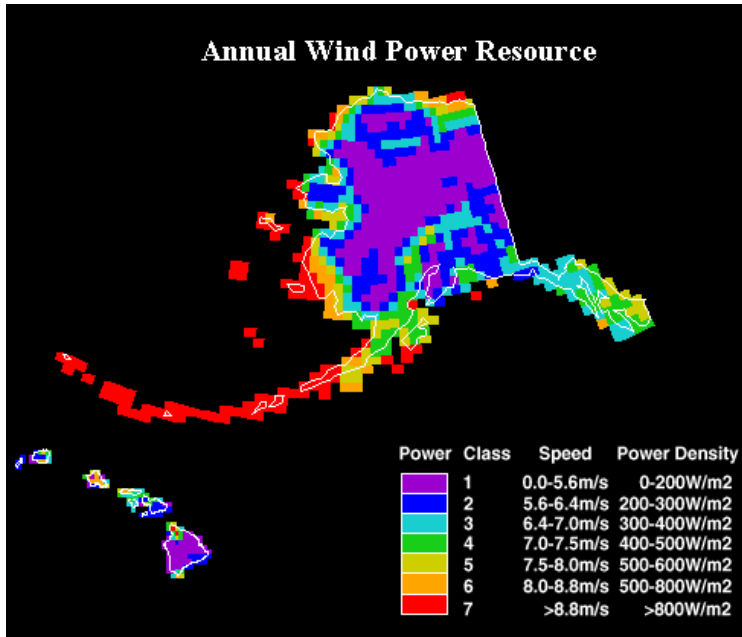


## Aleut Region Renewable and Alternative Energy Resources

Potential energy sources to consider include hydroelectric (hydro), wind, solar, wave, tidal, biomass, geothermal, municipal waste, natural gas, propane, coal, diesel, coal bed methane and nuclear. Historically the use of coal and biomass in the form of wood from driftwood was used to heat homes, but diesel is currently the establish energy source used



in the Aleut Region for providing electricity and heating home. Fortunately, the Aleut Region has world-class wind and geothermal resources and for some communities has excellent hydro, tidal, wave and driftwood resources.

Reducing dependence upon non-renewable energy sources such as diesel will require a well planned effort that includes understanding the positive and negative consequences of using renewable and alternative

energy sources. Renewable energy systems must be maintained using local staff that have been trained and are well compensated. Energy conservation, energy education and home weatherization are an integral part of investing in renewable energy.

The Alaska Energy Authority (AEA) released the Alaska Energy Report (see <http://www.aidea.org/aea/>) and associated reports in 2009. The data from this effort paints a picture of the most efficient energy systems AEA will promote in the years to come. AEA provides a summary of most communities (see [http://www.aidea.org/aea/PDF%20files/AK\\_Energy\\_Model\\_Comm.pdf](http://www.aidea.org/aea/PDF%20files/AK_Energy_Model_Comm.pdf)) developed community energy meter. The energy meter is screening tool which allows for a comparison between alternative energy options based on a range of future crude oil prices for each community compared with cost of energy as a diesel equivalent range of \$50-150/bbl crude oil. The meters indicate the cost effectiveness for producing electricity and for space heating.

