



Alaska Energy Data Gateway: Past, Present, and Future

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Alaska Smart Communities Forum



ACEP
Alaska Center for Energy and Power



ACEP
Alaska Center for Energy and Power

ACEP MISSION: Fostering development of practical, innovative, and cost effective energy solutions for Alaska and beyond



ACEP Data Collection & Analysis Objectives

- Collect, manage, and disseminate high quality technical energy data
- Provide data analysis and reporting tools based on client requests
- Support Arctic projects and communities
- Market Alaska's expertise nationally and internationally
- Position the United States as a leader in microgrid energy integration



Alaska Energy Data Gateway

The Alaska Energy Data Gateway (AEDG) is a public resource funded by a grant from the Department of Energy's EPSCoR program.

Three RePower 2.05 megawatt turbines at the Eva Creek Wind Farm (Rich Stromberg, AEA)

Public Data

The Alaska Energy Data Gateway provides the public, as well as project developers and researchers, with comprehensive energy data from across the state. With this information, the public can make informed decisions about energy issues in their communities and see how similar issues are being addressed in other parts of the state. To access our public data, choose one of the options below.

Most of the data in the Alaska Energy Data Gateway is available at the community level with the intent of providing information to assist communities in their on-going energy development and efficient energy use. Information can be downloaded and combined with data from the [Alaska Community Database Online](#) to provide comprehensive community information.

Community Data Summaries

Community Data Summaries show a selection of current data about communities, including geography, population and employment, fuel prices, electric rates, and more. To see the data summary for a community, select the community from the menu below.

Select a community

Community Data Summary Select another community

Bethel

Overview

Geography

Borough/Census area	Bethel Census Area	Population (2012)	6,113
Energy region (AEA)	Lower Yukon-Kuskokwim	Residents age 16 and over (2011)	3,875
Alaska Native Regional Corporation	Callista Corporation	Residents employed (2011)	2,718

Population and Employment [Details](#)

Data Search Tool

The Data Search tool provides capabilities to browse, search, filter, preview, and download all of our public datasets in a variety of file formats with complete documentation. To use the data search tool, click the button below.

Data Search

Data Search 1: Start 2: Select Dataset 3: Filter Data 4: View/Download

Fuel Price Survey Data

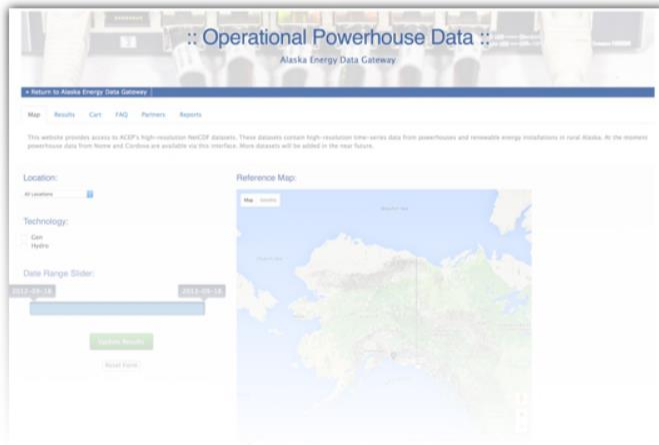
Data from the semiannual survey conducted by the Alaska Housing Finance Corporation (AHFC) for use in AHFC's energy programs and stored in the AkWarm database. AHFC collaborates with the Alaska Department of Commerce, Community, and Economic Development (DCCED), Division of Community and Regional Affairs (DCRA) to include data from communities surveyed by DCRA. Prices for home heating fuel (No. 1 and No. 2 fuel oil, propane, and wood) are collected from vendors serving communities around the state and reflect the price reported by the vendor at the point in time of the survey.

Select Variables

<https://akenergygateway.alaska.edu>

Operational and Engineering Powerhouse Data

The Alaska Center for Energy and Power (ACEP) provides time-series operational and engineering data in NetCDF format from powerhouses and renewable energy projects around Alaska.



Partners

The Alaska Energy Data Gateway is funded in part by a U.S. Department of Energy project entitled: *Making Wind Work for Alaska: Supporting the Development of Sustainable, Resilient, Cost-Effective Wind-Diesel Systems for Isolated Communities*. Data available on this site were expanded beyond wind to include other renewable energy projects in Alaska through our partner, the Alaska Energy Authority.

