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Sealaska Corporation Dashboard¹

Population: The Alaska Department of Labor and Workforce Development's current (2012) population estimate for the Sealaska Corporation ANCSA region is 74,423, an increase of 4% from 2000.

Housing Units: There are currently 33,596 housing units in the Sealaska Corporation ANCSA region. Of these, 28,663 are occupied, 1,161 vacant units are for sale or rent, and the remaining 3,772 are seasonal or otherwise vacant units (Profile Figure R6).

Energy: The average home in the Sealaska Corporation ANCSA region is 1,576 square feet and uses 120,000 BTUs of energy per square foot annually. This is 12% less than the statewide average of 137,000 BTUs per square foot per year.

Energy Costs: Using AKWarm estimates, the average annual energy cost for homes in the Sealaska Corporation ANCSA region is \$5,440, which is approximately 2 times more than the cost in Anchorage, and 2.6 times more than the national average (Profile Figure R13).

Energy Programs: Approximately 16% of the occupied housing units in the Sealaska Corporation ANCSA region have completed either the Home Energy Rebate or Weatherization programs or have received BEES certification since 2008, compared to 21% statewide (Profile Figure R12).

Housing Quality: Within the current housing stock, newer homes have better energy performance. On average, homes built before 1940 are currently rated at 1-star plus compared to a current average rating of 3-star plus for homes built after 2000.

Air-tightness: Within the current housing stock, newer homes are tighter. On average, homes built in the last decade meet the 2009 BEES standard of 7 air-changes per hour at 50 pascals (ACH50). In contrast, homes built in the 1940s are 2.2 times leakier than those built since 2000 (Profile Figure R7).

Ventilation: An estimated 11,597 occupied housing units (or 40%) in the Sealaska Corporation ANCSA region 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 R9-R10).

Overcrowding: Four percent of occupied units are estimated to be either overcrowded (3%) or severely overcrowded (1%). This is comparable to the national average and makes the Sealaska Corporation ANCSA region the least overcrowded ANCSA region in the state.

Affordability: According to American Community Survey (ACS) data, approximately 31% of households in the Sealaska Corporation spend 30% or more of total household income on reported housing costs, including rent, water and sewer utilities, and energy costs. Using AKWarm estimates, the average annual energy costs constitute approximately 8% of census median area income for occupied housing.

¹ Figures referenced in the Dashboard are located in the ANCSA Region profile.

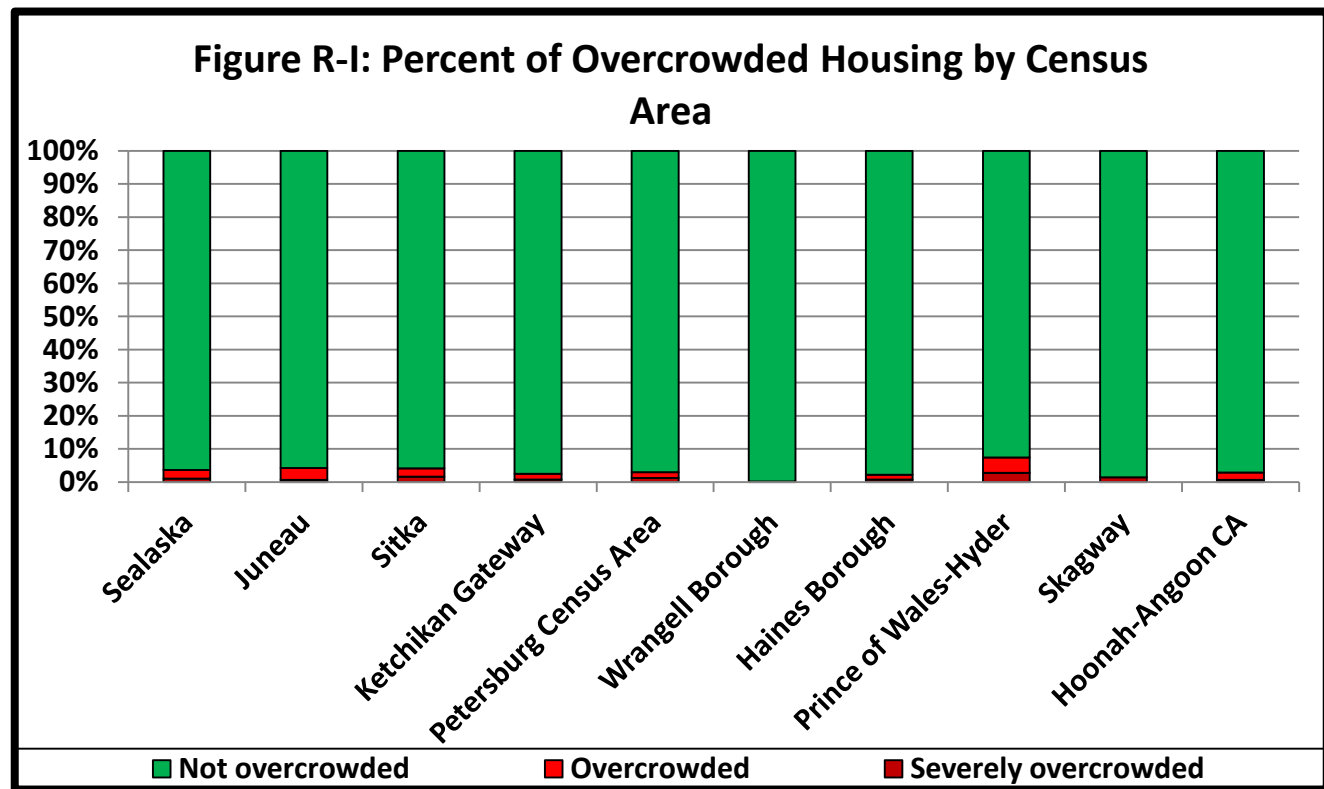
Sealaska Corporation Summary

Community

The Sealaska Corporation ANCSA region covers the southeastern panhandle of Alaska, bordering Canada to the east and the Gulf of Alaska to the west. Average home sizes in the region vary from a low of 927 square feet in the community of Hoonah to a high of 1,875 square feet in the community of Wrangell.

Overcrowding

The Sealaska region as a whole has the least amount of overcrowding of all ANCSA regions. As shown in Figure R-I, overcrowding rates vary among the census areas within the region from a low of 0.2% in the Wrangell City and Borough to a high of 7% in the Prince of Wales-Hyder census area. By community, overcrowding varies slightly more than by census area, from an estimated 0% in the community of Gustavus to a high of 25 in Hollis with more than one person per room. The six most populous communities within Sealaska range from an estimated 0% to 4% of households considered to be overcrowded.



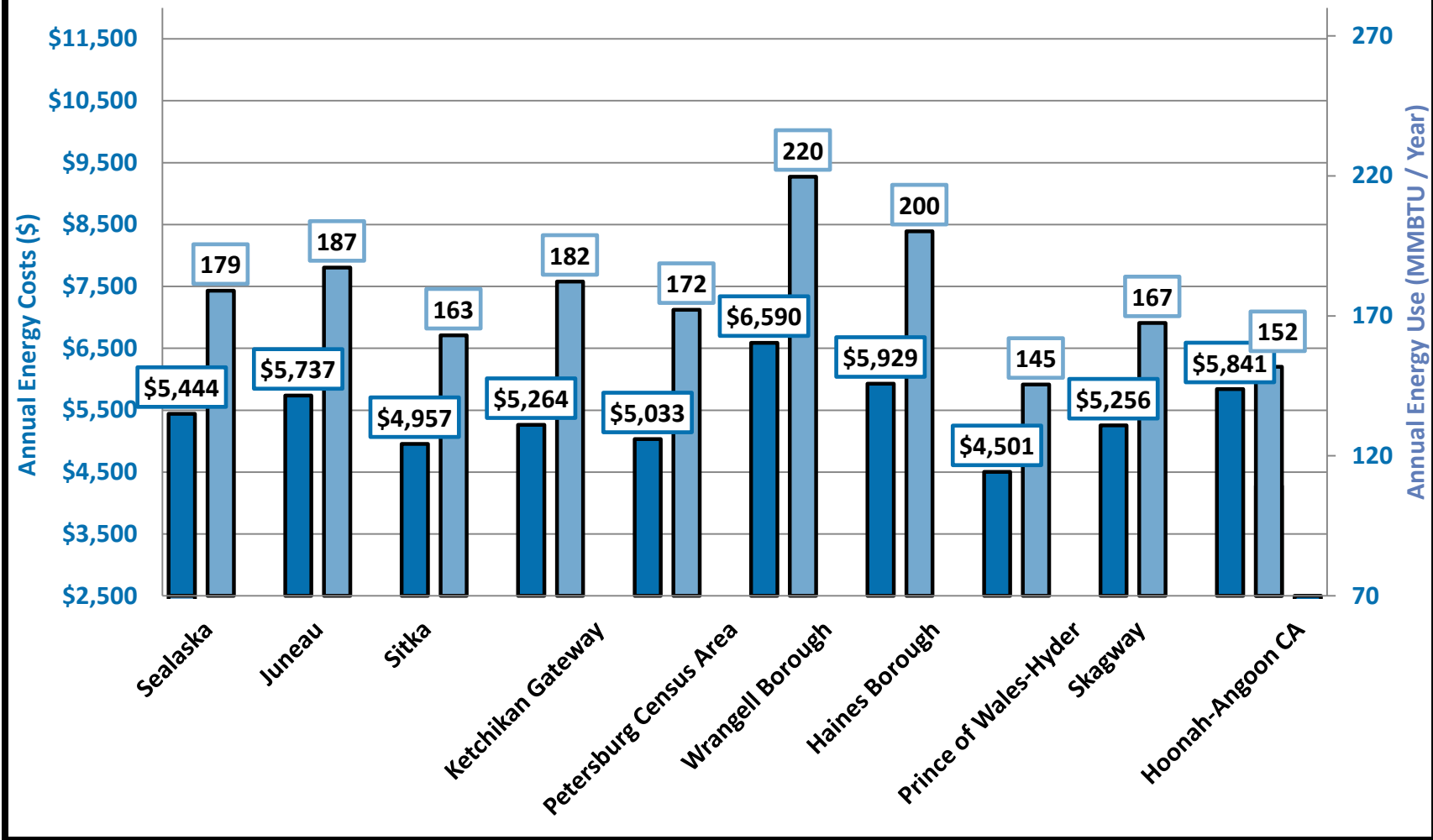
Approximately 3% of housing in the region is vacant and available for sale or rent. Availability varies by community from a low of approximately no available housing in Naukati Bay to a high of 49% of housing in Whitestone Logging Camp available for sale or rent.

