

FORT YUKON'S ENERGY EFFICIENCY SUCCESS STORY

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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



Save Energy. Save Money.

STATE PROGRAMS

Residential

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

Other Resources

- Education and Outreach (AEA)
- Planning and Technical Assistance (AEA)

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)



Save Energy. Save Money.

EE&C IS WORTH IT!

Fast



Easy



Effective

- 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.



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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.



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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



WHAT IS A VEEP PROJECT?

- Energy efficiency audits of public buildings and facilities.
- Energy conservation measures like establishing work place 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.



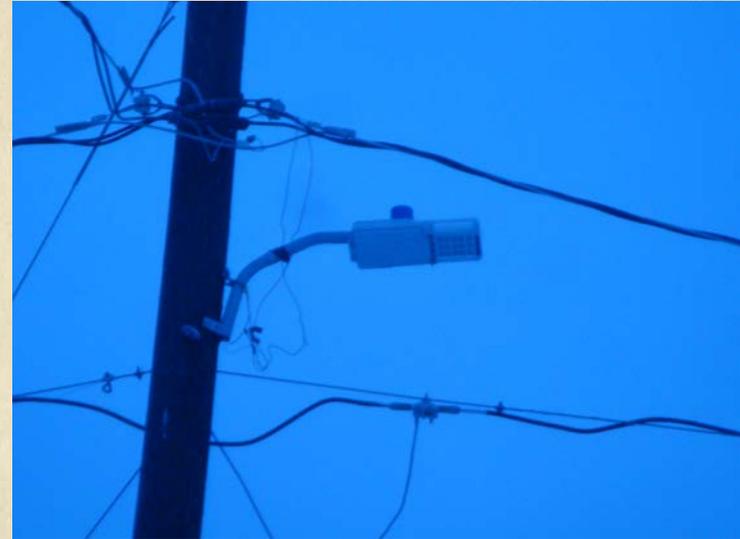
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FORT YUKON WHOLE VILLAGE AND EECBG



Whole Village				
ECM	Cost	Savings	SPB	
Weatherstripping	\$ 2,368.57	\$ 161.55	14.66	
Thermal Insulation Upgrade	\$ 61,270.98	\$ 4,346.29	14.1	
New Maintenance Bay Doors	\$119,350.09	\$3,549.49	33.62	
Streetlighting Upgrade	\$99,980.53	\$31,978.39	3.13	
Occupancy Sensors	\$1,874.95			
LED Lighting Upgrade	\$23,876.30	\$ 3,492.17	6.84	
Furnance Upgrade	\$42,120.90	\$ 6,667.26	6.32	
Domestic Hot Water Upgrade	\$ 43,702.56	\$ 2,173.68	20.11	
Total	\$ 394,544.88	\$ 52,368.83	7.53	
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



FORT YUKON CITY HALL



ECO No.	ECO Description B=Building Envelope; C=Controls; E=Electrical; M=Mechanical; W=Water/Wastewater; R=Renewable	ECO MATRIX						
		FORT YUKON						
		Addie Shewfelt	City Hall	Gwandak Broadcasting	Tribal Hall	Tribal Office	Whole Village	
Building Envelope								
B01	Door Weather-stripping Upgrade	X	X		X			
B02	Insulation Upgrade	X	X	X	X			
B03	Install New Maintenance Bay Doors		X					
Controls								
C01	Thermostat Upgrade		X	X				
Electrical								
E01	Street Lighting Upgrade						X	
E02	Occupancy Sensors	X	X	X	X			
E03	Residential Lighting Upgrade						X	
E04	Install New Air Compressor System		X					
Mechanical								
M01	Furnace Upgrade		X					
M02	DHW Upgrade	X	X	X		X		
Renewable								
R01	Solar Domestic Hot Water		X					





