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Toolkit for Installing Heat Pumps in Remote Indigenous Communities

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Prepared for: Coastal First Nations – Great Bear Initiative

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Disclaimer

We acknowledge that every community is different, and solutions need to be carefully tailored to the unique needs of each community. This is a general toolkit created by a UBC Sustainability Scholar under the guidance of Coastal First Nations-Great Bear Initiative, in correspondence with participating Indigenous communities and other partners. Each community is encouraged to conduct their own research to ensure the adoption of best practices and success with community-wide heat pump installations.

This report was produced as part of the UBC Sustainability Scholars Program, a partnership between the University of British Columbia and various local governments and organisations in support of providing graduate students with opportunities to do applied research on projects that advance sustainability across the region.

This project was conducted under the mentorship of Coastal First Nations - Great Bear Initiative staff. The opinions and recommendations in this report and any errors are those of the author and do not necessarily reflect the views of Coastal First Nations - Great Bear Initiative or the University of British Columbia.

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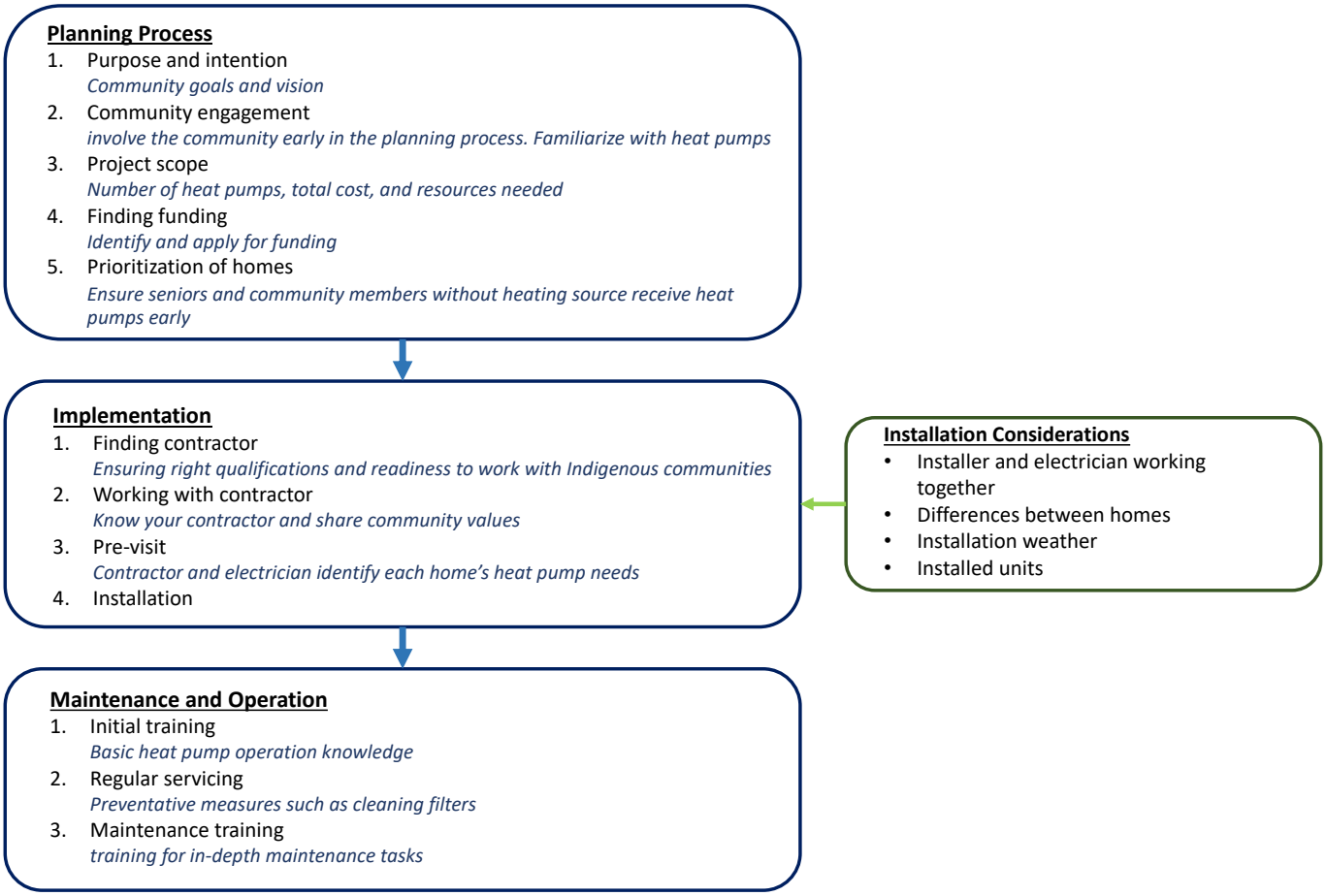
Executive Summary