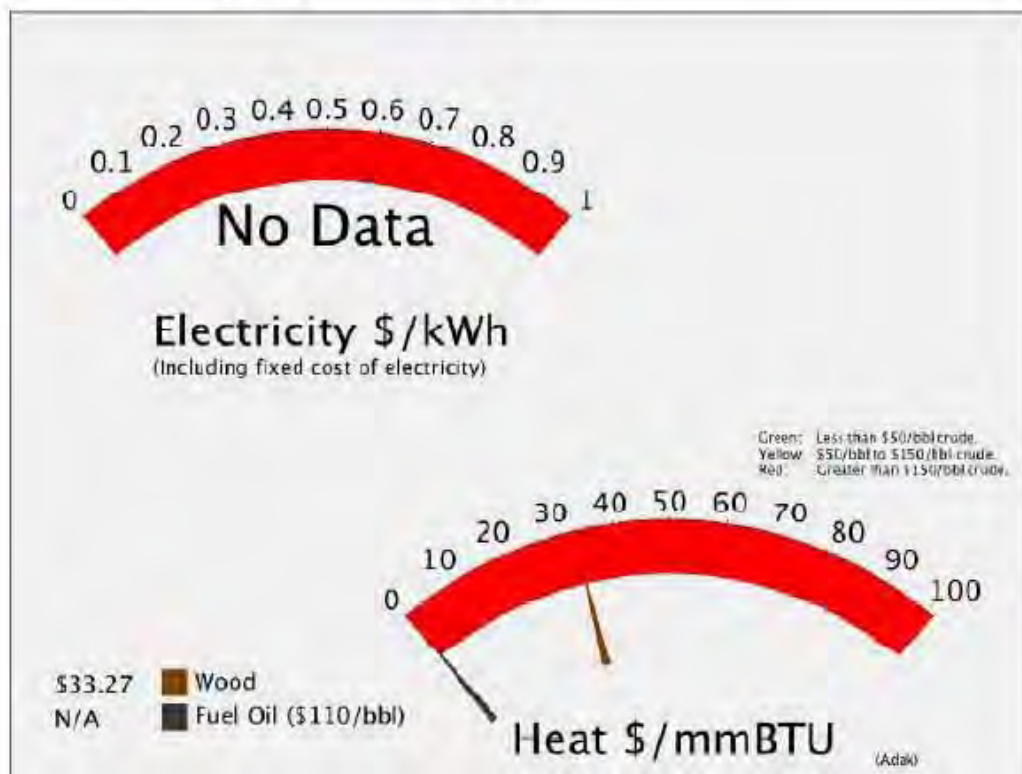
# Adak

## Energy Used

Total:	Per capita
Heat	Per capita
Transportation	Per capita
Electricity:	Per capita



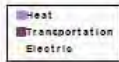
POPULATION: 136



No data available for Adak.

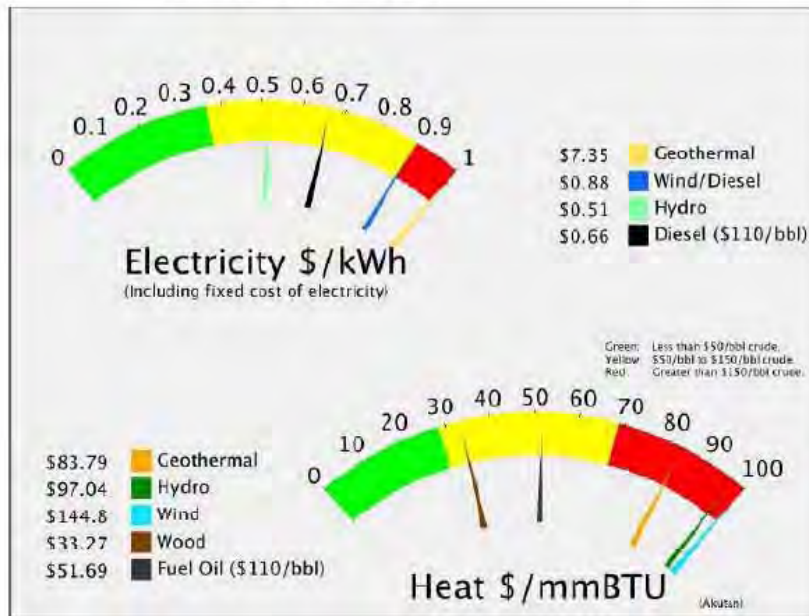
# Akutan

## Energy Used



POPULATION: 859

<b>Total:</b>	<b>\$964</b>	Per capita
Heat	\$372	Per capita
Transportation	\$147	Per capita
Electricity:	\$444	Per capita



Based on these data for Akutan, hydro would be the most cost effective way to produce electricity for Akutan and wood heating would be the most cost effective means of space heating. In Akutan, there is a small hydro project that intermittently produces 120Kw. There has also been interest in geothermal on the other side of the island at Hot Springs Bay.

A project titled: Akutan Hydrosystem Repair and Upgrade has been submitted by: City of Akutan for a Hydro project. The total project budget is: \$1,795,450 with \$1,795,450 requested in grant funding and no matching funds.

A project titled: Hot Springs Bay Valley\_Akutan has been submitted by: City of Akutan for a Geothermal project. The total project budget is: \$45,000,000 with \$2,995,000 requested in grant funding and no matching funds.

A project titled: Loud Creek Hydro\_Akutan has been submitted by: City of Akutan for a Hydro project. The total project budget is not given with \$237,772 requested in grant funding and no matching funds.

