

# Akiachak Energy Efficiency Project



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**DOE PROGRAM REVIEW  
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# Akiachak Native Community



- Yup'ik Alaska Native Village of 701 people
- Fishing and subsistence lifestyle
- First community in Alaska to dissolve city for Tribal Government
- High costs: \$0.60 / kWh, \$5.08 per gallon of fuel oil



# Background



- Akiachak developed energy efficiency and conservation strategy
- Current energy cost burdens
  - Tribal government in debt to electric company
  - Buildings not used because of energy costs (old washeteria)
  - Comfort issues for staff
- Previous efficiency work:
  - Village Energy Efficiency Program
    - ✦ Audited 11 buildings in 2010
    - ✦ Provided \$150k of upgrades with an estimated annual payback of \$44k



# Energy Efficiency and Conservation Strategy



- 1. Create and maintain functionally appropriate, sustainable, accessible, high quality Tribal infrastructure and facilities.**
- 2. Protect and optimize the Tribe's natural resources and built environment, leading by example through sustainable practices and behaviors.**
- 3. Decrease overall community consumption of non-renewable and non-recycled materials.**
- 4. Promote, implement, and integrate sustainable practices throughout the community in our homes, businesses, and everyday lives.**

# Project overview



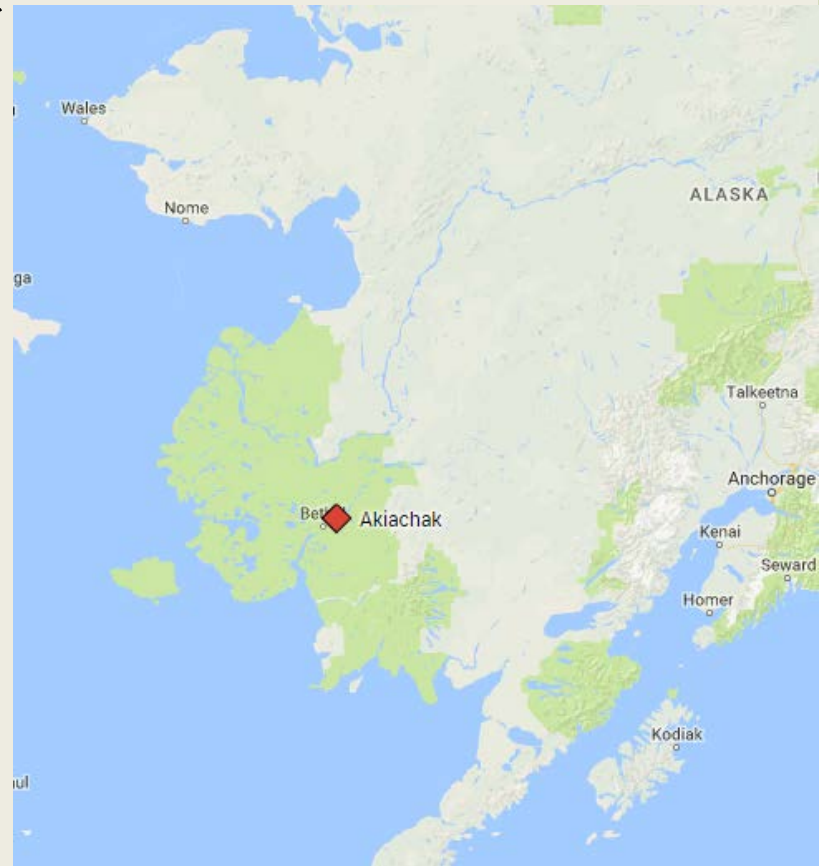
- **Problem:** High cost of energy burdens tribal government, diverts funding from providing services
- **Goal:** Reduce energy use in existing tribal facilities
- **Strategy:**
  - Identify high energy users
  - Conduct ASHRAE Level II energy audits
  - Develop Energy Action Plan
    - ✦ Retrofit plan
    - ✦ Maintenance plan
    - ✦ Training opportunities
    - ✦ Scope of Work for contractors



# Project location



- Not connected to road system – travel is by small plane, snow machine, or boat
- 60 miles from Bering Sea
- Located on the Kuskokwim River, 15 mi from Bethel



# Participants



# Progress to-date



- Gathered baseline energy data
- Identified 9 buildings to audit
- Site visit to gather data



- Preliminary Findings:

- ✦ Boilers and control systems

- Maintenance could save 15% energy

- ✦ Lighting Upgrades:

- ↑ potential savings from T8s to LED tubes

- ✦ Repairs Needed:

- Broken windows, frost-jacked foundations, plumbing



- Requested boiler technician training



# What's Next?



- **Get final audit results**
- **Develop Energy Action Plan**
  - Search for efficiency funding opportunities
  - Meet with Tribal Council
    - ✦ Discuss possible funding mechanisms
    - ✦ Outline options
  - Training
    - ✦ Finalize plans
    - ✦ Coordinate with nearby communities
    - ✦ Leverage trainer travel – hands-on repair?
  - Develop building energy and maintenance plans



# Questions



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