Many remote Indigenous communities are installing heat pumps to provide indoor heating in residential and commercial buildings. Heat pumps are approximately 3 times more energy efficient than electric baseboard heaters, cost less to operate, and when electricity supply in community comes from renewable sources, are powered without the use of fossil-fuels. Heat pumps have demonstrated their ability to provide a reliable, economical, and sustainable source of indoor heating and can be a major step towards higher quality of living in remote Indigenous communities.

This Toolkit for Installing Heat Pumps in Remote Indigenous Communities was formed to support implementation of community-wide heat pumps in remote Indigenous communities, and was shaped from the success of local staff who have already undergone this initiative. Seven semi-structured interviews and correspondences were conducted with community staff positions (Climate Action Coordinators) who had already successfully installed heat pumps in their communities and partner organisations. This toolkit is tailored as a knowledge sharing platform for remote Indigenous communities and has been developed for anyone interested in learning about the do's, don'ts, and other considerations for heat pump installations.

The toolkit is made up of a step-by-step list of actions and considerations, and is presented in the flow chart below. Although this toolkit provides an overview and possible pathway to success, the needs and solutions of every community are different, and thus -the steps can be modified as required to suit the unique needs of each community.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Positionality Statement

This toolkit has been developed by Rudri Bhatt, a UBC Sustainability Scholar for Coastal First Nations – Great Bear Initiative. Rudri is a first-generation immigrant and an uninvited guest on the land of the hən̓q̓əmin̓əm̓ speaking Musqueam People. She grew up in post-colonial India and is doing her PhD in Resources, Environment and Sustainability at the University of British Columbia. Rudri continues to learn of the multi-generational injustices and racism faced by Indigenous communities in settler-colonial Canada. She does not intend to provide her personal views on the experiences of Indigenous communities, but simply attempts to relay and serve the experiences and advice articulated by Indigenous members and other partners.

Through this toolkit Rudri hopes to contribute towards assisting remote Indigenous communities to achieve energy security and resilience through affordable and reliable indoor heating and cooling. She intends for this toolkit to be one of many more toolkits to come that empower Indigenous communities in Canada towards fulfilling their sustainable development targets.

Limitations

A key limitation of this toolkit is that it has been developed for Climate Action Coordinators (CACs) and Band Councils of Indigenous communities, and not for community members. Therefore, it requires some degree of existing heat pump or climate action knowledge. Further, this toolkit is meant to facilitate the planning and installation of community-wide heat pump projects once it has been decided upon, and does not focus on creating a business case for heat pump adoption.

This toolkit has been developed by relying on interviews with Climate Action Coordinators and other partners. In-person observation of the planning and implementation process of the heat pump installations was not possible in the scope of this project.

Background

In general, there is a lack of quality housing and buildings on reserve. This impacts the health and quality of life of community members. Housing and building conditions on reserve is connected to larger histories of oppression and systemic racism in Canada. In the spirit of reconciliation, there is a need to improve the conditions of housing and buildings on reserve to support the health and livelihoods of community members.

Upgrading building envelopes and indoor heating systems are a major step towards sustainable development and resilience in remote Indigenous communities. Heat pumps have emerged as a method of heating and cooling buildings that is cost-effective, energy efficient, and when electricity systems are renewable, heat pumps do not rely on fossil fuels. This increases comfort and safety in community members' homes, and supports increasing quality of life in remote Indigenous communities.