Energy²

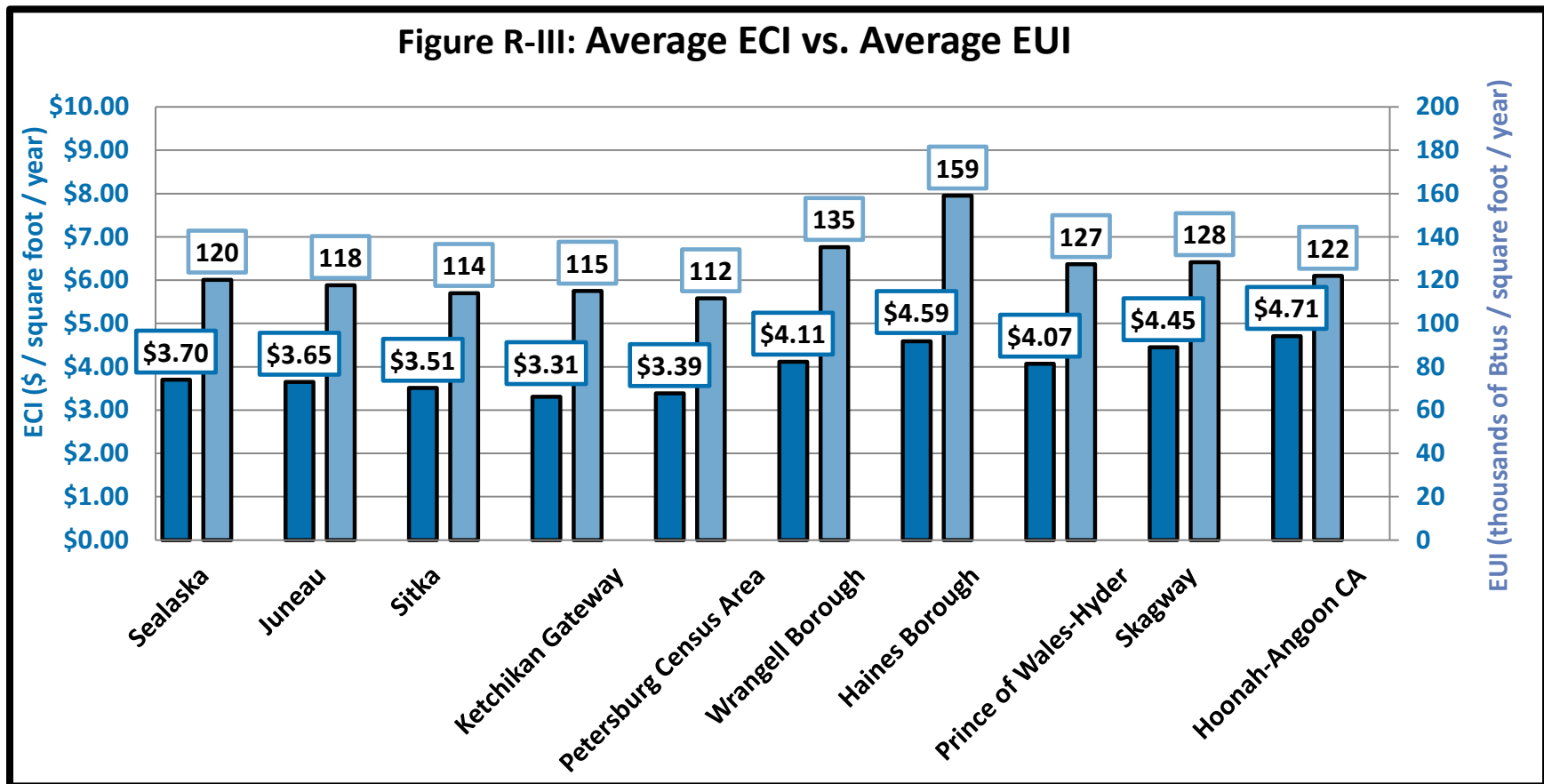
As shown in Figure R-II, the average annual energy cost per household in the Sealaska region is \$5,444. Figure R-II also gives the average energy cost and use for the region's census areas. The lowest average annual energy use (145 million Btus) and costs (\$4,501) in the region are found in the Prince of Wales-Hyder census area. One factor contributing to the low energy use in Prince of Wales-Hyder is the average home size of 1,221 square feet, which is the lowest in the region and more than 300 square feet less than the regional average of 1,540 square feet. The highest energy use and costs in the region are found in the Wrangell City and Borough. This is in part due to the census area having the largest average home size in the region, 1,875 square feet, and the second highest average home heating index in the region, 13.2 BTUs/sqft/HDD. Annual home energy costs also vary by community, from a low of \$3,459 in Naukati Bay to a high of \$6,590 in the community of Wrangell.

² Regional data appearing in this section is based on communities with sufficient levels of ARIS data, so not all communities were included in the analysis.

Figure R-II: Average Annual Home Energy Costs vs Energy Consumption by Census Area



The Sealaska region has the third lowest energy use per square foot³ of any ANCSA region in the state. One factor that contributes to this is the relatively mild climate in the region, with communities ranging from approximately 7,000 to 9,000 heating degree days. The energy use and cost per square foot for each census area in the region are shown in Figure R-III.⁴ The Haines Borough has the highest EUI of any census area in the region, while the highest ECI is found in the Hoonah-Angoon census area.



³ Energy use per square foot is also known as Energy Use Intensity, or EUI and is given in kBtus per square foot, per year.

⁴ Energy cost per square foot is also known as the Energy Cost Index, or ECI and is given in dollars per square foot, per year.

The Sealaska region has the highest average home heating index in Alaska, at 11.1 BTUs/sqft/HDD. The Haines Borough census area has the highest home heating index within the region (14.8). The lowest average home heating index (9.4) is found in the Hoonah-Angoon census area.

Understanding the variations between communities participating in energy efficiency programs is essential to targeting future work and resource allocation in the region. Participation in the energy programs by census area is shown in Figure R-IV. Approximately 16% of housing units in the Sealaska region have participated in the Weatherization or Home Energy Rebate program, or have received BEES certification since

2008. For communities within Sealaska, the highest participation in an AHFC energy program occurred in Hydaburg, with 38% of homes completing one of the three programs. The lowest participation, an estimated 0%, occurred in Mosquito Lake. The Juneau City and Borough has had the highest participation in the BEES and the Home Energy Rebate Program, with 5% and 9% of homes completing the respective programs. The highest participation in the Weatherization program occurred in the Prince of Wales-Hyder census area, where 14% of homes have undergone a Weatherization retrofit.

