

ECOWISE

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Native Communities are Greening Alaska



In 2008, community leaders from the Anutuvuk Pass, a rural Nunamiut Inupiat village, asked the Cold Climate Housing Research Center (CCHRC) to help them come up with a house that would be healthy as well as cost- and energy-efficient. This project is part of the Sustainable Northern Shelter (SNS) program by the CCHRC. It aims to design affordable, rugged, and comfortable housing in rural Alaska in cooperation with Alaska Native communities. The program's approach reaches forward to take advantage of innovative new technologies and materials, while, at the same time, reaching back to tap into long-practiced survival strategies.

Home building is expensive in Anutuvuk Pass since all the supplies must be flown in. Building a standard home requires a costly 10 planeloads of supplies; however, the materials for the CCHRC prototype were shipped on two airplanes. The outside wall of the home was insulated with soy-based spray foam, creating a foam shell. It was then covered with a waterproof elastomeric coating. With these improvements, the house may reduce its energy use as much as 90 percent compared with the typical 1,200 square foot village house.

Such an airtight design requires mechanical ventilation to maintain healthy air quality. Fresh air enters through passive ventilation. Stale air is exhausted with an exhaust fan and through a local traditional form of passive stack ventilation called a qingok, where external air and external temperature pull stale air out. In this case, because the house is so tight, an in-line fan was installed in the qingok to boost air exhaust when necessary. The exhaust fan pulls stale air into an aerobic sewage treatment system, which can be used in permafrost areas where septic and other subsurface systems are ill-suited. The house also features solar photovoltaic panels.

Tagiugmiullu Nunamiullu Housing Authority (TNHA), a regional housing authority which works for eight Native villages, funded the Anutuvuk Pass house. The Anutuvuk experience inspired TNHA to work with CCHRC in other communities, expanding SNS still further. To analyze whether these innovations are up to the climate test and saving energy, CCHRC is monitoring and collecting data on their power production and energy usage.

To learn more and view data: <http://www.cchrc.org/sustainable-northern-communities>

HUD Green Public Housing Conference in April

What does "going green" mean to you? What *can* "going green" mean for your public housing development? This April, HUD is offering a place to explore these and many other questions at the **Going Green: Intelligent Investments for Public Housing Conference**. Held over 2 days, from April 12-13th, the event will feature sessions on topics including "Financing Green Options," "How to Conduct an Energy Performance Contract," and "Building Back Green after Katrina." The conference will also feature a poster wall, question and answer sessions, and numerous opportunities for networking and idea exchange. The conference is free for all, but the Department especially encourages public housing agency staff to attend. Please visit <http://bit.ly/e3jp4W> to register. Hurry, space is limited for this free, educational event.

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UPCOMING EVENTS

» **SAVE THE DATE!**
Going Green: Intelligent Investments for Public Housing Conference
Presented by the US Department of Housing and Urban Development
April 12-13
Boston, MA
<http://bit.ly/e3jp4W>

» **Department of Energy: Energy Efficiency and Renewable Energy for Tribal Community Development**
March 8-10, 2011
Green Bay, WI
<http://bit.ly/hOli7S>

» **Developing Tribal Housing with Green Building**
June 1-2, 2011
Bismarck, ND
<http://bit.ly/gxr6XB>

LEED® for Homes Gold Multifamily Project Celebrated

In January 2010 the Mtigwaakiis development in Bayshore MI, opened; it is the first LEED® for Homes Gold certified multifamily project in the 23-state Eastern Woodlands Office of Native American Programs (EWONAP) region. The 10-unit project was developed and is owned by the Little Traverse Bay Bands of Odawa Indians.

The walls and foundation are constructed of energy efficient Insulated Concrete Forms (ICF), and insulated using high density, recycled cellulose insulation. The building's 2- and 3-bedroom units feature low emissivity (low-e) windows which control how heat moves in or out of the glass or glazing, high efficiency lighting fixtures, compact fluorescent bulbs, and water saving plumbing fixtures. Heating and cooling are provided by high efficiency air source heat pumps. Other energy efficient features include high efficiency water heaters and programmable thermostats. Because the units are highly airtight, energy recovery ventilators bring in an adequate amount of fresh air. The landscaping will save water by including rain gardens, which can absorb more rain water than lawns, and plantings native to the area, which can survive with less water.



LEED Gold Multifamily Development is Ready for Residents

Photo: Little Traverse Bay Bands of Odawa Indians

Tribal Chairman Ken Harrington said that kicking off construction of the project was his first act when he took office in August 2009. LEED certification was not an original project goal, but Harrington insisted on it, "Then we aimed for silver, but achieved gold." The project, funded with \$2 million in American Recovery and Reinvestment Act (ARRA) funds, is located on an 80-acre site purchased by the tribe years before. The infrastructure was already in and the road and parking lot were funded through Bureau of Indian Affairs funding.

LEED certification makes demands that other projects may not. Harrington marveled at the thoroughness of some LEED requirements, "down to the wood floors and documenting the management of their forests." LEED costs more and takes longer. But the tribe plans to do it again; this multifamily project is only part of what is planned for the site. A former builder, Harrington advises, "Be a little patient. We were so focused on getting the LEED certification that we were able to allow for some delays. We talk about green. We need to do what it takes."

For more information, contact Chairman Harrington at 231-242-1400.

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Resident's Corner | Training for Green Jobs

Advanced technology to make construction and housing more energy efficient and sustainable is creating new career opportunities. Tribal colleges have long offered environmental science and natural resource management, but a number of them are now offering degrees or certificates in sustainable construction-oriented vocations or new energy technologies. Here are a few possibilities:

Construction/Building Systems

One-year Construction Trades or 2-year Electrical Trade Diplomas – Leech Lake Tribal College offers traditional construction courses as well as classes including framing sustainable design, interior environmental design, and exterior environmental design. Also, students participate in building an Eco-Affordable house, which is then sold to and transported to a local homebuyer. To learn more: <http://bit.ly/fSLOWb>

Sustainable Residential Building Systems Technical Diploma – College of Menominee Nation students complete courses including carpentry; sustainable residential electrical, plumbing and solar energy; and panelized and modular manufacturing. To learn more: <http://bit.ly/hBpBK0>

Green Building Carpentry Certificate Degree – Lac Courte Oreilles Ojibwe Community College program is tailored for those interested in learning techniques of carpentry in a manner consistent with green residential construction. Work takes place in classroom and on-site. To learn more: <http://bit.ly/eFzRtH>

Applied New Energy Technologies

Clean Energy Technology Certificate – Fond du Lac Tribal and Community College program emphasizes alternative and renewable energy systems paired with conventional electrical courses. Completion of this program offers students with the ability to work in the field of clean energy in a residential, tribal community or business setting. To learn more: <http://bit.ly/eVEGk>

Renewable Energy Certificate Degree – Lac Courte Oreilles Ojibwe Community College program offers course work on the fundamentals of installation and maintenance of Renewable Energy systems. Graduates may enter careers such as Energy Auditor and Solar Electric Technician. To learn more: <http://www.lco.edu/catalog/deg/re.html>

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