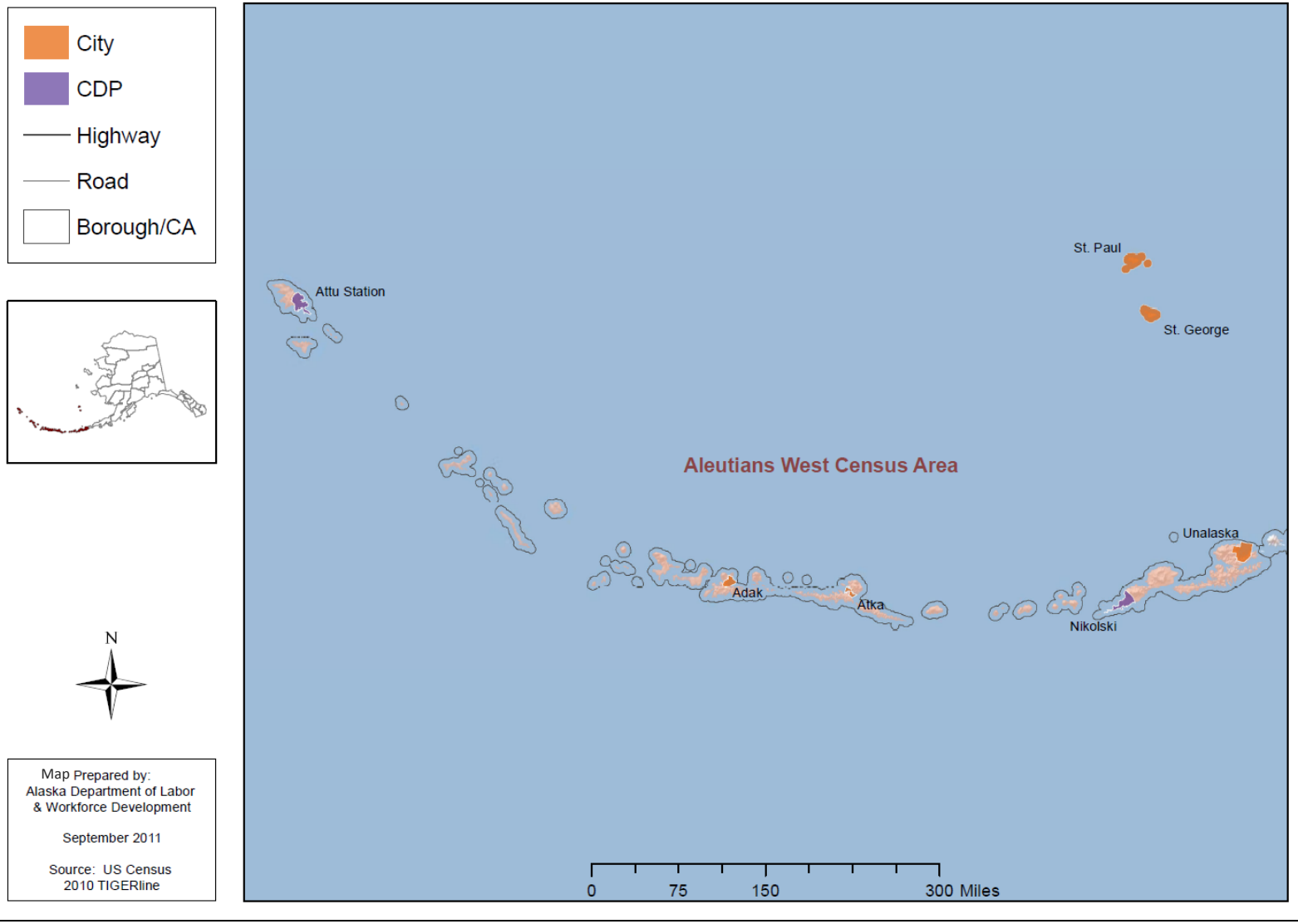
# Aleutians West Census Area



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## *Aleutians West Census Area Dashboard*

**Population:** The Alaska Department of Labor and Workforce Development's current (2012) population estimate for the Aleutians West Census Area is 5,881–an increase of 8% from 2000.

**Housing Units:** There are currently 2,268 housing units in the Aleutians West Census Area. Of these, 1,255 are occupied, 184 are for sale or rent, and the remaining 829 are seasonal or otherwise vacant units (Profile Figure C6).

**Energy:** The average home in the Aleutians West Census Area is 966 square feet and uses 120,000 BTUs of energy per square foot annually, 13% less than the statewide average of 137,000 BTUs per square foot per year.

**Energy Costs:** Using AKWarm estimates, average annual energy cost for homes in the Aleutians West Census Area is $6,620, which is approximately 2.4 times more than the cost in Anchorage, and 3.1 times more than the national average (Profile Figure C13).

**Energy Programs:** Approximately 4% of occupied housing in the Aleutians West Census Area has completed either the Home Energy Rebate, Weatherization, or BEES programs since 2008, compared to 21% statewide (Profile Figure C12).

**Housing Quality:** Within current housing stock, older and newer homes have similar energy performance. On average, homes built in the 1990s are currently rated at 4-stars, compared to a current average rating of 4-star-plus for houses built after 2000.

**Air-tightness:** Within current housing stock, newer homes are tighter. On average, homes built in the last decade exceed the 2012 BEES standard of 4 air-changes per hour at 50 pascals (ACH50). In contrast, homes built in the 1990s are 3 times leakier than those built since 2000 (Profile Figure C7).

**Ventilation:** An estimated 523 occupied housing units (or 42%) in the Aleutians West Census Area are relatively air-tight and lack a continuous ventilation system. These houses are at higher risk of moisture- and indoor air quality-related issues (Profile Figures C9-C10).

**Overcrowding:** Nine percent of occupied units are estimated to be either overcrowded (4%) or severely overcrowded (5%). This is roughly 3 times the national average, and makes the Aleutians West Census Area the 11th most overcrowded census area in the state.

**Affordability:** On average, approximately 26% of households in the Aleutians West Census Area spend more than 30% of total income on housing costs, which include rent, utilities, and energy costs. Based on average AKWarm estimates, annual energy costs constitute approximately 9% of census median area income for occupied housing.

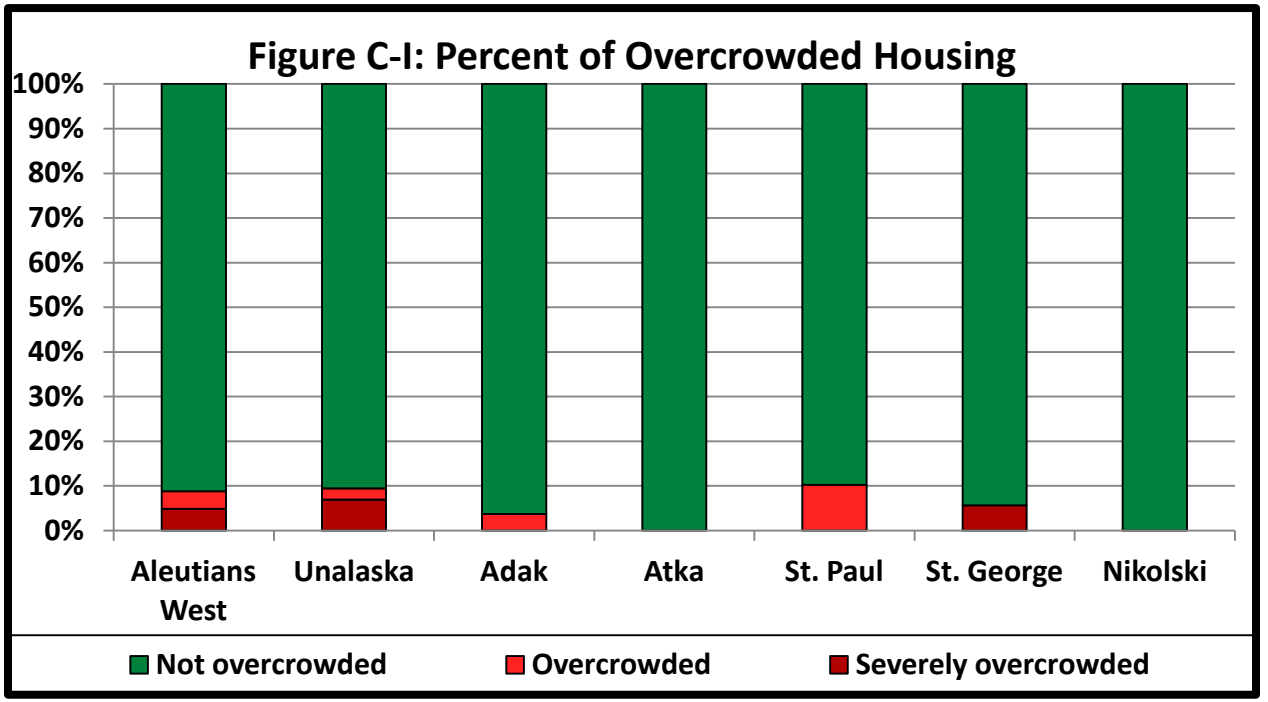
## *Aleutians West Census Area Summary*

### Community

The Aleutians West census area is located off the southwest coast of Alaska. Its seven communities are all in the Aleutian Islands in the Pacific Ocean. The census area is located in the Aleut Native Corporation ANCSA region. Average homes in Aleutians West range in size from 1,018 square feet in Atka to 1,469 square feet in Unalaska.

### Overcrowding

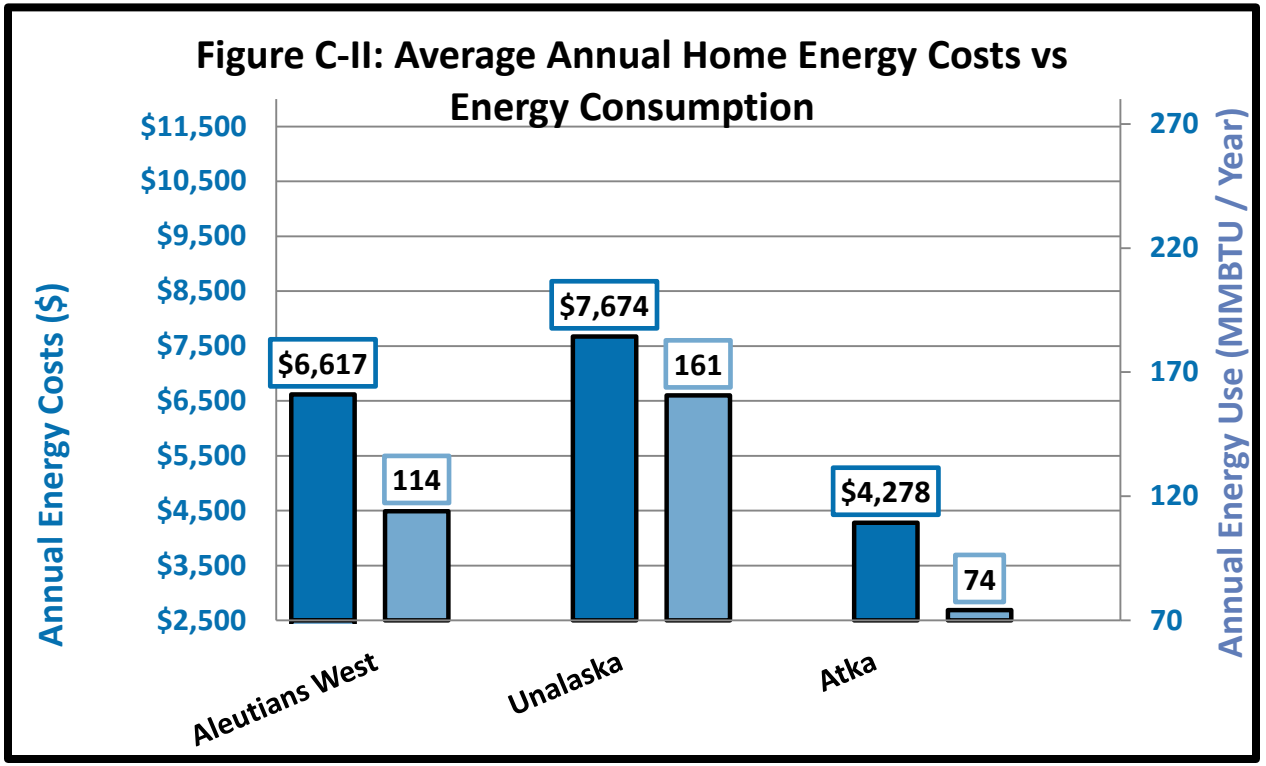
Less than 10% of households are overcrowded in the Aleutians West census area. Overcrowding in individual communities varies from virtually no overcrowding to 10%. The lowest percentage of overcrowding is found in Atka and Nikolski, where an estimated zero households are overcrowded (Figure C-I). The highest percentage of overcrowding is found in St. Paul, where 10% of households have more than one person per room.




Approximately 8% of housing in Aleutians West is available for sale or rent. Unalaska has the lowest percentage of available housing at 3%, and St. George has the highest percentage at 18%. Over one third (37%) of housing in the census area is considered vacant, because it is used for seasonal, recreational, or "other" non-year-round purposes.

## Energy

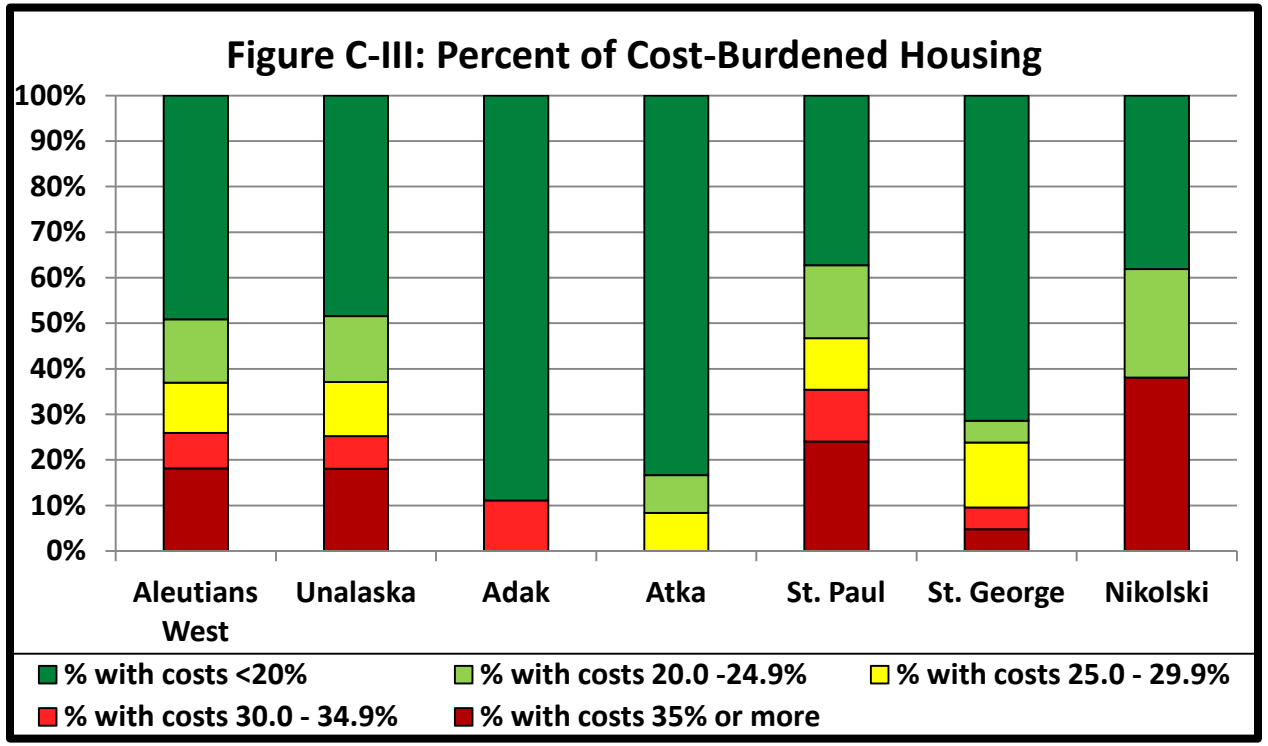
The average home in the Aleutians West census area uses 114 million BTUs of energy each year, and pays an average annual cost of $6,617 for the energy. The lowest energy costs are found in Atka, where residents pay an average of $4,278 and also live in homes that have the lowest average home heating index in the census area, 3.1 BTUs/ft$^2$/Heating Degree Day. This is less than half the heating index in Unalaska, 9.9 BTUs/ft$^2$/HDD. With this heating index, Unalaskans pay the highest energy costs in the Aleutians West, $7,674 annually. Factors contributing to this discrepancy may include that the average home in Atka is 400 square feet smaller than the average home in Unalaska, and Atka has had the highest participation in energy programs in the census area.