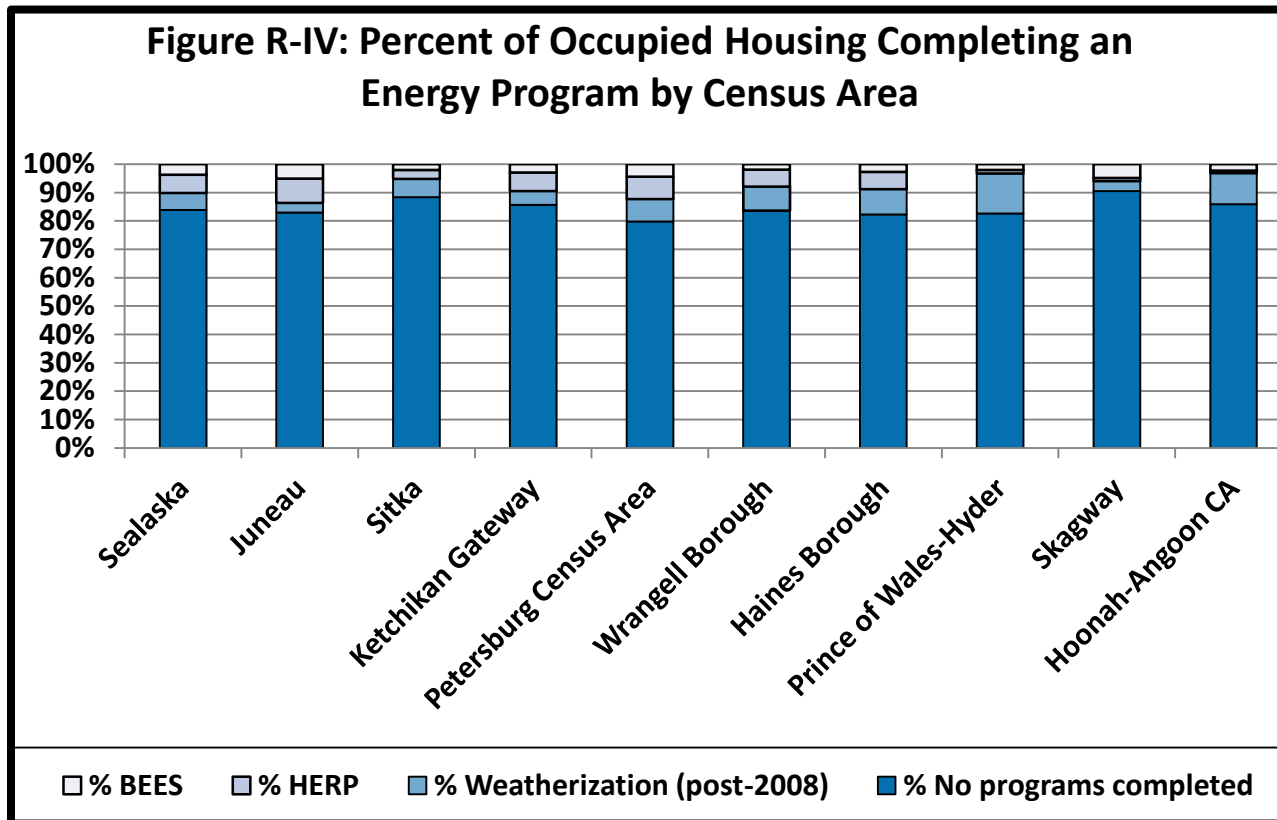
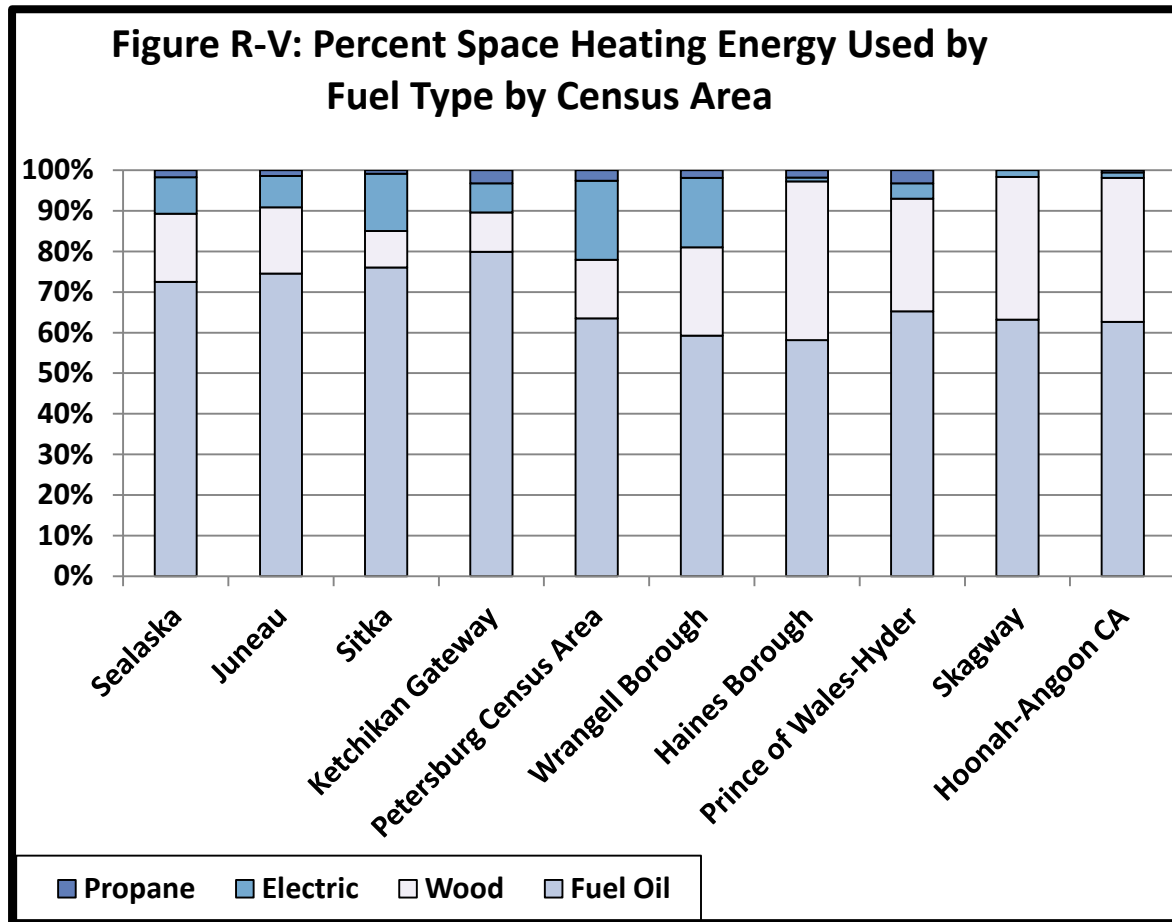
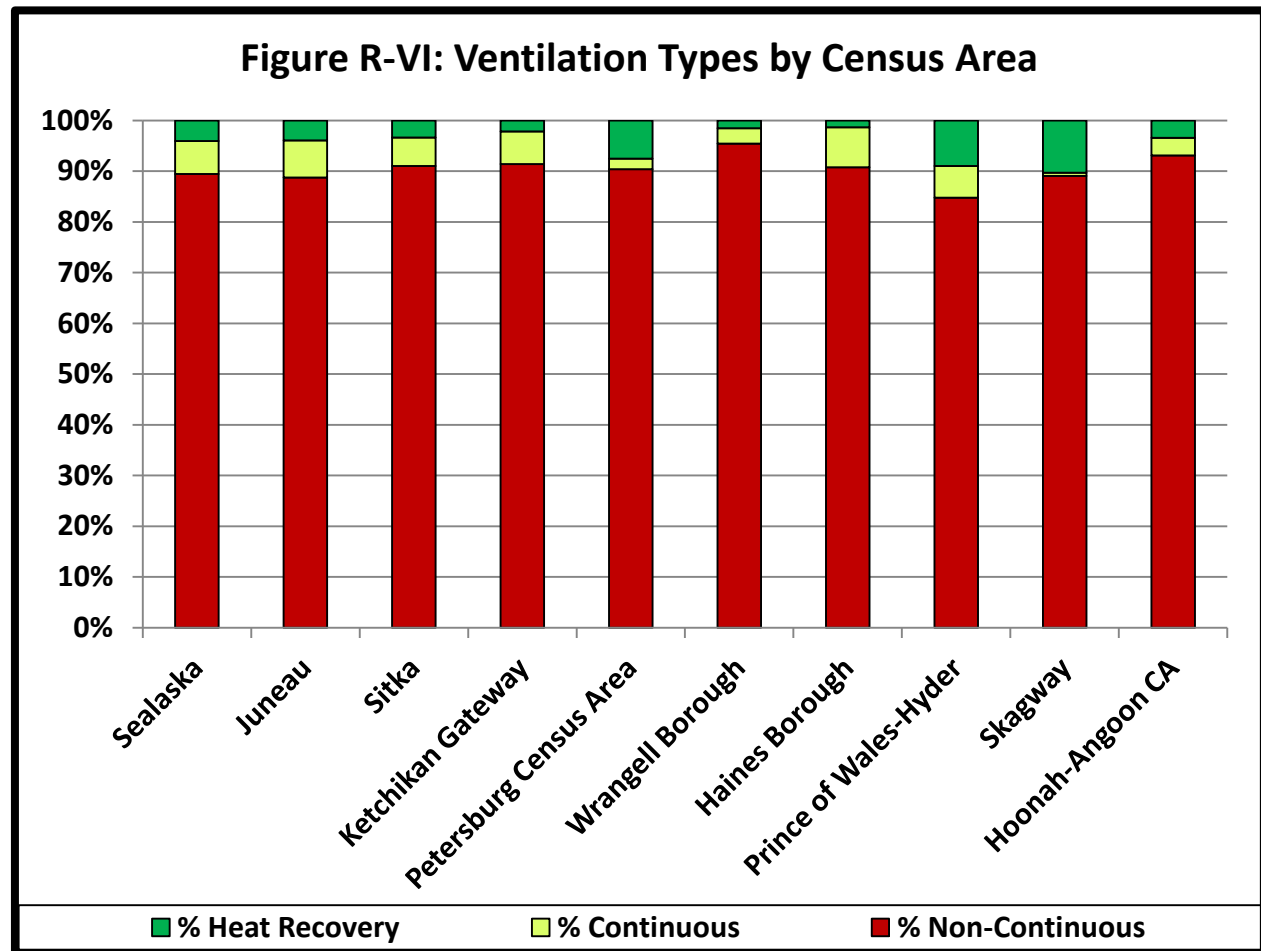


