

Tlingit-Haida Regional Housing Authority



# Weatherization Workforce Development

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Renewable Energy & Efficiency for Alaska Native Villages

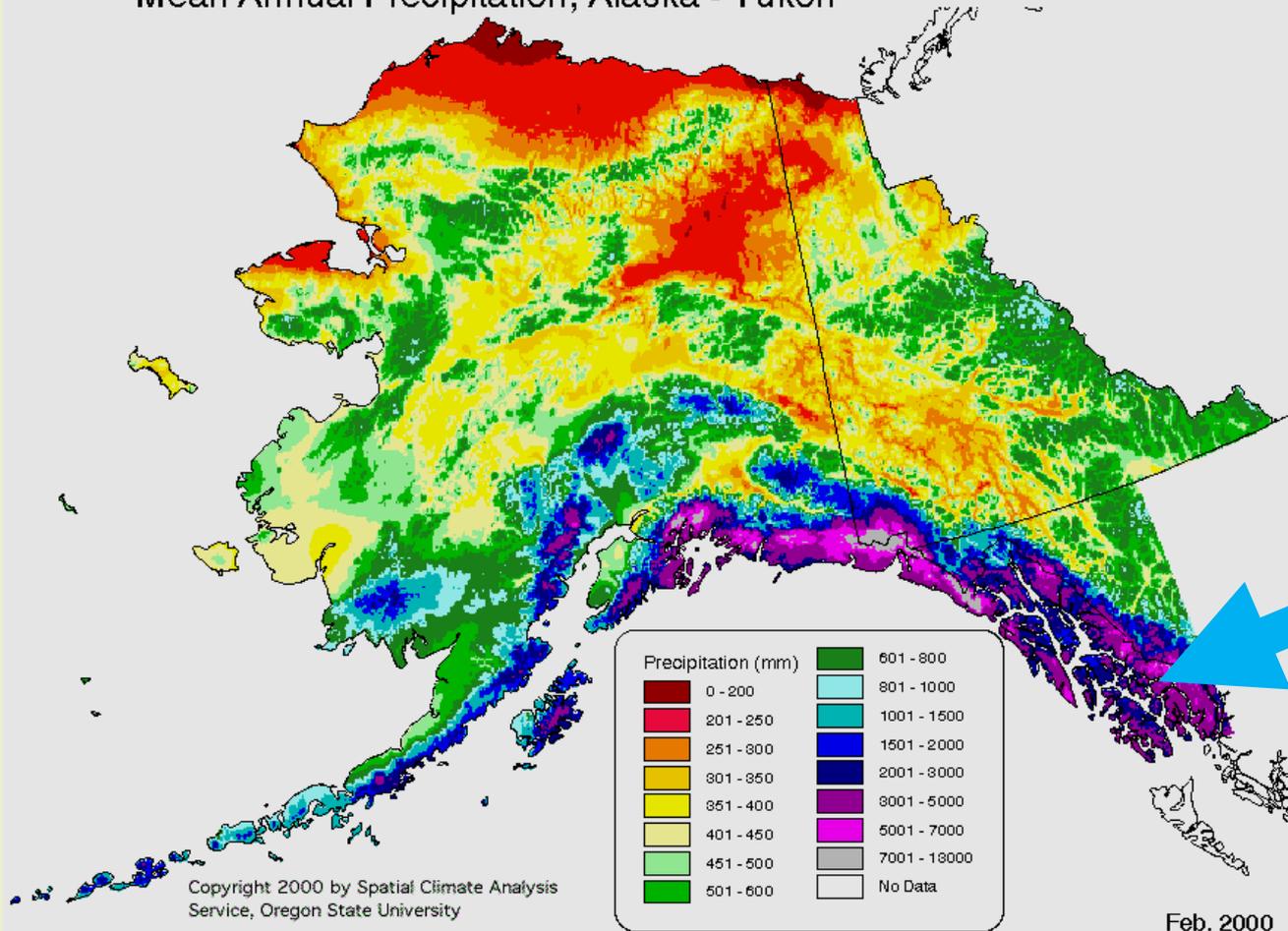
Anchorage, October 16, 2012

Sponsored by DOE

# Tlingit-Haida Regional Housing Authority



Mean Annual Precipitation, Alaska - Yukon



SE Alaska  
maritime  
climate

Ketchikan  
160 inches  
rainfall

# Tlingit-Haida Regional Housing Authority



• Washington, DC	3,999
• New York, NY	5,080
• Denver, CO	6,020
• <b>Ketchikan, AK</b>	<b>7,155</b>
• Missoula ,MT	7,792
• Sioux Falls, SD	7,809
• <b>Juneau, AK</b>	<b>8,800</b>
• Fargo, ND	9,254
• Fairbanks, AK	13,940
• Barrow, AK	20,226