Alaska Energy Data Gateway :: technical data portal

ACEP AEA

Home » Map

2012-09-30 2013-07-05

Please select Location/Technology below:

Location:

Cordova

Technology:

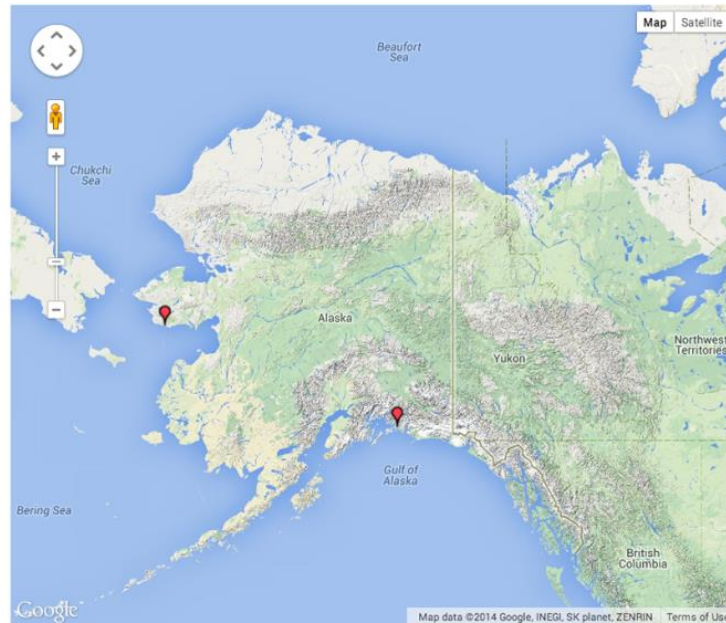
- Diesel Generator
- Hydropower Turbine
- Wind Turbine

Get Data Files

[clear form](#)

(Select Desired Date Range of Data Above.)

Reference Map



This web application is in beta testing!

For questions or comments regarding this website, contact acep@alaska.edu

<https://akenergygateway.alaska.edu>

Select a dataset category

Community Information

Energy and demographic information about communities in Alaska including fuel prices, fuel price projections, Power Cost Equalization program data, population data, and geographic information.

Alaska Energy Statistics Publications

Data tables from the Alaska Energy Statistics publications prepared by the Institute of Social and Economic Research, University of Alaska Anchorage in collaboration with the Alaska Energy Authority. Data includes annual electric generation capacity and production by utility, plant, community, and energy source, as well as other information regarding electric power in Alaska. Information is compiled primarily from data published by the U.S. Department of Energy, Energy Information Administration and Alaska Energy Authority. For more information, see [Alaska Energy Statistics 1960-2011 Final Report \(PDF\)](#)

Energy and Fuel Prices

Information about the prices of energy and fuel in Alaska, including surveyed fuel prices, Power Cost Equalization program data, and fuel price projections.

Energy Production

Information about energy production from the Power Cost Equalization program, Renewable Energy Fund program, and other sources.

Social and Economic Data

Social and economic information about the people of Alaska, such as population estimates and employment data.

Renewable Energy Fund

Information about Renewable Energy Fund (REF) projects such as applicants, applications, grants and more.

Social and Economic Data

Social and economic information about the people of Alaska, such as population estimates and employment data.

Annual Single Age Total Resident Population for the Entire State of Alaska

The dataset contains total single age population by gender for the entire state of Alaska from 1990 to 2012 from the U.S. Census.

Decennial Census Population by Age Brackets and by Borough/Census Area

This dataset contains 2000 and 2010 decennial U.S. Census data by Borough or Census Area for total population by five-year age brackets for male and female.

Decennial Census Population by Age Brackets and by Community

This dataset contains 2000 and 2010 decennial U.S. Census data by community for total population by five-year age brackets for male and female.

Decennial Census Population by Community

This dataset contains 1990, 2000, and 2010 decennial U.S. Census data for total population and population by race for Alaska communities.

Employment Summary Data by Borough/Census Area and Year

Alaska Energy Statistics Publications

Data tables from the Alaska Energy Statistics publications prepared by the Institute of Social and Economic Research, University of Alaska Anchorage in collaboration with the Alaska Energy Authority. Data includes annual electric generation capacity and production by utility, plant, community, and energy source, as well as other information regarding electric power in Alaska. Information is compiled primarily from data published by the U.S. Department of Energy, Energy Information Administration and Alaska Energy Authority. For more information, see [Alaska Energy Statistics 1960-2011 Final Report \(PDF\)](#)

Alaska Energy Statistics Summary Table 1.a - Communities Participating in Power Cost Equalization Program