# Atka

## Energy Used



Total: 13,617 Per capita

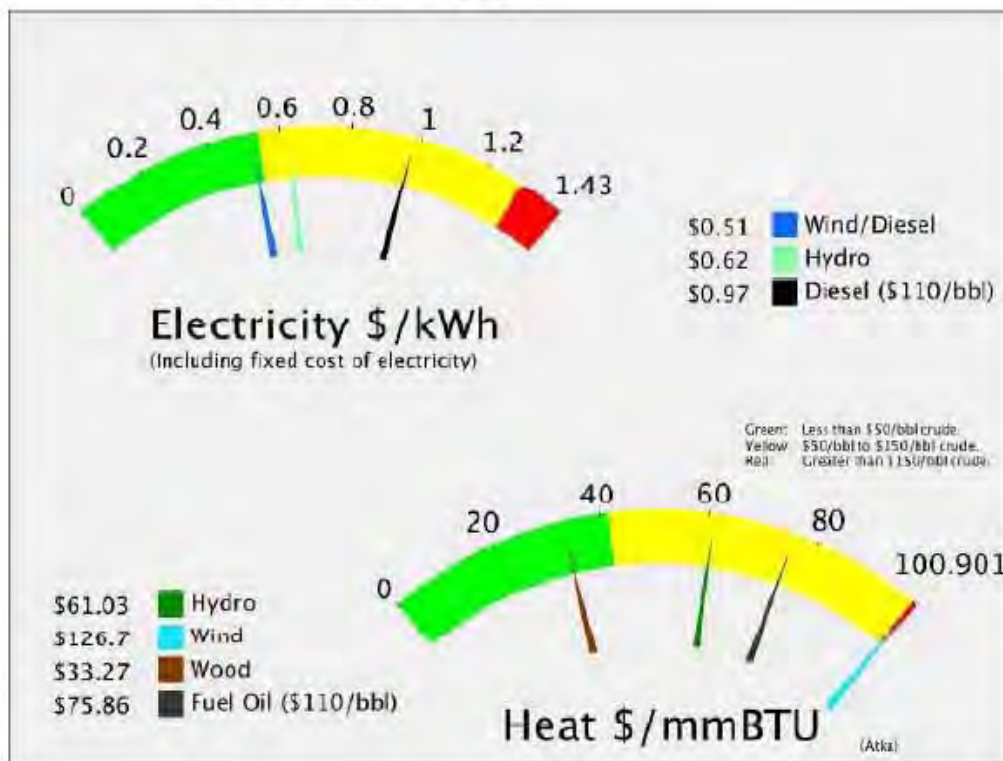
Heat \$6,222 Per capita

Transportation \$3,898 Per capita

Electricity: \$3,498 Per capita



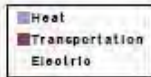
POPULATION: 74



Based on these data for Atka, wind and hydro would be the most cost effective ways to produce electricity for Atka and wood heating would be the most cost effective means of space heating. In Atka, the Alaska Energy Authority began a hydroelectric project that ran way over budget. Now the City of Atka is taking on loans to complete the project. The NALEMP effort at the Dancing Creek Culvert is a required mitigation project for the release of funds for the City's loan for the hydro project.

# Cold Bay

## Energy Used



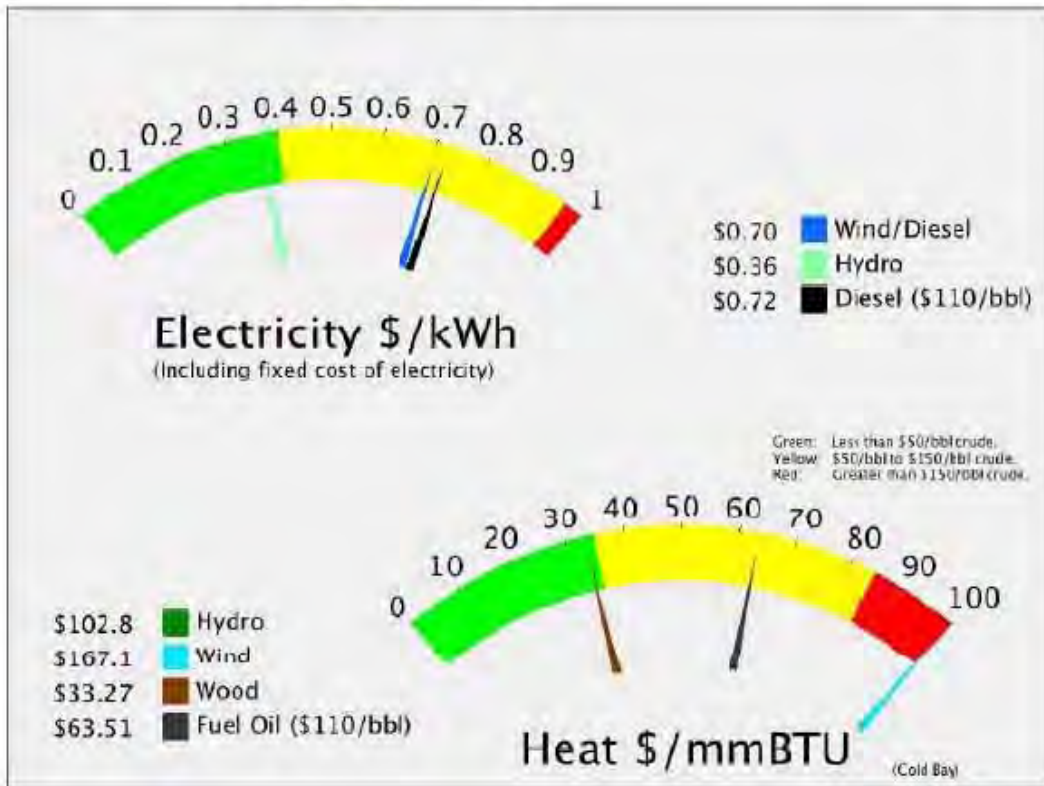
Total: \$27,607 Per capita

Heat \$5,275 Per capita

Transportation \$2,087 Per capita

Electricity: \$20,246 Per capita

POPULATION: 72



Based on these data for Cold Bay, hydro is the most cost effective way to produce electricity and wood heating would be the most cost effective means of space heating.

