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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