Summary information by AEA region about communities participating in Power Cost Equalization Program For more information, see [Alaska Energy Statistics 1960-2011 Final Report \(PDF\)](#) Dataset revised April 12, 2016: Updated to Alaska Energy Statistics CY 2013 Final data

Alaska Energy Statistics Summary Table 1.b - Communities and Rates (\$/kWh)

Summary information about PCE communities and their average rates. For more information, see [Alaska Energy Statistics 1960-2011 Final Report \(PDF\)](#) Dataset revised April 12, 2016: Updated to Alaska Energy Statistics CY 2013 Final data

Alaska Energy Statistics Summary Table 1.c - Average Consumption per Residential Customer per Month in PCE Communities

Summary information about average residential consumption per month in PCE Communities. For more information, see [Alaska Energy Statistics 1960-2011 Final Report \(PDF\)](#) Dataset revised April 12, 2016: Updated to Alaska Energy Statistics CY 2013 Final data

Alaska Energy Data Gateway Improvement Project

Alaska Project Leader:

Erin Whitney (erin.whitney@alaska.edu)



UAA Institute of Social
and Economic Research
UNIVERSITY of ALASKA ANCHORAGE



Project Goal

*Make improvements to the **Alaska Energy Data Gateway** in order to increase the accessibility and scope of content related to Alaska community human, financial, and technical capacity for undertaking energy projects.*



Project Timeline

1. *Simple repository containing baseline human, financial, energy, and engineering capacity information for a small sample of remote Alaskan villages (March 31, 2017).*
2. *Develop technical specification for improved Alaska Energy Data Gateway for university IT and programming staff (March 31, 2017).*
3. *Alpha version – Alaska Energy Data Gateway 2.0 (June 30, 2017)*
4. *Beta version – Alaska Energy Data Gateway 2.0 (September 30, 2017).*
5. *Alaska Energy Data Gateway 2.0 hosted on secure university IT system (December 31, 2017)*



Dedicated to Public Data

The Alaska Energy Data Gateway is a public resource funded by grants from the Alaska Energy Authority's Renewable Energy Fund as well as the U.S. Department of Energy's EPSCoR program and [Grid Modernization Initiative](#). This site provides the public, as well as project developers and researchers, with comprehensive energy data and selected socioeconomic data from across the state. With this information, the public can make informed decisions about energy issues in their communities and see how similar issues are being addressed in other parts of the state.

Most of the data in the Alaska Energy Data Gateway is available at the community level, to help communities as they work to develop their energy systems and make them more efficient. Information here can be downloaded and combined with data from the Alaska Division of Regional and Community Affairs' [Alaska Community Database Online](#) for comprehensive community information.

Community Metric Explorer

Quickly view data availability by community for many popular data sets the Alaska Energy Data Gateway hosts

GO TO EXPLORER

LEARN MORE

Community Metric Explorer

This tool allows users to see whether data is available for evaluating the financial, human, and technical capacity of specific Alaska communities to undertake energy projects.

Step 1: Select a Metric Category

- Financial Capacity Metrics
- Human Capacity Metrics**
- Technical Capacity Metrics

Step 2: Select Communities

Communities

Community Name	Data Category	Data Availability	Community Data Summary
<input type="checkbox"/> Adak	Human	<input checked="" type="radio"/>	→
<input type="checkbox"/> Afognak	Human	<input type="radio"/>	→

Step 3: View Metrics for Communities

Human Capacity Metrics for Selected Communities

Metric Name	Aktutan	Belukshi	Cold Bay	False Pass
AEA Sponsored AVTEC Training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
AK DDL Occupation Data by Census Area	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
AK DDL Employment Summary Data by Census Area	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
AK DDL Occupation Data by Community	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
AK DDL Employment Summary Data by Community	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Population Estimates by Census Area	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Census Data by Community	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Census Data by Age Bracket for Census Area	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>

Other Data Options



Community Metric Explorer Overview

Metric Categories

There are three metric categories: **Financial, Human, and Technical.** Select a category to fill out the map and selection table.

