



Community Co-Creation of a Clean Energy Initiative

Black Tickle High Efficiency Woodstove Pilot Project

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1. Introduction – High Efficiency Woodstove Pilot Project

The NunatuKavut Community Council’s [NCC] Department of Research, Education and Culture, has partnered with researchers from Dalhousie University’s School for Resource and Environmental Studies on a new research initiative entitled ‘*Envisioning and Advancing Energy Autonomy in NunatuKavut*’. The research is being funded primarily through a SSHRC post-doctoral fellowship that is being held by Dr. Nick Mercer and supplemented with funding through the multi-year CIHR Environment and Health Signature Initiative entitled A SHARED Future. Additional funding has been provided by the Government of Canada’s Indigenous Off-Diesel Initiative (IODI), and NCC will purchase all of the high efficiency wood stoves that were installed in the communities. The research project has two primary pathways: 1) a critical policy and project analysis which seeks to determine how NunatuKavut Inuit have been involved with and benefitted from previous and ongoing energy-related decisions in the region; and 2) the implementation of a high efficiency woodstove [HEWS] pilot project in the partner community of Black Tickle. Through the implementation of the HEWS pilot project, we seek to address the immediate community concern of heat insecurity [defined broadly as access to clean, affordable, and reliable heat] identified in previous NCC-led research (Mercer, Hudson, Parker, & Martin, 2020). In addition, we seek to advance and model a genuine community-led sustainable energy initiative, delivered by Inuit, alongside Inuit, and for the principal benefit of Inuit.

2. Methodology – Mobilizing Previous Research Results

The HEWS pilot project was selected by NunatuKavut Inuit as an ideal intervention to address heat insecurity during NCC’s community-specific energy planning process. This took place from 2018-2019 across the partner communities of

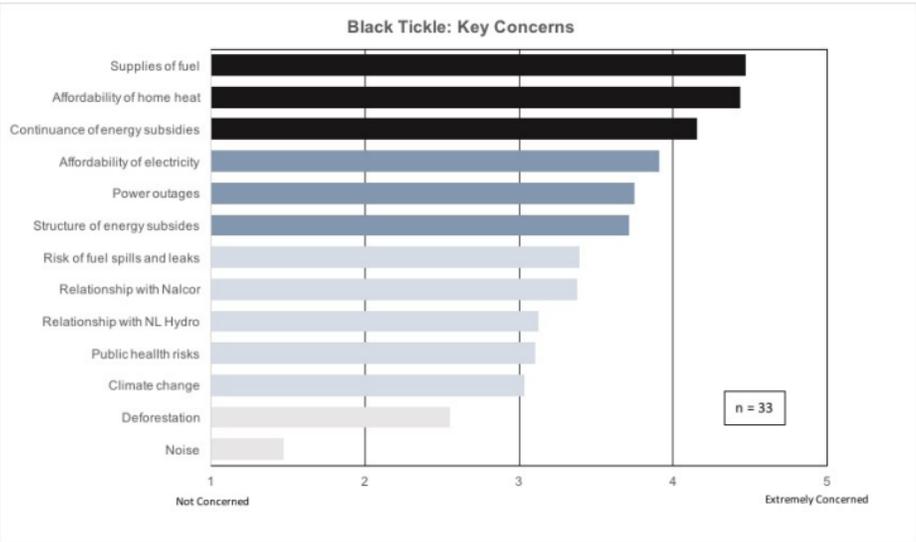


Figure 1: Key Energy Related Concerns in Black Tickle, NunatuKavut

Cartwright, Black Tickle, Norman Bay, Charlottetown – Pinsent’s Arm, Port Hope Simpson, and Mary’s Harbour – Lodge Bay (Mercer, Hudson, Parker, Martin, & Slade, 2019; Mercer, Parker, Martin, & Hudson, 2018). During this phase of research, 211 community-members were interviewed/surveyed across the nine participating communities. The primary goal of the interview/survey instrument was to determine a) the most pressing energy-related needs across partner communities; and b) mean levels of support and social cohesion for various sustainable energy technologies.

As identified in **Figure 1**, 33 respondents in Black Tickle rated ‘supplies of fuel’ and ‘affordability of home heat’ as the greatest energy related challenges in their community. Across all nine partner communities, heat insecurity was found to be most severe in Black Tickle, where approximately 25% of participants reported living in an ‘inadequately heated home’ (Mercer et al., 2018). Furthermore, as demonstrated in **Figure 2**, NunatuKavut Inuit across the three initial partner communities (Black Tickle, Norman Bay, St. Lewis) widely endorsed ‘high efficiency woodstoves’ as their preferred sustainable heating alternative. Given this clear direction from the community, NCC staff, consultants, and affiliated researchers have worked to secure resources to advance a HEWS pilot project in the partner community of Black Tickle. Moreover, community interest in these three pilot communities has led to considerations of expanding this program to other isolated diesel-dependent communities in the region.