Figure R-V shows the fuel types used for space heating in the Sealaska region. The most prominent fuel types are fuel oil, wood, and electricity. The Ketchikan Gateway census area uses the highest percentage of fuel oil (80%) while the Haines Borough census area uses the highest percentage of wood, relying on it for 39% of space heating energy. The highest usage of electricity (20%) is found in the Petersburg census area. One factor likely influencing the relatively higher use of electricity for space heating in the region is the availability of hydroelectricity at prices that are closer to the cost of fuel oil than other regions.



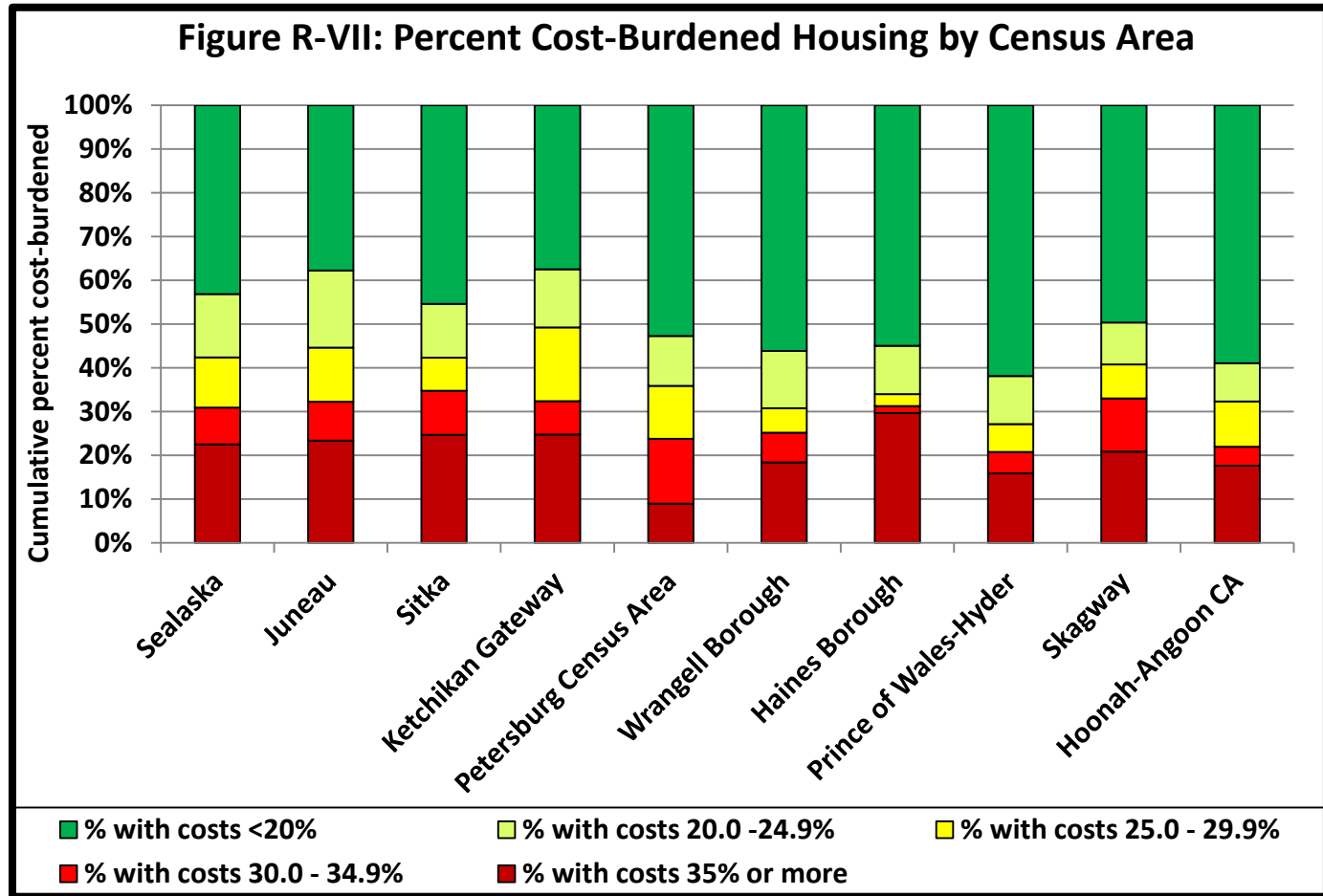
As shown in Figure R-VI, approximately 89% of homes in the Sealaska region have no continuous ventilation system. The Prince of Wales-Hyder census area has the largest percentage of homes (15%) with a continuous ventilation system, while the Wrangell census area has the lowest percentage of homes (5%) with continuous ventilation systems.



Affordability

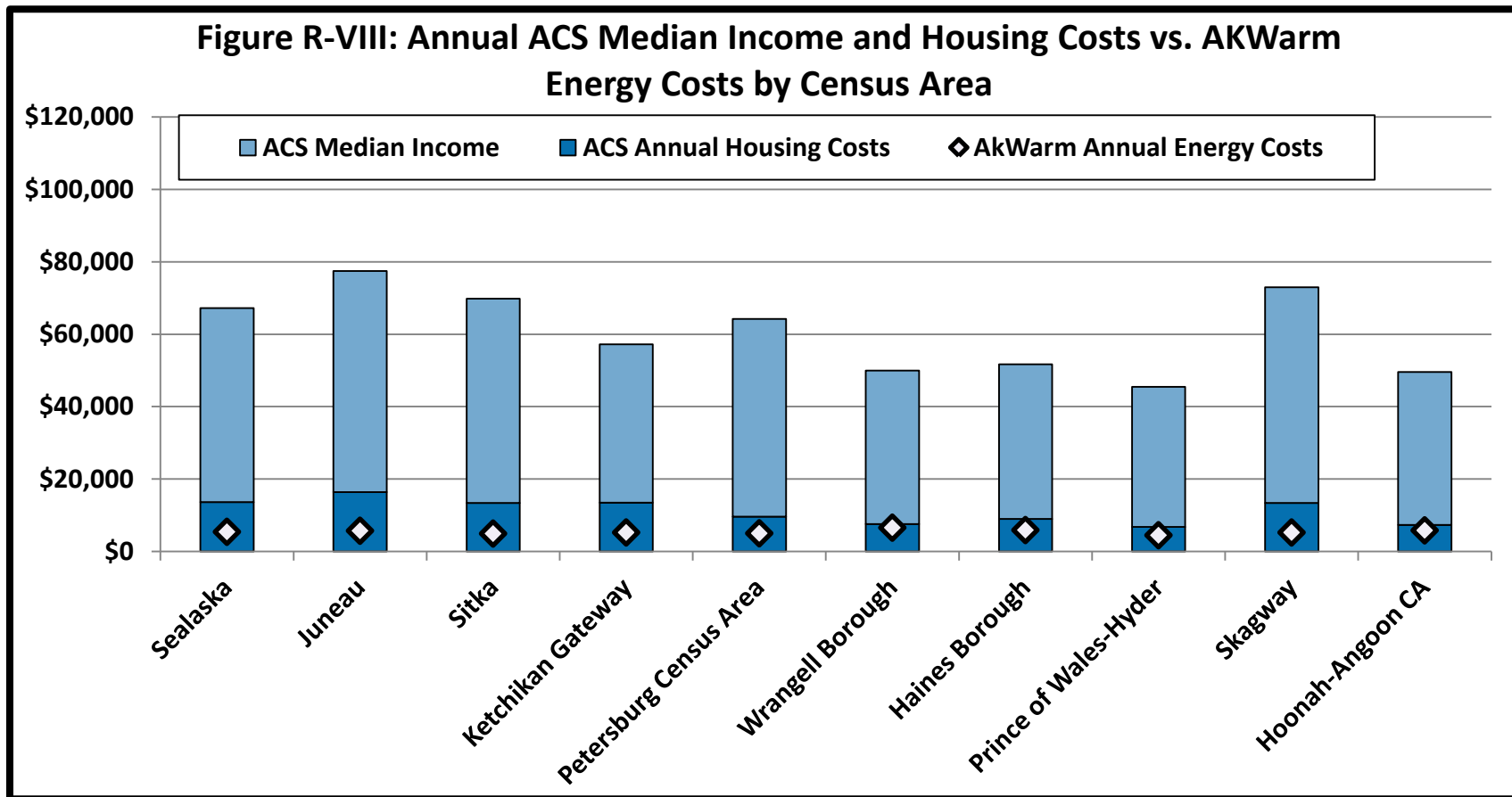
According to ACS estimates, approximately 30% of households in the Sealaska region are cost-burdened, spending 30% or more of household income on housing costs.⁵

Figure R-VII shows the percent of cost-burdened households in the different census areas in the region, ranging from 21% in Prince of Wales-Hyder to 35% in the Sitka census area. There is a wide range of affordability among Sealaska's communities from Kasaan with an estimated 0 cost-burdened households to Hollis with an estimated 71% cost-burdened households.