SE Alaska communities are not as cold as most of Alaska

Annual Heating Degree Days Base 65

# Tlingit-Haida Regional Housing Authority



Island communities are not connected by roads

Village economies rely heavily on subsistence

Jobs are often seasonal

High energy costs are hurting communities

Communities are struggling to sustain

# Tlingit-Haida Regional Housing Authority



Most homes need weatherization to help save heating costs



# Tlingit-Haida Regional Housing Authority



Most homes are heated with oil-fired boilers.

Heating oil costs are rising.

Many residents can no longer afford to run the boilers.

# ALASKA STATE WEATHERIZATION PROGRAM



In 2008 the Alaska State Legislature appropriated \$360 million to Alaska Housing Finance Corporation (AHFC) for weatherization and energy efficiency upgrades for Alaskan homes.

A trained workforce was needed to perform the weatherization work on thousands of homes.

# ALASKA STATE WEATHERIZATION PROGRAM



In 2008 THRHA received funds from AHFC to weatherize homes in SE Alaska.

THRHA also received a DOE Tribal Energy “First Steps” grant to train a local workforce in weatherization.



THRHA joined with UAS to train the workforce

# ALASKA STATE WEATHERIZATION PROGRAM and DOE



Shortly after, in partnership with the regional tribe Central Council Tlingit-Haida, THRHA received a DOE grant for a Weatherization Training Center in Juneau.



# Weatherization Training Center - Juneau



Marquam George of UAS developed a quality weatherization training program utilizing DOE's Core Competencies, Standard Work Specifications and Job Task Analyses



# Weatherization Training Center – Juneau



DOE's  
WAPTAC  
supports  
the  
curriculum  
for the  
Weatheriz-  
ation  
Training  
Center.



# Weatherization Training Center - Juneau



The DOE-funded weatherization training center uses a typical modular home with oil-fired forced air heat, owned by THRHA in Juneau, where students can test and learn their skills.



Over 110 student trainings to date

# Weatherization Training Center - Juneau



Students get classroom training as well as hands-on practice on weatherization installation techniques and energy assessments.

Successive training modules are 40 hours (1 week).



# Weatherization Training Center - Juneau



Beginning students in the WX Tech I class (Installer) get basic building science and weatherization training, including lots of hand-on training on actual mockups and props.

This 40 hour class prepares students for working as a weatherization installer.



# ALASKA STATE WEATHERIZATION PROGRAM



Students who complete training may find jobs on weatherization crews, or with private contractors doing home energy retrofits.

THRHA considers village subsistence and cultural commitments in our work force.



# ENERGY.GOV



**Tracey A. LeBeau, Director DOE  
Indian Energy Policy and Programs  
visits Juneau Weatherization  
Training Center**



# Weatherization Training Center - Juneau



Advanced students with work experience can enroll in the 40- hour WX Tech II class to get more advanced installation training and advanced building diagnostic training with blower doors and combustion diagnostic equipment.



This prepares them for “Crew Chief” level in the workforce.

# Weatherization Training Center - Juneau



Top WX workers can return for the intensive 40 hour WX Assessor Training. These advanced students can test for the Building Performance Institute's Building Analyst Professional certification.



Building  
Performance  
Institute, Inc.



THRHA now has 8 BPI certified Building Analyst Professionals on their weatherization team.

# Weatherization Training Center - Work Force Development



Energy Cents  
Champions  
receive  
training and  
Certificates at  
Training  
Center, and  
recognition by  
clan leaders.

# Weatherization Workforce Development



Women in the workforce receive training and good jobs in the Weatherization Assistance Program.



Yakutat \Weatherization Crew

# Weatherization Workforce Development



Trained local workers  
densepack  
exterior walls  
under the  
weatherization  
assistance  
program



# Weatherization Workforce Development



Trained local workers have good jobs in the Weatherization Assistance Program.

# Weatherization Workforce Development



**THRHA has trained and employed over 70 local workers in our communities for weatherization jobs**

# Weatherization Workforce Development



**Workers blow cellulose to minimum R-40 in attics**

# WEATHERIZATION ASSISTANCE PROGRAM



Thanks to sponsors such as Senator Lyman Hoffman from Bethel, the Alaska State Legislature authorized \$200 million in 2008 to weatherize homes in Alaska

THRHA received \$3 million from AHFC in Grant Year 2012 to weatherize 230 homes in SE Alaska.