Approximately 5% of housing units in Aleutians West have completed the Home Energy Rebate, Weatherization or a BEES program since 2003. However, participation in these programs varies widely by community, and the six most populous communities saw up to 50% participation in one of the programs. The greatest participation is found in Atka, where half of the housing units have completed a program. In Adak, on the other hand, zero households have completed an energy program. Since the 1990s, the percentage of homes with a continuous mechanical ventilation system or HRV in the census area has increased by roughly 80%.

## Affordability

According to ACS estimates[1], roughly 1 in 4 households in the Aleutians West census area are cost-burdened (Figure C-III). The most cost-burdened community is Nikolski, where more than one third (38%) of residents pay over 30% of their household income to housing costs. Nikolski's median income is the lowest in the census area, at $16,125. The highest median income of $96,071 is found in Atka, where an estimated zero households are considered cost-burdened.




[1]CCHRC's analysis of ACS energy costs indicates systematic underestimations for rural Alaska, which suggests that ACS-based cost-burdened housing estimates are low. See Appendix A, "Analysis of American Community Survey Energy Cost Estimates" for more details.

## Community, Regional, and Statewide Housing Characteristics

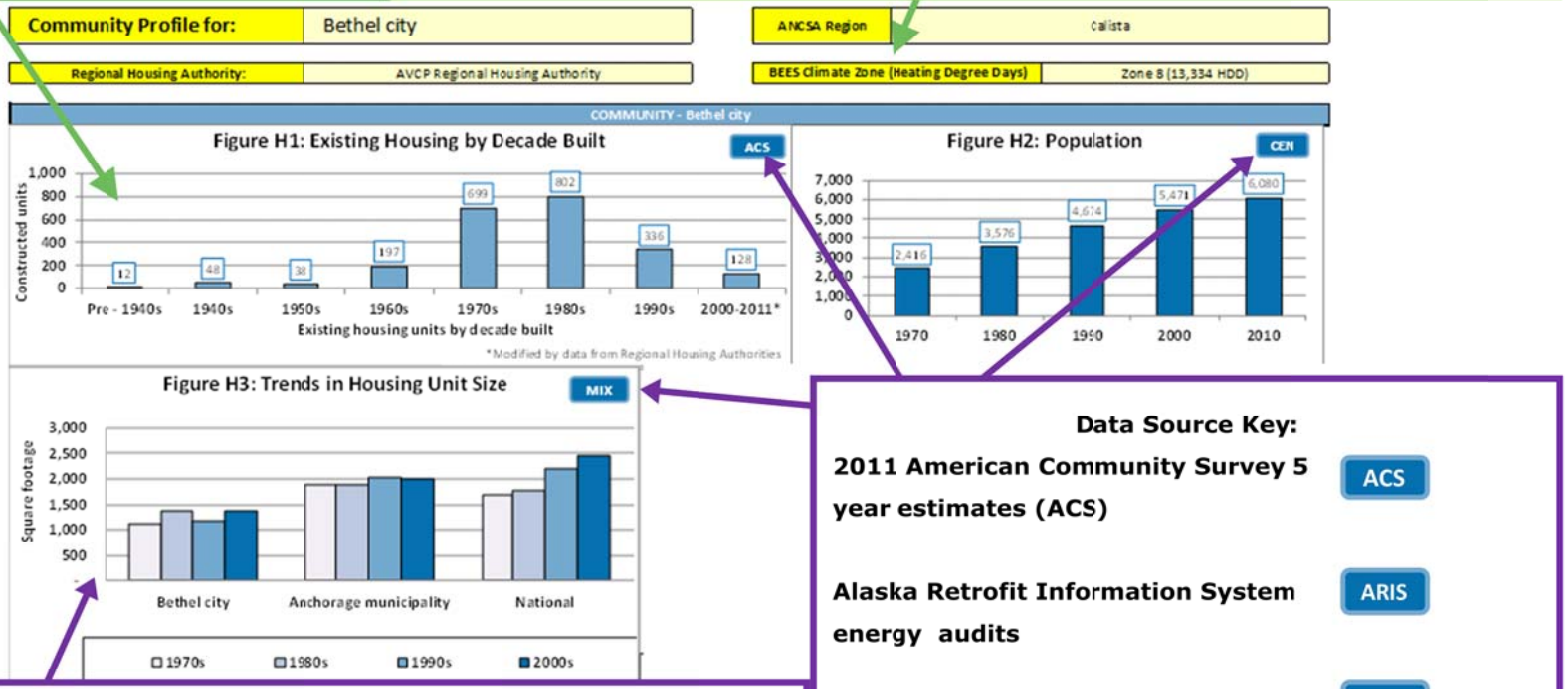
This census area summary only includes the highlights of housing characteristics at the census area level. Detailed data profile with charts and tables for both the census area and for each of the communities within it follow. The 2014 Alaska Housing Assessment provides a significant amount of data and analysis at statewide, ANCSA region, census area, and community levels. This assessment provides a statewide analysis of housing characteristics, how they compare to national numbers, and the estimated housing needs. Within the 2014 Alaska Housing Assessment, written summaries are available for each individual ANCSA region and census area, and data profiles are available for each community and census area characterizing the housing stock from the perspective of community, overcrowding, energy and affordability. These different tiers of information and analysis allow researchers, housing authorities, policymakers and others to generate answers to specific questions. For a detailed discussion of estimating housing need and comparison of methods to previous Housing Assessments, see Appendix B, "Statewide Need Assessment" of the 2014 Alaska Housing Assessment.

# How to Interpret the Profile: Data Sources, Definitions & Clarifications

1

This graph show the breakdown of *current* housing stock by the decade in which the housing units were built. It does *not* show trends over time.

The Alaska Building Energy Efficiency Standard (BEES) was established by AHFC for the State of Alaska to promote the construction of energy efficient buildings. The standards for specific building components are divided into four climate zones, from Zone 6 in Southeast AK to Zone 9 on the North Slope.




**Data Source Key:**

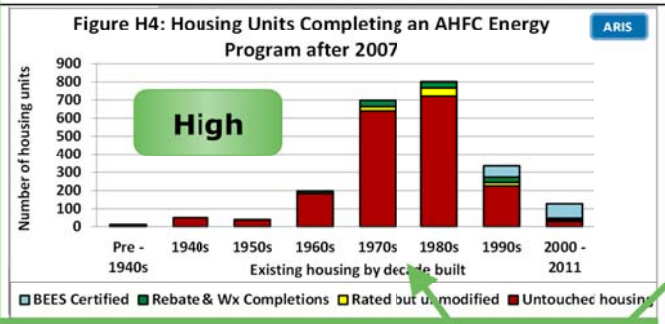
| | |
|---|---|
| 2011 American Community Survey 5 year estimates (ACS) | ACS |
| Alaska Retrofit Information System energy audits | ARIS |
| 2010 Decennial Census | CEN |
| Mixed data source; see individual graphs for details. | MIX |

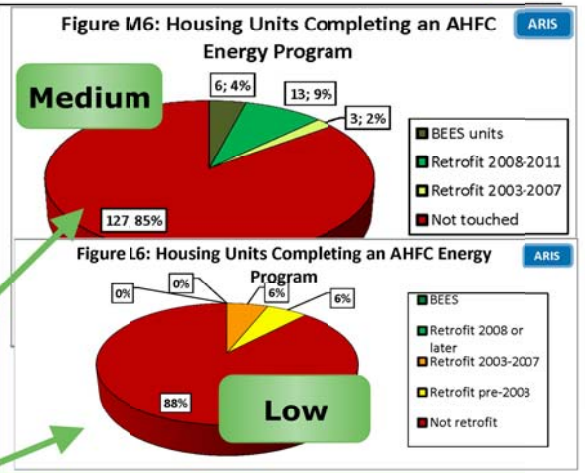
**Data Sources: National trends come from the 2009 Residential Energy Consumption Statistics published by the U.S. Energy Information Administration. Anchorage and census area data come from the Alaska Retrofit Information System.**

# How to Interpret the Profile: Data Sources, Definitions & Clarifications

1

**Energy program activity within communities with high, medium and low amounts of ARIS data available. (See p.7 of "How to Interpret" for detail on data levels).**




**Communities - AHFC Energy Program Activity**

**High Data - Reported by decade built for the housing units.**

**Medium Data - Reported by percent of total housing units touched.**

**Low Data - Have few or no post-2008 Weatherization/Rebate completions or BEES certifications in the ARIS database.**

- **PCE = Power Cost Equalization**
- **Average Annual Energy Cost with PCE: The cost to the household after it has been lowered by the PCE subsidy.**
- **Without PCE: The actual energy cost, including the amount paid by the State for PCE.**

**American Community Survey (ACS) Data:**

**Complete Plumbing: Includes hot & cold running water, a flush toilet, and a bathtub or shower within the home.**

**Complete Kitchen: Includes a sink with a faucet, a stove/ range, and a refrigerator.**

ACS

| Houses Lacking Complete Plumbing or Kitchen Facilities | # House-holds | % House-holds |
|---|---|---|
| Lack complete plumbing | 3 | 10% |
| Lack complete kitchen | 0 | 0% |

ARIS

| Estimated Total Community Space Heating Fuel Use by Type | | |
|---|---|---|
| Fuel Oil | 20,816 | (gallons) |
| Nat Gas | - | (ccf) |
| Electricity | 15,459 | (kWh) |
| Wood | 3 | (cords) |
| Propane | - | (gallons) |
| Coal | - | (tons) |

ARIS

| Avg Annual Energy Cost with PCE | $5,265 |
|---|---|
| Avg Annual Energy Cost without PCE | $6,643 |

ARIS

| Estimated Energy Prices as of January 2013 | |
|---|---|
| #1 Fuel oil cost ($ / gallon) | $5.16 |
| Electricity with PCE ($/kWh) | $0.03 |
| Electricity cost without PCE ($/kWh) | $0.27 |

| Weatherization Program Retrofits (funding increased in 200 | |
|---|---|
| Date Range | Units |
| 2008-2011 | 17 |
| 2003-2007 | - |
| 1990-2002 | 10 |

CEN

| Housing Stock Estimates | Nu |
|---|---|
| All Housing | |
| All Occupied Housing | |
| A sing | |
| Vacant Housing for Sale or Rent | |

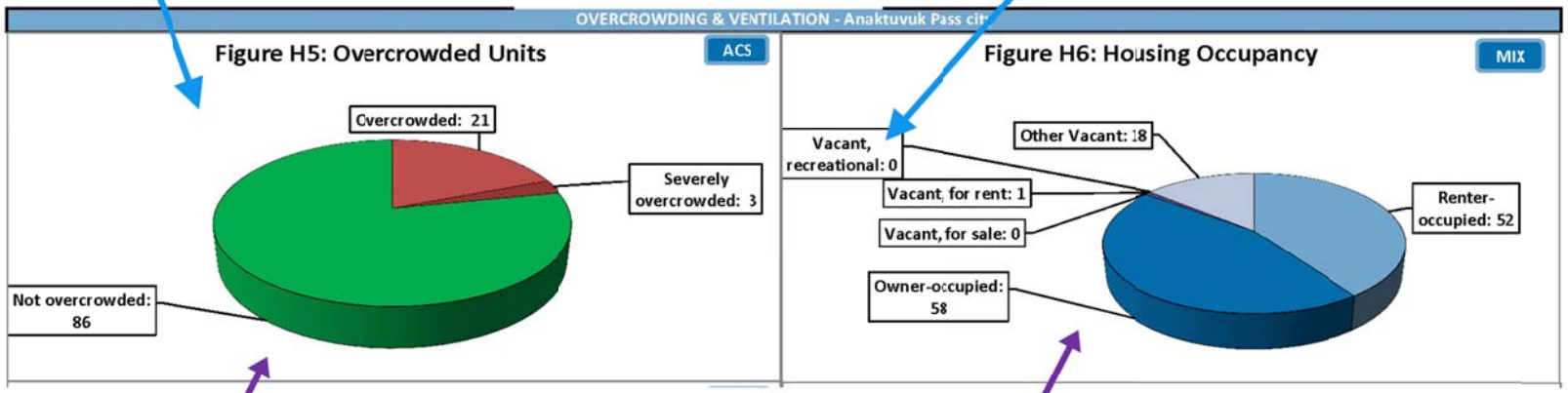
**Units weatherized before 2008 are eligible to participate in the program again. (Data source: Alaska Housing Finance Corporation).**

# How to Interpret the Profile: Data Sources, Definitions & Clarifications

2

**Overcrowded:** Housing units with more than 1 person per room
**Severely Overcrowded:** Housing units with more than 1.5 people per room.
"Rooms" include bedrooms, living rooms, dining rooms, kitchens, and other finished, separated spaces, but not including bathrooms, porches, balconies, foyers, halls, or unfinished basements.

**Recreational:** For seasonal, recreational, or occasional use.




**Data Source:** 2011 American Community Survey 5-year estimates

**Data Sources:** The number of owner-occupied, renter-occupied, and total vacant units are taken from the 2011 ACS 5-year estimates. Data for vacancy type, only available from the decennial Census, were derived by taking the decennial census ratios by vacancy type and applying them to the total number of vacant units.

# How to Interpret the Profile: Data Sources, Definitions & Clarifications

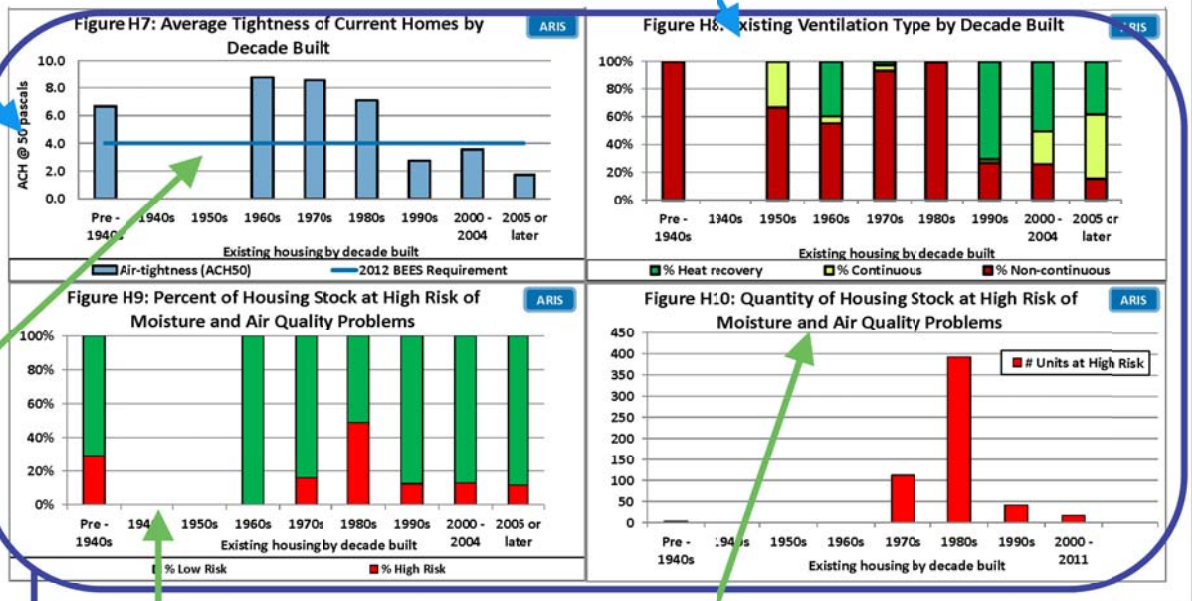
2

**Heat Recovery:** Continuous mechanical ventilation with heat recovery operated with automatic controls.

**Continuous:** Mechanical ventilation without heat recovery operated with automatic controls.

**Non-Continuous ventilation:** Includes homes with range and/or bath fans not operated using automatic controls.

**ACH50:** The results of a blower door test to measure building air leakage. Smaller numbers indicate tighter buildings. Tighter buildings lose less heated air to the outside and thus use less energy for space heating.




**The 2012 Building Energy Efficiency Standard (BEES)** for air-tightness is for reference only, as it was implemented after the majority of homes in Alaska were built.

