FORT YUKON’S ENERGY EFFICIENCY SUCCESS STORY

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Alaska Energy Authority

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FORT YUKON CITY HALL HEATING OIL USE

In 2010: 14,000 gallons consumed
In 2013: 6,000 gallons consumed
Since 2008

Goal of 15% by 2020
Research and Data Gathering
New Tools and Policy Recommendations
Programs

ALASKA ENERGY AUTHORITY

Save Energy. Save Money.
STATE PROGRAMS

Residential
- Weatherization (AHFC)
- Home Energy Rebate (AHFC)
- 5 Star+ New Home Rebate (AHFC)

Commercial/Public
- Village Energy Efficiency Program (AEA)
- Commercial Building Energy Audit (AEA)
- Energy Efficiency Revolving Loan Fund (AHFC)
- Alternative Energy & Conservation Loan (DED)
- Waste Heat/Combined Heat and Power (AEA)

Other Resources
- Education and Outreach (AEA)
- Planning and Technical Assistance (AEA)
EE&C IS WORTH IT!

- Fuel price volatility
- Self-sufficiency and community sustainability
- Comfort, convenience, health
- Better for the environment
- More money in your wallet/community

Save Energy. Save Money.
VEEP – A HISTORY

VEEP has existed in Alaska since 2005. Funding per community was usually less than $40,000 and was flat, regardless of the communities size.

- Originally funded by the Denali Commission
- Sites were selected based on their Rural Power System Upgrade (RPSU) or Bulk Fuel Upgrade (BFU) status.
- Focus on lighting retrofits, lighting controls, temperature setback, and air sealing.
- Denali Commission invested over $1.4 M into this program. The average of the measures installed paid for themselves in 5 years.
VILLAGE ENERGY EFFICIENCY PROGRAM (VEEP)

Lower the cost of energy in public and community buildings in small, high energy-cost communities through energy efficiency and conservation

2010 to 2012 program results
• 23 communities nearly 150 buildings/infrastructure
• 13,163 MMBTU in savings annually
• $600,424 in savings annually
• $2.3 million cost of implementing measures
• 3.8 years simple payback
• $3 return for every $1 invested
• $6 million in savings over the life of the measures

Very conservative estimate: assumes 10 year life of measures when they will likely last longer and assumes current energy prices when in all likelihood they will continue to rise over time.
HOW TO ACCESS VEEP

Who is eligible? Communities with no more than 8,000 people
Type of funding: Grant

- Sign up to receive notices
- Apply for funding
- Funding level based on population
- 3 years to complete work
- If awarded communities can choose to administer and report on grant work or choose to have AEA do so on their behalf.

King Cove Improvements to 3 community buildings. City streetlight retrofit – 72% reduction $25,000 annual savings

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WHAT IS A VEEP PROJECT?

- Energy efficiency audits of public buildings and facilities.
- Energy conservation measures like establishing workplace policies and programs, public education, etc.
- Energy efficiency measures in public buildings and facilities like:
  - Improvements to the thermal envelope
  - Improvements to the heating and ventilations system.
  - Improvements to the buildings electrical load including lighting, motors, pumps...
  - Outdoor lighting like LED street or trail lights, building wall packs, exterior lighting on the powerhouse or tank farm.
# FORT YUKON WHOLE VILLAGE AND EECBG

<table>
<thead>
<tr>
<th>ECM</th>
<th>Whole Village</th>
<th>Cost</th>
<th>Savings SPB</th>
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<tbody>
<tr>
<td>Weatherstripping</td>
<td>$2,368.57</td>
<td>$161.55</td>
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<td>Thermal Insulation Upgrade</td>
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<td>New Maintenance Bay Doors</td>
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<td>Occupancy Sensors</td>
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<td>LED Lighting Upgrade</td>
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<td>Furnance Upgrade</td>
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<td>Total</td>
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| EECBG                         |              |             |             |
| Weatherstripping              | $13,036.96   | $4,409.70   | 2.96        |
| Programmable Thermostat       | $1,680.23    | $2,519.13   | 0.67        |
| Occupancy Sensors             | $9,690.23    | $2,248.06   | 4.31        |
| Air Compressor System         | $9,065.38    | $1,737.17   | 5.22        |
| Total                         | $33,472.80   | $10,914.06  | 3.07        |
FORT YUKON STREET LIGHT IMPROVEMENTS
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<tr>
<th>ECO No.</th>
<th>Description</th>
<th>Addie Shewfelt</th>
<th>City Hall</th>
<th>Gwandak Broadcasting</th>
<th>Tribal Hall</th>
<th>Tribal Office</th>
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Fort Yukon City Hall Improvements

- Insulation $15,800
- 6 Bay Doors $119,350
- 2 96% Efficient Boilers $42,000
- 10 Weatherstripped doors $10,000
- 1 Programmable T stat $700
- Air Compressor $9,000

- Gallons of fuel used before the retrofit: 14,003 (Jan-Dec 2010)
- Gallons of fuel used after the retrofit: 6,000 (2013)
- 8,000 gallon LESS fuel, $50,960 in 2014 prices
2010: Fort Yukon used 14,000 barrels of heating oil which, at $4.49/gallon, cost the community a yearly total of $62,860.

Today, in 2014, after participating in AEA’s VEEP, Fort Yukon is using only 42% of the heating oil consumed in 2010. That’s just 6,000 gallons a year. Due to a higher per unit cost ($6.37/gallon), implemented energy efficiency measures are saving the community over $50,000 every year. The value of those measures will continue to grow as the cost of heating oil goes up.
2013 FUNDED PROJECTS

Energy Efficiency and Conservation Programs - Fall 2013

In Fall 2013, AEA's Village Energy Efficiency Program (VEEP) began its fourth iteration with awards to seven communities for energy efficiency improvements to public buildings. Previous rounds of VEEP funding have proven amazingly successful. Between 2010 and 2012 nearly 150 buildings and community infrastructure components in twenty-one communities received improvements that collectively save over $500,000 annually and demonstrated a return on investment of over 300% on the $2.3 million investment. The next round of VEEP funding will be announced in spring 2014.


Save Energy. Save Money.
THANK YOU!

Questions? AEA’s energy efficiency team would love to help you:

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