The Toolkit for Installing Heat Pumps in Remote Indigenous Communities aims to support remote Indigenous communities to install heat pumps in local residential and commercial buildings. This toolkit was formed in an effort to support implementation of complex projects in remote communities and build off of lessons learned from Climate Action Coordinators (CACs) in the Climate Action Network. The Climate Action Network (the Network) provides eligible and interested remote Indigenous communities in BC with funding for salary for full time staff focused on climate action (Climate Action Coordinators or CACs) as well as training and learning support for staff. CACs support staff to plan and implement energy efficiency, renewable energy generation, and climate change resilience projects to support reducing diesel reliance and greenhouse gas (GHG) emissions as well as other community objectives.

Climate Action Coordinators have experienced success installing heat pumps community-wide. Four communities within the Climate Action Network have successfully installed heat pumps in commercial and residential buildings, while two more are actively installing heat pumps.

Purpose

This toolkit has been developed with the purpose of empowering remote Indigenous communities to build capacity related to sustainability, energy security, and energy resilience. This toolkit synthesises key information on the planning and implementation process, funding considerations, and maintenance of community-wide heat pump projects.

Audience

The audience of this toolkit includes Climate Action Coordinators, community staff positions, Band Councils, or any member of a remote Indigenous community looking to undertake the planning and implementation of a community-wide heat pump project. Other entities or individuals looking for information and resources on the same topic are also welcomed.

Methods – How this Toolkit was Developed

A review of existing resources provided an in-depth understanding of the advantages, and context-specific usage of heat pumps in remote Indigenous communities. The background research included a review of published reports on Sustainable Energy Systems in Skidegate[1] and evaluation of impacts of heat pump installation in Skidegate[2], the Community Energy Plan provided by Heiltsuk Nation among many others. Further, an in-depth review of resources available through BC Hydro, Clean BC, and Natural Resources Canada regarding general information on heat pumps, their benefits, installation support, and funding resources, was conducted.

Building on questions that emerged during the background research, semi-structured interviews were held with Climate Action Coordinators from the Climate Action Network (staff from Giga'at, Kitasoo, and Skidegate) and key partners (staff

[1] https://dspace.library.uvic.ca/bitstream/handle/1828/10586/Cook_Dana_MA_2019.pdf?sequence=1&isAllowed=y

[2] https://sustain.ubc.ca/sites/default/files/2018-23%20Evaluation%20of%20the%20Impact%20of%20Heat%20Pumps%20in%20Skidegate%2C%20Haida%20Gwaii_Smillie.pdf

from BC Hydro, EcoTrust Canada, and Clean BC). The interviews were approximately one hour in length, and conducted over zoom. Audio was recorded with verbal consent from participants. Additional information on heat pump maintenance and operation was drawn from a joint meeting with the Coastal First Nations – Great Bear Initiative, CACs, and a partner from Ecotrust Canada.

Introduction – Why Install a Heat Pump?

This section provides general information about heat pumps and their benefits, especially for remote Indigenous communities. Links to specific resources have also been provided, that may be helpful in building a business case for community-wide heat pump installations. For information on the types of heat pumps available to install, please see Appendix A: Types of Heat Pumps.

Benefits of Heat Pumps

Coastal First Nations – Great Bear Initiative (CFN-GBI) member communities are installing heat pumps to reduce their cost of indoor heating, ensure comfort during winter months, and reduce energy and fossil-fuel consumption. Communities greatly value the improvement in quality of life and energy security achieved with installing heat pumps, especially in households with elders or without prior reliable heating source. Switching to heat pumps is also empowering remote Indigenous communities to transition away from using diesel and other fossil fuels based systems for heating, while also advancing community sustainable development goals.

> *"It comes from a need to save money and have more efficient space heating for the homes."* - CAC

Key benefits of heat pumps are summarized below.

- **Energy Efficiency:** Since heat pumps transfer heat between inside and outside the building, they have an efficiency of 300% or more when operated within an outdoor temperature range.[3]
- **Budget Friendly:** Due to their high efficiency, heat pumps consume less electricity than electric baseboards and thus cost significantly less to power. Currently some CFN-GBI partner communities are undertaking an exercise to calculate the total cost benefit of using heat pumps for heating instead of electric baseboards, wood stoves, or diesel.