# False Pass

## Energy Used



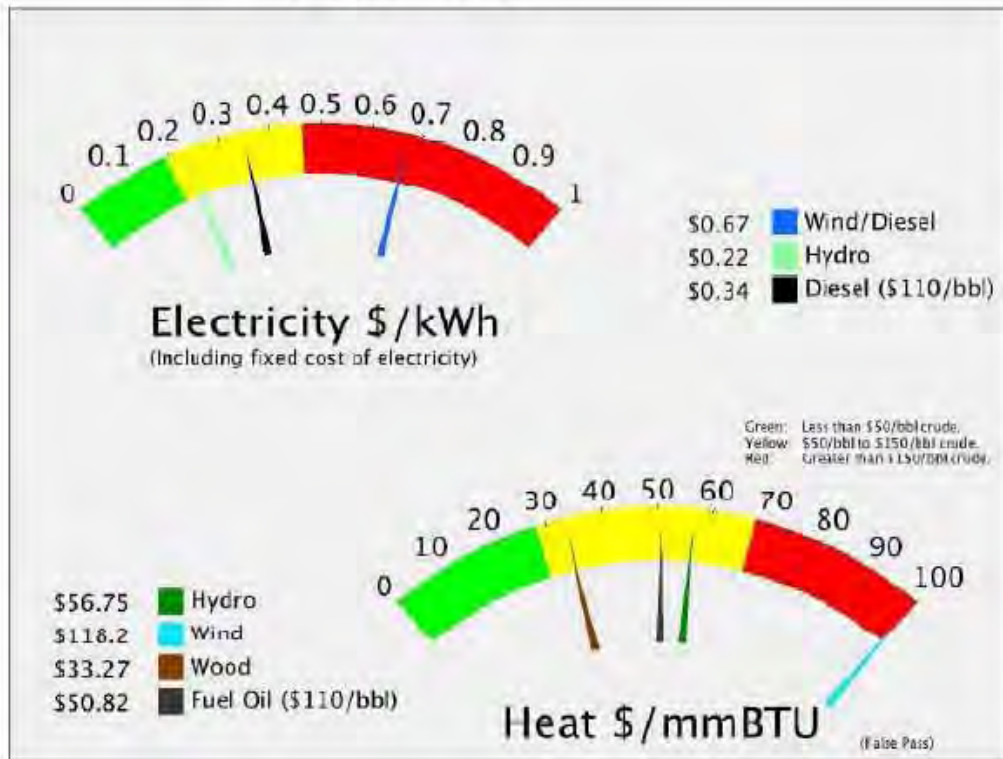
Total: **\$9,453** Per capita

Heat **\$5,915** Per capita

Transportation **\$2,339** Per capita

Electricity: **\$1,199** Per capita

POPULATION: 46



Based on these data for False Pass, hydro is the most cost effective way to produce electricity and wood heating would be the most cost effective means of space heating. In False Pass, anemometer data is available and they could be ready to apply for a wind power project, but the City needs some additional local expertise for this exercise.

# King Cove

## Energy Used



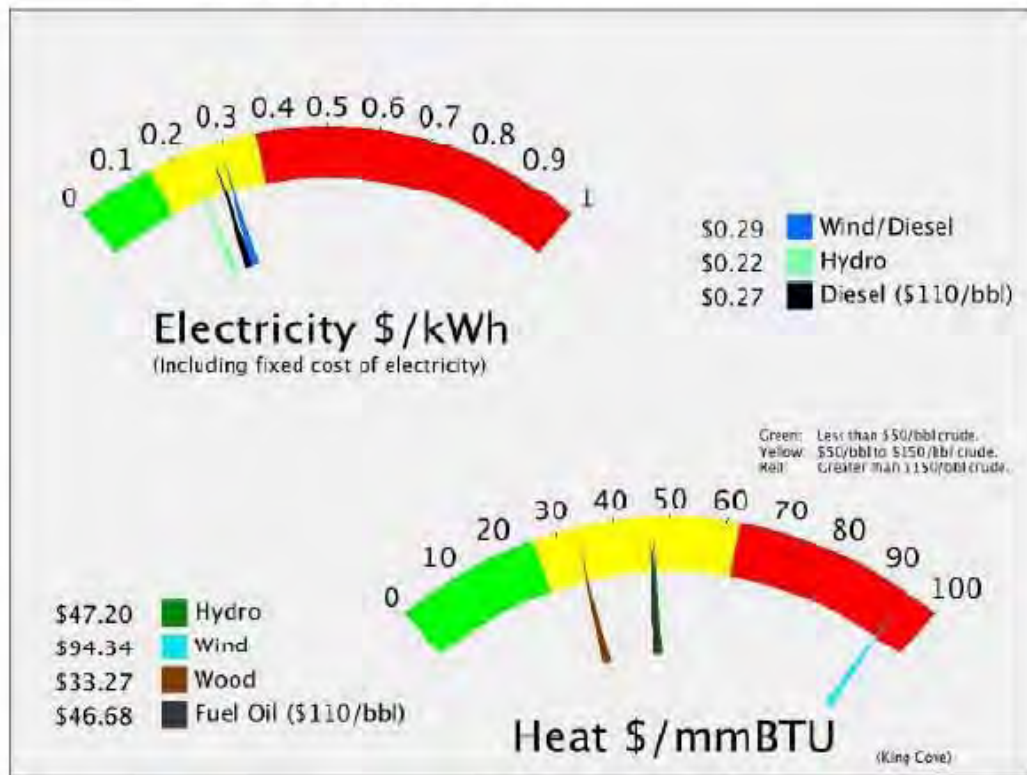
POPULATION: 756

Total: \$3,893 Per capita

Heat \$1,901 Per capita

Transportation \$752 Per capita

Electricity: \$1,241 Per capita



Based on these data for King Cove, hydro is the most cost effective way to produce electricity and wood heating would be the most cost effective means of space heating. The City of King Cove has a long running hydro project that they are working to update with new equipment and expand using an additional water source.

