincial legislation to deliver post-secondary education and training in BC. For more information on Indigenous student headcounts, please see https://www2.gov.bc.ca/assets/gov/education/post-secondary-education/data-research/standard_reports_aboriginal_totals.pdf; For more information on Indigenous student spaces, please see https://www2.gov.bc.ca/assets/gov/education/post-secondary-education/institution-resources-administration/accountability-framework/standards_manual.pdf.

Institution	Indigenous Student Headcounts (2019-2020)	Indigenous Student Spaces (2019-2020)
BCIT	1,400	833
Camosun College	1,080	873
Capilano University	415	250
Coast Mountain College (2018-2019)	960	602
College of New Caledonia	1,290	657
College of the Rockies	630	254
Douglas College	705	364
Emily Carr University of Art and Design	100	80
Justice Institute of British Columbia	2370	230
Kwantlen Polytechnic University	515	345
Langara College	365	202

3Nicola Valley Institute of Technology	1,165	453
North Island College	1,005	399
Northern Lights College	490	257
Okanagan College	1515	1000
Royal Roads University	270	138
Selkirk College	560	214
Simon Fraser University	731	549
Thompson Rivers University	2,935	1379
University of British Columbia	1,731 (563 OK; 1,168 Van)	1516
University of Northern British Columbia	501	406
University of the Fraser Valley	1,095	592
University of Victoria	1,408	935
Vancouver Community College	500	294
Vancouver Community College	500	294

Appendix C: Energy Champion Interview Questions

The following is a list of the questions that were asked during the interviews with the energy champions. For full interview transcript, please contact Amy.Seabrooke@bchydro.com.

- 1) Why is energy management and clean energy important to Indigenous people?
- 2) Indigenous people are disproportionately affected by climate change – where can Indigenous people lead in terms of climate action?
- 3) Are you aware of any climate and energy work going on in your community?
- 4) From your understanding, does your community have any goals related to climate and energy?
 - a. How is your community trying to achieve these goals?
 - b. What knowledge and skillset exist in the community to help achieve these goals?
 - c. Do you feel additional knowledge and skillsets are needed?
- 5) Are you aware of any partnerships between your community and any post-secondary institutions and/or training institutes?
 - a. If yes, what institutes/programs are you working with?
 - b. What knowledge and skills are being developed through these programs?
- 6) In your opinion, what do you think would be helpful in getting Indigenous youth in your community interested in climate and energy management?