While many promote sustainable energy technologies as a positive force for Indigenous isolated communities (see: Henderson, 2013), a growing body of literature demonstrates that sustainable energies can pose substantial economic, environmental, and societal challenges for communities when led by external agents, ultimately neglecting community ownership, control, and integration

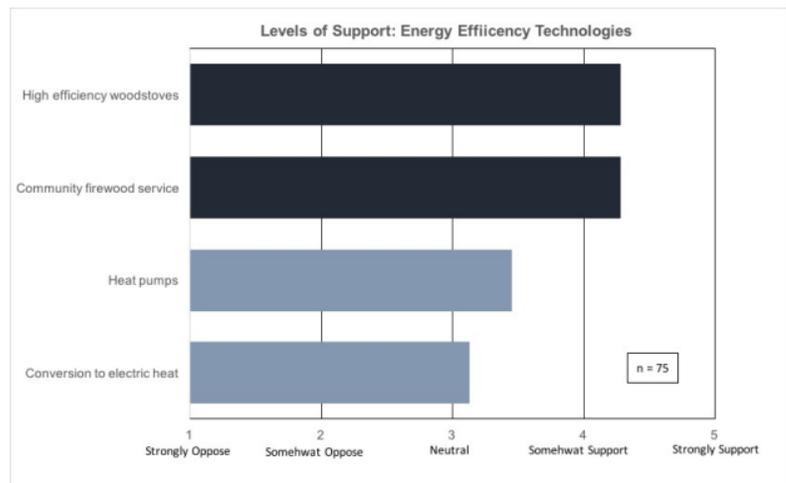


Figure 2: Mean Levels of Support for Heating Alternatives across Black Tickle, Norman Bay, and St. Lewis

of Indigenous worldviews. Some of these risks include projects which are misaligned with the needs of communities, further intrusion of western models of resource governance into Indigenous communities, significant administrative burdens as a result of projects, and unfair exposure to the risks associated with

novel technologies (see: Rezeai & Dowlatabadi, 2016). Recognizing the risks of externally led sustainable energy initiatives, NCC's Research, Education and Culture department is seeking to shift from projects "on" NunatuKavut territory, to projects which are truly led "by", "with", and "for" NunatuKavut communities (see: Koster, Baccar, & Lemelin, 2012).

As a first step in ensuring that the HEWS pilot project is being led and directed by community-members, NCC affiliated researchers and staff (Mercer, N & Oxford, K) hosted an in-depth virtual focus group discussion with community members from Black Tickle on March 16th, 2022. The focus group discussion sought to: 1) evaluate community support for a HEWS pilot project; 2) analyze the current state of heat security in the community; and 3) assess community priorities for the governance, evaluation, and dissemination of pilot projects results. The focus group discussion was advertised on NCC's social media accounts, through CBC Labrador Morning, and by word of mouth in the community. In total, 11 community-members participated in the focus group discussion, all of which agreed to be audio-recorded and consented to the use of quotations in any resultant publication. The focus group discussion was transcribed verbatim (i.e. word-for-word) by the research team and supporting quotes are provided in the following discussion to support key findings.

In Section 3, we consider community support of the proposed HEWS pilot project as reported by focus group discussion participants. In Sections 4-6, we discuss several dimensions of heat [in]security in Black Tickle, including availability, affordability, and accessibility challenges. In Section 7, we discuss pilot project governance principles which were of importance to focus group discussion participants including household selection criteria and other variables. In Section 8, we conclude with a brief report summary and recommendations for the execution of the pilot project.

3. Acceptability of HEWS Pilot Project: Unanimous Support Amongst Participants

As discussed in Section 2, a key goal of the focus group discussion was to verify the results of our community energy planning research, which ultimately recommend a HEWS pilot project as the preferred intervention to address heat insecurity across partner NunatuKavut communities. In general, there was unanimous support for the proposed pilot project across focus group discussion participants.

As stated by one respondent "For how hard everything is around here... efficiency stove be probably your best bet [to address heat insecurity]"

Another respondent added “I think it’s a really good idea... the wood will last longer... that can go a long way, right. Instead of having to put it in every couple hours, and running out of wood... you [are] getting just the same amount of heat, for like half of it [the wood]”

Community support of the HEWS pilot project is driven by three primary factors, each of which is briefly considered below: 1) the socio-cultural importance and security dimensions of wood heating in NunatuKavut; 2) the ability to build upon other NCC initiatives in the community; and 3) as a timely and immediate step which can be taken to address heat [in]security relative to other alternatives.

3.1. Historical Reliance, Socio-Cultural Benefits, and Security Dimensions of Wood Heating

Diesel power-generation and oil furnaces are relative novelties in Black Tickle, introduced only a few decades previous. Prior to the introduction of fossil fuels, community-members relied almost exclusively on fuel wood for space heating, accruing decades of experience and familiarity.

