

Community Success Story

BCIT Zero Energy Building Training at Nuxalk Nation

Community Context

The Nuxalk Nation is situated in and around beautiful Bella Coola, in the Great Bear Rainforest on the central coast of BC. The villages of Kimsquit, South Benedict, Quatna, Q'umk'uts and Snxlhh form the Nuxalk Nation. Currently, seven Nuxalk reserves cover 2,025 hectares, but the Nation's ancestral territory extends across 1,800,000 hectares.

The Nuxalk Nation has a deep appreciation for the environment, which is upheld in its worldview that Nuxalk people are the caretakers of their land. The Nuxalk people hold close ties to the natural environment, land and water. This is demonstrated through the Nation's focus on energy efficiency, clean energy projects and other environmentally focused initiatives.

The total Nuxalk population is approximately 1,800 people, and 900 residents live on reserve. Like many First Nations, Nuxalk strives to meet increased demand for quality housing in its communities. In the past, homes were designed by people from outside the community and consequently didn't meet the needs of the central coast climate. Through its housing strategy, Nuxalk Nation aims to develop culturally appropriate, high-quality housing for its community members.

To meet these challenges, Nuxalk Nation is training and recruiting a local construction workforce that understands the needs of its people. "Nuxalk" means to come together, one heart and one mind, to form one. The BCIT Zero Energy Building Training at Nuxalk reflects this approach.

Project Description

Nuxalk Nation recognizes that it needs to build capacity within the band membership by training a workforce of carpenters, plumbers, electricians and other trade workers to meet the community's housing needs. The Nation is moving away from sending members away for skills training, which is expensive and means time away from families. Instead, Nuxalk Nation is now bringing educational opportunities into the community.



Collaborators

Nuxalk Nation

Nuxalk College

British Columbia Institute of Technology (BCIT)

Fraser Basin Council

Funding Providers

BCIT

Dennis & Phyllis Washington Foundation

Project Leads

Cody Brentzen
Instructor, BCIT

Barbara James
Instructor, BCIT

Richard Hall
Housing Consultant

Lawrence Northeast
College Administrator, Nuxalk College

Tom Welfare
Program Lead, Energy Efficiency,
Fraser Basin Council

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Milestones

September 2021

Twelve Nuxalk carpentry students attended four virtual training sessions in advance of the in-person training. Sessions focused on components of air tightness, super insulation and space heating and mechanical ventilation.

September 2021

BCIT instructors Cody Brentzen and Barbara James visited Nuxalk Nation to understand the building specifications created by Nuxalk and the building challenges of the wet central coast.

October 2021

Twelve Nuxalk carpentry students attended the two-day in-person training session in Bella Coola, where they learned about innovative principles and practices in constructing zero energy buildings.

Photo credit: Nuxalk Nation



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Over the last seven years, Camosun College's School of Trades and Technology, the Industry Training Authority (ITA) and the Nuxalk Nation have been working to develop and deliver an innovative on-site four-year carpentry training program for Indigenous learners in Bella Coola. This program helps Nuxalk members build the capacity to redefine homebuilding in their territory.

The Fraser Basin Council, working with Richard Hall, a housing consultant and member of Nuxalk Nation, brought BCIT's Zero Energy Building Training to Nuxalk Nation in the fall of 2021. Twelve carpentry students from Nuxalk Nation attended the training, which was split into four two-hour virtual training sessions and a two-day in-person session at Nuxalk Nation. This delivery model was developed to allow the training to take place during the COVID-19 pandemic while keeping the risk to the local community low.

The virtual sessions were an opportunity to ground students in the four principles of zero energy buildings: airtightness, building assembly, insulation and mechanical systems. During the in-person training, students were able to apply these principles during hands-on learning opportunities about zero energy building practices.

Prior to the training, Indigenous BCIT instructors Cody Brentzen and Barbara James visited Nuxalk Nation and met with Nation members. This helped them to better understand the building specifications created by Nuxalk to meet the needs of the challenging climate of the wet central coast.

As a result, at the two-day in-person session, students were able to learn about building practices specific to the local climate. These included water-resistive air barrier systems, leak fixing and detection, and vapour barrier installation. Students were also able to review the main elements of cladding and heat recovery ventilation via a mid-construction blower door test.

This training allowed Nuxalk carpentry students to understand how zero energy building practices can be used in their home construction work for their communities. Thanks to the success of this training at Nuxalk Nation, BCIT and the Fraser Basin Council hope to offer similar training in other remote Indigenous communities in BC.

Lessons Learned

1. Significant value was added to the training by working with Nuxalk Nation to understand its unique housing and climate needs.
2. Having Project Leads from Nuxalk Nation and Nuxalk College facilitate and recruit the students was key to the project's success.
3. Providing a blend of virtual and in-person training meant the training was more accessible, giving students time to digest the theory-based learning before the hands-on sessions.
4. Working closely with Nuxalk College was important in keeping students engaged in the training and allowed opportunities to access additional support for childcare expenses and other needs.

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