# Building Energy Retrofit Technician **BERT**



UAS offers an Occupational Endorsement with college credits for the DOL-approved apprenticeship program as a Building Energy Retrofit Technician.

**For more information contact  
Marquam George at:  
[marquam.george@uas.alaska.edu](mailto:marquam.george@uas.alaska.edu)**

# Klawock Senior Center Prince of Wales Island



Successful Model for  
Independent Living and Aging in Place

# Klawock Senior Center Prince of Wales Island



Seniors enjoy comfortable living in their own community.  
Constructed by THRHA with local workforce

# Saxman Senior Center Energy Fair - Oct. 13, 2012



Constructed by THRHA with local workforce

Energy Cents  
Champions will  
conduct energy  
assessments on  
400 homes  
in SE and  
counsel  
occupants on  
wise energy use  
and behavior  
modifications  
that can save  
money.

# Saxman Senior Center Electric Boilers with heat pumps



100% efficient non-fossil fuel heating system.

Renewable local hydro-electricity at \$0.11/KWH

# Saxman Senior Center Daiken Altherma Split System Air-To- Water Heat Pumps



Two each  
4.5 Ton Air-  
to Water  
Heat pumps  
with outdoor  
compressors  
located  
under  
exhaust grill  
of HVAC  
system to  
recover  
exhaust heat

# Saxman Senior Center Daiken Altherma Heat Pumps



Wall mounted Hydrobox heat exchanger makes 54,000 BTU's/hour, with heat storage in 120 gal. stainless steel tank.

# Yakutat Senior Center



Well-insulated building.

Direct vent oil fired boiler with infloor radiant heat.

Plan is to install a wood gasification boiler for backup.

# Yakutat Senior Center



**Alternate Heating**

## Wood Gun™

Residential

### Wood Gasification Boilers

With Convenient Liquid Fuel Back-up

**20 Year Warranty**

Manufactured over 30 Years

**Standard Log Wood**

**Alternate Heating Systems, LLC**  
1086 Wayne Avenue • Chambersburg, PA 17201  
(717) 261-0922 • sales@alternateheatingsystems.com  
www.woodgun.com

**ASME H-Stamp Certified Boiler**

**UL US LISTED**

**MADE IN THE USA**

The advertisement features a large image of a tall, grey, cylindrical wood gasification boiler. A circular inset shows a smaller, more compact version of the boiler. The background is dark with green and white accents.

The wood gasification boiler burns cleaner and more efficiently than standard wood boilers.

Wood at 20% moisture content works best, and can be achieved with one season drying.

Heat will be stored in two 400 gallon pressurized steel tanks in basement.

This heating option uses local renewable wood resource, and can provide local employment.

# Kake Wood Pellet CIP Grant

\$500K award pending



Scope of Work and Cost Allocation Plan has been submitted to State for 3 intervention strategies in Kake:

1. District heating pellet boiler
2. Individual unit pellet boilers
3. Wood pellet stoves with air distribution system.

RFP's would be issued for pellet supply and delivery.

Local THRHA crews will do much of the install work. Local jobs for pellet supply also.

# ANGOON DEMONSTRATION PROJECT



Diesel  
generated  
electricity  
\$0.57  
/KWH

Fuel oil  
over \$5.10  
/gallon

# ANGOON DEMONSTRATION PROJECT



Weatherization and outside insulation retrofit

Energy efficient lighting and appliances

Solar energy



[www.sustainangoon.org](http://www.sustainangoon.org)

**Kelly and Peggy Williams, Angoon**

# WEATHERIZATION ASSISTANCE PROGRAM



Jobs, training, and energy efficiency benefit our communities. Knowledge, skills and abilities get to stay in our communities.

# SE Alaska



We need to build sustainable communities for our future, using local renewable energy and efficiency

# Weatherization Training Center - Juneau



Federal funding for the DOE Weatherization Assistance Program and other Energy Efficiency Programs are in jeopardy of being significantly cut. These are important programs for both jobs and housing affordability.

Contact your legislators and the Secretary of Energy to ask for their support for full funding. Let them know about the importance of these programs.



# Tlingit-Haida Regional Housing Authority



[WWW.THRHA.ORG](http://WWW.THRHA.ORG)