# Nelson Lagoon

## Energy Used



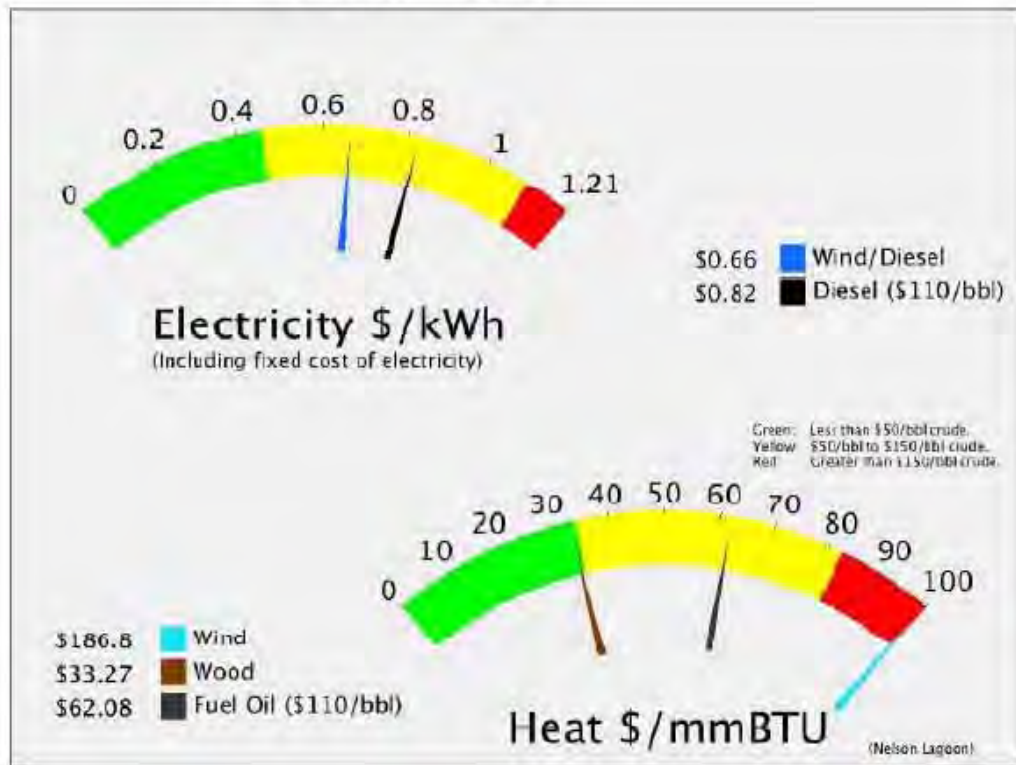
Total: 14,401 Per capita

Heat \$7,074 Per capita

Transportation \$2,798 Per capita

Electricity: \$4,530 Per capita

POPULATION: 69



Based on these data for Nelson Lagoon, wind is the most cost effective way to produce electricity and wood heating would be the most cost effective means of space heating. In Nelson Lagoon, the hope for renewable energy is likely limited to tidal or geothermal due to USFWS concerns about wind impacting endangered species.