As explained by one respondent “[Wood] was the only form of heat you had back in the old days, right... [NL] Hydro hasn’t been in this community all that long.... All the older people around here, they grew up with woodstoves, which is the reason why a lot of the older houses around here still have woodstoves”.

While wood heating is entrenched from a historical perspective, the heating source continues to provide numerous modern-day benefits in NunatuKavut. Focus group discussion participants explained several inseparable socio-cultural benefits of wood heating including time spent-on-the-land, honouring kinship networks, meditative benefits, and a general sense of comfort and ease, to name a few.

One respondent explained “When you’re going to the cabin, there’s nothing around, just you, absolutely nothing. Just listening to the wood and everything crackling in the stove, you forget above everything, takes all the stress off of you”.

Another respondent explained “The first thing comes to me is my uncle [when woodburning]. Because Uncle there, when he go to do the stove up... he always gets down, crumping in front of the stove... that’s the only way to get the fire going.... So I’ll... get down, and I’ll be pretty much making fun of the man, of how he use to crump around and get at the stove to get her going”

One respondent stated “The wood... according to my Nan, it sounds warm.... She’s perfectly fine

while the wood is crackling, when she goes out, then she's cold again. She knows when she lights the stove the next morning, she can hear the wood crackling, she's perfectly warm again"

Given the isolation of Black Tickle as well as the sub-Arctic weather conditions (i.e., harsh, long winters), the reliability of heating is paramount. Focus group discussion participants positioned wood heating as a reliable and integral backup source for both heating and cooking during sometimes frequent [and potentially prolonged] power outages in their remote isolated community.

As explained by one respondent "The woodstove is your power outage staple for your heat and your oven when the power goes – it could be gone for three or four days"

As stated by one respondent "Mom has cooked lots of meals on ours [woodstove] when the powers been gone... your jiggs [dinner] is never as good as it is on the woodstove".

3.2. Building upon NCC's Community Firewood Initiative

As demonstrated in **Figure 2**, community members from Black Tickle, Norman Bay, and St. Lewis also rated a 'Community Firewood Service', where locals are trained hired to harvest and deliver fuel wood to those in need, as an ideal program to address heat [in]security across the partner communities. NCC's Department of Environment and Natural Resources has actioned this finding, securing governmental funding and partnering with local contractors to deliver hundreds of cords of split firewood to Black Tickle Households since 2020. Given the success of this program, community members viewed a HEWS as a complementary extension of existing programming which would help homeowners save money and continue to provide a secure heat source to those who cannot access wood on their own. This is especially important in the pilot communities as many residents find heating oil, and diesel unaffordable, especially when considering the socio-economic background of communities like Black Tickle which have low relative income and relatively high unemployment for their size (Mercer et al., 2020).

As stated by one respondent, "NunatuKavut [Community Council] gives out wood every year. So, I mean, if someone was lucky enough to get one of these stoves, they'd also get the wood too then. So that will take care of [things] money wise, that will fill a huge gap".

Another respondent added, "We usually use [space] heaters here too [when we can't access wood].... We don't really have any way of getting wood, so the only wood we get is from NCC".

3.3. A Timely Alternative to Address Heat Insecurity

At least one focus group discussion participant raised renewable energy development as a possible alternative to the HEWS pilot project. While our previous research in Black Tickle has indicated broad support for both wind and solar power (see: Mercer et al., 2018), focus group discussion participants largely agreed that a HEWS pilot project was a timely and immediate step which could be taken, while longer term efforts are made to transition the diesel-dependent community towards renewable energies and electric space heating for those who may desire it.

As stated by one respondent “The only problem too with that kind of stuff [renewable energies]... is the fact that that’s not something you can do overnight. Like, that’s a few years down the road type thing. Whereas with the woodstoves, it is something you can put in your house right now, and you’ve got the benefit”.

4. Resource Availability

4.1. Improving Availability of Furnace Oil and Gasoline

During our initial research in Black Tickle in 2018, the availability of fuel was a considerable challenge, especially given the 2016 closure of the only fuel station in the community. As an interim solution, Black Tickle’s Local Service District began importing a limited number of drums of furnace oil and gasoline into the community, however the large upfront costs of drums remained a significant barrier to energy access for community-members (Mercer et al., 2018). When the local fuel supply was exhausted each winter, many community-members had to travel to Cartwright via snowmobile (a round trip of approximately 200kms) to purchase fuel and then haul it back to their community – which necessitated significant indirect costs such as fuel consumption, resultant emissions, wear-and-tear on snowmobiles and komatiks, and the labour of community-members.

Recognizing the urgency of the fuel situation, NCC and partners launched a community development project in 2021, which ultimately established a social enterprise fuel station in the community prior to the winter of 2022 (see: Saltwire, 2021). As such, focus group discussion participants expressed optimism that the availability of fuel has significantly improved in the last year.

