FIRST NATIONS HOME ENERGYSAVE

Community Success Story

A closer look at the Uchucklesaht clean energy transition

Project Context

The Uchucklesaht Tribe Government (UTG or "Uchucklesaht") holds 3,067 hectares of Treaty Settlement Lands, including one historic and unoccupied village, Cowishulth, and a main village, Ehthlateese. Uchucklesaht lands are situated on Vancouver Island, approximately 40 km southwest of Port Alberni. Uchucklesaht is a Modern Treaty Nation and member of the Maa-nulth Treaty Society. The Maa-nulth Treaty took effect on April 1, 2011.

Uchucklesaht has over 316 enrollees and citizens. Currently, 20 full and part-time residents live in the Village of Ehthlateese, located at the mouth of the Uchucklesit Inlet. The village consists of several homes, a nurse's station, Wellness Centre, diesel generating plant and other infrastructure.

Limited federal funding meant that many of the homes in Ehthlateese were constructed with substandard materials and techniques. As a result, following an inspection in 2019, all homes in Ehthlateese were deemed unsafe for habitation and were subsequently demolished. Since 2020, 14 new houses have been constructed, and Uchucklesaht is actively encouraging citizens to return to the village with the long-term goal of restoring Ehthlateese to historic population levels.

All development and planning undertaken by UTG is guided by an overarching framework based on Nuu-Chah-Nulth principles. These elements guide and inform the key directions found in Uchucklesaht planning:

Isaak – Utmost respect; all life is intrinsically and equally valuable.

Hishuk'ish tsawalk – Everything is one, all is interconnected, and everything depends on everything else.

Uu-a-thluk – Taking care of (each other and the environment).

In recent years, Uchucklesaht has been working on several interrelated projects to increase energy efficiency and housing quality in its communities, while also reducing greenhouse gas emissions. These projects include the new housing developments in Ehthlateese, planning for a hydropower project to replace diesel electricity generation, and the development of a Community Energy and Emissions Plan (CEEP).

Photo Credit: Uchucklesaht Tribe Government

Photo Credit: Barkley Project Group

Collaborators

Fraser Basin Council

BC Hydro

Barkley Project Group

Origin Sustainable Design + Planning

Innes Hood Consulting Inc.

Environmental Dynamics Inc.

Tectonica

Gordon's Homes Sales

Funders

BC First Nations Clean Energy Business Fund (FNCEBF)

New Relationships Trust BC Indigenous Clean Energy Initiative (BCICEI)

NRCan, Clean Energy For Rural and Remote Communities (CERRC)

Fraser Basin Council

BC Hydro

Clean BC, Better Homes New Construction Program

Project Leads

Ryan Anaka & Sarah Holden
Uchucklesaht Tribe Government

Nigel Moore & Mary Vasey
Barkley Project Group

Randy Morris
Environmental Dynamics Inc.

Devon Miller
Origin Sustainable Design + Planning

Innes Hood
Innes Hood Consulting Inc.

Amy Seabrooke, Carolyn Stock, Greg Lehoux & Hamid Tamehi
BC Hydro

Bill Derby & Darren Moss
Tectonica

For more information about First Nations Home EnergySave visit: www.fnenergy.ca

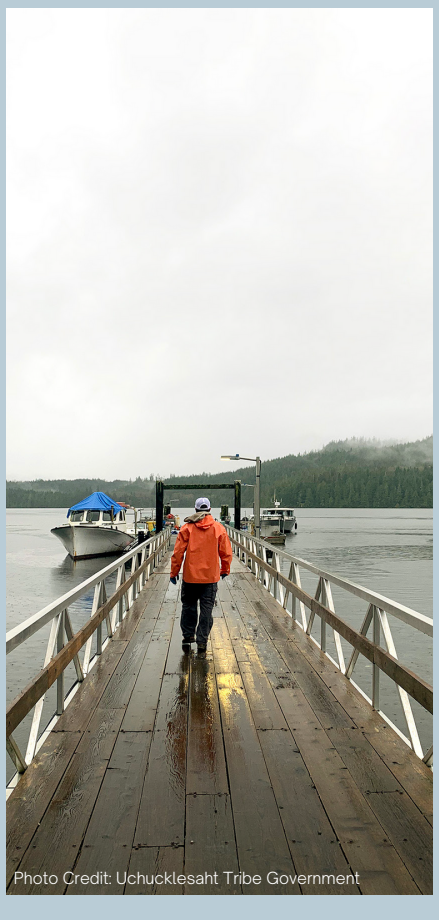

Photo Credit: Uchucklesaht Tribe Government

Project Description

Ehthlateese Development

Ehthlateese is located at the south end of Hucuktlis Lake, which is statistically the rainiest place in North America.

In 2020, six manufactured homes were moved in two pieces on barges down Alberni Inlet to Uchucklesit Inlet, then lifted by crane and placed on concrete poured foundations with under slab insulation. These homes were constructed to Steps 3 and 4 of the BC Energy Step Code. The new homes include water-efficient faucets, showers, energy-efficient appliances, and wood stoves for backup heating. The use of manufactured homes had the benefit of reducing construction time and allowing residents to return home more quickly, as well as reducing the exposure of building materials to the elements.

In 2021, BC Hydro contracted Innes Hood Consulting to develop the Ehthlateese Community Electricity Profile. The study made recommendations to enhance the energy performance of the existing housing stock and reduce energy demand for eight new homes to be constructed in 2021.