# Nikolski

## Energy Used



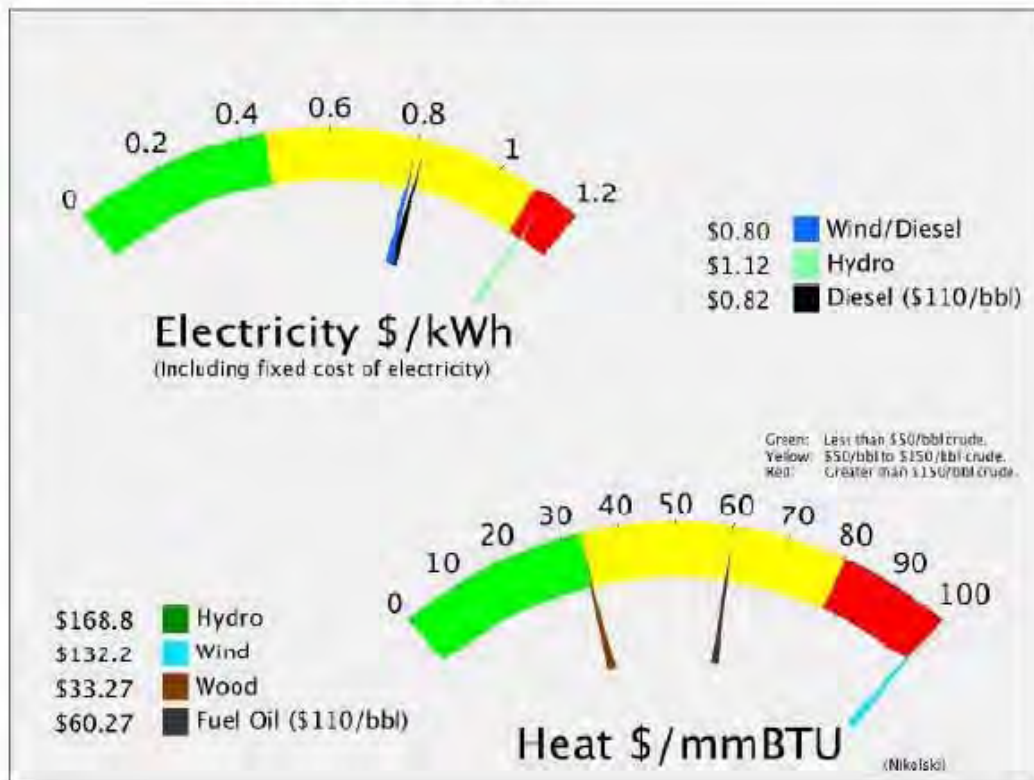
POPULATION: 33

Total: 14,144 Per capita

Heat \$5,912 Per capita

Transportation \$3,704 Per capita

Electricity: \$4,528 Per capita



Based on these data for Nikolski, wind or diesel are the most cost effective ways to produce electricity and wood heating would be the most cost effective means of space heating. Nikolski is on track to have the control panels in the power plant modified to integrate the wind turbine. TDX Power is working closely with AEA, APIA, DOE and the community to finish the project. APIA is working with Nikolski to complete the current grant.

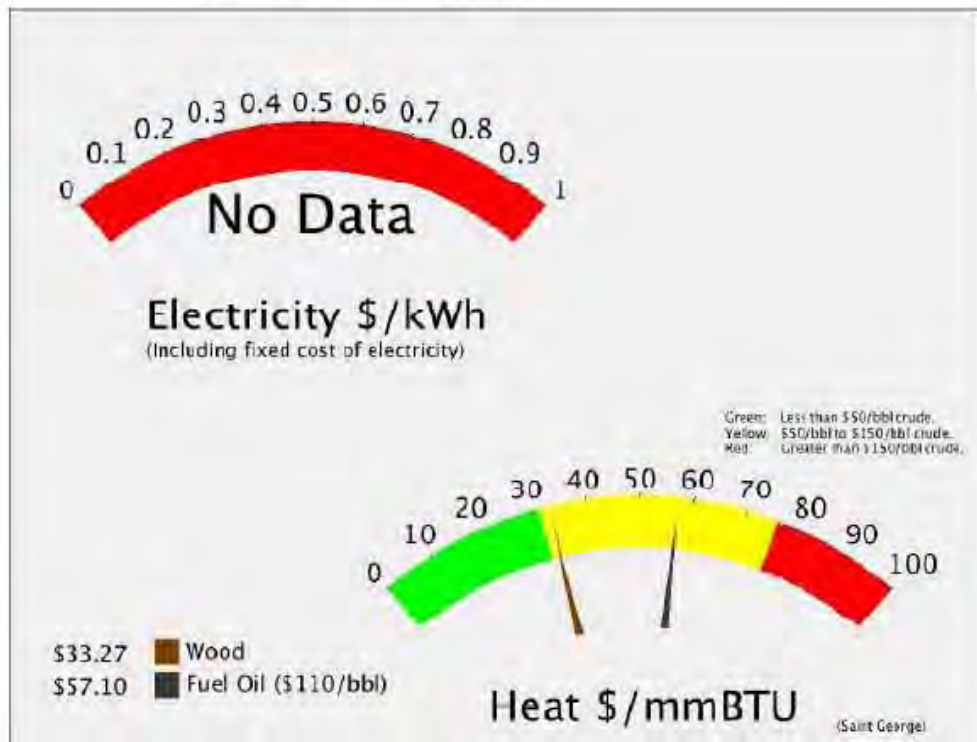
# Saint George

## Energy Used

Total:	Per capita
Heat	Per capita
Transportation	Per capita
Electricity:	Per capita