> *"Heat pumps present a very cost-effective space heating solution which has a potential to increase quality of life for community members. It also reduces the cost of electricity bills." - CAC*

- **Climate Friendly:** As heat pumps are powered by electricity, when energy systems are powered by renewable sources, switching away from heating by fossil fuels to heat pumps can significantly reduce the carbon footprint of a building.
- **Indoor comfort:** Heat pumps facilitate active air circulation inside the house, improving indoor air quality and comfort. In houses where a heat pump replaces a fossil fuel heating systems or woodstoves, it can directly eliminate indoor air pollution and harmful toxins.
- **All Weather:** Heat pumps can be used during both winter and summer months. During winter months, a heat pump transfers heat from outside to inside the building. In the summer months, the heat pump provides cooling

[3] Most air-source heat pumps have a minimum operating outside temperature, generally between -15°C to -25°C, below which they are unable to operate.

by working in reverse and transferring heat from inside to outside the building. There has been a lot of positive feedback from community members of CFN-GBI partner communities that had a heat pump during the summer, especially during the 2021 heat wave.

"Cooling in summer is becoming very important. In Heiltsuk they had 150 HPs during that heatwave and their people were so happy about them" - Partner

Considerations of Heat Pumps

There are a few considerations for heat pumps worth mentioning. For one, the efficiency of heat pumps begins to reduce at very cold temperatures (around -25°C, depending on the model). For communities located in very cold climates, having a supplementary heating source can provide additional comfort during the coldest winter spells.

Secondly, heat pumps operate solely on electricity and thus rely on stable electric supply. Thus, switching to heat pumps increases reliance on electricity. This can be a disadvantage in communities that have limited electric capacity or encounter power outages. In these instances, having a supplementary heating source is recommended (for example, a wood stove).

Finally, while heat pumps provide indoor comfort all year round by switching to cooling mode in the summer, it is important to note that summer cooling with a heat pump can cause an increase in electric consumption. Thus, summer cooling should be used in moderation to avoid increase in energy costs that previously did not exist.

Toolkit – How to Install Community-wide Heat Pumps

The following sections outline key stages and steps for a successful community-wide heat pump project. The key stages are as follows: planning process, implementation, considerations, and maintenance and operation. The stages and steps are outlined in the figure below.