As stated by one respondent “Well thankfully, the availability [of furnace oil and gasoline] is not

an issue anymore”

Another respondent stated “We are doing a lot better than we were, at least we got a gas station back”

4.2. A Subarctic Tundra Island: Travel for Firewood

Respondents also noted the local unavailability of firewood in Black Tickle. Located on the subarctic tundra Island of Ponds, fuelwood harvesting requires an 80–100-kilometre snowmobile trip (roundtrip) into sheltered bays west of the Island.

As explained by one respondent “The wood is 40 kilometres away to get, the trail is not always groomed... it’s just a lot of hard work to be able to get this wood and bring it home”

When probed on the main barriers to firewood access, another respondent stated simply “distance, obviously”.

Focus group discussion participants suggested that the physical distance from fuelwood sources sometimes necessitates what might be called improper burning, since people end up burning materials that are unsafe or not meant for woodstoves. This is particularly true for those who are unable to travel, exacerbating associated safety, health, and environmental challenges in the community.

As stated by one respondent “One of the biggest things around here for chimney fire, is the fact that where it is so hard getting wood, people are burning pallets... burning telephone poles.... And you’ll go get it, because it is wood. But... those other chemicals in it, it actually sticks to your chimneys a lot quicker, so it’s a lot bigger risk to it that way [compared to dry fuelwood]”

4.3. Lack of Local Technical Capacity Restricts Access to Electric Heat

While diesel fuel for power-generation [and electrical space heating] is imported into the community via-tanker, it is generally regarded as a readily available fuel source, given the large storage capacity that the crown utility [NL Hydro] has in the community (504,000L of storage vs. 320,000L annual consumption) (see: Government of NL, 2020). While the physical resource [diesel fuel for power generation] is available in the community, the technical and human resource capacity to convert homes to electric heat is severely restricted. Households are required to import external electricians and technicians at exorbitant fees, which has prevented several oil-reliant households from transitioning to

electric heat for many years. Reliability plays a factor in the transition to electric heat as well, as homes can be left without heat during inclement weather with few repair crews able to access communities on short notice (Mercer et al, 2020).

As stated by one respondent “The hardest part with the electric heat is the fact that you got to have your house upgraded to be able to do it, and you can’t get electricians to do upgrades [locally]”

Another respondent added “I want to be able to get one of those woodstoves because, you know my issue [lack of local electricians] with trying to get my fuel changed over to electric heat for years and years and years”

5. Resource Affordability

5.1. Unaffordability of Furnace Oil

Focus group discussion participants suggested on whole, that Black Tickle is a relatively low-income community in comparison to the rest of the province, comprised mostly of part-time, seasonal, and temporary workers, and few are able to comfortably afford the significant costs associated with space heating in the community.

As stated by one respondent “I’ve got a part time job... that’s not a lot of money.... [my husband] gets called in [to a casual call-in job], other than that, he’s on E.I. So, yeah, money is tight”

Fuel consumption is high in a subarctic climate, and prices are elevated in the remote community, resulting in significant bills relative to income for those who rely on furnace oil.

As explained by one respondent “We burn a can... of fuel per day, sometimes more, depending on how cold it is outside.... So we get nine days from a drum [~\$315/drum]”

Another oil reliant participant stated “We’re paying \$700 – 900 a month and that’s just not feasible, that’s just gone out of whack”

Despite significant costs and high fuel-oil consumption locally, several respondents reported that their homes were still largely inadequately heated and uncomfortable.

As stated by one respondent “When we burned fuel, we use to burn four drums a month... just to keep the chill knocked out [of the house]”

Another respondent stated “Basically right now, all we are doing is working so that we can buy fuel for the house and blow it up the chimney”

5.2. Significant Costs of Electric Space Heating

Electric space-heating is cost-prohibitive in the community due to existing rate structures, where monthly electricity consumption beyond a subsidized block of approximately 1,000 kilowatt hours jumps from 12.391 cents/kWh to 18.759 cents/kWh (NL Hydro, 2022).

One respondent stated “using electric heaters in this house, my power bill went [to] seven hundred dollars in the wintertime”

Another respondent added “I can’t afford seven, eight, nine hundred dollars a month for [an] electricity bill either”.

Due to the lack of local electricians (see Section 4.3.) and the inability to upgrade household electrical equipment, several households rely on less efficient plug-in heaters, which further exacerbates cost pressures.

As stated by one respondent “We usually use [plug in] heaters here too... that runs up to about, over \$400 dollars... usually around five [hundred]... a month, just for like to pay for the electric bill”

5.3. Difficulty and Insecurity Surrounding Large Capital Investments

Focus group discussion participants suggested that large capital investments for necessary household renovations and heating appliance upgrades were simply out of financial reach due to limited disposable incomes and household savings in the community.