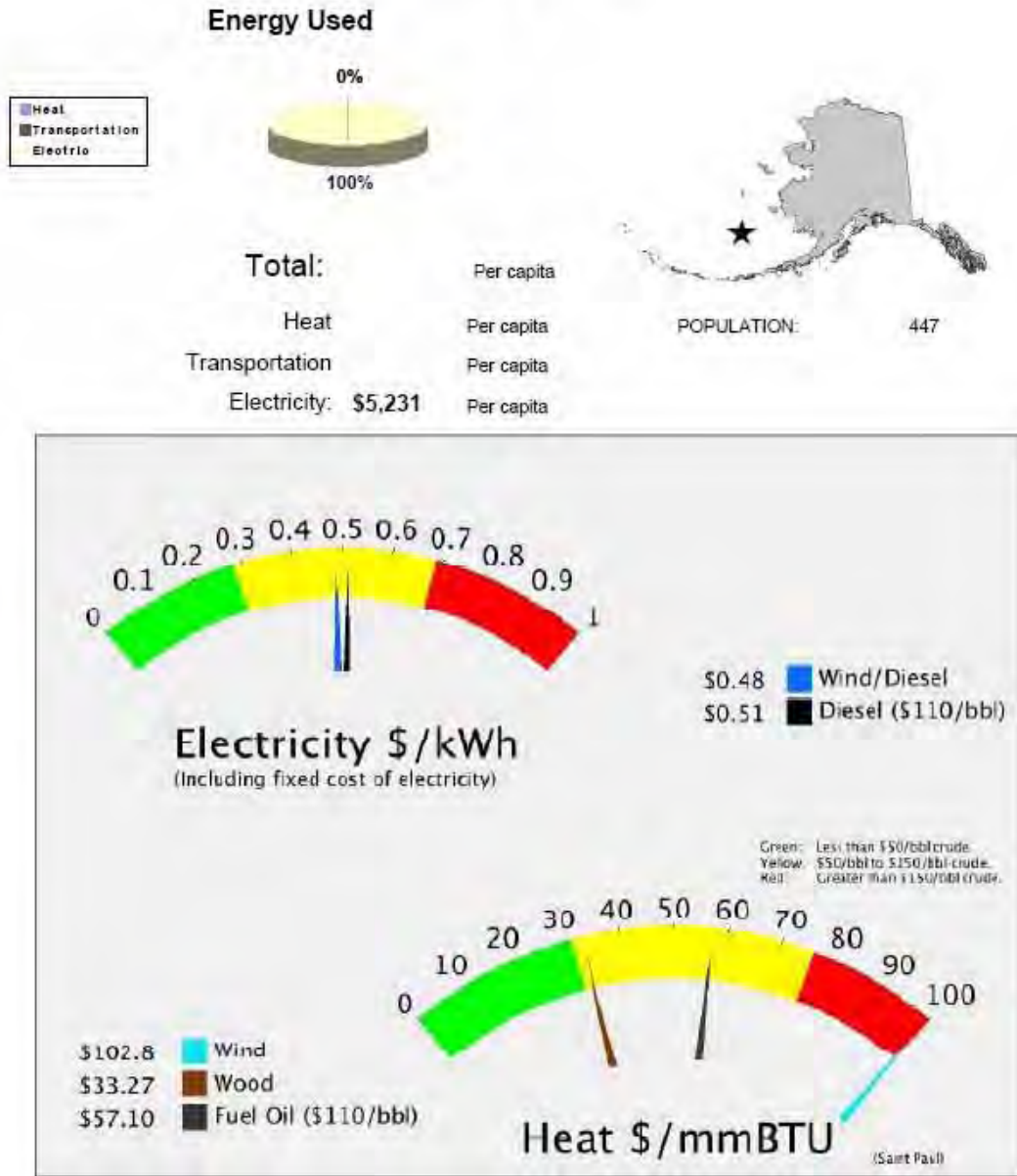


POPULATION: 114



The data for St. George were not complete, but based on St. Paul’s data, which is likely similar, wind or diesel are the most cost effective ways to produce electricity. The St. George data indicate wood heating would be the most cost effective means of space heating. St. George has anemometer data. APIA, APICDA, TDX, the St. George Tribe, the Village Corporation have all expressed considerable interest in both wind and offshore tidal, which is still in development. A large wind project has been approved through the Alaska Renewable Energy fund for St. George.

# Saint Paul



Based on these data for St. Paul, wind or diesel are the most cost effective ways to produce electricity and wood heating would be the most cost effective means of space heating. In St. Paul, three turbines (1.5 megawatts total) are not producing power for the community.

