Bridging the Rural Efficiency Gap in Alaska

Rebecca Garrett
Project Manager
Alaska Energy Authority

SAFE, RELIABLE, & AFFORDABLE ENERGY SOLUTIONS

NASEO Webinar
October 30, 2018
AEA’s mission is to reduce the cost of energy in Alaska
ALASKA vs. THE LOWER 48

ALASKA'S AREA WOULD COVER 21% OF THE LOWER 48 STATES.
Railbelt
72% of Pop
76% of Energy
(Natural Gas)

Southeast
10% of Pop
13% of Energy

Rest of AK
18% of Pop
11% of Energy
ALASKA ENERGY AUTHORITY

WORKING WITH COMMUNITIES TO PROVIDE SAFE, RELIABLE AND AFFORDABLE ENERGY SOLUTIONS.
Assistance with statewide project development, financing, and long-term management of energy infrastructure

- Diesel powerhouses
- Heat Recovery
- Bulk Fuel
- Power Cost Equalization
- RE (wind, bio, hydro, solar)
- End-use efficiency
- Railbelt assets
Energy Efficiency and Conservation in Alaska

• Village Energy Efficiency Program (VEEP)
• Whole Village Retrofit
• Energy Wise (RurAL CAP)
• Home Energy Leaders Program (SE Conference)
Whole Village Retrofit - Nightmute

• Power System Upgrade (Denali Commission and AVEC)
• Residential Weatherization (AHFC and RurAL CAP)
• Public Building Retrofit (AEA)
• Energy Education and Outreach (all agencies)
What was accomplished?

- 34 homes were weatherized (64% of the total homes)
- 10 community buildings were weatherized and provided lighting upgrades.
- The school received lighting upgrades.
- 4 teacher housing units received lighting upgrades.
- Total Investment: $679,430, incl. $75,700 local match (cash and in kind services)
Was it successful, can it be replicated?

**Community buildings Wx estimated total savings:**
- ~ 56% total fuel savings
- average per building annual heating reduced from $5,096 to $2,205
- Payback on air sealing and attic insulation: 6.7 years
- Projected annual fuel savings to village corporation store: $10,639 ($6.60/gallon)
- Annual gallons fuel saved: 4,834
- Annual dollar savings (at $6.60/gallon): $31,904
- Simple payback on full project: 7.5 years

**Residential Wx estimated total savings:**
- Budget for materials, labor, shipping: $435,830
- Total annual gallons fuel saved for all 34 homes combined: 4,575
- 2008 village fuel price/gallon: $7.90
- Comprehensive annual dollar savings: $36,143
- Average annual fuel savings per home: $1,063, or about 50%
- Simple payback on project funds: 12 years
Rural Alaska Community Action Program, Inc.’s Energy Wise Program
Some of Alaska’s other solutions...

- AK Energy Smart Curriculum (K-12)
- Power Pledge Challenge (6-8)
- Energy Bike (any age, safe for bears)
- Local Energy Fairs
- Building Monitoring System (BMON)
- The Alaska Energy Efficiency Partnership
The path forward points to innovation and collaboration