As stated by one respondent “We had two chimney fires this winter... because of the woodstove that we had... it’s kind of run down, and... we just could not afford to get one [a new woodstove] back”

Another respondent, referring to the significant upfront cost of timber and building materials,

stated “I know it [the upfront cost] stopped me from fixing both my bridges, instead I could only fix one”

The threat of austerity and community resettlement lingered over focus group discussion participants, sometimes dissuading community-members from making large household investments, as the risk of investing in a potentially stranded asset seems ever present.

As explained by one respondent “I don’t think anyone here is looking at leaving their house soon, but... it’s always in the back of your head. Do you want to spend that extra few thousand, and not get the good of it?”

Another respondent stated “It’s a scary thought too [to make household investments], in a community that’s, you don’t know if you’re going to be here from one day to the next”

5.4. Indirect Costs of Firewood Harvesting

While focus group discussion participants generally centred wood fuel as the most affordable source of heating in the community, they also outlined the significant indirect costs associated with firewood harvesting, including the time and labour of community-members, fuel consumption for snowmobiles and chainsaws, wear-and-tear on snowmobiles and komatiks, etc.

As stated by one respondent “Most people thinks about burning wood... oh yeah, that’s nothing to it. But when you add in all the hours of work and labour that goes into burning, like, you’re at this for days – just to get a few hours of heat out of it”

The large upfront costs of snowmobiles, all-terrain vehicles, and other wood harvesting equipment was of particular concern.

As stated by one respondent “Not everybody has vehicles, so... even if they were healthy, they wouldn’t have the means of getting into the bay to get it”.

6. Resource Accessibility

6.1. Demands of Retrieving Fuelwood – Health, Age, and Gender Barriers

One of the main barriers to accessing firewood in NunatuKavut is the demanding physical labour and time allocation associated with wood harvesting.

As stated by one respondent “With wood... you’re packing it in your komatik, you’re packing it up in the house, and then you got to pack it up in the stove. So you’re moving that one stick, each junk... you’re moving it like three or four times, just to get the one junk of wood into your stove”

Similarly, another respondent stated “That’s a lot of work. For just that... one little stick of wood, to go in a stove”

As such, firewood harvesting can be a significant challenge for some segments of the population with health/mobility challenges or competing responsibilities.

As stated by one respondent “[My husband] is... by no means an older man, but he has a lot of medical issues, arthritis and stuff like that. Him getting wood is really, really difficult”.

Focus group discussion participants centered the community’s aging population and female-headed households as particular areas of concern.

As stated by one respondent “When you’re getting up in age, well you got to depend on somebody else to get your wood [for you]”

Another respondent stated “My sister won’t [participate in the HEWS pilot project] because she has no way to get wood”

6.1.1. Highlighting Agency and Expertise of Inuit Women in Home Heating

While some female-headed households experience difficulty retrieving fuelwood, several respondents argued that women in the community play a pivotal role and are considered experts in household heating once the wood is delivered, including stoking the stove, monitoring for safety risks and wood consumption, maintaining household comfort, and other integral duties.

As stated by one respondent “[Another community member] gets it [firewood] and saws it up for me, and I [a woman in this community] takes it from there, and I does the rest... I can’t forget, he cleans me chimney for me too. Other than that, I does it all meself”.

Another respondent, referring to the leadership role of a woman in the community, stated “If I have to ask anyone a question over there [about wood burning], I said I’ll be asking you, because you’re the one who takes care of it”.

6.2. Climate and Environmental Change

Focus group discussion participants suggested that global climate change is shortening the duration of winter sea ice and reliable travel, which creates an additional barrier to secure fuelwood access in NunatuKavut.

As stated by one respondent “Lately now, you’re getting... more into the environmental part of it; each year it’s getting later and later that you can actually get off the Island [of Ponds] to go get wood”.

Participants suggested that changing patterns of precipitation and snowfall observed in NunatuKavut magnifies the already laborious task of firewood harvesting and degrades the quality of the ice for travel and wood hauling.

As stated by one respondent “There’s that much snow in the woods itself, that you’re carrying these great big junks of wood [because the skidoos cannot cut through high snowfall]... before you can reach a skidoo in order to put it aboard your cart”

Another respondent added “You end up with two, three days of snowing, then you end up with a day of rain, so this rain is going down through the snow... hitting the cold ice and stopping. The snow is keeping it from freezing... and therefore now you’re getting slob under the snow. So once you starts to break the crust of the snow, well then you’re getting stuck in water”

6.3. State of Housing Stock – Heat Retention

Focus group discussion participants explained that substantial heat loss is common in the community due to the state of local housing where many older homes are in need of repair.