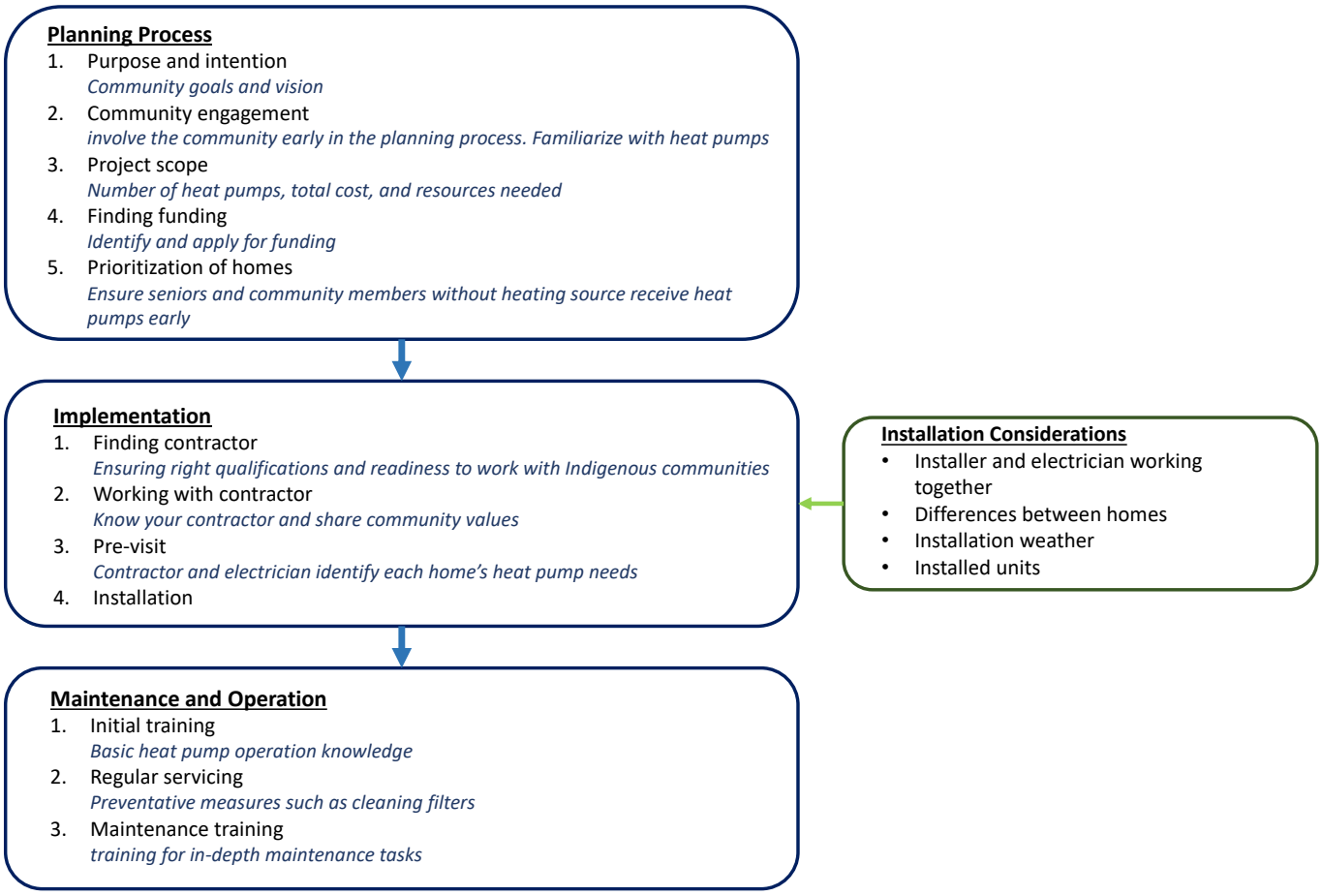

Figure 1: Action process community-wide heat pump installation

Stage 1: Planning Process

Step 1 of the Planning Process – Purpose and intention

Heat pumps have many benefits, and the specific motivations for each community will be different. Before beginning the project, it is important to have clarity on the purpose and intentions of why you are installing community-wide heat pumps in

your community. For many communities, it is a mix between lowering greenhouse gas emissions, lowering energy costs, and making homes more comfortable. It is important to be clear on your intentions for this project, and be in alignment with community leadership, in order to communicate those intentions to the community.

> *"[We] want the community to be off diesel as much as possible and the prices for heating oil were really high. We also want to save people money. … There was also an oil spill a few years back when barrels of heating oil leaking into the ground and millions of dollars worth of fixing up the ecosystem and the houses that are damaged was needed. So, there are a lot of reasons why we want to do it." - CAC*

Step 2 of the Planning Process – Community engagement

It is important to involve the community early in the planning process. A useful first step is to develop a community energy plan and conceptualise how the community's values align with the community-wide heat pump installation project. Being in close contact with the community can also help to build trust, understand individual needs and the most suitable process of heat pump installation.

As not all community members will be familiar with or aware of the benefits of a heat pump, community staff can share key information on heat pumps through information pamphlets, sessions, conversations, or workshops. Including community members in the heat pump planning process and getting them on board with the installation early supports the success of the project. Another long-term benefit of community engagement is finding someone who is interested in taking on heat pump maintenance tasks, and supporting elders though the transition.

Step 3 of the Planning Process – Project scope

A project plan provides an outline of how the project will unfold. It includes an initial estimate of how much the project will cost, and what resources are needed. Determining project scope can involve the following steps:

1. Discuss with leadership how much budget there is to move forward with this project, and considering both external and internal funding sources (see Step 4 – Finding funding).
2. Discuss with a heat pump contractor how many heat pump installations can occur based on the amount of budget available.
3. Estimate how many houses and/or buildings will need to receive a heat pump.
4. Seek additional funding if required (see Step 4 – Finding funding).
5. Build a project timeline. Include in the project timeline the steps laid out in this toolkit.

Step 4 of the Planning Process - Finding funding

After checking with leadership how much internal funding is available, you will likely need to seek additional external sources of funding. According to the CACs interviewed, applying for funding takes a big part of their job as multiple sources need to be identified, secured, and reported on after project completion.