BC Hydro coordinated funding with CleanBC for energy-efficient upgrades and installation. This allowed the first six homes to be retrofitted in summer 2021. Existing furnaces were replaced with variable speed heat pumps and communicating thermostats. High-efficiency hot water tanks were also installed.

These efforts to create safe, energy-efficient housing for community members in Ehthlateese demonstrate the Nuu-Chah-Nulth principles. By constructing energy-efficient homes and working to reduce greenhouse gas emissions, Uchucklesaht is taking care of local community members while respecting the interconnectedness of people and the environment.

Uchuck Creek Hydro Project

Ehthlateese is not connected to the BC electricity grid and is reliant on diesel generators that are owned and maintained by BC Hydro. Diesel generation in Ehthlateese currently makes up 69% of Uchucklesaht's greenhouse gas emissions. Transitioning to renewable energy is the single most significant emissions reduction strategy available to Uchucklesaht.

In 2006, UTG identified the need and desire to replace the diesel generators with renewable energy. Feasibility studies for a hydropower project at the nearby Cass Creek watershed were conducted from 2006 - 2013. In 2020, UTG revisited the idea of a hydroelectric project, working with Barkley Project Group to advance the feasibility and design of a different hydropower opportunity at Uchuck Creek that shows even greater potential to reduce diesel.

A micro-grid analysis is currently underway to determine the best energy alternative for the community. Both the Uchuck and Cass Creek projects are being considered, alongside various ground or roof-mounted solar PV configurations. One of the objectives of the study is to identify how solar and run-of-river hydro can complement one another – with hydro playing a greater role in the winter and during periods of high precipitation, and solar filling in when the rains stop and the sun is out – to reduce diesel consumption as much as possible throughout the year.

In addition, BC Hydro has implemented a solar-storage pilot project, one of three in BC, which was installed on a house in Ehthlateese in spring 2022. This project is intended to determine the feasibility of potentially reducing peak electricity demand from individual buildings and assess the performance of solar power systems in Ehthlateese.

Uchucklesaht's goals are to achieve self-sufficiency and 100% renewable energy for Ehthlateese while honouring the Nuu-Chah-Nulth principles throughout the development process and operations.

FIRST NATIONS HOME ENERGYSAVE IS SUPPORTED BY:

PROGRAM ADMINISTERED BY:


Photo Credit: Uchucklesaht Tribe Government

Community Energy and Emissions Plan

Since the signing of the Maa-nulth Treaty, Uchucklesaht has taken numerous steps towards understanding and reducing greenhouse gas emissions, including through the development of supporting legislation. As more construction projects have come forward, it became evident that a guiding document was necessary to ensure that projects were advanced in accordance with the desire to create sustainable, low-impact UTG communities.

BC Hydro and the Fraser Basin Council provided funding to develop a UTG Community Energy and Emissions Plan (CEEP). The plan was developed by Origin Sustainable Design + Planning and Innes Hood Consulting Inc. The CEEP provides a roadmap for the community to achieve 50% greenhouse gas emissions reduction by 2030, and carbon neutrality by 2050.

Guided by the Nuu-Chah-Nulth principles and integrating ideas and priorities from citizens, staff and leadership, the CEEP provides direction in four sectors: 1) renewable energy generation; 2) low carbon, high performance buildings; 3) low carbon mobility; and 4) low carbon waste management. The plan also provides business cases for future initiatives including solar PV in Ehthlateese to complement the micro hydro project.

Delivering on the objectives outlined in the CEEP will bring financial, environmental and social benefits to Uchucklesaht citizens. These benefits include improved air quality; healthy, comfortable, and climate-resilient buildings; and job growth in the community.

In a short time, UTG has made incredible strides towards energy independence and climate action by taking an interconnected approach to its clean energy future.

Lessons Learned

1. The guiding Nuu-Chah-Nulth principles helped Uchucklesaht Tribe Government make clear and informed decisions to best serve the community.

2. UTG made a concerted effort to sync up all projects, which allowed the CEEP, hydropower project and residential development to complement each other. Regular project partner meetings created synergies between support organizations and aligned project outcomes.

3. Development of the Community Energy and Emissions Plan provided a clear and practical roadmap to carbon neutrality by 2050.

4. Regular community enagagment, including working groups, was integral to creating the CEEP and orienting members to their new homes.

Milestones

2006 - 2014
Feasibility studies on micro hydro project started (tenuring issues, funding issues)

2013
Uchucklesaht became signatory to the Maa-nulth Treaty

2019
Ehthlateese housing assessed to be unfit for human habitation

2020
Received federal funding for the construction of 6 new homes

2021
Received funding for hydro project prefeasibility, feasibility and conceptual design

2021
Received additional funding for hydro project for preliminary design and detailed design of construction-ready hydroelectric project

2021
Additional federal funding received to construct 8 new homes

2021
Achieved Step 3 & Step 4 on the BC Energy Step Code for all housing constructed in Ehthlateese

2021
Received funding from BC Hydro and Fraser Basin Council for the development of a Community Energy and Emissions Plan and Green Building Guideline

2022
BC Hydro Solar PV & Storage pilot project completed in Ehthlateese

2022
Constructed a Wellness Centre in Ehthlateese, meeting objectives in the 2022 Green Building Guideline