As stated by one respondent “It’s not comfortable at all [in my home]. There were times that like, we had to board up doorways and just had to have... the heat, just in one area, just in order to stay warm”

Participants widely reported household drafts, leaks, and inadequate insulation as some of the primary barriers to heat retention in the community.

As stated by one respondent “In the nighttime here too... especially in the winter, Mom will always put like a stog [plastic bags] around the porch door, because if not, the house gets chilly”

Another respondent stated “Last year we put more insulation into our ceiling and everything [to] try to make our house warmer, because it wasn’t much insulation in our house... it’s an old house”

7. Research Design

7.1. Governance of Project

7.1.1. A Role for NCC

Focus group discussion participants spoke highly of NCC’s role in the community and expressed trust in the organization as the delivery agent for this project.

As stated by one respondent “NCC is looked on really big in this community. You’re not going to get much bad words about NCC, not from the people around here”

Similarly, another respondent stated “NCC has been nothing but amazing for the community of Black Tickle”

Several participants suggested that NCC’s reputation would facilitate community interest and involvement in the project.

As stated by one respondent “When it comes to you guys coming in [to the community], you do get more people showing up and having interest... because they know the type of stuff that you’re doing.... In the communities, so there is way more interest than... sitting down looking at a computer-screen”

Some thought that research participants may be forthcoming with NCC staff in their views, as conflict-resolution and harmony are highly valued at the community-level, potentially biasing data that would be generated when locals collected data themselves.

As stated by one respondent “If you call them [a participant]... and ask them how it’s going, they might tell you that... this is the biggest waste of time they ever done. Whereas if we went there [as locals], they might say... this is perfect, because they might figure, if they say something to us, it’s hurting our feelings”

7.1.2. On the Need for Local Input and Feedback

While focus group discussion participants were comfortable having NCC staff in a leadership and project management role, they argued adamantly for the integration of local expertise and knowledge to inform all phases of the research project.

As explained by one respondent “You got to take the advice from the people in the community, and not have, [people who] live in Goose Bay or Newfoundland, these places, make decisions”

Another respondent, explaining the richness of locally reported quantitative data, stated “Anyone whose burning wood proper... they know how many days [of supply] they got, by how much wood they got [stored] by the door”

Focus group discussion participants were specifically interested in being involved with the verification of decision-making to ensure fair and equitable distribution of project resources.

As stated by one respondent “We’ll tell you [if your interpretation is correct]. If you ask, we will tell you who lives here full-time. We will tell you who goes away. We will tell you who is here part-time and not part-time”

7.1.3. Local Involvement in the Management of the Project

There was healthy debate amongst focus group discussion participants regarding forms of local involvement in the governance or management of the HEWS pilot project. It is not uncommon for local committees or advisory groups to be formed as part of community-based research initiatives and this suggestion was made by some participants.

As stated by one respondent “Start a committee or something like that”

Yet other participants expressed frustration with the ‘research governance burden’ or the constant demands put on their time from research activities in the community.

As explained by one respondent “I don’t think we need any more committees”

Another respondent added “I don’t want to join a committee, but I want to be involved in this [research project], you know what I’m saying”

As a compromise, some respondents suggested combining efforts with other organized groups in the community, as opposed to creating a completely new initiative.

As stated by one respondent “[We] can go through the committee already set up through... Indigrow and just advise [the project] from there”

Consensus was not found on this suggestion and some respondents expressed resistance to any additional demands on their time.

As stated by one respondent “[I] don’t have time for all that [participating in pre-existing committees]... only for that, I would [participate]”

7.1.4. Knowledge Dissemination and Ongoing Communication

While we were not able to find consensus on a local governing structure (e.g. a research committee) during the focus group discussion, participants did request regular updates throughout the duration of the project.

As stated by one respondent “I think the best way would be probably a monthly report to see the progress [on the project], how it’s going”

Focus group discussion participants identified social media, email, and telephone calls as their preferred methods of communication to receive project updates and contribute feedback.

As stated by one respondent “At least then it’s [social media] not a committee, but everyone that wanted to participate and [be] involve[d]... can still, you know, correspond back and forth between each other”

Another respondent state “Post it, or email it to us, or post it on Facebook, even share it on the NunatuKavut [web]site. Like, we see everything that’s posted through NunatuKavut, so, I’m sure that people will see it online”

While there was wide interest in various forms of virtual engagement, participants also expressed a need for more accessible, culturally appropriate, and in-person forms of information exchange.

As stated by one respondent “It [in-person events] would be good, because then anyone whose interested that’s not on zoom or able to use technology or anything, at least they got a chance to show up their self”

Another respondent, referring to a highly successful previous NCC event in the community, stated “Come in [to Black Tickle], so we can have bingo again”

7.2. Local Training and Capacity Building

Focus group discussion participants spoke to the necessity of local training and education to ensure safe operation of stoves throughout the HEWS pilot project.