⁵ Our analysis of ACS energy costs indicate that there are systematic underestimations for Rural Alaska, which suggests that ACS-based cost burdened housing estimates would be low. See Appendix A, "American Community Survey Energy Cost Estimates" for more details.

Figure R-VIII gives the median incomes for Sealaska’s census areas, along with the housing and energy costs. Please note that our analysis has shown that ACS housing cost estimates for rural Alaska are systematically low, as shown in the figure by the census areas with AKWarm energy cost estimates at or above ACS housing cost estimates.⁵ Median household incomes vary by community ranging from a low of \$7,404 in Lutak to a high of \$170,096 in Covenant Life. The six most populous communities have median household incomes between \$49,313 and \$77,465.



Community, Regional, and Statewide Housing Characteristics

This ANCSA region summary only includes the highlights of housing characteristics at the ANCSA regional level. A detailed data profile with charts and tables for the region follows this summary. Additionally, a significant amount of data and analysis is available at other spatial scales within Alaska. Within this assessment, written summaries are available for each individual 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. A statewide analysis of housing characteristics, how they compare to national numbers, and what the estimated housing needs are is also available. These different tiers of information and analysis allow researchers, housing authorities, policy makers and the public to generate answers to specific questions from the local to the statewide level.

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.

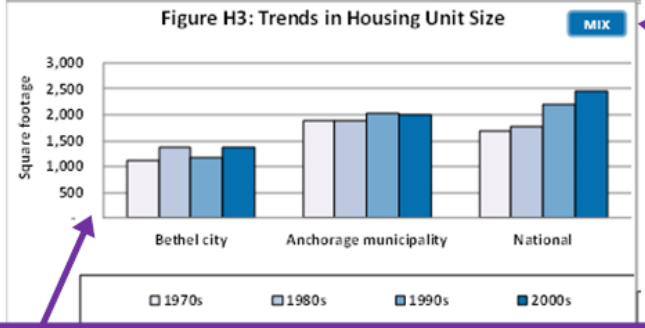
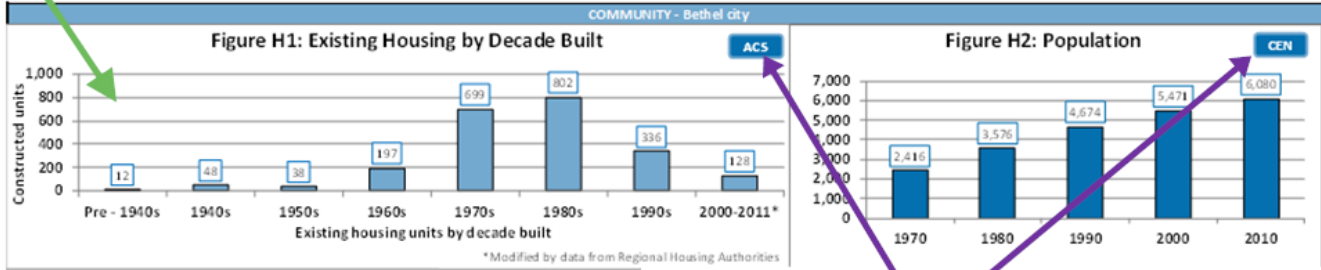
The Alaska Building Energy Efficiency Standard (BEES) was established by AHFC for the State of Alaska to promote the construction of energy efficient buildings. The standards for specific building components are divided into four climate zones, from Zone 6 in Southeast AK to Zone 9 on the North Slope.

Community Profile for: Bethel city

ANCSA Region: Calista

Regional Housing Authority: AVCP Regional Housing Authority

BEES Climate Zone (Heating Degree Days): Zone 8 (13,334 HDD)



Data Source Key:

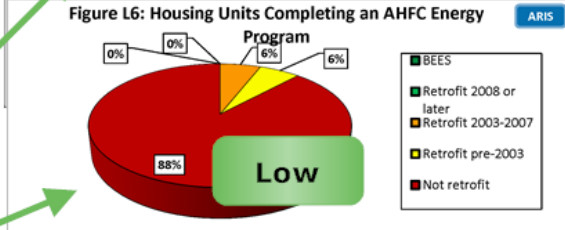
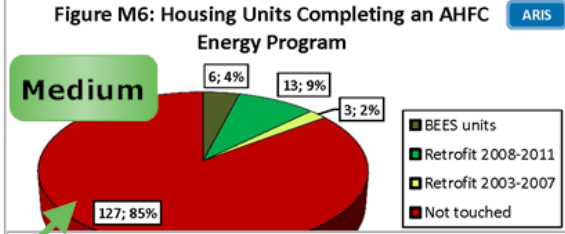
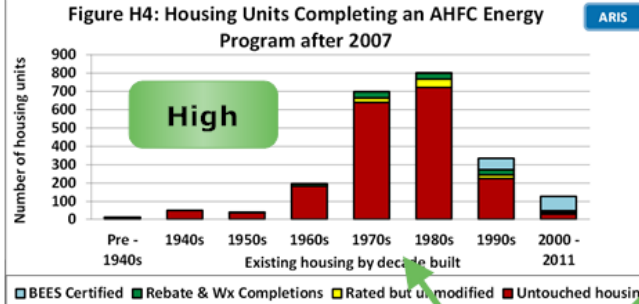
- 2011 American Community Survey 5 year estimates **ACS**
- Alaska Retrofit Information System energy audits **ARIS**
- 2010 Decennial Census **CEN**
- Mixed data source; see individual graphs for details. **MIX**

Data Sources: National trends come from the 2009 Residential Energy Consumption Statistics published by the 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 page 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.

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.

- 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.

Houses Lacking Complete Plumbing or Kitchen Facilities	# Households	% Households
Lack complete plumbing	3	10%
Lack complete kitchen	0	0%

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

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

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)

Estimated Energy Prices as of January 2015	
#1 Fuel oil cost (\$ / gallon)	\$5.16
Electricity with PCE (\$/kWh)	\$0.03
Electricity cost without PCE (\$/kWh)	\$0.27

Housing Stock Estimates	
All Housing	
All Occupied Housing	
All Housing for Sale or Rent	

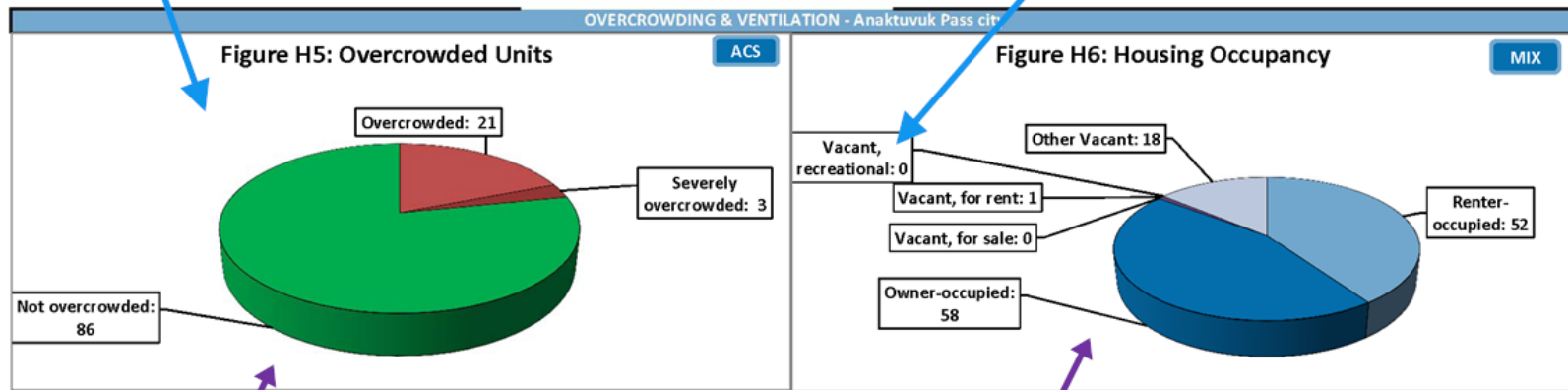
Units weatherized before 2008 are eligible to participate in the program again. (Data source: Alaska Housing Finance Corporation).