MORE FORT YUKON CITY HALL



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



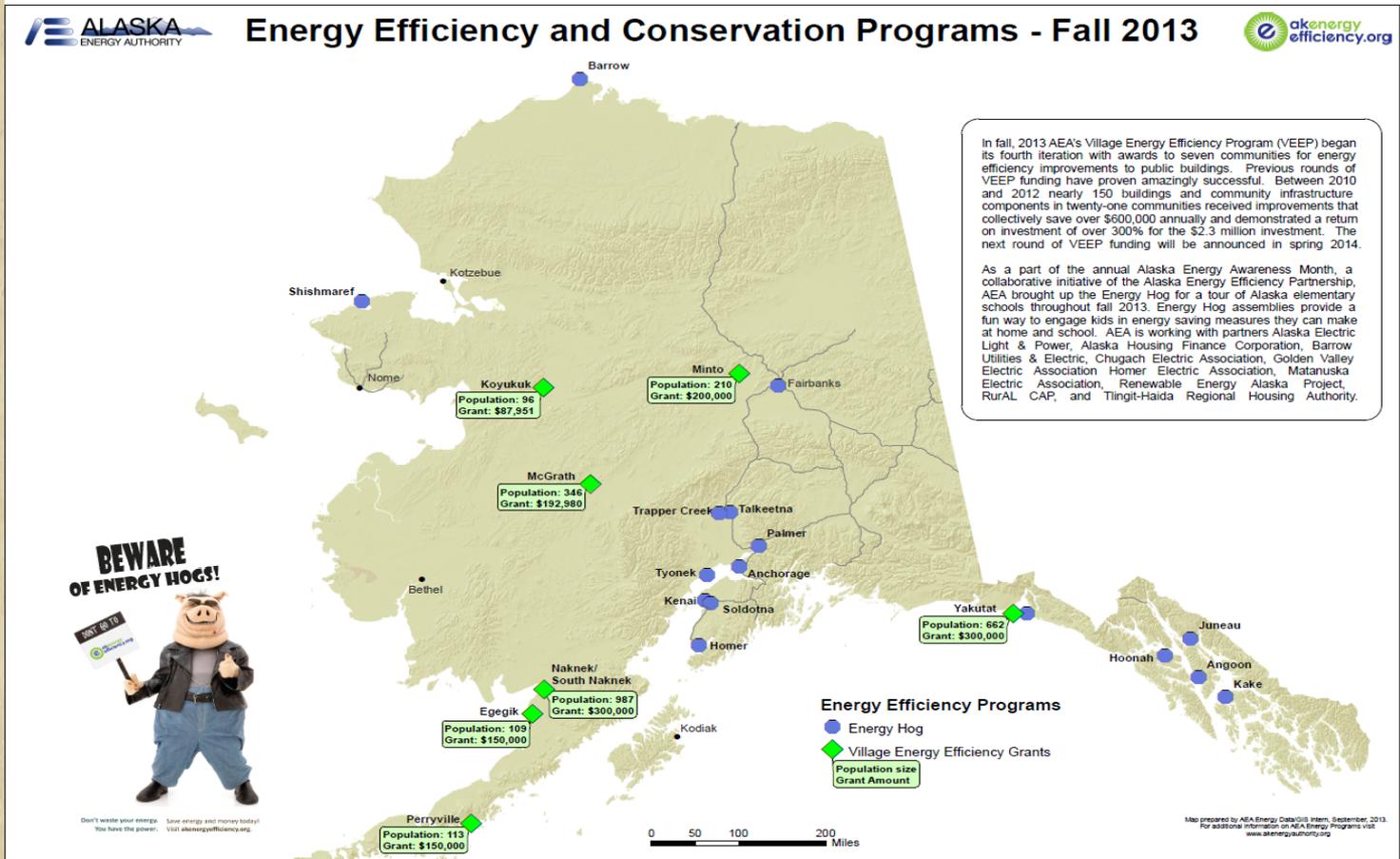


2010: Fort Yukon used 14,000 barrels of heating oil which, at \$4.49/gallon, cost the community a yearly total of \$62,860.

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



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Energy Efficiency in Alaska

Take Action! Go to akenergyefficiency.org.

LOCATION Statewide > All Regions > All Communities

Login

DISPLAY

Map Details

CATEGORY

Program Results

- Residential
- Public
- Private/Commercial
- Infrastructure
- Your Stories

Tell us your story!
Here's how.