As stated by one respondent “They’re not just a basic woodstove... even with the chimney, it’s a different type of chimney. So you got to be able, you need to know exactly what they all entail... before you starts using it and just throwing anything in them”

Focus group discussion participants suggested that in-person support should be provided to the community’s elderly population who may not be able to access the internet to retrieve information necessary to troubleshoot HEWS operation and maintenance.

As stated by one respondent “Teach the seniors, who don’t know how to get information like online and anything, on how to use them properly... every so often, have somebody go into their house, even if it’s somebody in the community trained to do it, to go in and see that their stove and chimney and everything is up to standard”

Another respondent stated “Most seniors going to pick up a lot more when they’re shown how to do something, then if you’re going to sit there, and you’re going to [try] to tell them how to do it”

7.3. Necessity of Home Inspections

Several focus group discussion participants expressed interest in performing home inspections prior to HEWS installations to ensure household need, suitability, and safety.

As stated by one respondent “What about the state of some people’s houses? Like these here are not your every day normal stove. Maybe somebody’s house may not be up to standard, to be able to hold it?”

Another respondent stated “You almost needs to come in, and almost do a home inspection, to see if... they need the woodstove. Like, I knows people that put in brand new woodstoves this summer, so they wouldn’t really, wouldn’t really need it”

7.4. Household Selection Criteria

Much of the discussion on research design with focus group discussion participants focused on local preference for selection criteria for participating households. Three key themes were developed in data analysis including: 1) focusing on households in need (i.e. winter residency); 2) striving for near-universal access; and 3) the prioritization of seniors – each of which is elaborated below.

7.4.1 Winter Residency: Focus on Households in Need

One of the key selection criteria advanced by community-members was ‘winter residency’, or the idea that residents who endure the harsh winter months, when heating needs are the greatest, should be prioritized in any potential heat security pilot project.

For example, one respondent stated: “We have to make a good decision, that will impact the people who punish living around here for the full twelve months of the year”

Similarly, another respondent stated: “Being able to see the program going ahead for people who actually live in the community year-round, and not people... that moves away all winter”

7.4.2. Strive for Universal Access for Interested Households

Focus group discussion participants argued that given the small population of Black Tickle, and the fact that several households may opt out due to personal reasons, that a program which achieves near universal access for winter residents should be prioritized before focusing on any additional exclusion criteria.

As stated by one participant “There’s probably not more than 20 or households here that lives here all year round... it’s not a lot, and then you’ve also got people who are not going to be interested, like my dad... because he’s on oxygen and can’t have one in his house”.

Similarly, another respondent stated “You’re going to have some [households] who are not going to even want it, right. Wouldn’t it be nice if we could all get one that wanted one?”

Embedded in the desire for near-universal access, focus group discussion participants expressed resistance to income caps, eligibility according to current fuel source, or the age of household heating appliances, each of which are elaborated upon below.

7.4.2.1. Understanding Local Economic Realities – Resistance to Income Caps:

While income caps are a common equity-seeking measure for governmental programs in isolated communities, focus group discussion participants argued that there are few financially secure households in the community, and expressed frustration that higher-income households [relative to the community average] are often unable to qualify for programs despite needing support.

As stated by one respondent: “There’s nobody in Black Tickle, millionaires, and for them to put caps on incomes... when they are giving out these grants... we should all have the same rights”

Another respondent added “I’m tired of being excluded out of all the things that are available to the community... because I don’t make anything [income wise] much”

Focus group discussion participants also expressed resistance to a co-pay option for higher-income households. Similar to the criticism related to income caps, participants suggested that even ‘higher income households’ in Black Tickle, would not be able to afford or have the necessary savings to invest a portion (i.e. 25%) of the cost of a capital intensive high efficiency woodstove and associated installation costs in a remote community.

As stated by one respondent “Who has \$1,000 in their pocket? We don’t have... money running in our veins... we don’t have it in or wallet or our bank account either”

Similarly, another respondent stated “I wouldn’t agree with that [a co-pay option], the money is there for one, it should be there for everybody, right”

7.4.2.2. Eligibility Should Not be Limited to Current Wood Burners or by Age of Stove

Focus group discussion participants expressed resistance to a pure ‘swap-out’ HEWS pilot project, where only households that currently burn wood would be eligible for an upgrade to a highly efficient wood burning appliance. Participants argued that homes that rely on furnace oil or electricity for space heating also experience significant heat insecurity and that they should not be excluded from clean energy initiatives for factors which are often outside of their control.

As stated by one respondent: “I should not be taken off the list just because I don’t burn it [wood] right now, because I did five years ago, but furnace caught fire and burned up, that’s why we don’t have one [a wood furnace] right now”

Similarly, participants argued that homes who have recently installed a new woodstove should not be excluded from the program, as oftentimes households can only afford an undersized or inefficient woodstove model and could still benefit greatly from upgrading to a high efficiency model.

