Project Objective:
The primary objective of the project was to retrofit an existing home in the southeast Alaskan community of Angoon using affordable, commercially available energy efficiency and small-scale renewable energy technologies. The goal was to demonstrate how homeowners could cut down their expensive electric and heating costs while minimizing their dependence on expensive diesel and other fossil fuels that cause pollution and are dangerous to human health.

Results:
The Central Council Tlingit and Haida (CCTHITA) Economic Development department developed partnerships with many organizations. They created a workgroup for the project, held several planning meetings and secured funding from a variety of sources before any work was done. A home was selected, pre-monitoring equipment was installed, supplies were ordered and the work began. Solar panels and a solar hot water system were installed, incandescent light fixtures were replaced with LEDs, and outdated appliances were replaced with more energy efficient models. The windows in the house were replaced and additional insulation was added via the outside insulation technique. The entire process of the retrofit was documented on a website that was created for the project, www.sustainangoon.org. A documentary video was also produced about the project to educate local residents, surrounding communities and the entire state about energy efficiency opportunities.

Benefits:
- People are more educated about a variety of energy efficiency techniques that they could use to help save money and reduce dependence on expensive fossil fuels.
- If all goes well, our estimates suggest that our improvements save 17,000 gallons of diesel fuel and $95,000 over the life of all systems and upgrades.
- The Outside Insulation Technique was used for the first time in Angoon, providing a useful training opportunity for the local weatherization crew.
- The first solar panels, solar hot water system, and small wind generator were installed in Angoon, proving that these technologies work and generating extensive public interest and engagement in the potential of renewable energy in the community.

Lessons Learned:
- **Timelines can change and probably will.** Despite meticulous schedule planning, minor adjustments had to be made to the retrofit date because more time was needed to prepare and stage all of the equipment.
- **Monitoring equipment maintenance a challenge.** We installed two monitoring units on the Williams house, but we have had issues with the accuracy of one of the units and with the power supply for the other unit. In addition, internet costs for data upload from these units ran over budget. Less frequent data uploading may alleviate these costs.

For more information:

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ANTHC project website: www.anthc.org/chs/ces/hve/2010-cedp-grants.cfm

CENTRAL COUNCIL TLINGIT & HAIDA INDIAN TRIBES OF ALASKA

Sustain Angoon Energy Project

Funding provided by ANTHC through the Community Environmental Demonstration Grant Program made possible with the Alaska Tribal Multi-Media Grant from the US EPA.

* PROJECT TIMELINE *

Central Council Tlingit & Haida Indian Tribes of Alaska
2010 Communitv Environmental Demonstration Proiect Grant

Work performed before February 1, 2010

* Researched economic trends in the region, and available energy efficiency technologies.
* Conducted energy audits in Angoon (2008) and in Hydaburg (2009) which demonstrated that many residents would benefit from additional weatherization education.
* Assembled a diverse team of partners including Southeast Alaska Conservation Council (SEACC), the City of Angoon, the Angoon High School, and the Maharishi University of Management (MUM), which is located in Iowa.
* Secured additional funding from a variety of sources including Southeast Alaska Conservation Council and Tlingit and Haida Central Council funds and outside donations.

Received CEDP funding from ANTHC.

A teleconference was held with all partners to discuss the four homes selected. It was determined that they would have to conduct actual home visits before selecting just one.

A team visited each prospective home and made their selection based on a combination of interest, need, and favorable site characteristics.

Necessary supplies were ordered.

From the website blog: "December and the Meter's Spinnin' Backward"

Held a teleconference which included all project partners to discuss the overall work plan and work schedule.

A website was created by MUM interns to educate others about the project from the beginning to end.

Feb. '10 | March '10 | April '10 | May '10 | June '10 | July '10 | Aug. '10 | Sept. '10 | Oct. '10 | Nov. '10 | Dec. '10 | Jan. '11

Met with the Tlingit and Haida Regional Housing Authority to discuss the project work plan and identify opportunities for their involvement in the project.

Scheduled an informational community meeting in Angoon to educate residents about the project and solicit participation.

CCTHITA worked with their partners to finalize house selection criteria. They created an informational packet that included a project summary, homeowner expectations and an application.

The community meeting was held in Angoon and the informational package was distributed. One-on-one consultations were held with homeowners. The list of potential homes eligible for the retrofit was narrowed to four.

It was determined that the Tlingit and Haida Regional Housing Authority, already located in Angoon, would perform necessary weatherization work and MUM would be responsible for the renewable energy work, assist with energy management equipment and provide support to the weatherization crew.

A TED energy meter was installed in the selected home to measure pre-retrofit energy consumption. Data will be collected for the duration of the project.

A workgroup traveled to Angoon and all improvements and retrofits were completed.

A video was created documenting the project. It debuted in Angoon and will be shown at other gathering in the region and during the 2011 Alaska Forum on the Environment.