

Aleut Community Store

Refrigeration Efficiency Retrofit

2021 DOE Program Review
Presenter Patrick Baker, Executive Director

Project Summary Goals

- Replace refrigeration equipment and display cases with an energy efficient refrigeration system.
- Lower cost of energy and maintenance for Aleut Community Store by \$44,385 per year.
- Lower cost of Chill and Freeze goods by 10%

Project Estimate	Budget	Actual
Federal Funds	494,458	494,458
Local Cost Share	501,531	599,670
Total	995,989	1,094,128



TRIBAL GOVERNMENT OF SAINT PAUL



Tribal Stats	
Local Members	390
Employees	80
Economy	Fishing/Tourism
Annual Budget	\$14M
Government	50%
Retail Sales	35%
Construction/Maint	15%
Offices	St. Paul & ANC
Diesel, \$/gallon	\$3.65
Electric, \$/Kw	\$0.49

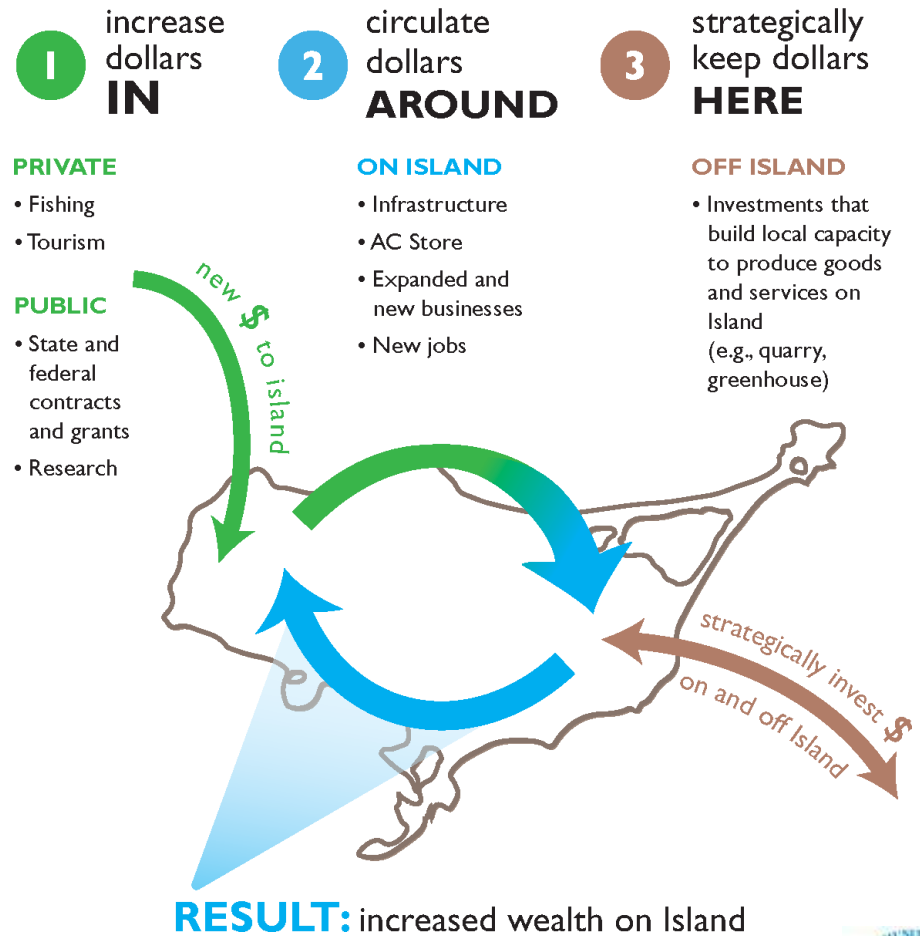
“Healthy Resilient People Working Together”



Store Acquisition 2017

- Self-Determination
- Increase Tribal Self-Sufficiency
- Coordination with Other Community Programs
 - Greenhouse, Reindeer, Food Bank
- Economic Development
- Business Diversification
- Growth
 - Expansion into Grocery, Hardware, Fishing Supplies
- Retain Economic Values
 - Jobs, Administration, Assets, and Earnings
- Improve Quality of Life
- More Product Offerings
 - Health and Home Improvement Sections
- Enhance the Facility & Shopping Experience
- Jobs with Benefits and Career Opportunities
- Building Customer Service and Community Pride

