



FIRST NATIONS HOME ENERGYSAVE

Community Success Story

Building Passive at West Moberly First Nation

Community Context

West Moberly First Nations is in the Peace River region in Northeastern BC, located on the west shore of Moberly Lake and around 90 km southwest of Fort St. John. West Moberly is part of the Treaty 8 Tribal Association and their two major languages are Dunne-za and Cree. There are around 150 community members living in 46 homes on reserve. West Moberly experiences a Northern climate with winter temperatures averaging at -25°C and approximately 169 cm of snowfall over the season.

West Moberly has a vision “to be the Greenest First Nations Community in British Columbia”. Their mission is to decrease their carbon footprint by developing a high-performance housing construction standard. In 2009, West Moberly completed a Community Energy Plan that identified strategies for reducing their energy use through conservation, energy efficiency, and renewable energy. Through participation in the Community Action on Energy and Emissions program, West Moberly has committed to reducing energy use in community buildings by 9% and generating 10% of their energy from clean, renewable and low-impact sources.

Project Description

West Moberly has developed a new housing guide for building culturally appropriate and high-performance homes. The new housing guide recognizes that there is an opportunity to design and build homes that are resilient to climate change, educate community members about investing in high-performance buildings, and train members in its construction and in how to manage homes.

West Moberly has adopted the BC Energy Step Code building requirements as their housing standard for new construction and are setting their objective for Step



Photo Credit: West Moberly First Nation

Funding Providers

First Nations Health Authority
Progress Energy

Project Lead

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Image Credit: West Moberly First Nation



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Timeline

2009

West Moberly completed their Community Energy Plan.

October 2017

Beginning of construction of the Passive-certified health station.

February 2019

Target date for completion of the health station construction.

Spring 2019

Passive certification of the health station.



Photo Credit: West Moberly First Nation

3. Contractors are required to adhere to the Step Code to enter the bidding process, to work with a Certified Energy Advisor, and to conduct a blower door test to check efficiency standards before their final payment.

When West Moberly began to plan for a new health station, they saw the opportunity to showcase the value and benefits of a high-performance building. Chief and Council decided that the new health station would be Passive-certified so that the entire community could experience a high-performance building, including its more comfortable, healthy interior with less drafts and moisture, its quieter environment and its improved indoor air quality.

The health station would be a 3000 square foot building, but the main floor will only consume 2,000 watts of power for heating or the equivalent of a hair dryer. In the case of a major power outage during mid-winter, the building would be able to take in the entire population and keep them warm - the insulation factor is such that body heat generated would keep the building at 16°C. There are also plans to put in a Tesla wall system and to install solar panels on the roof. The First Nations Health Authority (FNHA) is a partner on the project and has noted that the West Moberly health station will be their first Passive-certified health station!

Lessons Learned

1. There is a higher capital cost in the initial construction of high-performance housing, but over the life of the home, there will be a positive cash flow because of the energy savings. In the case of West Moberly, a high-performance home at an 80% efficiency level would save the occupant \$400/month.
2. The BC Energy Step Code is a good guideline for First Nations because it allows for incremental steps. Communities can start with a step in which they have the appropriate resources for.
3. High performance standards need to consider the regional climate. West Moberly's health station is certified by the Passive House Institute US (PHIUS) because PHIUS allows for regional climate variation. They were unable to meet Passive House Canada's target because of their location and cost of the project.
4. Passive-certified doors and windows can be challenging to find in North America. West Moberly is importing their supply from a U.S company called Zolla. However, they expect that supply will become more available locally in the future.
5. Do your homework and have all the facts needed for a business case for energy efficient buildings to gather support from funding agencies.



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