As stated by one respondent: “Program got nothing to do with brand new woodstove, it’s the fact that you’re getting a high efficiency woodstove. You could put in a brand-new woodstove, it could still be undersized for your house, because that was the only money that was allotted”

Another respondent stated “For the sake of a new woodstove, it doesn’t necessarily always mean that it’s... something great”

7.4.3. Prioritize Seniors

While several participants wanted to see the HEWS pilot benefit any household that was interested, most agreed that seniors should be prioritized if project resources are in fact limited. Focus group participants suggested that seniors could greatly benefit, as they often have the most difficult time securing fuel wood, and they are more likely to depend on woodstoves compared to other households.

As stated by one respondent: “Best thing to do is to start off with the seniors... because they got they hardest time trying to get anything, and... most of the seniors do have woodstoves in their houses”

7.5. Impact Evaluation: Community Variables of Interest

If the HEWS pilot project were to proceed, focus group discussion participants were asked which economic, environmental, societal, or other impacts should be monitored as part of the research project. Participants centered household wood consumption as their main indicator of interest, which several argued would serve as a compelling proxy for other indicators such as labour required, indirect costs of firewood harvesting, and affordability. While communities did not directly mention comfort and safety as

variables of interest, they did discuss the necessity of capacity building and training, to ensure safe stove operation (see section 7.2).

As stated by one respondent “Even something like that [wood consumption], like if they were burning a box of wood a week, and all of a sudden now they’re getting a week and half or two weeks, well obviously your consumption just went way down, and the price, and the work, and everything to do with it is also gone down”

Another respondent added “Even just [measure something] simple like the consumption of your wood, like, pretty much most people around here know how many days that can get out of a box of wood”

8. Conclusion and Recommendations

Our initial community-energy planning research in Black Tickle suggested that heat-insecurity was the greatest energy related challenge locally and that community-members viewed high-efficiency woodstoves and a community-oriented firewood service as ideal interventions to address this challenge (see: Mercer et al., 2018). Our March 2022 focus group was able to confirm this finding – mainly that community members are highly supportive of a HEWS pilot project, predicated on their deep cultural connection to wood harvesting, the ability to build on other NCC programs in the community, and as a timely and immediate project to address heat [in]security relative to other sustainable energy alternatives.

While considerable progress has been made in improving heat security in the community, mostly through the establishment of a social enterprise fuel station, focus group discussion participants outlined the significant availability, affordability, and accessibility challenges that remain to secure heating. From an availability perspective, fuelwood still requires a substantive degree of labour, effort, and travel. Electric heating is extremely restricted due to the unavailability of qualified professionals to support homeowners in completing required electrical upgrades. From an affordability perspective, both furnace oil and electricity are out of reach for a large portion of the lower income community. While wood heat is generally regarded as the most affordable option, indirect costs such as time, labour, and wear-and-tear on equipment must be recognized. High efficiency woodstoves will help to mitigate against fuel accessibility challenges such as climate/environmental change and heat retention in the community.

Based on community-member feedback regarding pilot project governance, we as researchers would like to make the following recommendations regarding the execution of the project.

- 1) NCC to proceed with the establishment of a HEWS pilot project in the partner community of Black Tickle
- 2) Project team to emphasize local input and feedback throughout all stages of the research project through a combination of in-person and virtual engagements
- 3) Project team to establish a pilot project Facebook page to provide regular updates and ensure ongoing communication throughout the duration of the project
- 4) NCC to conduct local training, capacity-building, and pursue opportunities for employment, in-order to ensure ongoing safety, comfort, and accessibility of the program
- 5) NCC to open an application process to participate in the HEWS pilot project, where all permanent residents of Black Tickle will be eligible to apply, regardless of income or current fuel source
- 6) NCC to hire a wood energy home inspector to ensure suitability, safety, and provide quotations in support of HEWS installations for each applicant
- 6) NCC to proceed with installations based on the recommendation of the inspector
- 7) NCC will strive to provide a HEWS to all eligible applicants; however, seniors will be prioritized if project resources are in fact limited
- 8) NCC to monitor the impacts of HEWS installations (particularly wood consumption) for a minimum of one year and regularly report findings back to community-members

8.1. Feedback from Results Dissemination Event

On June 9th, 2022, the research team held a virtual results dissemination event in the partner community of Black Tickle to present the findings of this report and to answer any outstanding questions from community-members. A short presentation was developed, outlining key findings of the research project, and feedback and approval of the contents were explicitly sought from community members in attendance (see Appendix A). Of the 14 local attendees, there was unanimous support for the content of the presentation and the recommendations outlined (see Section 8) to advance a HEWS pilot project in

the community. During a brief question and answer session, presentation attendees were eager to learn of the precise dimensions of the woodstove models under consideration, and to understand the timeline surrounding the rollout and application period for the HEWS pilot project.

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