There are primarily two types of external funding available for heat pump projects: initial funding for the capital cost, and rebates. The rebate pathway will require a community to ensure it can cover the upfront costs as rebates can take time to process after installation is complete. Many funding opportunities have pre-requisites before applying for the funding, while other funding programs are working to address application barriers by supporting applicants through interviews. The Community Energy Diesel Reduction (CEDR) program through the New Relationship Trust is a funding stream working to reduce barriers to entry. The Clean BC Indigenous Community Coach also supports communities by offering energy coaching services to Indigenous communities, including support to explore funding

opportunities, identify energy efficiency projects, assist with heat pump installation planning, and provide support with Clean BC funding application.[4]

Communities can consider funding options based on the heating source that the community members are moving away from. If homes are primarily fossil fuel based, there may be grants that provide funding for lowering greenhouse gas emissions.

Here is a link to a funding finder tool created by Clean BC to help search for eligible funding options.

Step 5 of the Planning Process – Prioritization of homes

Once a community has secured funding, and determined how many homes in the community will receive heat pumps, it can build a plan of how to decide which homes will receive heat pumps first. Through support from Band Council, community leadership and community members, you can develop a needs-based process, ensuring those who need heat pumps most receive them first. This can involve making a list of homes without any existing heating source, elders, or vulnerable community members and prioritising heat pump installations in those homes. This is a strategy that has worked well for some CFN-GBI communities, especially if the heat pump installations are undertaken in multiple phases. It is important that this strategy is shared with the community, so community members understand the intention for a fair and equitable process.

Stage 2: Implementation

Step 1 of Implementation – Hiring the right contractor

Finding the right contractor who is able to work with a remote Indigenous community throughout the lifetime of the heat pumps is a crucial step. In some instances, it is

[4] https://betterhomesbc.ca/indigenous-coach/

important to make sure that the selected contractor has the required certifications as it may be a prerequisite to some funding sources.

Where multiple contractors are available for heat pump installations, it is recommended for the community to request an estimate or tender (request for bid) to help select the most appropriate contractor for a fair price. This tender should include (but is not limited to): unit costs, equipment costs, personnel cost, and travel costs. It is helpful to share the project scope during the bidding process to ensure contractors have a full understanding of the purpose and intentions of the heat pump program. In addition, requesting information on the contractors' experience working with remote Indigenous communities and references from past clients will be helpful in determining the most suitable contractor.

The contractor may only install a certain brand of heat pump. If this is the case, the community should be aware of the heat pump units being installed, certifications, warranty of the units being provided, and most importantly making sure that the units are eligible for the rebate program. Certain funding sources, for example the Federal Greener Homes Grant, require an Energuide evaluation[5] when applying for funding.

When in doubt – ask a Climate Action Coordinator! The Climate Action Network has worked with a lot of contractors, and would be happy to recommend those who have worked successfully with communities in the past.

Step 2 of Implementation – Working with the contractor

Once a contractor is secured, set up an initial meeting with the contractor to discuss your project scope. This initial meeting can provide an opportunity to get to know the contractor, understand what processes they follow and why, and share your project timeline. You can also share the purpose and intention of this heat pump project, as

[5] These requirements are subject to frequent changes. Please refer to the appropriate links to access the most updated information for each funding source.
Canada Greener Homes Grant: https://www.nrcan.gc.ca/energy-efficiency/homes/canada-greener-homes-grant/start-your-energy-efficient-retrofits/eligibility-criteria/24450

well as provide considerations based on this toolkit and your own experience, for what will work best in your community.

Step 3 of Implementation – Pre-visit

The first step of heat pump installation will be for the hired contractor to conduct a pre-visit inspection of houses to identify each home's individual heat pump requirements. It is important that the community's electrician joins the installer during the pre-visit to identify correct placement of the heat pump inside and outside units, and check if the home's electrical panel needs to be upgraded to operate the heat pump. This can be an opportunity for you to join as well if the community member has any concerns and discuss the benefits of heat pumps, as well as how to operate and maintain them. You can also provide brochures of pamphlets during this visit.

> *"A very important step is to have a pre-visit from a certified installer. He comes to the community, walks into every single home and identifies each home's individual heat pump solutions. … . This is the most crucial first step! Professional installer must do a pre-visit. Included in that is also the electrician. Community's electrician and heat pump installer working together and it is very important. This includes the placement of heat pump, outside unit, break up panel, how far the outside unit is from break up panel, condition of existing break up panel, does it need to be renewed or upgraded to operate the heat pump." - CAC*

Step 4 of Implementation – Installation:

Once the pre-visit inspection has occurred, and the certified installer is ready to install homes, the following considerations need to be taken into account during the installation process for community-wide heat pumps.