**Data Source:** Alaska Retrofit Information System

**Decades with no bar** lack sufficient data for reporting. They should not be considered zero quantities.

**High Risk of Moisture and Air Quality Problems:** Note that moisture or poor indoor air quality have not been physically measured; these houses are considered "at-risk" because they are relatively air tight (less than 0.5 estimated natural air changes per hour) and do not have a continuous ventilation system.

# How to Interpret the Profile: Data Sources, Definitions & Clarifications

3

**Rating stars and points are based on AHFC's AkWarm energy rating system.**

**Average annual energy cost:** Includes all end uses. Costs are estimated using January 2013 energy prices, and include reductions from the PCE program.

**Space Heating, DHW, Appliances:** Estimated annual energy for the end uses of: Space Heating, Domestic Hot Water, and all other energy including lights, appliances, and electronics.

**ECI:** Energy Cost Index, the amount of money spent on energy per year divided by square footage.

**Home Heating Index:** The energy used per square foot per year divided by the area's heating degree days.

**The number of AkWarm records from each decade built that were used to calculate the averages reported.**

Current Residential Housing Energy Characteristics By Decade Built

| Current Residential Units by Year Built | Number of Records | Avg Energy Rating | Avg Energy Rating Points | Avg Sq. Feet | Avg. Annual Energy Cost (with PCE) | Avg. Annual Energy Use (million BTUs) | Avg Ann Energy by End Use(million Btus) | | | Avg. EUI (kBTUS/SF) | Avg. ECI ($ / SF) | Avg. Home Heating Index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Space Heating | DHW | Appliances | | | |
| OVERALL | 419 | 3-star | 70.7 | 1,237 | $ 8,065 | 160 | 102 | 27 | 26 | 132 | $ 6.97 | 6.5 |
| Pre- 1940 | 7 | 3-star | 68.3 | 1,779 | $ 11,107 | 199 | 145 | 21 | 33 | 113 | $ 6.66 | 6.4 |
| 1940- 49 | 0 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| 1950- 59 | 3 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| 1960- 69 | 15 | 2-star | 52.3 | 1,056 | $ 11,087 | 287 | 225 | 35 | 27 | 269 | $ 10.60 | 16.0 |
| 1970- 79 | 71 | 2-star plus | 64.5 | 1,106 | $ 7,961 | 151 | 105 | 21 | 25 | 149 | $ 8.09 | 7.8 |
| 1980- 89 | 113 | 3-star plus | 74.7 | 1,361 | $ 8,239 | 157 | 100 | 30 | 26 | 119 | $ 6.40 | 5.8 |
| 1990- 99 | 111 | 4-star | 79.9 | 1,187 | $ 6,395 | 122 | 57 | 21 | 20 | 108 | $ 5.58 | 4.7 |
| 2000- 2004 | 71 | 3-star plus | 77.5 | 1,388 | $ 8,435 | 143 | 80 | 35 | 27 | 118 | $ 7.24 | 5.2 |
| 2005- later | 28 | 5-star | 91.9 | 1,233 | $ 4,504 | 92 | 39 | 28 | 25 | 79 | $ 3.82 | 2.5 |

Figure H11: Current Average Energy Use Intensity and Average Square Footage by Decade Built

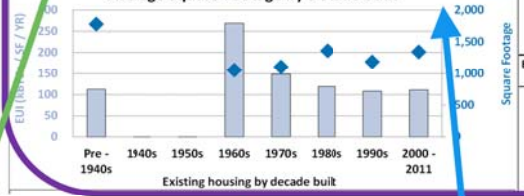
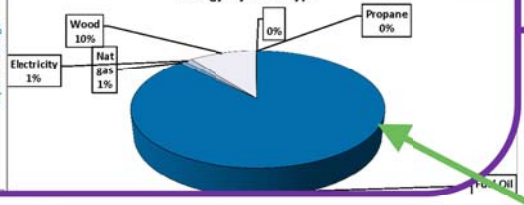



Figure H12: Percent of Total Residential Space Heating Energy by Fuel Type




**Data Source:** AkWarm ratings from AHFC's Alaska Retrofit Information System (ARIS).

**Average energy characteristics of the *current* housing stock by decade built (high data communities) or by pre-/post-retrofit and new construction categories (medium data communities).**

**Energy Use Intensity (EUI) is the total amount of energy used per year per square foot of floor space.**

**This is the community's breakdown by fuel type of the energy (BTUs) used for home space heating. It is not the percent of housing using a given fuel in primary space heating devices. Because wood burning devices are inefficient, they may use a significant portion of total energy even if no homes in a community use wood as a primary fuel.**

# How to Interpret the Profile: Data Sources, Definitions & Clarifications

3

Average building envelope characteristics of the *current* housing stock by decade built (high data communities) or by pre-/post-retrofit and new construction categories (medium data communities).

**ACH50**: The results of a blower door test to measure building leakiness. Smaller numbers indicate tighter buildings.

**R-value**: the capacity to resist heat flow. The higher the value, the better the insulator.

**U-value**: the conductance to heat flow. The lower the value, the better the insulator.

Data Sources: AkWarm ratings from AHFC's Alaska Retrofit Information System (ARIS).

Current Bethel city Housing Envelope Characteristics By Decade Built

| Current Residential Units by Year Built | Number of Records | ACH 50 | Ceiling R | Above Grade Wall R | Below Grade Wall R | Above Grade Floor R | On Grade Floor R | Below Grade Floor R | Door U | Garage Door U | Window U |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OVERALL | 419 | 6.4 | 23 | 17 | 7 | 30 | NR | 2 | 0.36 | 0.27 | 0.54 |
| Pre- 1940 | 7 | 6.7 | 26 | 21 | NR | 30 | NR | NR | 0.30 | NR | 0.40 |
| 1940- 49 | 0 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| 1950- 59 | 3 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| 1960- 69 | 15 | 8.8 | 16 | 14 | NR | 21 | NR | NR | 0.44 | NR | 1.65 |
| 1970- 79 | 71 | 8.5 | 20 | 15 | NR | 29 | NR | NR | 0.39 | NR | 0.57 |
| 1980- 89 | 113 | 7.1 | 29 | 17 | NR | 32 | NR | NR | 0.30 | NR | 0.44 |
| 1990- 99 | 111 | 2.7 | 56 | 31 | NR | 50 | NR | NR | 0.19 | 0.12 | 0.29 |
| 2000- 2004 | 71 | 3.6 | 13 | 21 | NR | 36 | NR | NR | 0.27 | 0.23 | 0.40 |
| 2005 or later | 28 | 1.7 | 41 | 22 | NR | 41 | NR | NR | 0.20 | NR | 0.31 |
| BEES 2009 - Climate Zone 8 | | 7.0 | 38 | 30 | 15 | 38 | 15 | 15 | 0.22 | 0.22 | 0.22 |
| BEES 2012 - Climate Zone 8 | | 4.0 | 48 | 30 | 15 | 38 | 15 | 15 | 0.22 | 0.22 | 0.22 |

The number of AkWarm records from each decade built that were used to calculate the averages reported.

"NR" is used when there are insufficient records to protect the confidentiality of the occupants.

**Color Coding--**

***Green***: the average value meets or exceeds the 2012 BEES requirement.

***Yellow***: value is 75-99% of the 2012 BEES requirement.

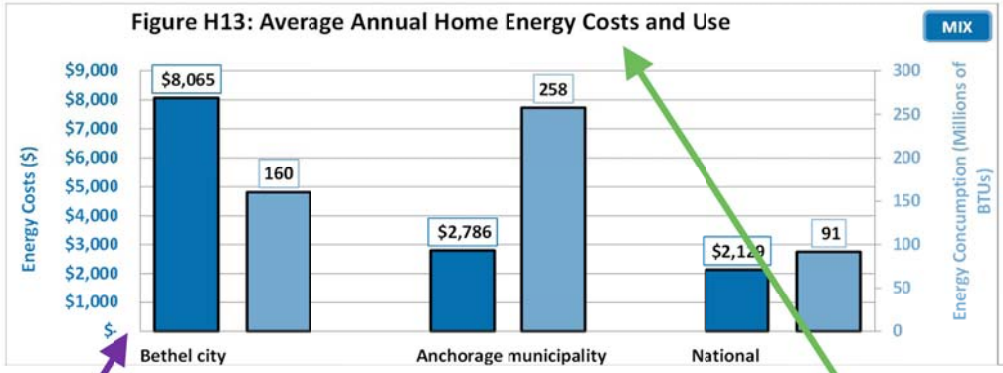
***Red***: value is less than 75% of the 2012 BEES requirement.

# How to Interpret the Profile: Data Sources, Definitions & Clarifications

4

**Communities are categorized in this report by the amount of ARIS data available, and reporting is more extensive for locations with more data. Data quantities are defined as--**
***High*: ARIS records exist for housing units built in 7 of the 9 date ranges use in this report, and there are either more than 50 records or records totaling 20 percent or more of the total number of housing units.**
***Medium*: There are three or more ARIS records. Data are presented for an "overall" group if there are "As Is" ARIS records totaling at least 10% of the community's occupied housing units.**
***Low*: There are fewer than three ARIS records for the location.**

Community Template - Data Quantity: High




| Housing Information | Avg Household Size (# of people) |
|---|---|
| All-occupied | 3.4 |
| Owner-occupied | 3.7 |
| renter-occupied | 3.1 |

**Data Source:**
**2007-2011 American Community Survey**

**Data Sources: Census Area and Anchorage data come from AFHC's Alaska Retrofit Information System.**
**National figures come from the U.S. Energy Information Administration's 2009 Residential Energy Consumption Statistics (RECS) for "cold"/"very cold" climate regions.**

**Average annual home energy costs and usage estimates are for all end uses, including space heating, domestic hot water, lighting and appliances. Costs are estimated using January 2013 energy prices and include reductions from the PCE program.**

# How to Interpret the Profile: Data Sources, Definitions & Clarifications

4

**Data Source: 2007-2011 American Community Survey.**

**"Value" is determined by responses to the ACS question: "How much do you think this house and lot, apartment, or mobile home (and lot, if owned) would sell for if it were for sale?"**

**Household income includes all earnings from salaries, stocks, gifts, public assistance, etc.**

**Data Source: Median income comes from 2007-2011 ACS estimates; energy costs come from AHFC's Alaska Retrofit Information System (ARIS).**

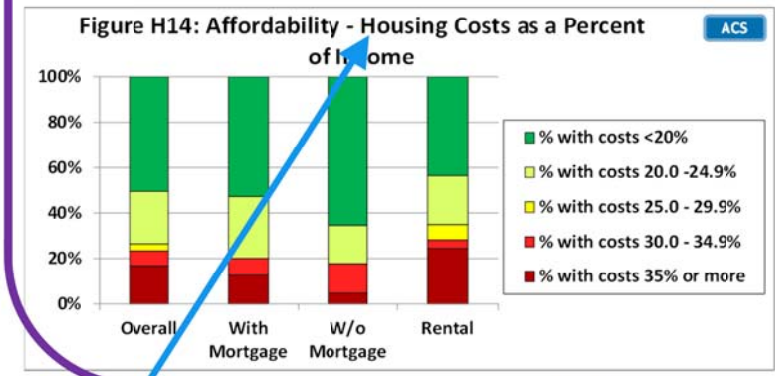
| Owner-occupied House with Mortgage, Median Value |
|---|
| $226,800 |

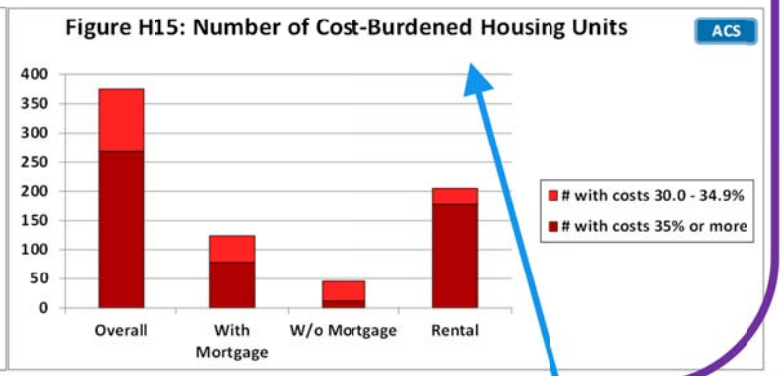
| Owner-ocupied House without a Mortgage, Median Value |
|---|
| $119,600 |

| Median Annual Household Income | |
|---|---|
| Housing Units | Household Income |
| All-occupied | $ 91,302 |
| Renter-occupied | $ 70,170 |
| Owner-occupied | $ 107,908 |
| w/ mortgage | $ 111,167 |
| w/o mortgage | $ 70,400 |

| Median Household Expenses | | |
|---|---|---|
| | Monthly | Annual |
| All-occupied | $ 1,369 | $ 16,428 |
| Gross rent | $ 1,201 | $ 14,412 |
| Owner-occupied | $ 1,610 | $ 19,320 |
| Housing units w/ mortgage | $ 1,854 | $ 22,248 |
| Housing units w/out a mortgage | $ 680 | $ 8,160 |

| Avg % of Median Income Spent on Energy | 8.8% |
|---|---|




**Rental housing costs: Contract rent, fuels, utilities.**

**Owner housing costs: Mortgage payments, property taxes, insurance, fuels, utilities, condo fees.**

**Households are considered "cost burdened" if they spend 30% or more of total household income on housing costs. Households spending more than this amount on housing costs may have difficulty affording basic necessities such as food, transportation, and medical care.**

| Census Area Profile for: | Aleutians West Census Area |
|---|---|

| ANCSA Region: | Aleut |
|---|---|

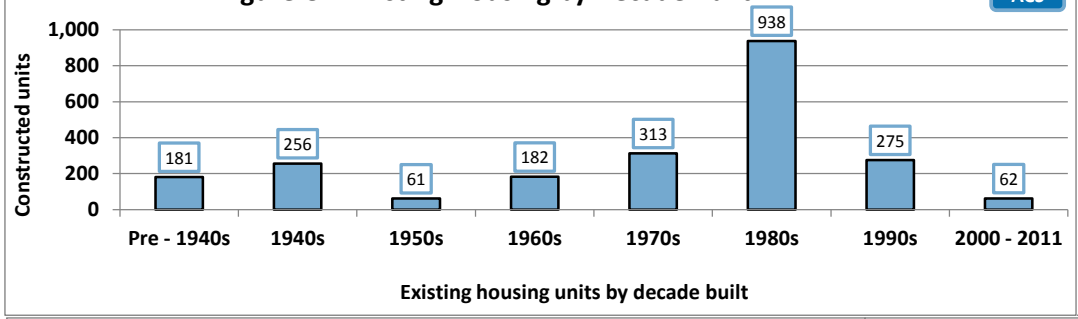
| Regional Housing Authority: | Aleutian Housing Authority |
|---|---|

| BEES Climate Zone (Heating Degree Day Range) | Zone 7 (9,000 - 12,600 HDD) |
|---|---|

## COMMUNITY - Aleutians West Census Area

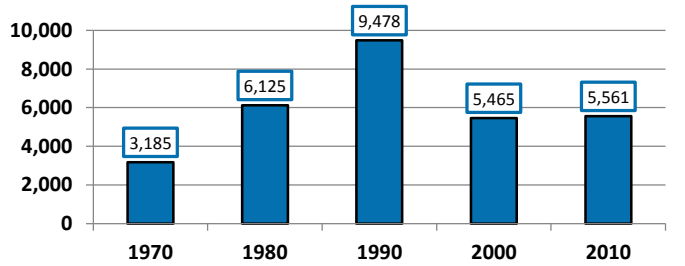
### Figure C1: Existing Housing by Decade Built