# Sand Point

## Energy Used



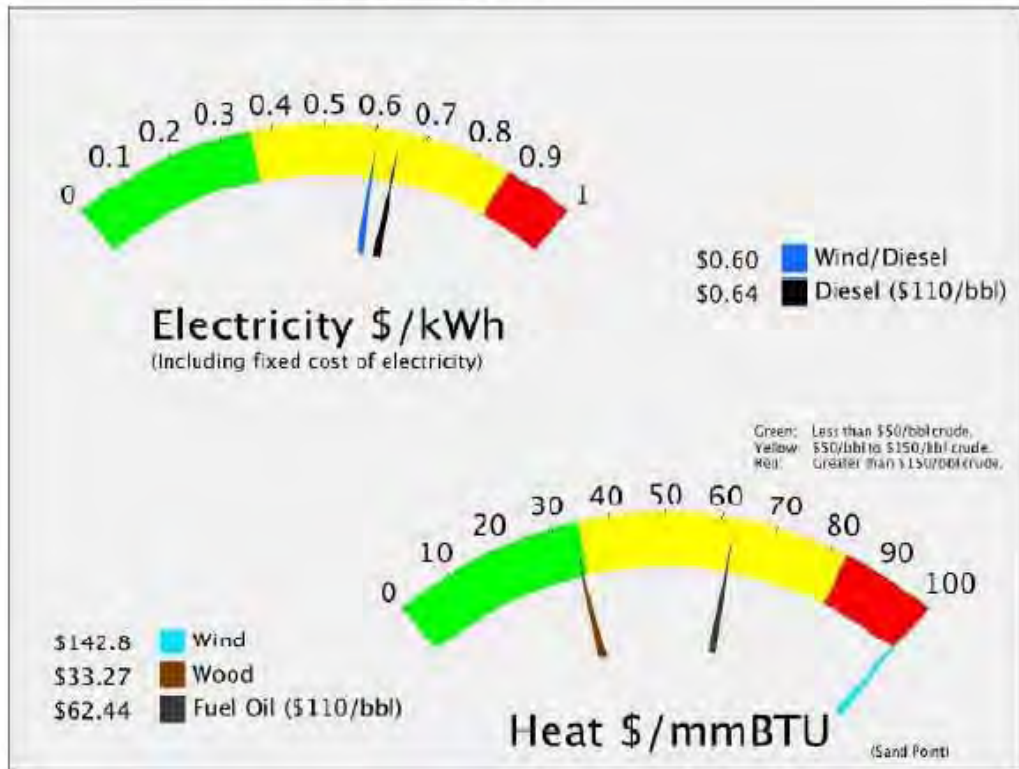
POPULATION: 992

Total: \$6,960 Per capita

Heat \$3,010 Per capita

Transportation \$1,191 Per capita

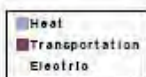
Electricity: \$2,759 Per capita



Based on these data for Sand Point, wind or diesel are the most cost effective ways to produce electricity and wood heating would be the most cost effective means of space heating. In Sand Point, TDX Power is the utility owner and working on two large turbines. APIA is coordinating the NEPA efforts and managing the avian bird study using expertise (via a contract) from the Pauloff Harbor Tribe.

# Unalaska

## Energy Used



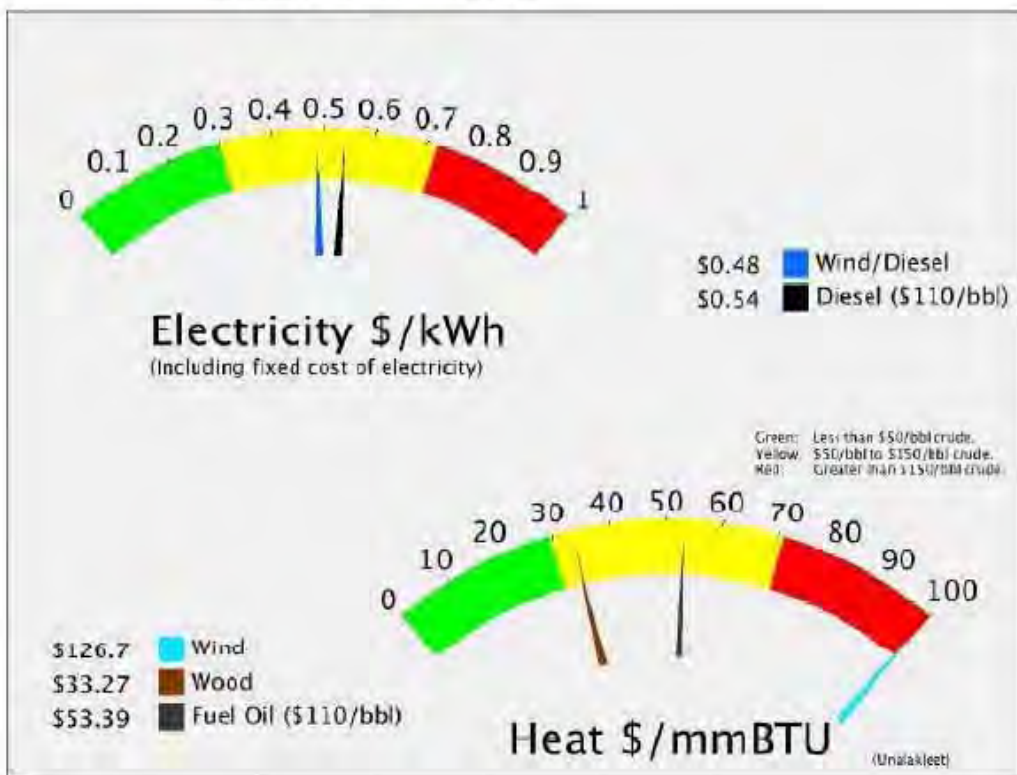
POPULATION: 3678

Total: \$7,002 Per capita

Heat \$2,035 Per capita

Transportation \$1,275 Per capita

Electricity: \$3,692 Per capita



Based on these data for Unalaska, wind or diesel are the most cost effective ways to produce electricity and wood heating would be the most cost effective means of space heating. Unalaska has good geothermal potential; as more information become available, geothermal may ultimately be the best energy source of Unalaska.