3 STEPS for BUILDING a **POWERFUL** LOCAL ECONOMY



Project Location



Project Location



100-10714



Frozen Meats

2

Frozen Foods

Dairy & Cheese

Deli & Fresh Meat

XTRATUF
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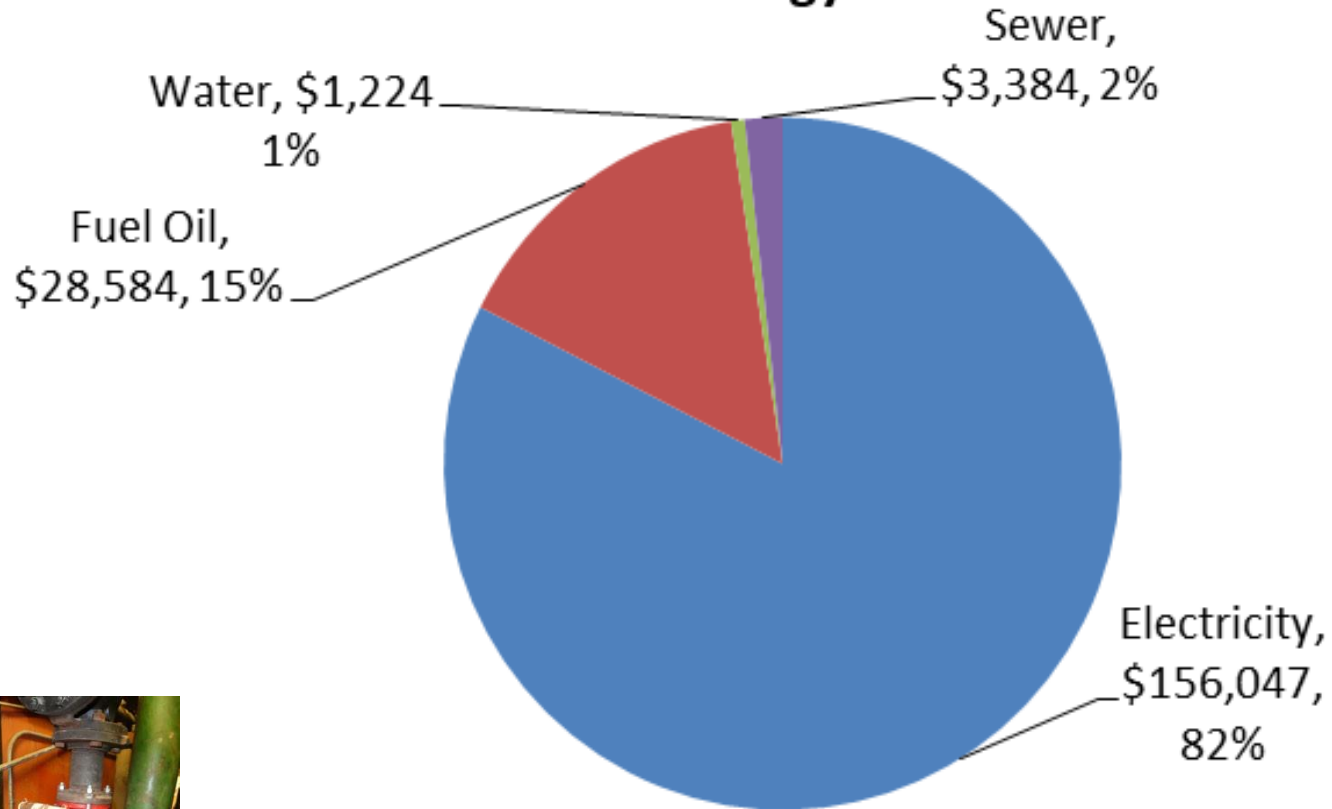
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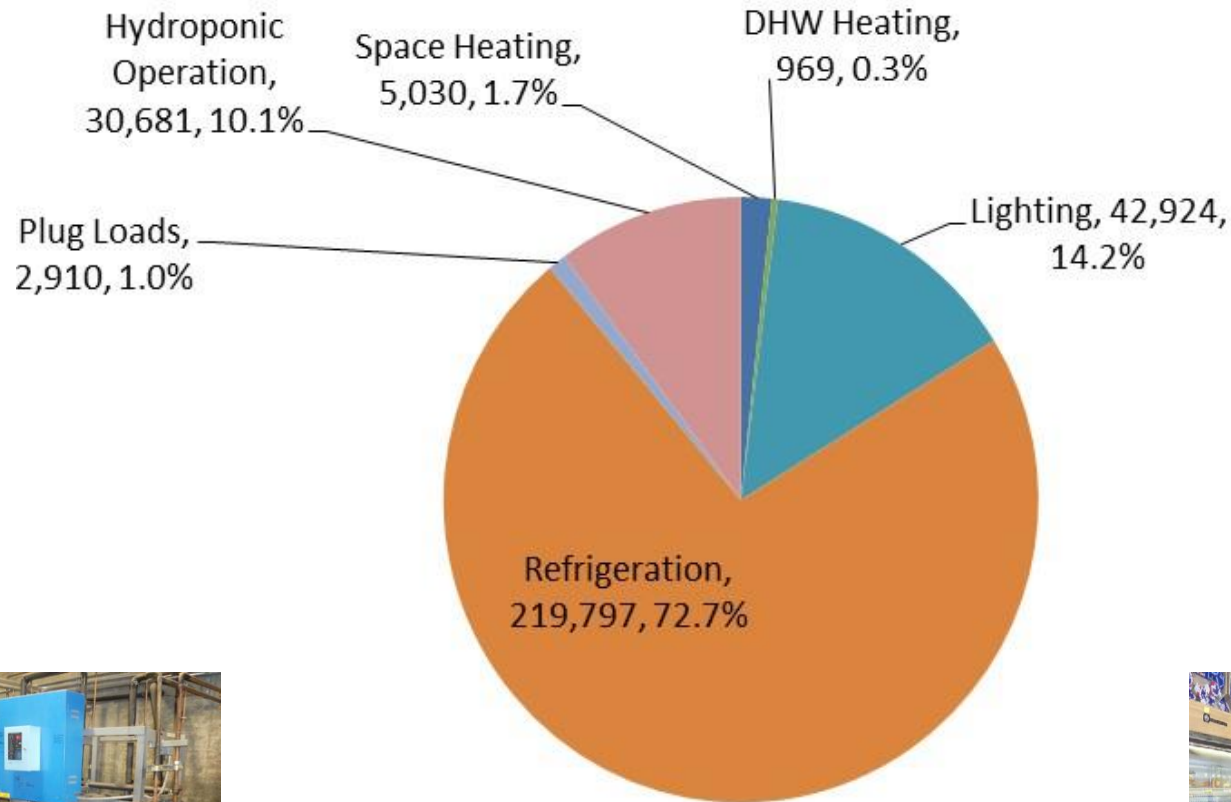
Aleut Community Store – Energy Audit