ACS




### Figure C2: Population

CEN




### Figure C3: Trends in Housing Unit Size

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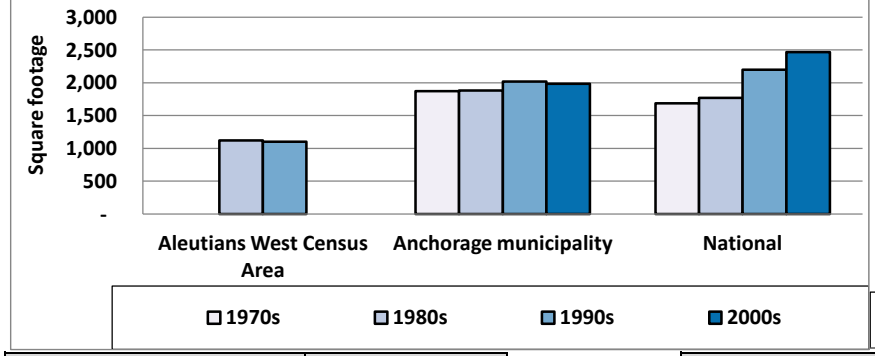
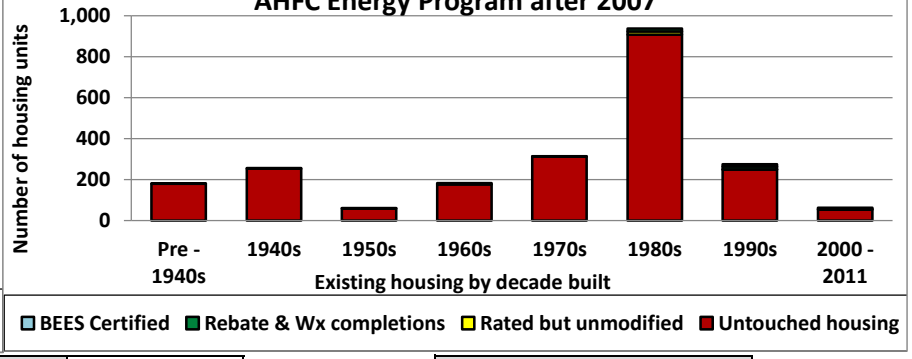



### Figure C4: Housing Units Completing an AHFC Energy Program after 2007

ARIS




| Houses Lacking Complete Plumbing or Kitchen Facilities | Households | |
|---|---|---|
| | Number | Percent |
| Lack complete plumbing | 60 | 5% |
| Lack complete kitchen | 56 | 5% |

| | |
|---|---|
| Avg Annual Energy Cost with PCE | $6,617 |
| Avg Annual Energy Cost without PCE | $8,269 |

| Weatherization Retrofits (funding increased 2008) | |
|---|---|
| Date Range | Units |
| 2008 -2011 | 22 |
| 2003-2007 | 18 |
| 1990-2002 | 1 |

| Estimated Total Annual Community Space Heating Fuel Use | | |
|---|---|---|
| Fuel Oil | 805,924 | (gallons) |
| Natural Gas | - | (ccf) |
| Electricity | 660,132 | (kWh) |
| Wood | 0 | (cords) |
| Propane | 501 | (gallons) |
| Coal | - | (tons) |

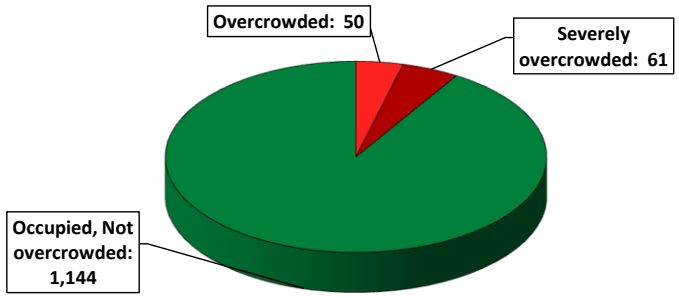
| Housing Need Indicators | Number of Units | % Occupied Housing |
|---|---|---|
| Overcrowded | 111 | 9% |
| Housing cost burdened | 253 | 20% |
| 1 Star Homes | 245 | 20% |

| Housing Stock Estimates | Number of Units |
|---|---|
| All Housing | 2,268 |
| All Occupied Housing | 1,255 |
| All Vacant housing | 1,013 |
| Vacant Housing for Sale or Rent | 184 |

## OVERCROWDING & VENTILATION - Aleutians West Census Area

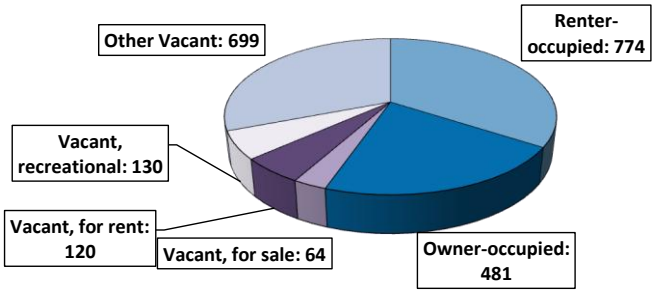
### Figure C5: Overcrowded Units

ACS



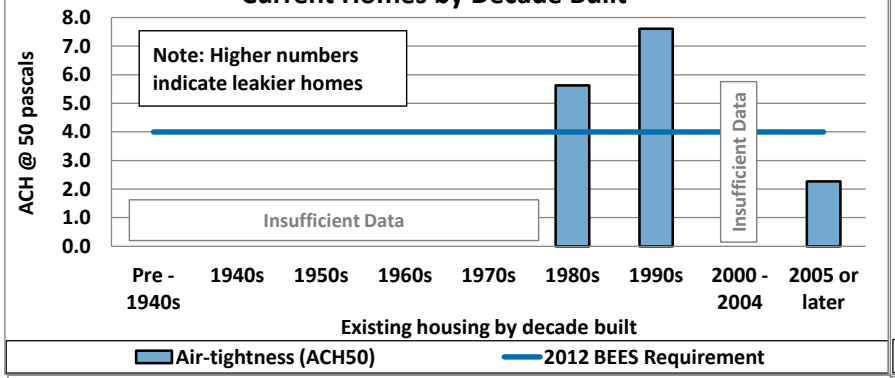

### Figure C6: Housing Occupancy

MIX



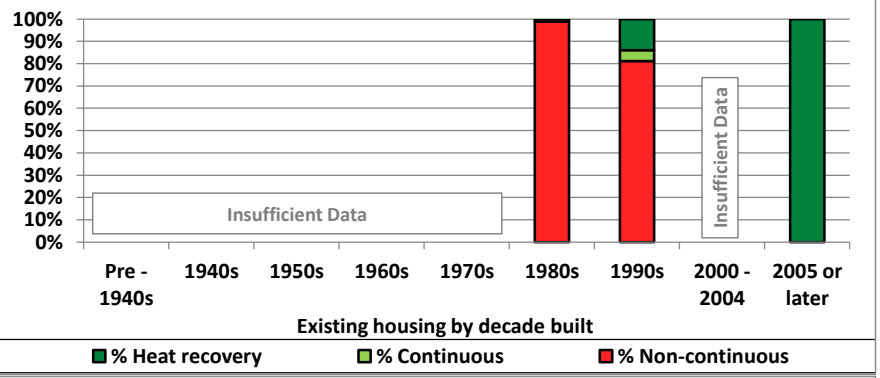

### Figure C7: Average Air-Tightness of Current Homes by Decade Built

ARIS



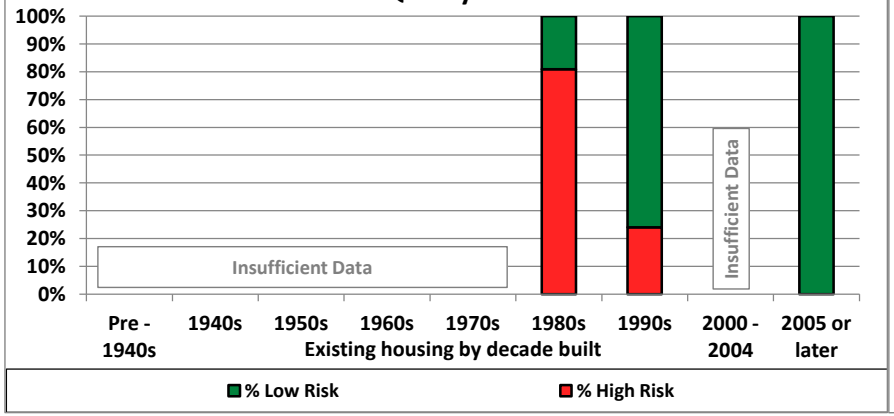

### Figure C8: Existing Ventilation Type by Decade Built

ARIS



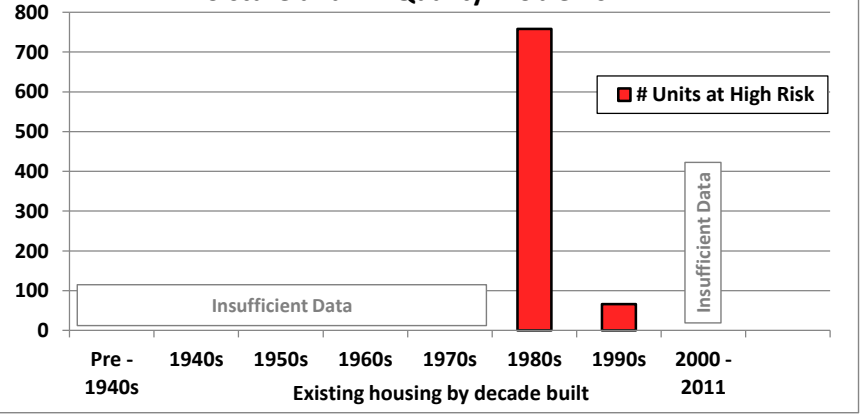

### Figure C9: Percent of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS




### Figure C10: Quantity of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS



| ENERGY - Aleutians West Census Area | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Current Aleutians West Census Area Housing Energy Characteristics By Decade Built | | | | | | | | | | | | |
| Current Residential Units by Year Built | # of AkWarm Records | Avg Energy Rating Stars | Avg Energy Rating Points | Avg Sq. Feet | Avg. Annual Energy Cost (with PCE) | Avg. Annual Energy Use (million BTUs) | Avg Ann Energy by End Use (million Btus) | | | Avg. EUI (kBTUS /SF) | Avg. ECI ($ / SF) | Avg. Home Heating Index |
| | | | | | | | Space Heating | DHW | Appliances | | | |
| OVERALL | 88 | 3-star | 71.4 | 966 | $6,617 | 114 | 65 | 28 | 21 | 120 | $5.74 | 8.1 |
| Pre- 1940 | 2 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| 1940- 49 | 4 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| 1950- 59 | 2 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| 1960- 69 | 6 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| 1970- 79 | 1 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| 1980- 89 | 61 | 4-star plus | 85.8 | 1,123 | $5,079 | 93 | 38 | 36 | 19 | 80 | $4.46 | 3.8 |
| 1990- 99 | 54 | 4-star | 80.8 | 1,100 | $5,421 | 120 | 72 | 24 | 19 | 125 | $5.58 | 7.5 |
| 2000- 2004 | 3 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| 2005 or later | 7 | 5-star plus | 92.6 | 1,033 | $4,906 | 100 | 51 | 27 | 22 | 97 | $4.75 | 4.5 |

**Figure C11: Current Average Energy Use Intensity and Average Square Footage by Decade Built**

ARIS

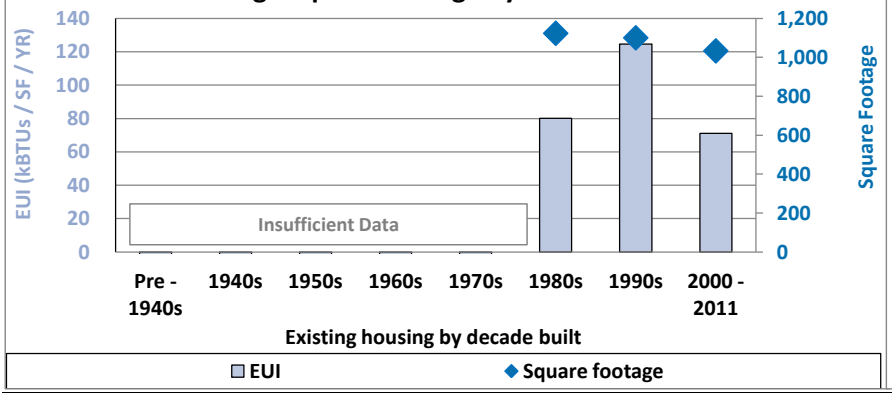
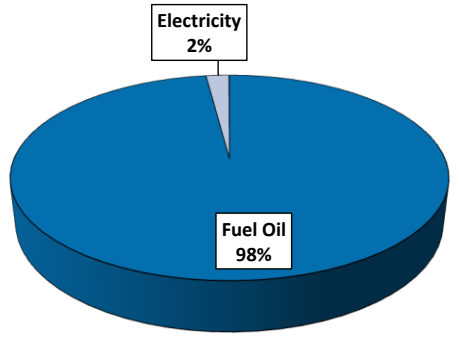



**Figure C12: Percent of Total Residential Space Heating Energy by Fuel Type**

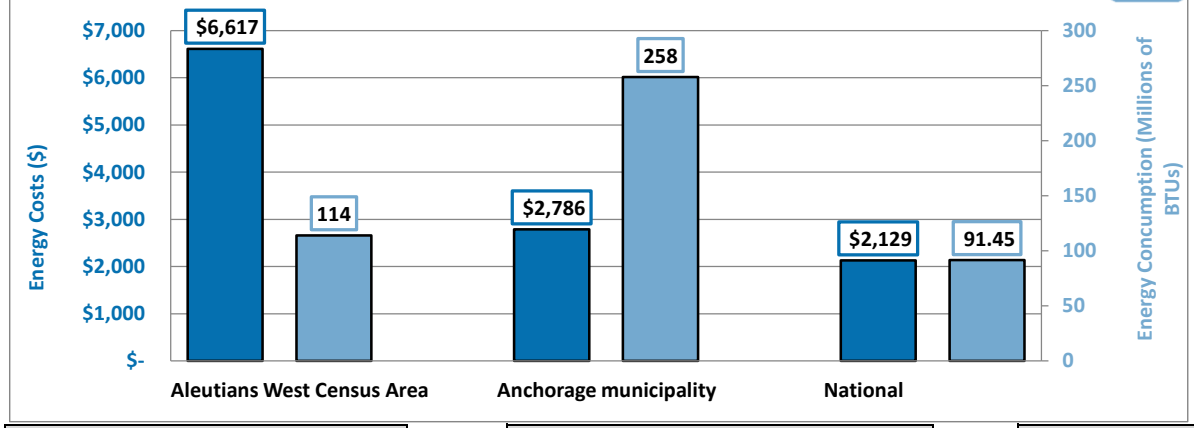
ARIS




| Current Aleutians West Census Area Housing Envelope Characteristics By Decade Built | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Current Residential Units by Year Built | # of AkWarm Records | ACH 50 | Ceiling R | Above Grade Wall R | Below Grade Wall R | Above Grade Floor R | On Grade Floor R | Below Grade Floor R | Door U | Garage Door U | Window U |
| OVERALL | 88 | 8.3 | 23 | 16 | 15 | 16 | 3 | 2 | 0.26 | 0.34 | 0.46 |
| Pre- 1940 | 2 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| 1940- 49 | 4 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| 1950- 59 | 2 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| 1960- 69 | 6 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| 1970- 79 | 1 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| 1980- 89 | 61 | 5.6 | 37 | 23 | NR | 31 | NR | NR | 0.23 | NR | 0.35 |
| 1990- 99 | 54 | 7.6 | 36 | 20 | 21 | 14 | 3 | 3 | 0.24 | NR | 0.41 |
| 2000- 2004 | 3 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| 2005 or later | 7 | 2.3 | 40 | 24 | 20 | NR | NR | 2 | 0.25 | NR | 0.29 |
| | | | | | | | | | | | |
| BEES 2009 - Climate Zone 7 | | 7.0 | 38 | 21 | 15 | 38 | 15 | 15 | 0.33 | 0.33 | 0.33 |
| BEES 2012 - Climate Zone 7 | | 4.0 | 43 | 25 | 15 | 38 | 15 | 15 | 0.30 | 0.30 | 0.30 |