Step 1: Select a Metric Category

Financial Capacity Metrics SHOW DETAILS SELECT	Human Capacity Metrics SHOW DETAILS SELECT	Technical Capacity Metrics SHOW DETAILS SELECT
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Step 2: Select Communities

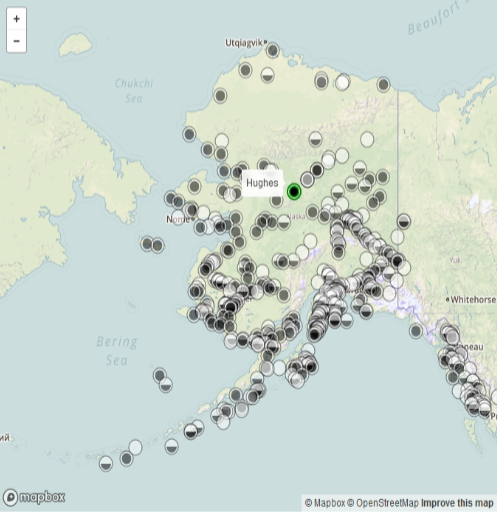
Select a metric above to display communities

Legend

- Lots of data available
- Some data available
- Little to no data available
- Metric does not exist for this community



Step 2: Select Communities



Map showing community selection circles across Alaska. The map includes labels for the Chukchi Sea, Bering Sea, and Beaufort Sea. Communities marked include Utqagvik, Hughes, and Whitehorse.

Community	Category	Selection	Action
Hope	Technical	<input type="checkbox"/>	→
Houston	Technical	<input type="checkbox"/>	→
<input checked="" type="checkbox"/> Hughes	Technical	<input checked="" type="checkbox"/>	→
Huslia	Technical	<input type="checkbox"/>	→
Hydaburg	Technical	<input type="checkbox"/>	→
Hyder	Technical	<input type="checkbox"/>	→
Igiugig	Technical	<input type="checkbox"/>	→
Iliamna	Technical	<input type="checkbox"/>	→

Search table...

Interactive Map

See how much data, on average, is available within the selected metric category on an interactive map. Click on a community to include it in your community selection.



Selection Table

Select by community, census area, or AEA energy region. You can filter the table contents using the filter box directly below the table.

Step 2: Select Communities

Communities				Table Display Options
<input type="checkbox"/>	Community Name	Data Category	Data Availability	Community Data Summary
<input type="checkbox"/>	Shungnak	Technical		→

Shu|

Legend

- Lots of data available
- Some data available
- Little to no data available
- Metric does not exist for this community



Step 3: View Metrics for Communities

Human Capacity Metrics for Selected Communities

Metric Name	Akutan	Belkofski	Cold Bay	False Pass	King C
AEA Sponsored AVTEC Training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
AK DOL Occupation Data by Census Area	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
AK DOL Employment Summary Data by Census Area	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
AK DOL Occupation Data by Community	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
AK DOL Employment Summary Data by Community	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
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Census Data by Community	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Census Data by Age Bracket for Census Area	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>

Real Time Results

The results section is updated whenever you select additional communities. Build up your results set one community at a time, or select all your communities at once.



Contribute Data

If you have additional data you'd like to see on the Alaska Energy Data Gateway, or feel that we've missed existing data sets, just click the plus symbol in the results section and fill out the brief form.

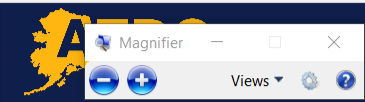
The screenshot shows a web form titled "Contribute Data for Akutan". At the top, there are tabs for "Akutan+", "Belkofski+", "Cold Bay+", "False Pass+", and "King Co". The form contains the following text and options:

Thank you for your interest in contributing data to the Alaska Energy Data Gateway. Please select any of the datasets listed below that you'd like to contribute data towards, or select other and provide some details about your data.

An administrator will contact you about your data.

- AEA Sponsored AVTEC Training
- AK DOL Occupation Data by Census Area
- AK DOL Employment Summary Data by Census Area
- AK DOL Occupation Data by Community
- AK DOL Employment Summary Data by Community
- Population Estimates by Census Area
- Census Data by Community

On the right side of the form, there is a "Legend" section with radio button options: "Lots of data av", "Some data av", "Little to no data", and "Metric does not this commu".



Census Data by Age Bracket for Census Area

Census Data by Age Bracket for Community

Census Data by Age Bracket for Community

Data Resolution: Yearly

Data Availability Range: 2000 - 2010

Data Format: Excel, CSV, SPSS

[View data set filtered for Akutan](#)

View Detailed Metric Information

Click on any community's metric score to view detailed information about the metric's availability and a direct link to download the dataset through the Data Search Tool.

Updated and New Datasets

- Fuel surveys from the *Alaska Housing and Finance Corporation*
- Energy prices from *University of Alaska-Fairbanks Cooperative Extension Service*
- Industry, occupation, and worker data from the *Alaska Department of Labor*
- Municipal tax records; information about payments and applications under the state community aid program; and vocational training data from the *Alaska Energy Authority*
- Financial statements for electric utilities from the *Regulatory Commission of Alaska*

Questions

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