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.

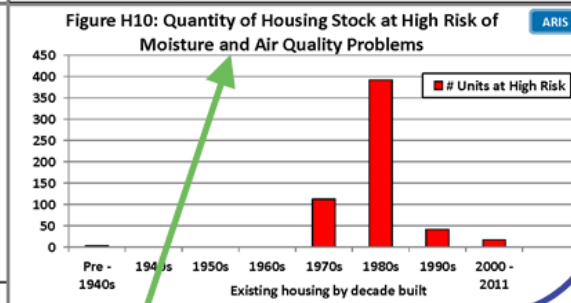
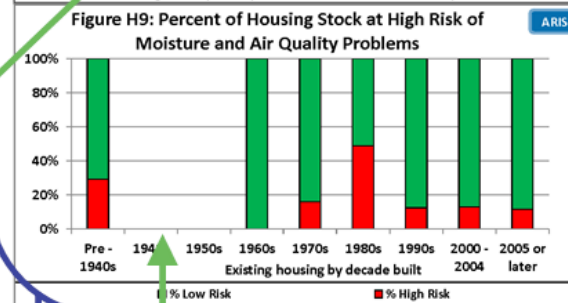
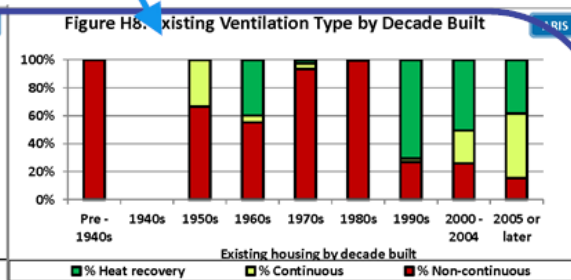
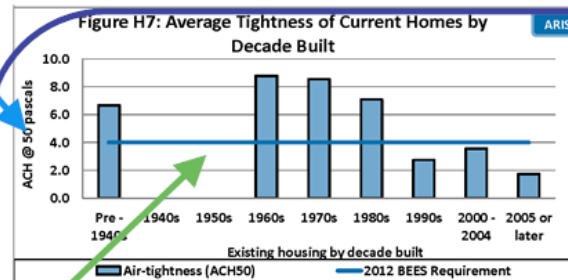
Continuous: Mechanical ventilation without heat recovery operated with automatic controls.

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 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

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:
The 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,
which is the amount of money spent on energy per year divided by the square footage.

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

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	\$ 6,305	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

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

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

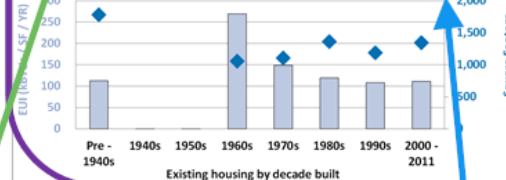
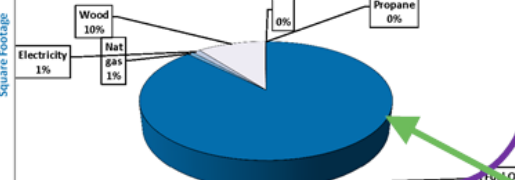


Figure H12: Percent of Total Residential Space Heating Energy by Fuel Type



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--

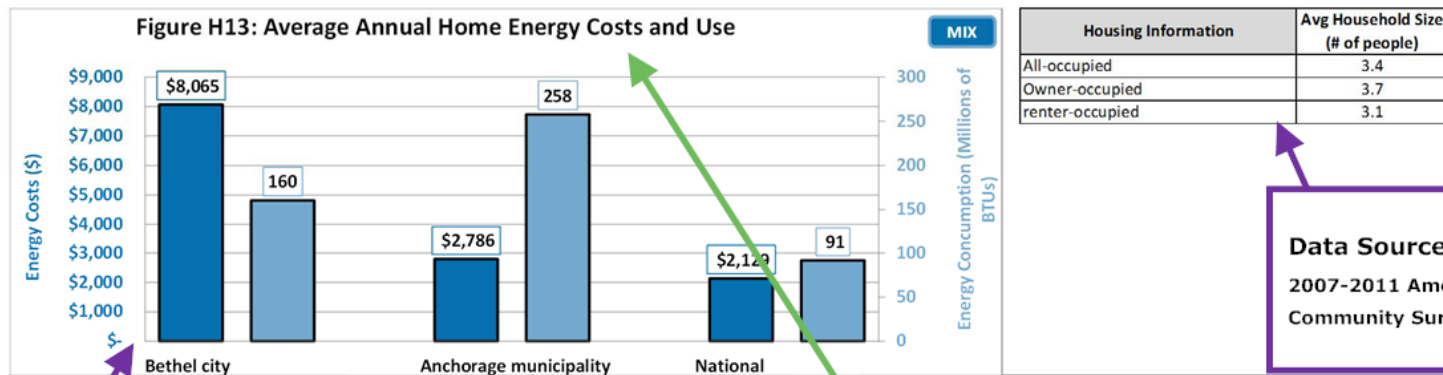
- Green:** the average value meets or exceeds the 2012 BEES requirement.
- Yellow:** value is 75-99% of the 2012 BEES requirement.
- Red:** value is less than 75% of the 2012 BEES requirement.

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 in 7 of the 9 decade ranges, 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



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 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.

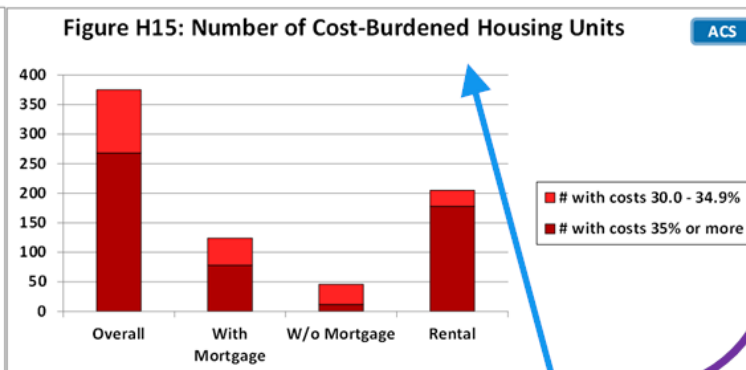
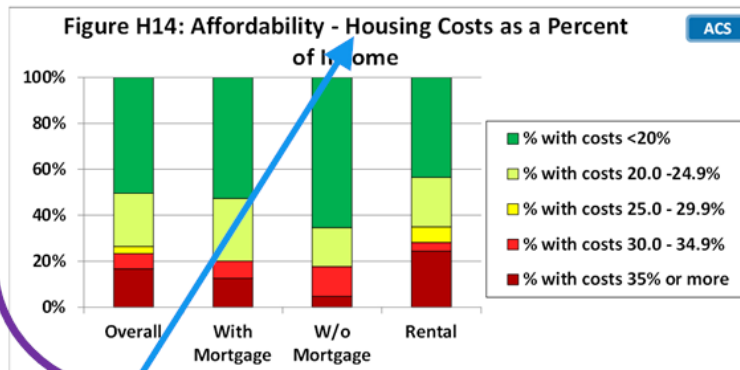
Data Source: Median income comes from 2007-2011 ACS estimates; energy costs come from AHFC's Alaska Retrofit Information System (ARIS).