- Installer and electrician working together: It is important to have the community electrician accompany the installer during the heat pump installations to check the electrical panel and if any upgrades are required. The community electrician is someone who ideally has been working with

the Indigenous community for years and thus understands the houses and community needs through the installation process. They can help guide the installer appropriately. For example, it is important to identifying the most appropriate placement of the units with respect to the existing electrical panel and orientation of the homes.

- Difference among homes: Each home has different heating requirements based on size and type of home. It is important for the CAC to communicate to the community members that the estimation of number of units required for each house is a professional decision made by the contractor during the pre-visit and is dependent on the size and characteristics of the house. The comfort level required for each home may also vary based on its residents (e.g.: if there is an elder living in the house).
- Installation weather: Consider the weather when undertaking heat pump installations as the contractor will need to work both inside and outside the house. Many remote Indigenous communities are located in the north or may have extreme weather. Fall months can be especially harsh as it is difficult to do electrical work outdoors during the rain or storm.
- Installed units: It is important to ensure that the heat pump units being installed by the contractor are eligible for the rebates the community intends to apply for. If wrong units are installed that are not eligible for the rebate programs, the community would need to arrange for funding from other sources. This is an important detail to double check before installing.

Participating Indigenous communities have pointed to the Covid-19 pandemic as a major barrier in procuring equipment as well as restrictions around being able to invite outsiders into the community for heat pump installation work. However, in a post-pandemic world, CACs warn of slow supply chain of equipment, especially to remote communities. Planning around the equipment required, equipment cost, personnel cost, and travel costs is key to timely completion and success of the heat pump installations.

Stage 3: Maintenance and Operation:

Step 1 of Maintenance and Operation – Training during installation

Following heat pump installation, the installer should demonstrate to each household the correct heat pump operation practices, as well as how to clean and filters regularly. Correct operating ranges of the heat pumps and remote controls must also be explained to the residents. This is an important step to ensure that the residents are aware of how to use the heat pumps effectively.

Step 2 of Maintenance and Operation – Regular upkeep

Preventative measures such as cleaning filters every six months, replacing them when needed, operating the heat pumps optimally can go a long way to ensure smooth longer-term functioning of the units. A reminder for these upkeep measures can be taken up by the CAC or a designated person from the community who can go house to house in the beginning of the winter season to make sure the heat pumps are correctly maintained. Elders in the community who cannot reach the units themselves may require additional support from younger family members or community members to ensure regular upkeep of their heat pumps.

Step 3 of Maintenance and Operation – Maintenance training

It is difficult to arrange for certified contractors to regularly visit remote Indigenous communities for small to moderate maintenance work. This is especial true in the winter months when there is more need for smooth functioning of heat pumps. Arranging for the contractor to train community member(s) to undertake basic to intermediate maintenance work on heat pumps can thus be extremely beneficial in developing internal capacity in the community to maintain the heat pumps.

There is increasing interest among the members of the Climate Action Network to train and certify a community member or community electrician interested to be able to undertake complex heat pump maintenance tasks. This will help build internal

capacity in remote Indigenous communities to ensure secure heating during winter months and reduce reliance on outside contractors.

Suggestions for Future Work

This toolkit provides stages and steps to successfully install community-wide heat pumps. The following are two avenues for future research work:

- Maintenance: As mentioned in section, 6.3 Maintenance and Operation, conversations and steps to promote in-depth maintenance training for someone internally from the community are gaining interest. Resources that support maintenance and operation training would add great value.
- House as a system: It is important to look at the house as a system. Making the heating system more efficient by installing heat pumps does not ensure the efficiency of the house to retain the heat generated. Doing a home energy and retrofit assessment to identify any leaks in the building envelope, doors, and windows is a crucial first step to an efficient home. Further work on undertaking such assessments on a community scale can be especially valuable.

> "There are two aspects of an inefficient house: there's inefficient heating and then there's an inefficient building envelope. So, if you upgrade the energy system but your building is super leaky, you are still using way more energy." – *Partner*

Conclusion

As remote Indigenous communities are undertaking efforts to transition away from fossil fuels, heat pumps provide a more reliable, economical, and sustainable indoor heating. Heat pumps can also offer a step towards increasing comfort, health and overall quality of life in remote Indigenous communities.