## Figure C13: Average Annual Home Energy Cost and Use

MIX




| Housing Information | Avg Household Size (# of people) |
|---|---|
| All-occupied | 2.4 |
| Owner-occupied | 2.7 |
| Renter-occupied | 2.3 |

| Median Value of Owner-occupied House with Mortgage |
|---|
| $249,000 |

| Median Value of Owner-occupied House without a Mortgage |
|---|
| $103,800 |

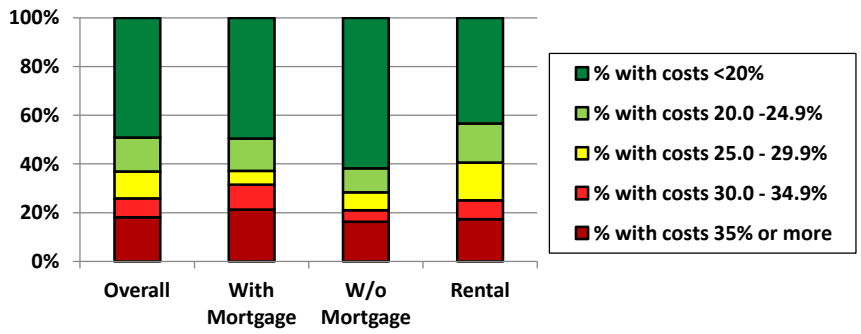
| Median Annual Household Income | |
|---|---|
| Housing Units | Household Income |
| All-occupied | $ 75,179 |
| Renter-occupied | $ 69,853 |
| Owner-occupied | $ 79,417 |
| w/ mortgage | $ 110,000 |
| w/o mortgage | $ 55,625 |

| Median Housing Costs | | |
|---|---|---|
| | Monthly | Annual |
| All-occupied | $ 1,098 | $ 13,176 |
| Gross rent | $ 1,197 | $ 14,364 |
| Owner-occupied | $ 878 | $ 10,536 |
| Housing units w/ mortgage | $ 1,700 | $ 20,400 |
| Housing units w/out a mortgage | $ 548 | $ 6,576 |

| Avg % of Median Income Spent on Energy | 8.8% |
|---|---|

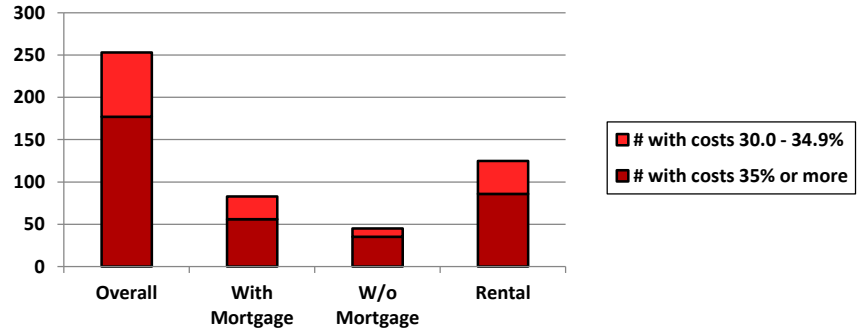
## Figure C14: Affordability - Housing Costs as a Percent of Income

ACS




## Figure C15: Number of Cost-Burdened Housing Units

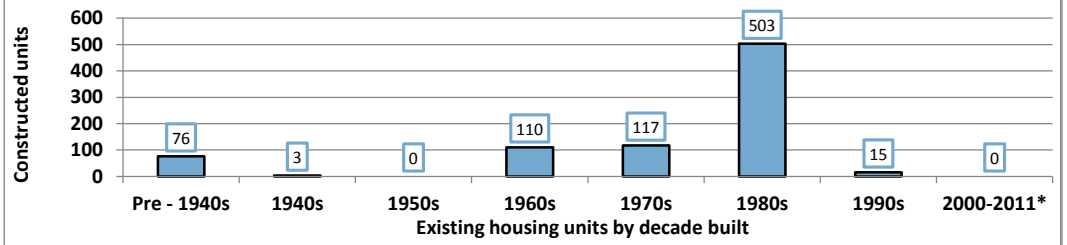
ACS



| Community Profile for: | Adak city | ANCSA Region | Aleut | Climate Zone | 7 |
|---|---|---|---|---|---|

## Figure L1: Existing Housing by Decade Built

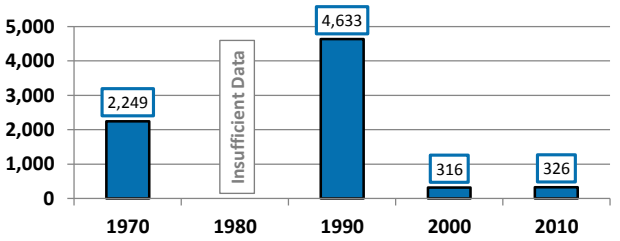
ACS




*Modified by data from Regional Housing Authorities

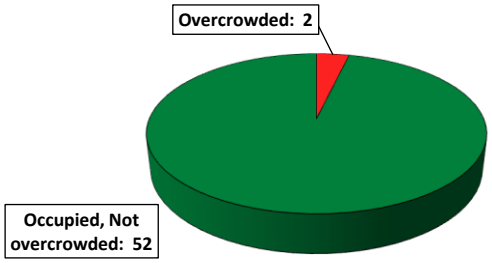
## Figure L2: Population

CEN



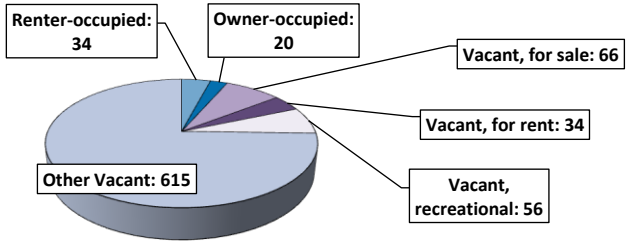

## Figure L3: Overcrowded Units

ACS



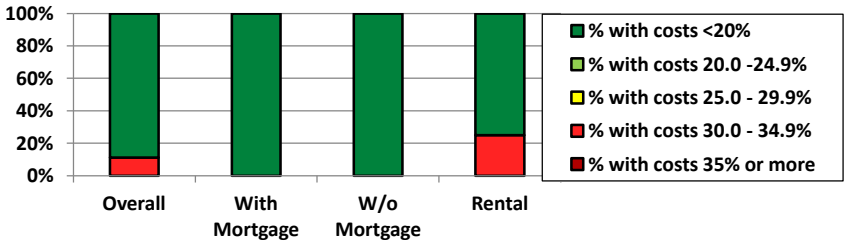

## Figure L4: Housing Occupancy

MIX



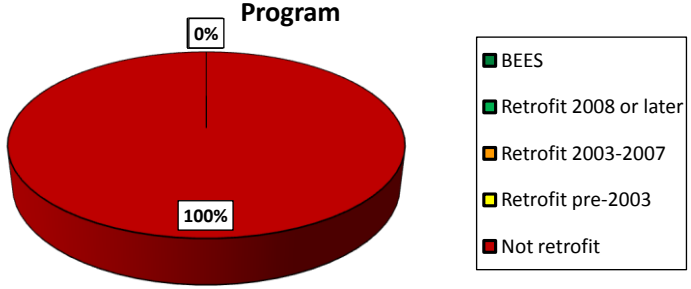

## Figure L5: Affordability - Housing Costs as a Percent of Income

ACS




## Figure L6: Housing Units Completing an AHFC Energy Program

ARIS




| Owner-occupied House with Mortgage, Median Value |
|---|
| NR |

| Owner-occupied House without a Mortgage, Median Value |
|---|
| $20,500 |

| Median Annual Household Income | |
|---|---|
| Housing Units | Household Income |
| All-occupied | $ 66,667 |
| Renter-occupied | $ 53,125 |
| Owner-occupied | $ 73,750 |
| w/ mortgage | NR |
| w/o mortgage | $ 95,313 |

| Median Housing Costs | | |
|---|---|---|
| | Monthly | Annual |
| All-occupied | $ 650 | $ 7,800 |
| Gross rent | $ 771 | $ 9,252 |
| Owner-occupied | $ 477 | $ 5,724 |
| Housing units w/ mortgage | NR | NR |
| Housing units w/out a mortgage | $ 465 | $ 5,580 |

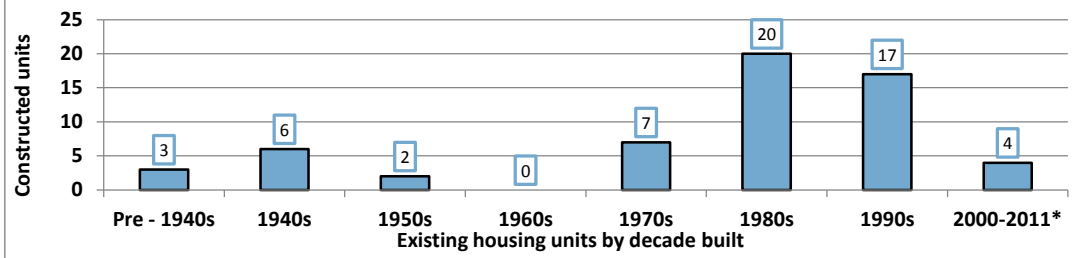
| Estimated Energy Prices as of January 2013 | |
|---|---|
| #1 Fuel oil cost ($ / gallon) | $ 4.62 |
| Electricity with PCE ($/kWh) | No PCE |
| Electricity without PCE ($/kWh) | $ 1.00 |

| Housing Stock Estimates | Number of Units |
|---|---|
| All Housing | 824 |
| All Occupied Housing | 54 |
| All Vacant housing | 770 |

| Community Profile for: | Atka city | ANCSA Region | Aleut |
|---|---|---|---|
| Regional Housing Authority | Aleutian Housing Authority | BEES Climate Zone (Heating Degree Days) | Zone 7 (9,054 HDD) |

## Figure M1: Existing housing by decade built

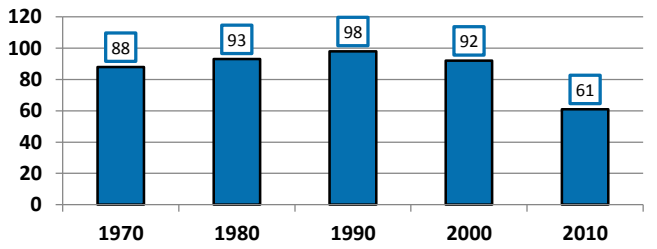
ACS




*Modified by data from Regional Housing Authorities

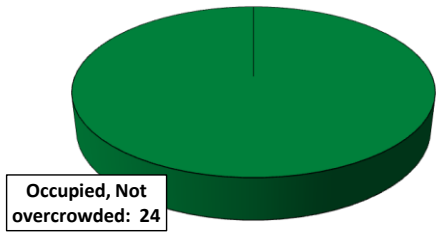
## Figure M2: Population

CEN



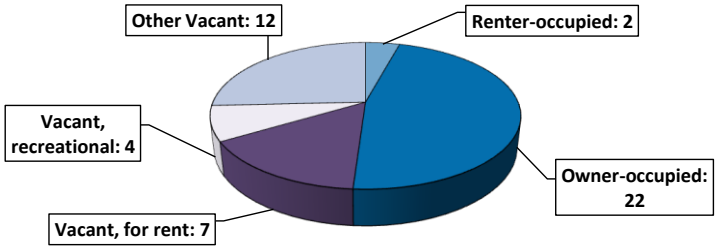

## Figure M3: Overcrowded Units

ACS




## Figure M4: Housing Occupancy

MIX




**Atka city Housing Energy Characteristics**

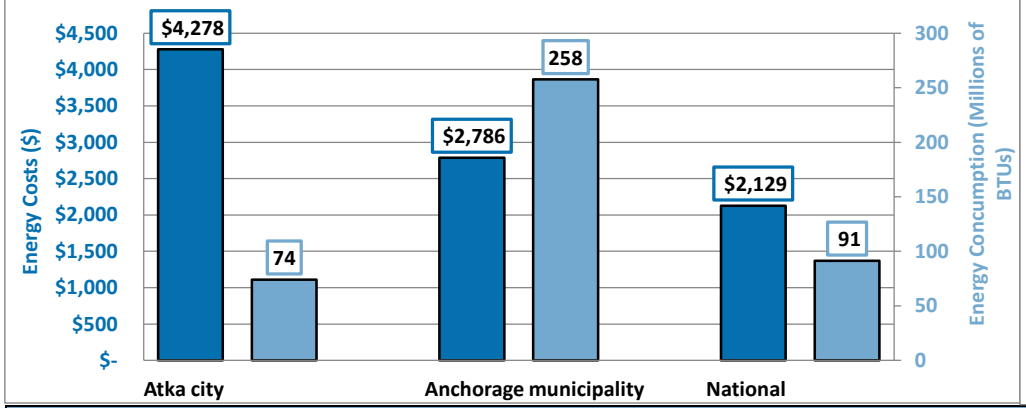
| Residential Unit Categories | Number of records | Avg Energy Rating Stars | Avg Energy Rating Points | Avg Sq. Feet | Avg. Ann Energy Cost w/ PCE | Avg. Ann Energy Use (million BTUs) | Avg. EUI (kBTUS/SF | Avg. ECI | Avg. Home Heating Index | % Tight Homes, No Ventilation |
|---|---|---|---|---|---|---|---|---|---|---|
| Pre-retrofit units | 23 | 4-star plus | 87.0 | 1,023 | $ 4,593 | 80 | 79 | $4.54 | 3.4 | 91% |
| Retrofit units | 12 | 5-star plus | 92.2 | 1,002 | $ 3,360 | 57 | 57 | $3.35 | 2.1 | 100% |
| New construction | 0 | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Overall | 35 | 5-star | 88.3 | 1,018 | $ 4,278 | 74 | 73 | $4.23 | 3.1 | 94% |

**Atka city Housing Envelope Characteristics**

| Residential Unit Categories | Number of Records | ACH 50 | Ceiling R | Above Grade Wall R | Below Grade Wall R | Above Grade Floor R | On Grade Floor R | Below Grade Floor R | Door U | Garage Door U | Window U |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Pre-retrofit units | 23 | 6.7 | 31 | 21 | NR | 33 | NR | NR | 0.19 | NR | 0.38 |
| Retrofit units | 12 | 3.4 | 46 | 22 | NR | 35 | NR | NR | 0.16 | NR | 0.47 |
| New construction | 0 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Overall | 35 | 5.9 | 34 | 21 | NR | 33 | NR | NR | 0.18 | NR | 0.40 |
| BEES 2009 | | 7.0 | 38 | 21 | 15 | 38 | 15 | 15 | 0.33 | 0.33 | 0.33 |
| BEES 2012 | | 4.0 | 43 | 25 | 15 | 38 | 15 | 15 | 0.30 | 0.30 | 0.30 |

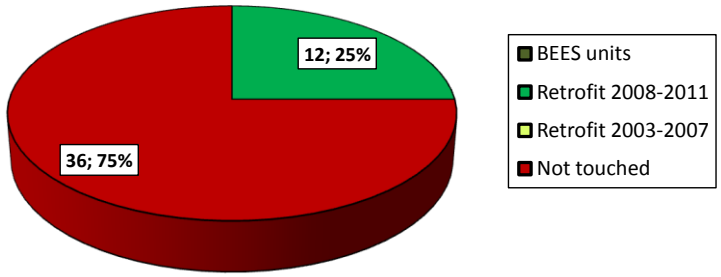
## Figure M5: Average Annual Home Energy Costs and Use

MIX




## Figure M6: Housing Units Completing an AHFC Energy Program

ARIS




**AFFORDABILITY - Atka city**

| Owner occupied House with Mortgage, Median Value |
|---|
| $112,500 |

| Owner-ocupied House without a Mortgage, Median Value |
|---|
| $111,100 |

| Median Annual Household Income | |
|---|---|
| **Housing Units** | **Household Income** |
| All-occupied | $ 96,071 |
| Renter-occupied | NR |
| Owner-occupied | $ 96,429 |
| w/ mortgage | NR |
| w/o mortgage | $ 96,071 |

| Median Housing Costs | | |
|---|---|---|
| | **Monthly** | **Annual** |
| All-occupied | $ 713 | $ 8,556 |
| Gross rent | NR | NR |
| Owner-occupied | $ 494 | $ 5,928 |
| Housing units w/ mortgage | NR | NR |
| Housing units w/out a mortgage | $ 481 | $ 5,772 |

| Estimated Energy Prices as of January 2013 | |
|---|---|
| #1 Fuel oil cost ($ / gallon) | $ 7.43 |
| Electricity with PCE ($/kWh) | $ 0.21 |
| Electricity without PCE ($/kWh) | $ 0.66 |