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

COMMUNITY - Sealaska Corporation

Figure R1: Existing Housing by Decade Built

ACS

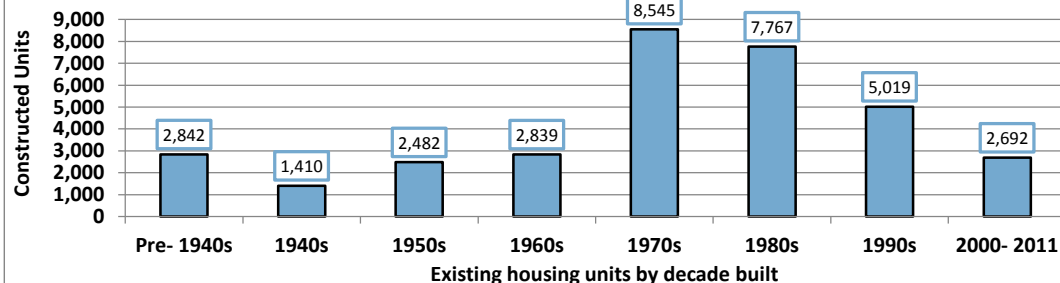


Figure R2: Population

CEN

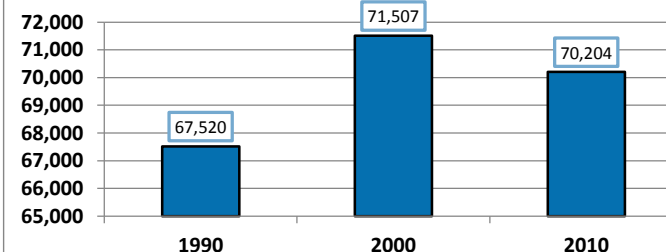


Figure R3: Trends in Housing Unit Size

MIX

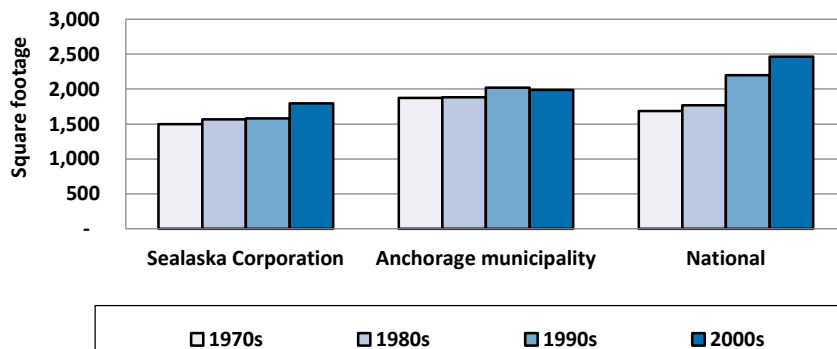
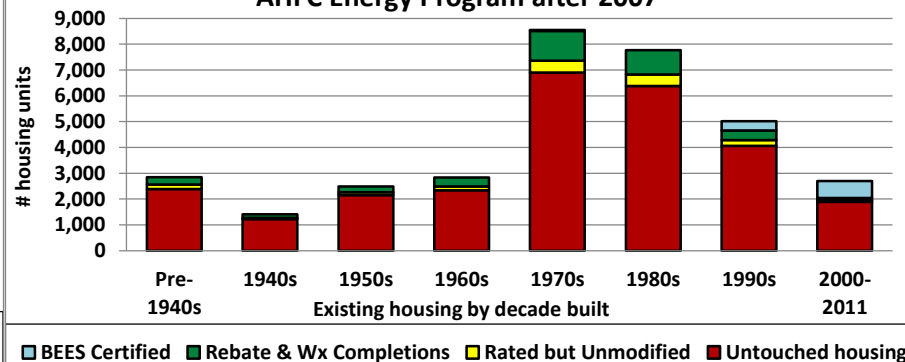


Figure R4: Housing Completing an AHFC Energy Program after 2007

ARIS



Houses Lacking Complete Plumbing or Kitchen Facilities	Households	
	Number	Percent
Lack complete plumbing	803	3%
Lack complete kitchen	631	2%

Avg Annual Energy Cost with PCE	\$5,444
Avg Annual Energy Cost without PCE	\$5,578

Weatherization Retrofits (funding increased 2008)	
Date Range	Units
2008-2011	1,711
2003-2007	347
1990-2002	1467

Estimated Total Annual Community Space Heating Fuel Use		
Fuel Oil	20,491,268	(gallons)
Natural Gas	-	(ccf)
Electricity	100,593,028	(kWh)
Wood	34,246	(cords)
Propane	716,811	(gallons)
Coal	-	(tons)

Housing Need Indicators	Number of units	% Occupied Housing
Overcrowded	1,054	4%
Housing cost burdened	8,510	30%
1 Star Homes	5,847	20%

Housing Stock Estimates	Number of Units
All Housing	33,596
All Occupied Housing	28,663
All Vacant housing	4,933
Vacant Housing for Sale or Rent	1,161

OVERCROWDING & VENTILATION - Sealaska Corporation

Figure R5: Overcrowded Units

ACS

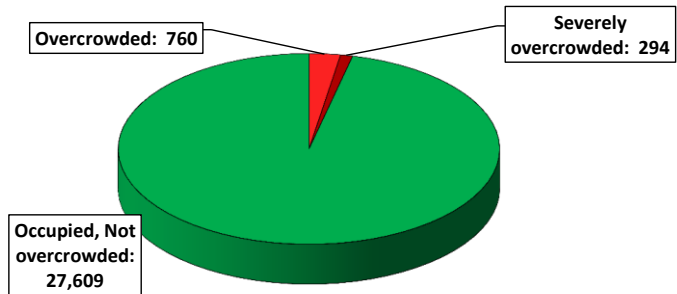


Figure R6: Housing Occupancy

MIX

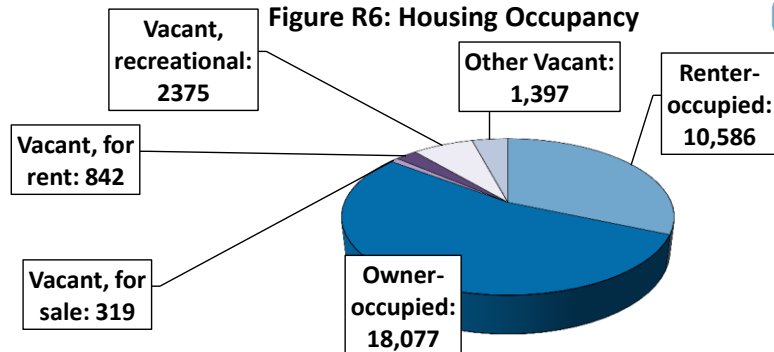


Figure R7: Average Air-Tightness of Current Homes by Decade Built

ARIS

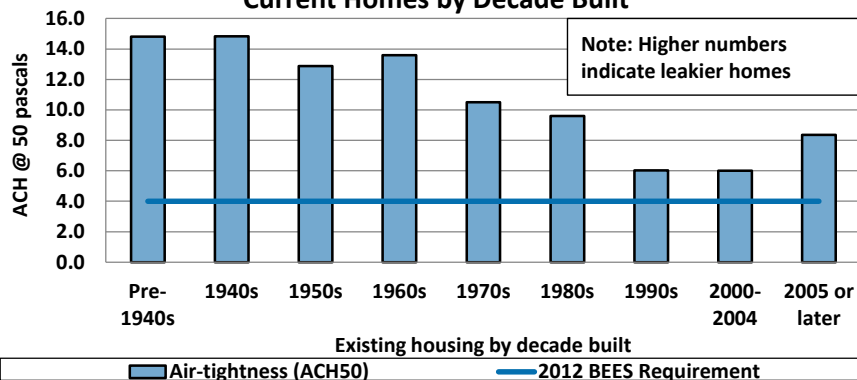


Figure R8: Existing Ventilation Type by Decade Built

ARIS

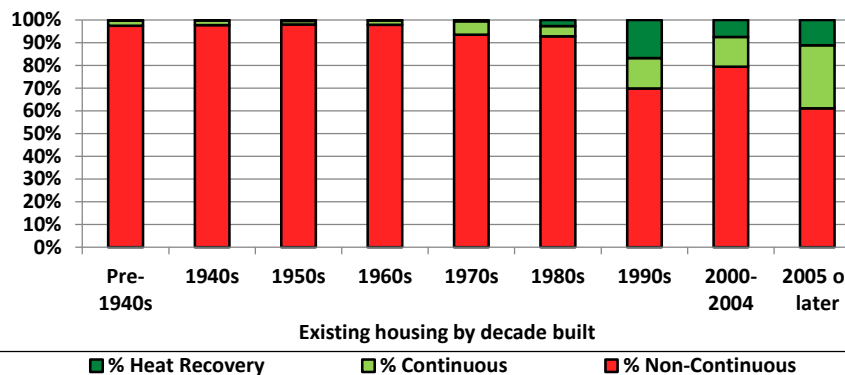


Figure R9: Percent of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS

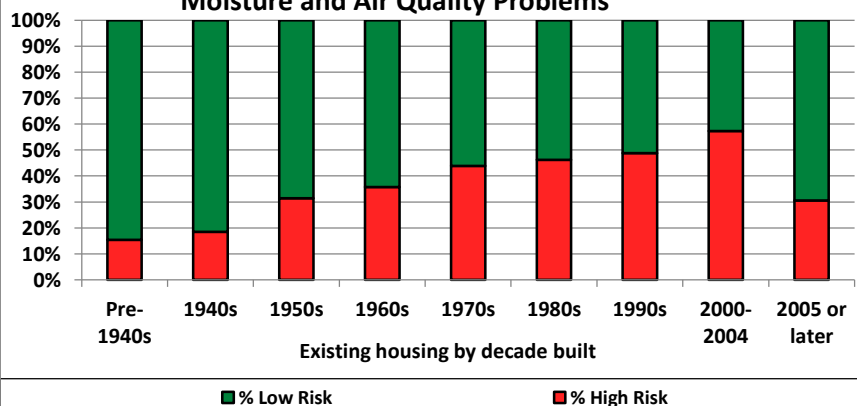
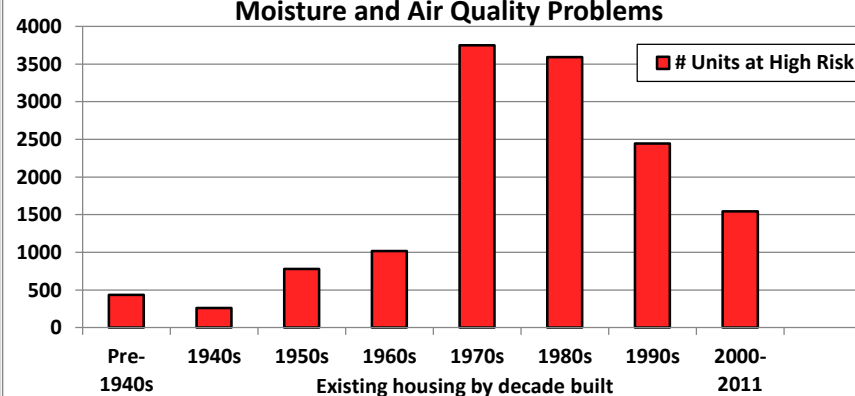