Distribution of Energy Costs



Aleut Community Store – Energy Audit

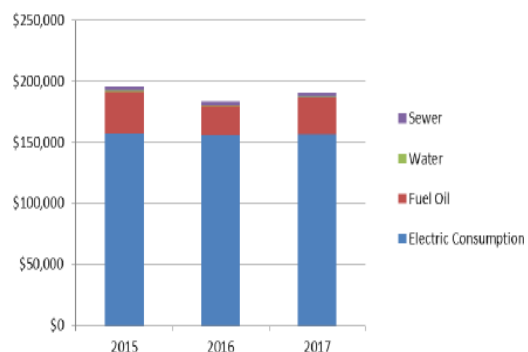
Distribution of Electric Consumption (kWh)



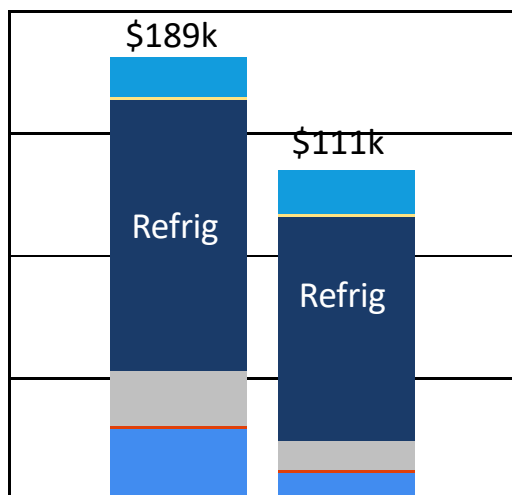
Aleut Community Store – Retrofit Cost/Benefit

Figure 1.7 – Energy Costs

Annual Utility Costs



Baseline Utility Data			
		Consumption	Annual Cost
Aleut Community Store	Electricity (kWh)	302,132	\$156,047
	Fuel Oil (gallons)	7,405	\$28,584
	Water	< 120,000 gal	\$1,224 min.
	Sewer	not measured	\$3,384
Building Total			\$189,239



	Installed Cost	Energy & Maint. Savings	Simple Payback (yrs.)
HVAC related	\$133,800	\$13,020	10.3
Lighting	\$23,349	\$9,654	2.4
Envelope	\$90,966	\$6,831	13.3
Refrigeration	\$814,270	\$48,319	16.9
Totals	\$1,062,385	\$77,824	13.7



Project Status & Results

September 30, 2021: 99% Complete (Monitoring)

Store Electric by Fiscal Year				
Fiscal Year	Annual, \$	Annual, Kwh	Savings, \$	Savings, %
FY18	150,574	307,294		
FY19	144,755	295,417	5,820	3.9%
FY20 (LED Project)	127,805	260,827	16,949	11.7%
FY21 (Refrig Project)	89,069	181,773	38,736	30.3%
Refrigeratin & LED			\$ 55,686	
Electric Rate Remained Same @ \$0.49/kwh				

Store Fuel by Fiscal Year				
Fiscal Year	Annual, \$	Annual, Gal	Savings, \$	Savings, %
FY20	35,703	9,782		
FY21 (Refrig Heat Recovery)	26,697	7,314	9,006	25.2%
Fuel Rate Remained Same @ \$3.65/gal				







Compressors



FOR SERVICE PERSONS ONLY
DO NOT TOUCH ANYTHING INSIDE THE CABINET
UNLESS YOU ARE TRAINED TO DO SO
IF YOU ARE NOT TRAINED TO DO SO
CALL THE SERVICE PERSONS
FOR ASSISTANCE
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WARNING:
Risk of Electric Shock
Do not touch any part of the
equipment or inside electric panel
unless trained personnel
01-11-2008













Challenges & Lessons Learned

- 2018/2019 Gov't Shut Down
- Logistics
 - Remote Location
- Relocation of Heating Loop
 - Rehab Expanded Scope
 - Asbestos
- COVID19
 - 14-day Quarantine
 - Distancing
 - Cleaning
 - Airline Bankruptcy



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