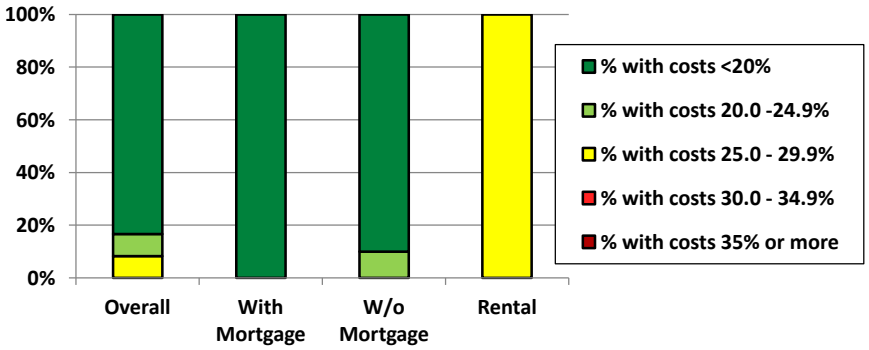
| Average Annual Energy Cost | |
|---|---|
| **With PCE** | $4,278 |
| **Without PCE** | $6,608 |

| Avg % Median Income spent on Energy | 4.5% |
|---|---|

| Housing Stock Estimates | Number of Units |
|---|---|
| All Housing | 47 |
| All Occupied Housing | 24 |
| All Vacant housing | 23 |
| Vacant Housing for Sale/Rent | 7 |

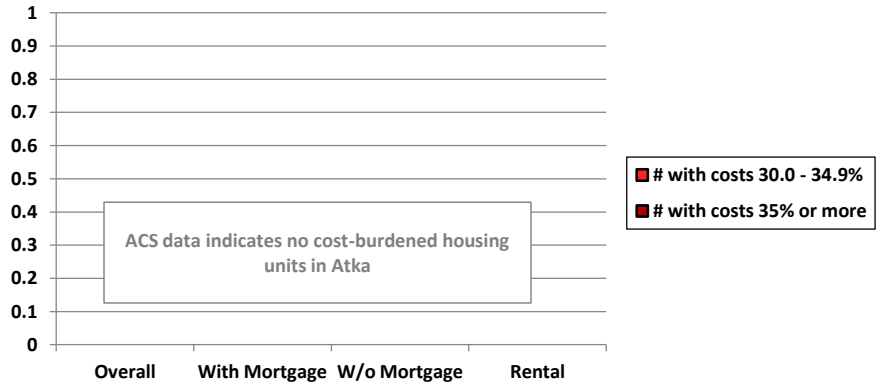
## Figure M7: Affordability - Housing Costs as a Percent of Income

ACS




## Figure M8: Number of Cost-Burdened Housing Units

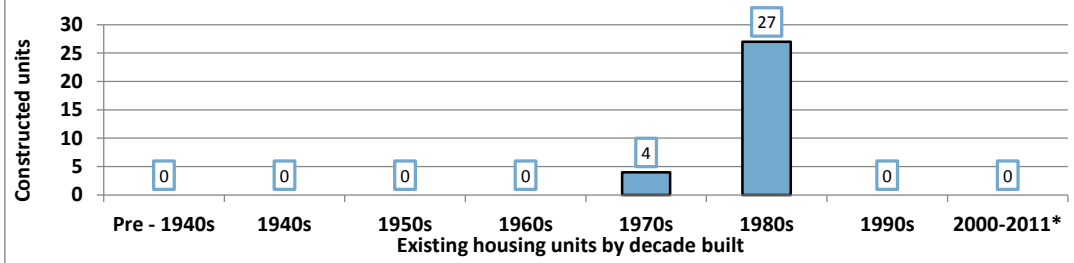
ACS



| Community Profile for: | Nikolski CDP | ANCSA Region | Aleut |
|---|---|---|---|
| Regional Housing Authority | Aleutian Housing Authority | BEES Climate Zone (Heating Degree Days) | Zone 7 (9,555 HDD) |

## Figure M1: Existing housing by decade built

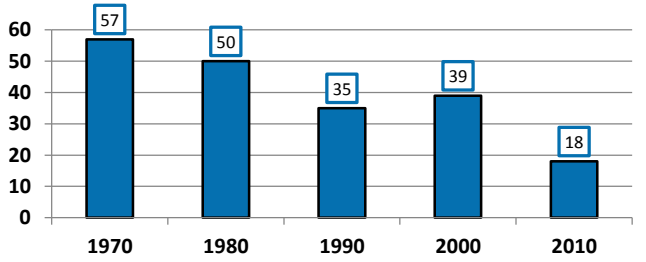
ACS




*Modified by data from Regional Housing Authorities

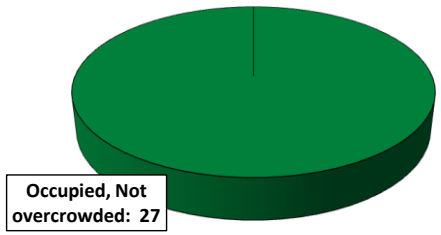
## Figure M2: Population

CEN



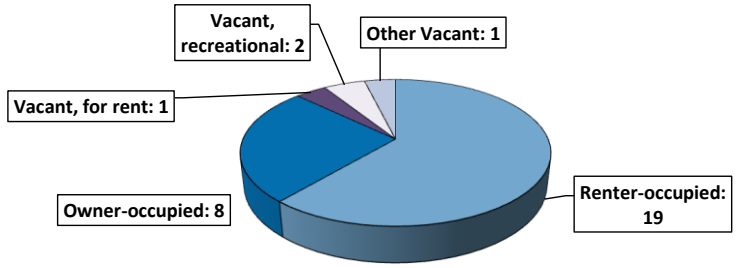

## Figure M3: Overcrowded Units

ACS




## Figure M4: Housing Occupancy

MIX




**Nikolski CDP Housing Energy Characteristics**

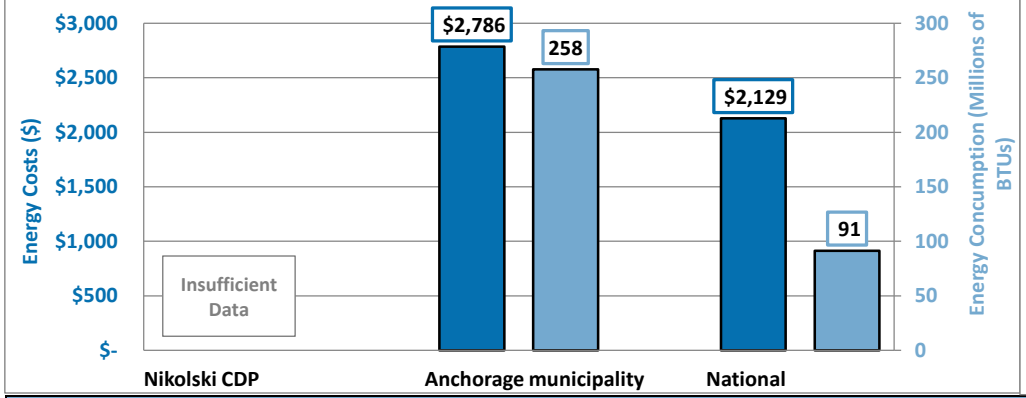
| Residential Unit Categories | Number of records | Avg Energy Rating Stars | Avg Energy Rating Points | Avg Sq. Feet | Avg. Ann Energy Cost | Avg. Ann Energy Use (million BTUs) | Avg. EUI (kBTUS/SF | Avg. ECI | Avg. Home Heating Index | % Tight Homes, No Ventilation |
|---|---|---|---|---|---|---|---|---|---|---|
| Pre-retrofit units | 0 | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Retrofit units | 13 | 5-star | 90.4 | 886 | $ 3,722 | 66 | 74 | $4.20 | 2.4 | 0% |
| New construction | 0 | NR | NR | NR | NR | NR | NR | NR | NR | NR |

**Nikolski CDP Housing Envelope Characteristics**

| Residential Unit Categories | Number of Records | ACH 50 | Ceiling R | Above Grade Wall R | Below Grade Wall R | Above Grade Floor R | On Grade Floor R | Below Grade Floor R | Door U | Garage Door U | Window U |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Pre-retrofit units | 0 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Retrofit units | 13 | 5.2 | 46 | 16 | NR | 35 | NR | NR | 0.31 | NR | 0.42 |
| New construction | 0 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| | | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| BEES 2009 | | 7.0 | 38 | 21 | 15 | 38 | 15 | 15 | 0.33 | 0.33 | 0.33 |
| BEES 2012 | | 4.0 | 43 | 25 | 15 | 38 | 15 | 15 | 0.30 | 0.30 | 0.30 |

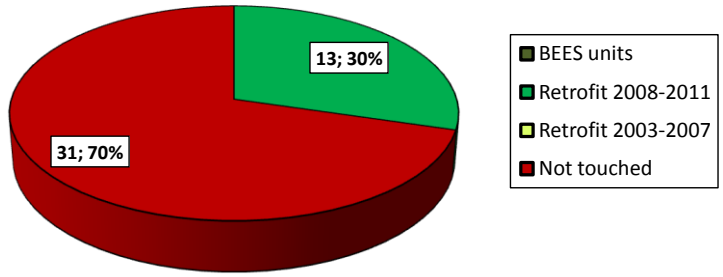
## Figure M5: Average Annual Home Energy Costs and Use

MIX




## Figure M6: Housing Units Completing an AHFC Energy Program

ARIS




**AFFORDABILITY - Nikolski CDP**

| Owner occupied House with Mortgage, Median Value |
|---|
| $34,000 |

| Owner-ocupied House without a Mortgage, Median Value |
|---|
| NR |

| Median Annual Household Income | |
|---|---|
| Housing Units | Household Income |
| All-occupied | $ 16,125 |
| Renter-occupied | $ 15,250 |
| Owner-occupied | $ 17,000 |
| w/ mortgage | $ 17,000 |
| w/o mortgage | NR |

| Median Housing Costs | | |
|---|---|---|
| | Monthly | Annual |
| All-occupied | $ 655 | $ 7,860 |
| Gross rent | $ 665 | $ 7,980 |
| Owner-occupied | $ 580 | $ 6,960 |
| Housing units w/ mortgage | $ 580 | $ 6,960 |
| Housing units w/out a mortgage | NR | NR |

| Estimated Energy Prices as of January 2013 | |
|---|---|
| Electricity with PCE ($/kWh) | $ 0.19 |
| Electricity without PCE ($/kWh) | $ 0.60 |

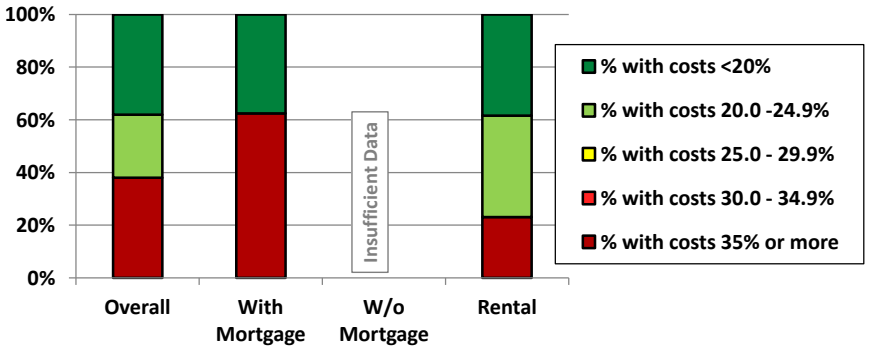
| Average Annual Energy Cost | |
|---|---|
| With PCE | NO PCE |
| Without PCE | $2,588 |

| Avg % Median Income spent on Energy | 16.1% |
|---|---|

| Housing Stock Estimates | Number of Units |
|---|---|
| All Housing | 31 |
| All Occupied Housing | 27 |
| All Vacant housing | 4 |
| Vacant Housing for Sale/Rent | 1 |

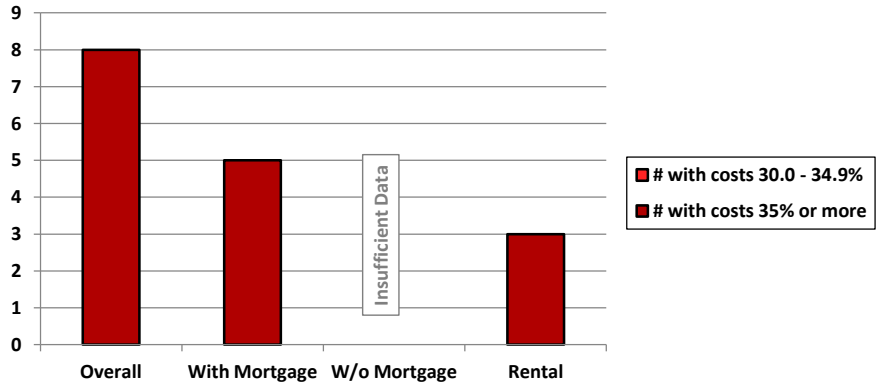
## Figure M7: Affordability - Housing Costs as a Percent of Income

ACS




## Figure M8: Number of Cost-Burdened Housing Units

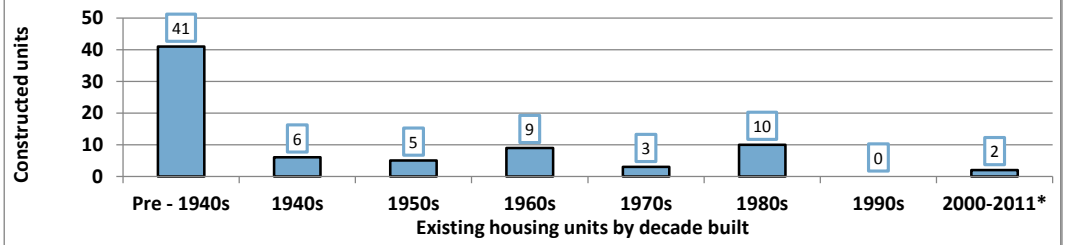
ACS



| Community Profile for: | St. George city | ANCSA Region | Aleut | Climate Zone | 7 |
|---|---|---|---|---|---|

## Figure L1: Existing Housing by Decade Built

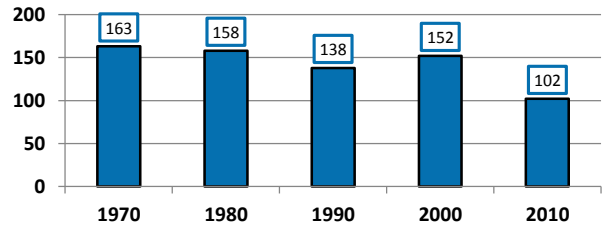
ACS




*Modified by data from Regional Housing Authorities

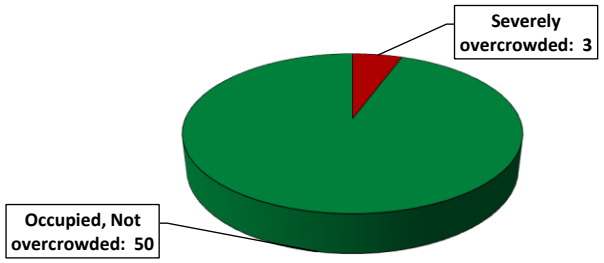
## Figure L2: Population

CEN



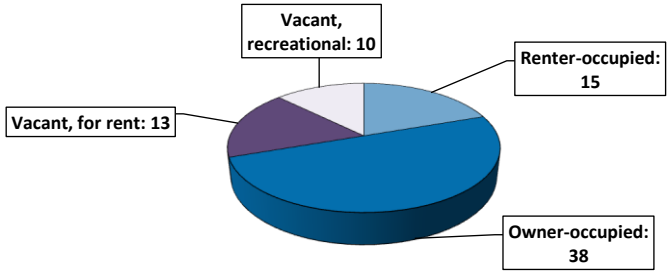

## Figure L3: Overcrowded Units

ACS




## Figure L4: Housing Occupancy

MIX

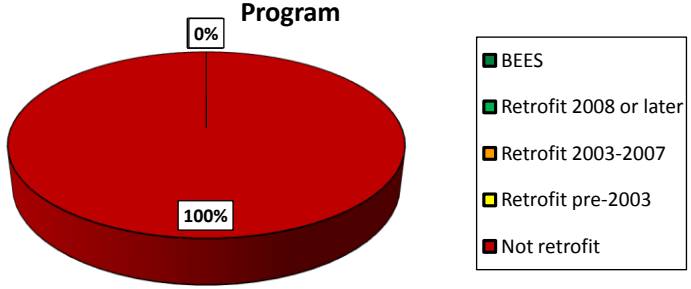



## Figure L5: Affordability - Housing Costs as a Percent of Income

ACS


## Figure L6: Housing Units Completing an AHFC Energy Program

ARIS




| Owner-occupied House with Mortgage, Median Value |
|---|
| $80,000 |

| Owner-occupied House without a Mortgage, Median Value |
|---|
| $78,300 |

| Median Annual Household Income | |
|---|---|
| Housing Units | Household Income |
| All-occupied | $ 46,750 |
| Renter-occupied | $ 11,875 |
| Owner-occupied | $ 65,833 |
| w/ mortgage | $ 72,500 |
| w/o mortgage | $ 49,000 |

| Median Housing Costs | | |
|---|---|---|
| | Monthly | Annual |
| All-occupied | $ 706 | $ 8,472 |
| Gross rent | $ 775 | $ 9,300 |
| Owner-occupied | $ 713 | $ 8,556 |
| Housing units w/ mortgage | $ 950 | $ 11,400 |
| Housing units w/out a mortgage | $ 400 | $ 4,800 |