Figure R10: Quantity of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS



ENERGY - Sealaska Corporation													
Current Sealaska Corporation 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 Annual Energy / End Use (million Btus)			Avg. EUI (kBtus / SF)	Avg. ECI	Avg. Home Heating Index	
							Space Heating	DHW	Appliances				
OVERALL	8,092	2-star	59.1	1,576	\$5,444	179	122	25	30	120	\$3.70	11.1	
Pre- 1940	654	1-star plus	40.5	1,694	\$6,987	232	180	21	31	145	\$4.41	14.9	
1940- 49	263	1-star plus	41.2	1,576	\$6,547	224	169	24	31	152	\$4.51	15.2	
1950- 59	445	1-star plus	45.6	1,593	\$6,283	212	158	24	30	140	\$4.16	14.0	
1960- 69	686	2-star	50.7	1,512	\$6,056	205	153	23	29	141	\$4.25	13.8	
1970- 79	2,204	2-star	58.4	1,498	\$5,681	185	128	27	30	125	\$3.94	11.4	
1980- 89	1,936	2-star plus	62.2	1,568	\$4,990	165	112	23	29	108	\$3.28	9.8	
1990- 99	1,079	3-star plus	73.6	1,580	\$4,334	140	79	24	27	93	\$2.92	7.5	
2000- 2004	518	3-star plus	77.6	1,793	\$4,354	137	83	24	29	81	\$2.54	6.5	
2005 or later	306	3-star	73.0	1,720	\$4,615	135	80	23	31	105	\$3.42	9.0	

Figure R11: Current Average Energy Use Intensity and Average Square Footage by Decade Built

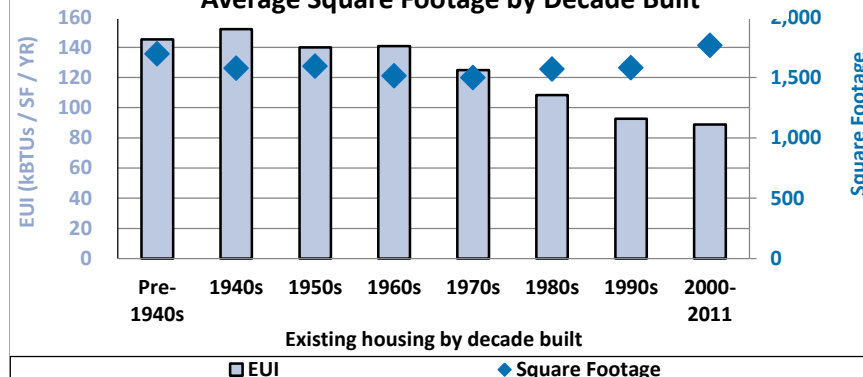
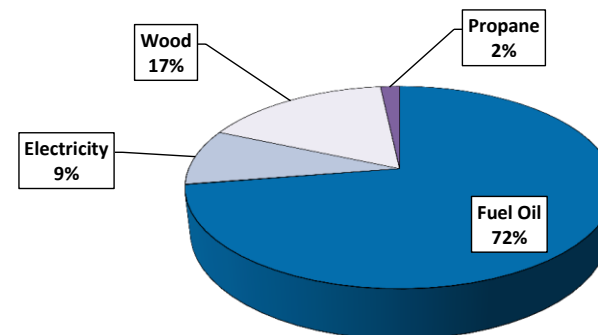


Figure R12: Percent of Total Residential Space Heating Energy by Fuel Type

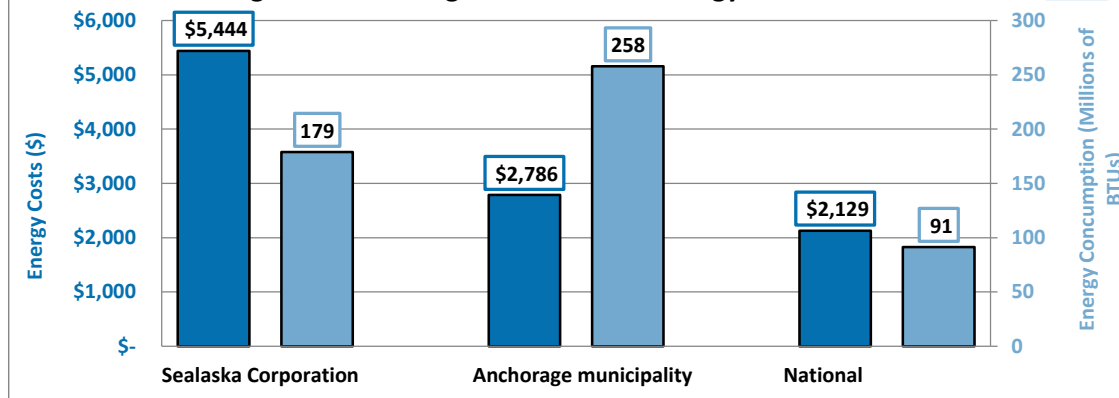


Current Sealaska Corporation Housing Envelope Characteristics By Decade Built											
Current Residential Units by Year Built	# of AkWarm Records	ACH 50	Ceiling R	Above Grade Wall R	Below Grade Wall R	Above Grade Floor R	On Grade Floor R	Below Grade Floor R	Door U	Garage Door U	Window U
OVERALL	8,092	10.5	18	11	3	16	3	3	0.40	0.40	0.57
Pre- 1940	654	14.8	11	8	2	12	2	2	0.45	0.45	0.62
1940- 49	263	14.8	10	8	2	12	3	2	0.43	0.43	0.61
1950- 59	445	12.9	14	9	2	13	3	3	0.42	0.42	0.63
1960- 69	686	13.6	15	10	3	14	3	3	0.43	0.43	0.61
1970- 79	2,204	10.5	20	11	3	17	3	3	0.40	0.40	0.60
1980- 89	1,936	9.6	21	13	2	18	3	3	0.41	0.41	0.58
1990- 99	1,079	6.0	28	16	5	22	3	3	0.33	0.33	0.44
2000- 2004	518	6.0	29	15	6	22	4	3	0.31	0.31	0.43
2005 or later	306	8.4	19	13	6	22	3	3	0.31	0.31	0.41

BEES 2009 - Climate Zone 6	7.0	38	21	15	30	15	15	15	0.33	0.33	0.33
BEES 2012 - Climate Zone 6	4.0	43	25	15	38	15	15	15	0.30	0.30	0.30

AFFORDABILITY - Sealaska Corporation

Figure R13: Average Annual Home Energy Cost and Use



Housing Information	Avg Household Size (# of people)
All-occupied	2.4
Owner-occupied	2.5
Renter-occupied	2.1

Median value of owner-occupied house with mortgage
\$286,900

Median value of owner-occupied house without a mortgage
\$206,700

Median Household Income	
Housing Units	Annual Household Income
All-occupied	\$ 67,223
Renter-occupied	\$ 45,769
Owner-occupied	\$ 84,306
w/ mortgage	\$ 99,183
w/o mortgage	\$ 56,331

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 1,136	\$ 13,632
Gross rent	\$ 1,020	\$ 12,240
Owner-occupied	\$ 1,278	\$ 15,336
Housing units w/ mortgage	\$ 1,932	\$ 23,184
Housing units w/out a mortgage	\$ 532	\$ 6,384

Avg % of Median Income Spent on Energy **8.1%**

Figure R14: Affordability - Housing Costs as a Percent of Income

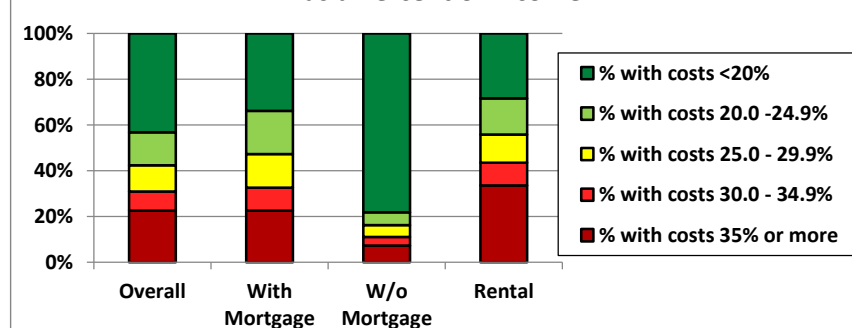


Figure R15: Number of Cost-Burdened Housing Units