We hope the information in this guide has provided some valuable insights to help you in your community wide heat pump installation journey! Some insights highlighted in our interviews were related to the importance of:

- Community engagement: sharing information and getting community input;
- Funding applications: ensuring that the units installed are eligible for the funding;
- Contractor: finding the right contractor with the right qualifications and interest in working with the community long-term;
- Pre-visit: contractor and electrician conduct a pre-visit to identify heat pump needs of each house and the technical details; and
- Building heat pump maintenance capacity: including regular upkeep and in-depth maintenance in the community.

Acknowledging that every community is different and has different requirements, we highly encourage that the solutions be tailored to what works best for the needs of an individual community. We wish you all the best in your journey and that this toolkit supports the benefits for your community. Please see our appendix for further resources and information.

Appendix 1: Types of Heat Pump

Sources

Air Source: Air-source heat pumps extract heat from the air outside the building during heating season, and releases heat from the air inside the building to outside during the summer season.

Ground Source: Ground-source heat pumps extract heat from the earth, ground water, or both during the winter season, and also use this as a reservoir to release and store heat during the summer season.

Types of Air-Source Heat pumps

There are two main types of air-source heat pumps:

Ducted – This is a popular type of heat pump in houses with existing duct system. In this the indoor coil of the heat pump is located inside the duct system of the home and air is heated or cooled as it passes over the coil.

Ductless – This type of heat pump is more common in houses without an existing duct system. In this, the indoor coil is located inside an indoor unit that generally sits on the floor or wall of the house and heats or cools the space directly.

Ductless heat pumps can further be divided into mini-splits where a single indoor unit is located in the house connected to a single outdoor unit, and a multi-split where multiple indoor units are located in the house connected to a single outdoor unit.

Please visit the links below for more information on heat pumps, types of heat pumps, and their technical functionality:

- Some great information on Heating and Cooling Systems by Clean BC Better Homes: https://betterhomesbc.ca/product_categories/heating-and-cooling-systems/

- Natural Resources Canada, Heating and Cooling with a Heat Pump: https://www.nrcan.gc.ca/energy-efficiency/energy-star-canada/about/energy-star-announcements/publications/heating-and-cooling-heat-pump/6817#w

Appendix 2: Funding

The table below provides quick details of some common funding sources. Please be advised that this is not a complete list of funding opportunities available for remote Indigenous communities. A comprehensive list of funding sources can be found on the link here. Section 3 provides funding sources for Indigenous and First Nations only.

As funding requirements and opportunities change frequently, please use this as a starting point, do your research, talk to people, and ask for support where needed.

Funding name	Amount/Funding available	Link
Indigenous Community Energy Coach & Indigenous Community Heat Pump Incentive	- Residential – up to 80% capital cost, max $10,000 per heat pump - Community building – up to 80% capital cost, max $200,000 per heat pump - Total – max incentive of $200,000 per Indigenous community per application	https://betterhomesbc.ca/indigenous-coach/
New Relationship Trust	Up to $500,000 in assisted project costs	http://www.newrelationshiptrust.ca/initiatives/bcicei/
First Nations Clean Energy Business Fund	- Capacity Funding – up to a maximum of $50,000 - Equity Funding – up to a maximum of $500,000	https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/consulting-with-first-nations/first-nations-clean-energy-business-fund

Federation of Canadian Municipalities	- For studies/plans - up to 50% of eligible costs to a maximum of $175,000. - For pilot projects - up to 50 or 80% of eligible costs to a maximum of $500,000. - For capital projects - up to 80% of eligible costs, with a grant of up to 15% of the loan amount.	https://www.fcm.ca/en/funding
Heat pump Rebate – Income Qualified	Max up to $5,000 per heat pump	https://www.fortisbc.com/rebates/home/iqheatpump?b=d99ccd66-99be-4b5c-8eb2-d22105198c9e&l=
Canada Greener Homes Grant	Max up to $5,600 per home	https://www.nrcan.gc.ca/energy-efficiency/homes/canada-greener-homes-grant/start-your-energy-efficient-retrofits/eligibility-criteria/24450 For Indigenous Governments: https://www.nrcan.gc.ca/sites/nrcan/files/energy/efficiency/Greener%20Homes%20Grant%20Form%20Indigenous%20-%20EN-rr.pdf