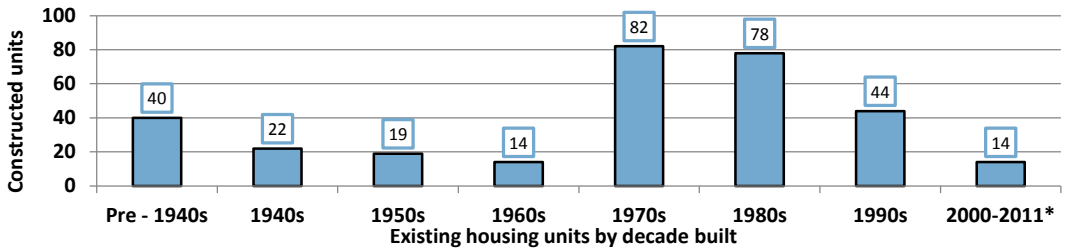
| Estimated Energy Prices as of January 2013 | |
|---|---|
| #1 Fuel oil cost ($ / gallon) | $ 5.76 |
| Electricity with PCE ($/kWh) | $ 0.30 |
| Electricity without PCE ($/kWh) | $ 0.86 |

| Housing Stock Estimates | Number of Units |
|---|---|
| All Housing | 76 |
| All Occupied Housing | 53 |
| All Vacant housing | 23 |

| Community Profile for: | St. Paul city | ANCSA Region | Aleut |
|---|---|---|---|
| Regional Housing Authority | Aleutian Housing Authority | BEES Climate Zone (Heating Degree Days) | Zone 7 (11,178 HDD) |

## Figure M1: Existing housing by decade built

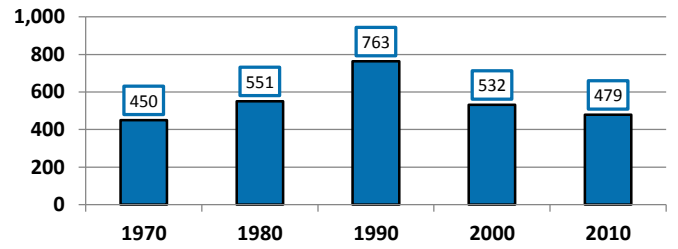
ACS




*Modified by data from Regional Housing Authorities

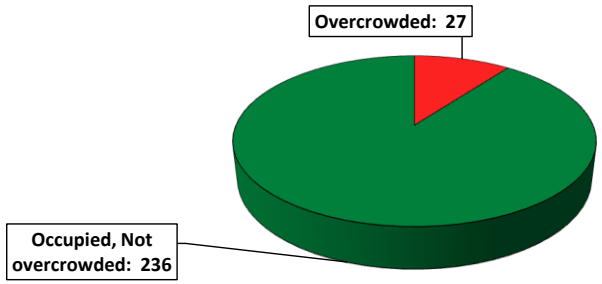
## Figure M2: Population

CEN



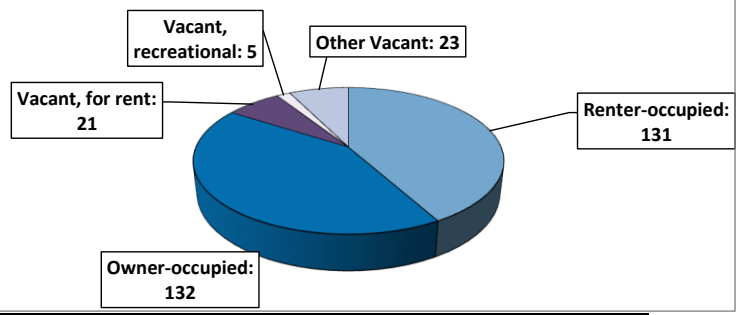

## Figure M3: Overcrowded Units

ACS




## Figure M4: Housing Occupancy

MIX




**St. Paul city Housing Energy Characteristics**

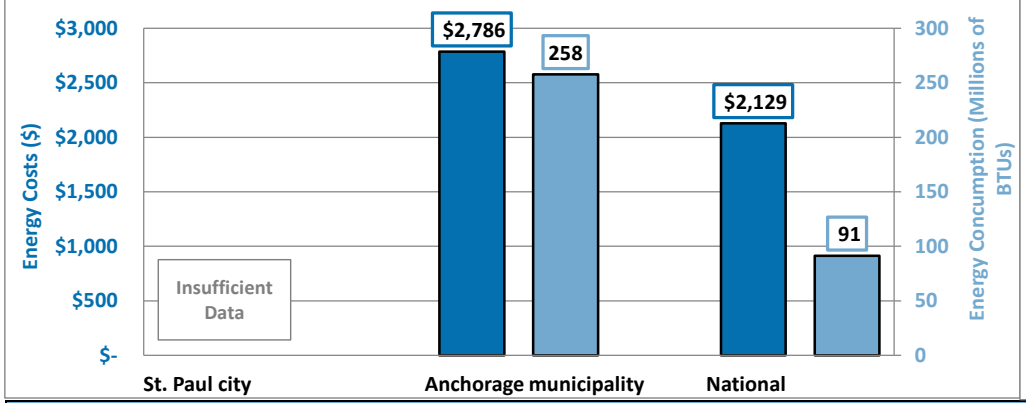
| Residential Unit Categories | Number of records | Avg Energy Rating Stars | Avg Energy Rating Points | Avg Sq. Feet | Avg. Ann Energy Cost | Avg. Ann Energy Use (million BTUs) | Avg. EUI (kBTUS/SF | Avg. ECI | Avg. Home Heating Index | % Tight Homes, No Ventilation |
|---|---|---|---|---|---|---|---|---|---|---|
| Pre-retrofit units | 10 | 4-star | 78.1 | 744 | $ 5,123 | 116 | 157 | $6.94 | 9.3 | 0% |
| Retrofit units | 10 | 5-star | 88.8 | 738 | $ 3,538 | 77 | 105 | $4.80 | 5.2 | 0% |
| New construction | 9 | 5-star | 91.2 | 1,105 | $ 5,478 | 114 | 103 | $4.94 | 5.0 | 0% |

**St. Paul city Housing Envelope Characteristics**

| Residential Unit Categories | Number of Records | ACH 50 | Ceiling R | Above Grade Wall R | Below Grade Wall R | Above Grade Floor R | On Grade Floor R | Below Grade Floor R | Door U | Garage Door U | Window U |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Pre-retrofit units | 10 | 10.5 | 39 | 21 | 30 | 12 | NR | 2 | 0.16 | NR | 0.39 |
| Retrofit units | 10 | 6.2 | 39 | 21 | 30 | 12 | NR | 2 | 0.16 | NR | 0.39 |
| New construction | 9 | 2.7 | 39 | 24 | 18 | NR | NR | 2 | 0.23 | NR | 0.32 |
| | | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| BEES 2009 | | 7.0 | 38 | 21 | 15 | 38 | 15 | 15 | 0.33 | 0.33 | 0.33 |
| BEES 2012 | | 4.0 | 43 | 25 | 15 | 38 | 15 | 15 | 0.30 | 0.30 | 0.30 |

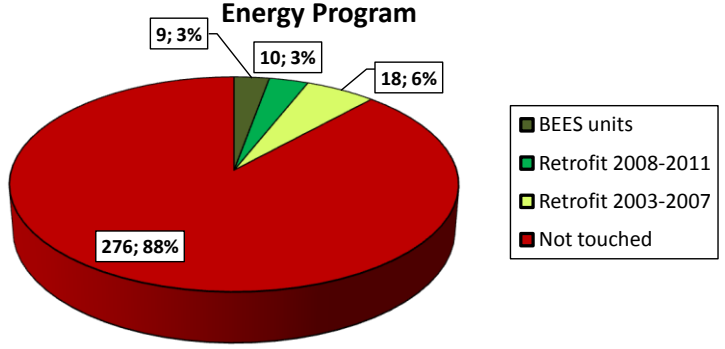
## Figure M5: Average Annual Home Energy Costs and Use

MIX




## Figure M6: Housing Units Completing an AHFC Energy Program

ARIS




**AFFORDABILITY - St. Paul city**

| Owner occupied House with Mortgage, Median Value |
|---|
| $183,300 |

| Owner-ocupied House without a Mortgage, Median Value |
|---|
| $74,000 |

| Median Annual Household Income | |
|---|---|
| **Housing Units** | **Household Income** |
| All-occupied | $ 40,982 |
| Renter-occupied | $ 36,964 |
| Owner-occupied | $ 42,500 |
| w/ mortgage | $ 53,333 |
| w/o mortgage | $ 38,750 |

| Median Housing Costs | | |
|---|---|---|
| | **Monthly** | **Annual** |
| All-occupied | $ 690 | $ 8,280 |
| Gross rent | $ 731 | $ 8,772 |
| Owner-occupied | $ 647 | $ 7,764 |
| Housing units w/ mortgage | $ 917 | $ 11,004 |
| Housing units w/out a mortgage | $ 533 | $ 6,396 |

| Estimated Energy Prices as of January 2013 | |
|---|---|
| #1 Fuel oil cost ($ / gallon) | $ 5.62 |
| Electricity with PCE ($/kWh) | $ 0.22 |
| Electricity without PCE ($/kWh) | $ 0.53 |

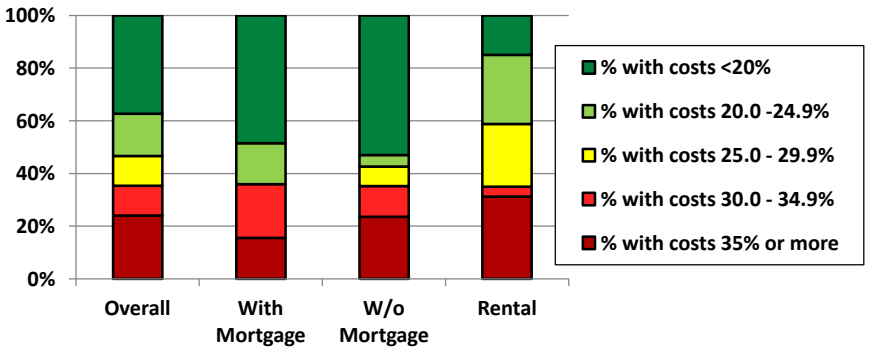
| Average Annual Energy Cost | |
|---|---|
| **With PCE** | NO PCE |
| **Without PCE** | $6,608 |

| Avg % Median Income spent on Energy | 16.1% |
|---|---|

| Housing Stock Estimates | Number of Units |
|---|---|
| All Housing | 313 |
| All Occupied Housing | 263 |
| All Vacant housing | 50 |
| Vacant Housing for Sale/Rent | 21 |

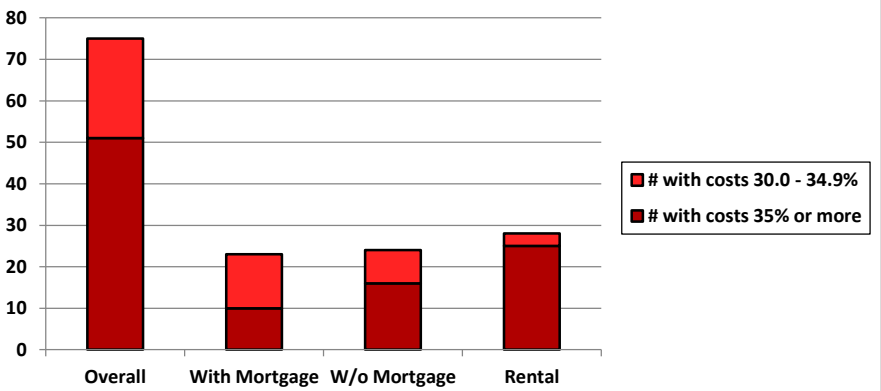
## Figure M7: Affordability - Housing Costs as a Percent of Income

ACS




## Figure M8: Number of Cost-Burdened Housing Units

ACS



| Community Profile for: | Unalaska city |
|---|---|

| ANCSA Region | Aleut |
|---|---|

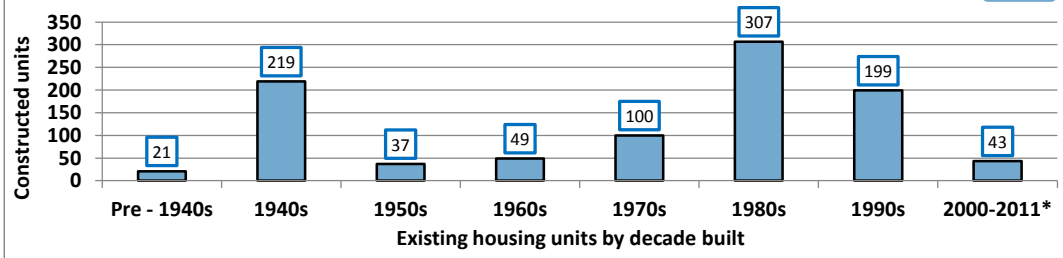
| Regional Housing Authority: | Aleutian Housing Authority |
|---|---|

| BEES Climate Zone (Heating Degree Days) | Zone 7 (9,197 HDD) |
|---|---|

## COMMUNITY - Unalaska city

### Figure H1: Existing Housing by Decade Built

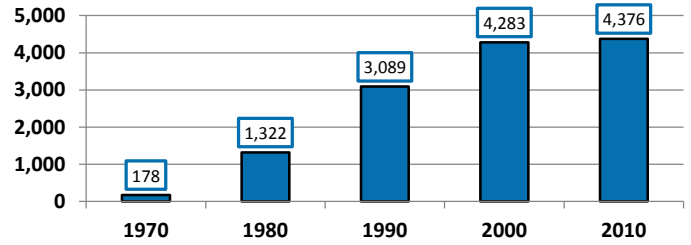
ACS




*Modified by data from Regional Housing Authorities

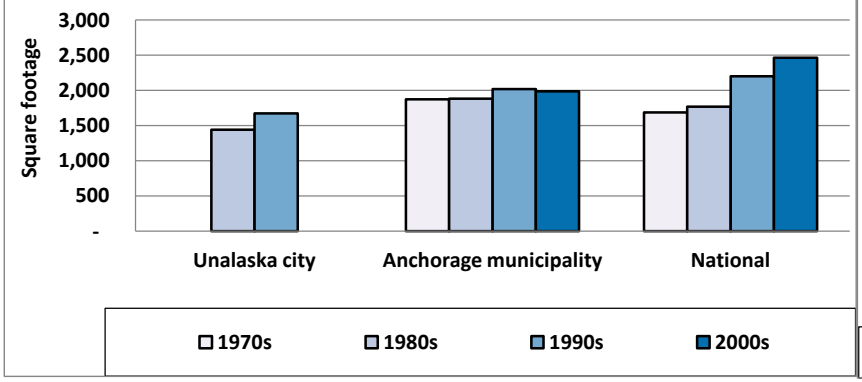
### Figure H2: Population

CEN



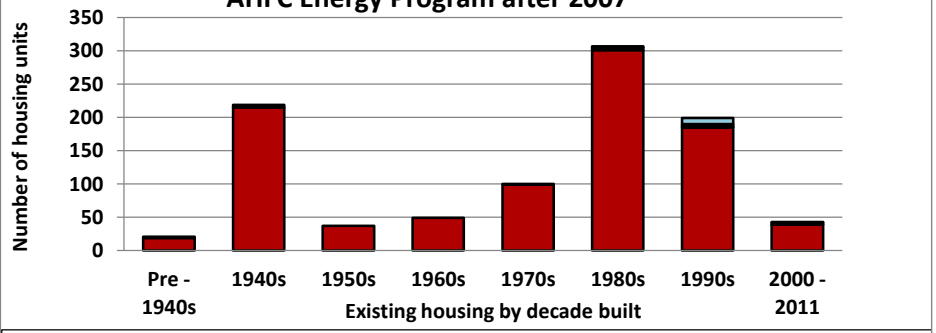

### Figure H3: Trends in Housing Unit Size

MIX




### Figure H4: Housing Units Completing an AHFC Energy Program after 2007

ARIS




| Houses Lacking Complete Plumbing or Kitchen Facilities | Households | |
|---|---|---|
| | Number | Percent |
| Lack complete plumbing | 41 | 5% |
| Lack complete kitchen | 36 | 4% |

| | |
|---|---|
| Avg Annual Energy Cost with PCE | $7,674 |
| Avg Annual Energy Cost without PCE | $8,953 |

| Weatherization Program Retrofits (funding increased in 2008) | |
|---|---|
| Date Range | Units |
| 2008-2011 | 0 |
| 2003-2007 | NR |
| 1990-2002 | NR |