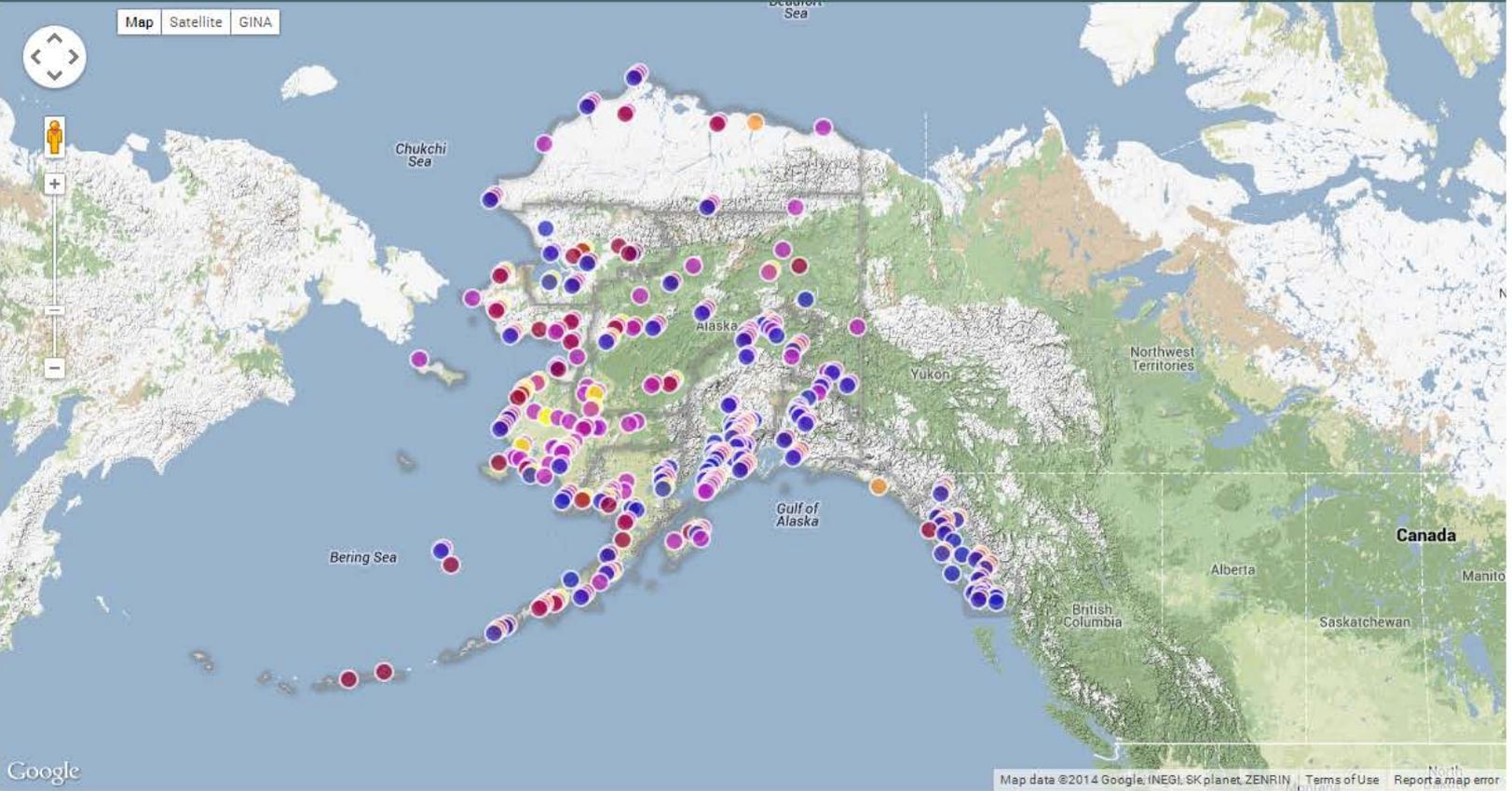
PROGRAM

- EECBG
- ACEA
- VEEP
- AHFC-R
- AHFC-C

Alaska

34,691 Buildings/Homes in 361 Communities

\$42,450,909 Annual Savings
\$54,753,127 Identified Savings



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About Feedback



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THANK YOU!

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

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