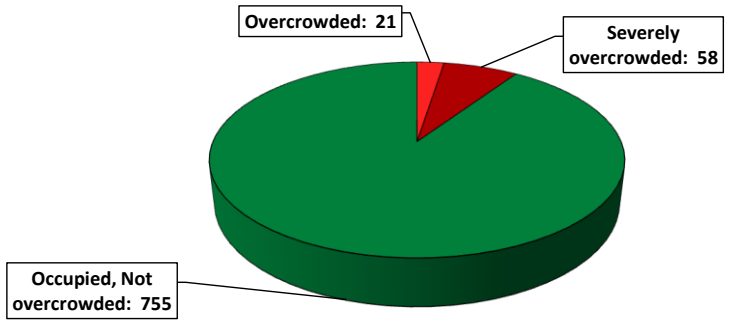
| Estimated Total Annual Community Space Heating Fuel Use | | |
|---|---|---|
| Fuel Oil | 680,603 | (gallons) |
| Nat Gas | - | (ccf) |
| Electricity | 773,823 | (kWh) |
| Wood | - | (cords) |
| Propane | 1,172 | (gallons) |
| Coal | - | (tons) |

| Estimated Energy Prices as of January 2013 | |
|---|---|
| #1 Fuel oil cost ($ / gallon) | $3.64 |
| Electricity with PCE ($/kWh) | $0.27 |
| Electricity cost without PCE ($/kWh) | $0.49 |
| | |

| Housing Stock Estimates | Number of Units |
|---|---|
| All Housing | 975 |
| All Occupied Housing | 834 |
| All Vacant housing | 141 |
| Vacant Housing for Sale or Rent | 31 |

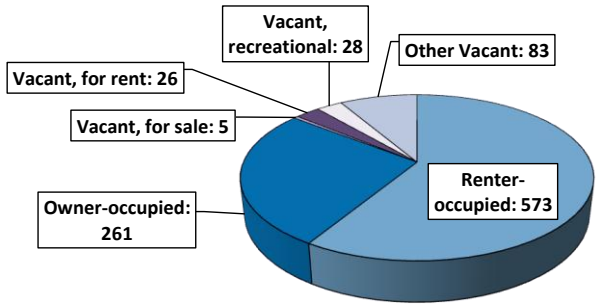
## Figure H5: Overcrowded Units

ACS



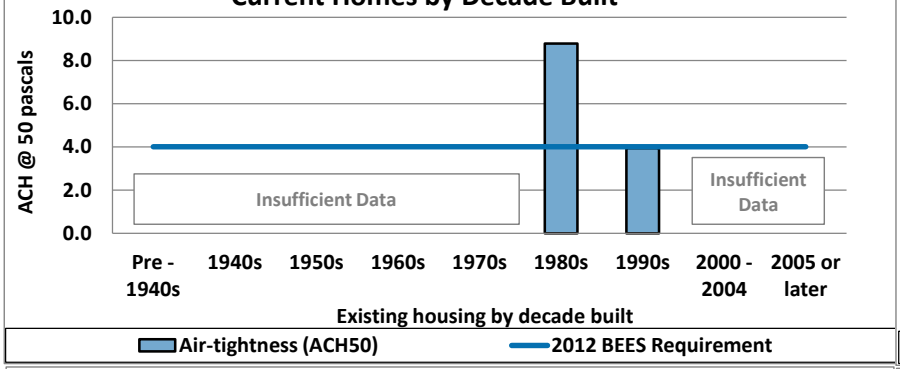

## Figure H6: Housing Occupancy

MIX



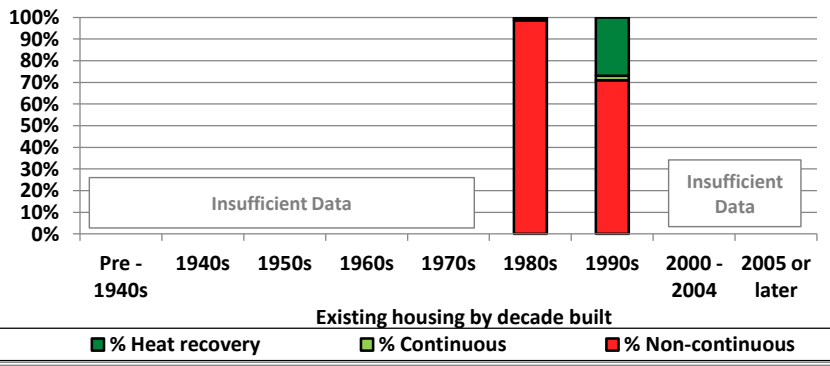

## Figure H7: Average Air-Tightness of Current Homes by Decade Built

ARIS



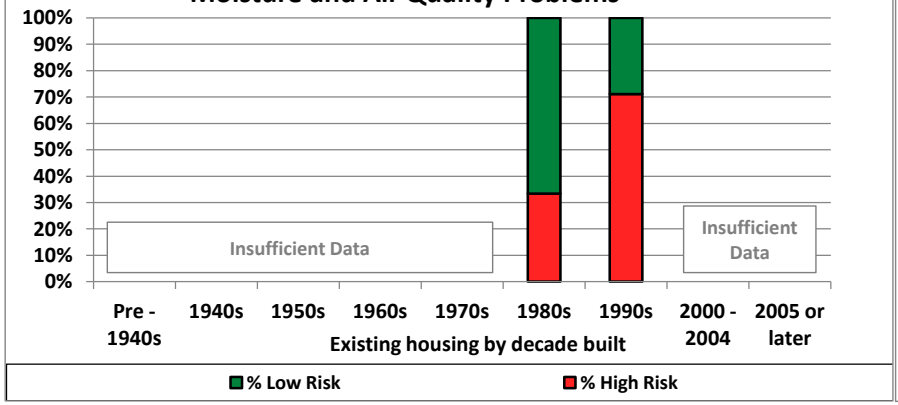

## Figure H8: Existing Ventilation Type by Decade Built

ARIS



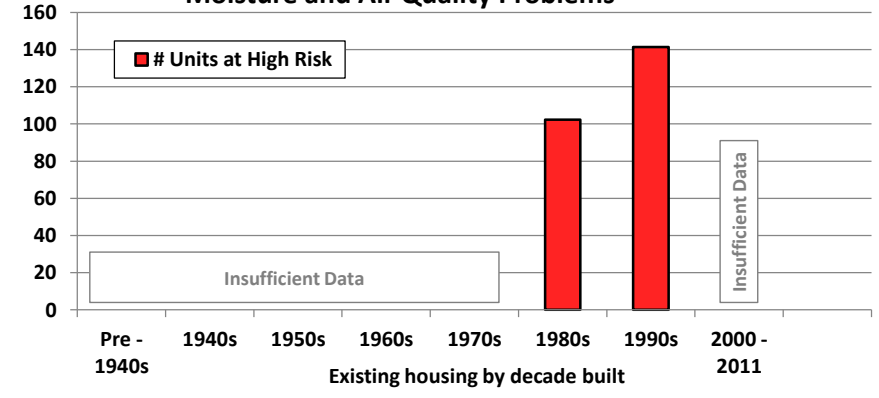

## Figure H9: Percent of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS




## Figure H10: Quantity of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS



| ENERGY - Unalaska city | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Current Unalaska city Housing Energy Characteristics By Decade Built | | | | | | | | | | | | |
| Current Residential Units by Year Built | Number of Records | Avg Energy Rating Stars | Avg Energy Rating Points | Avg Sq. Feet | Avg. Annual Energy Cost (with PCE) | Avg. Annual Energy Use (million BTUs) | Avg Ann Energy by End Use (million Btus) | | | Avg. EUI (kBTUS/SF) | Avg. ECI ($ / SF) | Avg. Home Heating Index |
| | | | | | | | Space Heating | DHW | Appliances | | | |
| OVERALL | 37 | 2-star plus | 67.9 | 1,469 | $ 7,674 | 161 | 109 | 23 | 27 | 123 | $ 5.73 | 9.9 |
| Pre- 1940 | 2 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| 1940- 49 | 4 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| 1950- 59 | 0 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| 1960- 69 | 0 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| 1970- 79 | 1 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| 1980- 89 | 12 | 3-star | 69.8 | 1,441 | $ 7,886 | 156 | 104 | 26 | 26 | 107 | $ 5.58 | 8.0 |
| 1990- 99 | 31 | 4-star | 82.8 | 1,672 | $ 6,219 | 134 | 75 | 26 | 27 | 80 | $ 3.71 | 5.3 |
| 2000- 2004 | 3 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| 2005 or later | 1 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |

**Figure H11: Current Average Energy Use Intensity and Average Square Footage by Decade Built**

ARIS

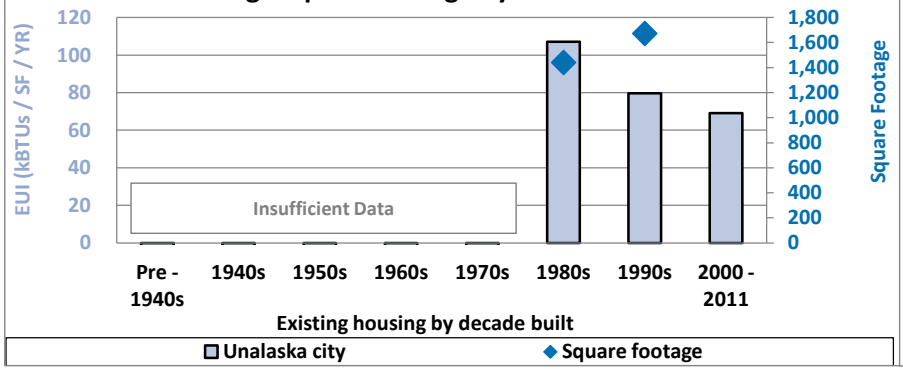
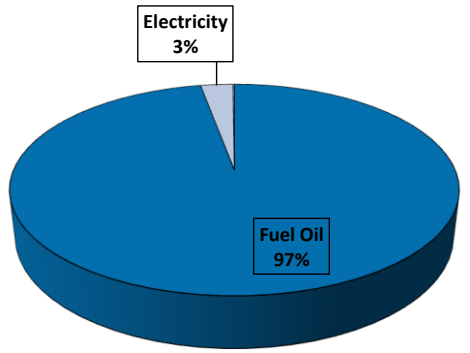



**Figure H12: Percent of Total Residential Space Heating Energy by Fuel Type**

ARIS

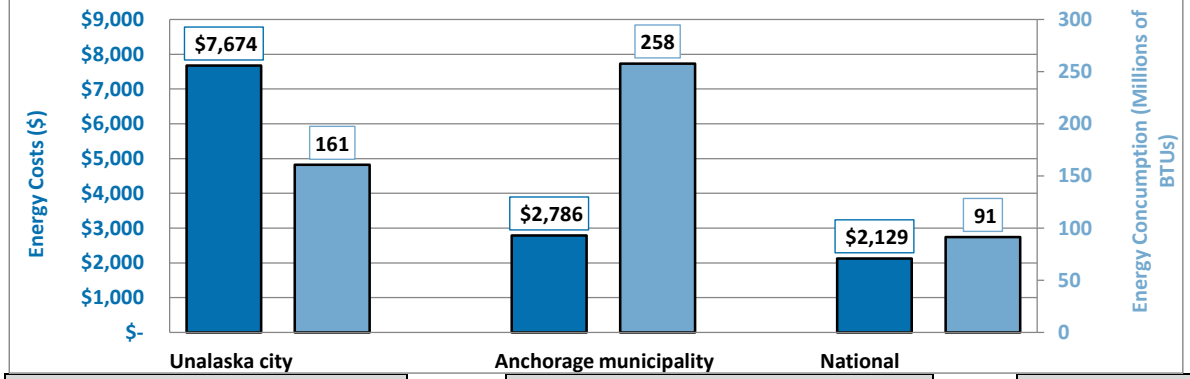



| Current Unalaska city Housing Envelope Characteristics By Decade Built | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Current Residential Units by Year Built | Number of Records | ACH 50 | Ceiling R | Above Grade Wall R | Below Grade Wall R | Above Grade Floor R | On Grade Floor R | Below Grade Floor R | Door U | Garage Door U | Window U |
| OVERALL | 37 | 8.3 | 17 | 12 | 12 | 13 | 3 | 2 | 0.35 | 0.34 | 0.54 |
| Pre- 1940 | 2 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| 1940- 49 | 4 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| 1950- 59 | 0 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| 1960- 69 | 0 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| 1970- 79 | 1 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| 1980- 89 | 12 | 8.8 | 25 | 15 | NR | 17 | NR | NR | 0.37 | NR | 0.56 |
| 1990- 99 | 31 | 3.9 | 30 | 18 | 14 | 16 | NR | 3 | 0.39 | NR | 0.48 |
| 2000- 2004 | 3 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| 2005 or later | 1 | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| BEES 2009 - Climate Zone 7 | 7.0 | 38 | 21 | 15 | 38 | 15 | 15 | 0.33 | 0.33 | 0.33 |
| BEES 2012 - Climate Zone 7 | 4.0 | 43 | 25 | 15 | 38 | 15 | 15 | 0.30 | 0.30 | 0.30 |

## Figure H13: Average Annual Home Energy Costs and Use

MIX




| Housing Information | Avg Household Size (# of people) |
|---|---|
| All-occupied | 2.4 |
| Owner-occupied | 2.6 |
| renter-occupied | 2.4 |

| Owner-occupied House with Mortgage, Median Value |
|---|
| $294,500 |

| Owner-ocupied House without a Mortgage, Median Value |
|---|
| $320,800 |

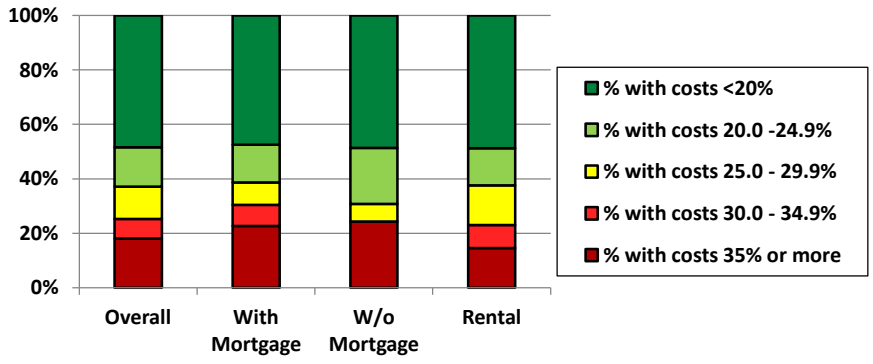
| Median Annual Household Income | |
|---|---|
| Housing Units | Household Income |
| All-occupied | $ 85,455 |
| Renter-occupied | $ 80,694 |
| Owner-occupied | $ 107,188 |
| w/ mortgage | $ 133,393 |
| w/o mortgage | $ 56,000 |

| Median Housing Costs | | |
|---|---|---|
| | Monthly | Annual |
| All-occupied | $ 1,406 | $ 16,872 |
| Gross rent | $ 1,346 | $ 16,152 |
| Owner-occupied | $ 1,644 | $ 19,728 |
| Housing units w/ mortgage | $ 2,319 | $ 27,828 |
| Housing units w/out a mortgage | $ 595 | $ 7,140 |

| Avg % of Median Income Spent on Energy | 9.0% |
|---|---|

## Figure H14: Affordability - Housing Costs as a Percent of Income

ACS




## Figure H15: Number of Cost-Burdened Housing Units

ACS