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Koniag Incorporated Dashboard¹

Population: The Alaska Department of Labor and Workforce Development's current (2012) population estimate for the Koniag ANCSA region is 14,041, an increase of 1% from 2000.

Housing Units: There are currently 5,323 housing units in the Koniag ANCSA region. Of these, 4,445 are occupied, 157 vacant units are for sale or rent, and the remaining 721 are seasonal or otherwise vacant units (Profile Figure R6).

Energy: The average home in the Koniag ANCSA region is 1,701 square feet and uses 117,000 BTUs of energy per square foot annually. This is 14% 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 Koniag ANCSA region is \$6,231, which is approximately 2.2 times more than the cost in Anchorage, and 2.9 times more than the national average (Profile Figure R13).

Energy Programs: Approximately 16% of the occupied housing units in the Koniag 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 current housing stock, newer homes have better energy performance. On average, homes built in the 1940s are currently rated at 2-stars, compared to a current average rating of 5-stars for homes built after 2000.

Air-tightness: Within the current housing stock, newer homes are tighter. On average, homes built in the last decade on exceed the 2012 BEES standard of 4 air-changes per hour at 50 Pascals (ACH50). In contrast, homes built in the 1940s are 3.9 times leakier than those built since 2000 (Profile Figure R7).

Ventilation: An estimated 1,742 occupied housing units (or 39%) in the Koniag 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: Nine percent of occupied units are estimated to be either overcrowded (5%) or severely overcrowded (4%). This is roughly 3 times the national average and makes the Koniag region the sixth least overcrowded ANCSA region in the state.

Affordability: According to American Community Survey (ACS) data, approximately 34% of households in the Koniag region spend 30% or more of total income on reported housing costs, including rent, water and sewer utilities, and energy costs. Using AKWarm estimates, the average annual energy costs constitute approximately 9% of census median area income for occupied housing.

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

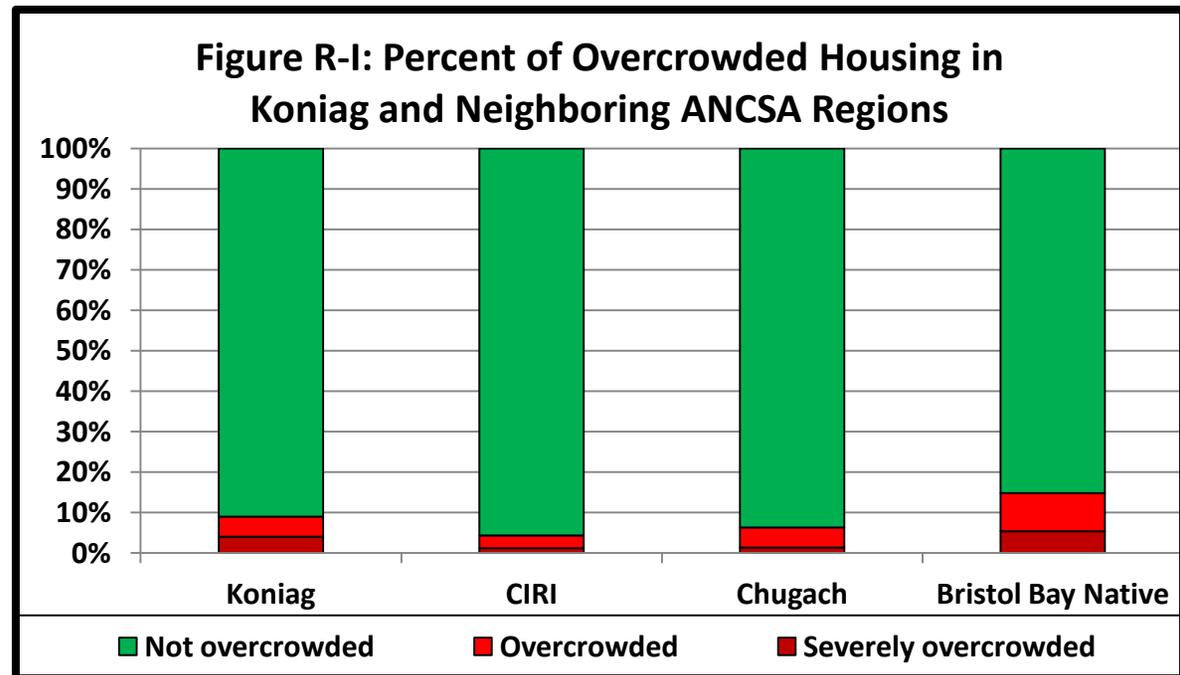
Koniag Incorporated Summary

Community

The Koniag, Incorporated region covers Kodiak Island and the eastern coast of the Alaska Peninsula facing Kodiak Island. It is bordered to the northwest by the Bristol Bay ANCSA region. The average home size in the region is 1,701 square feet, which is slightly more than the average home size of 1,660 square feet in the community of Kodiak.

Overcrowding

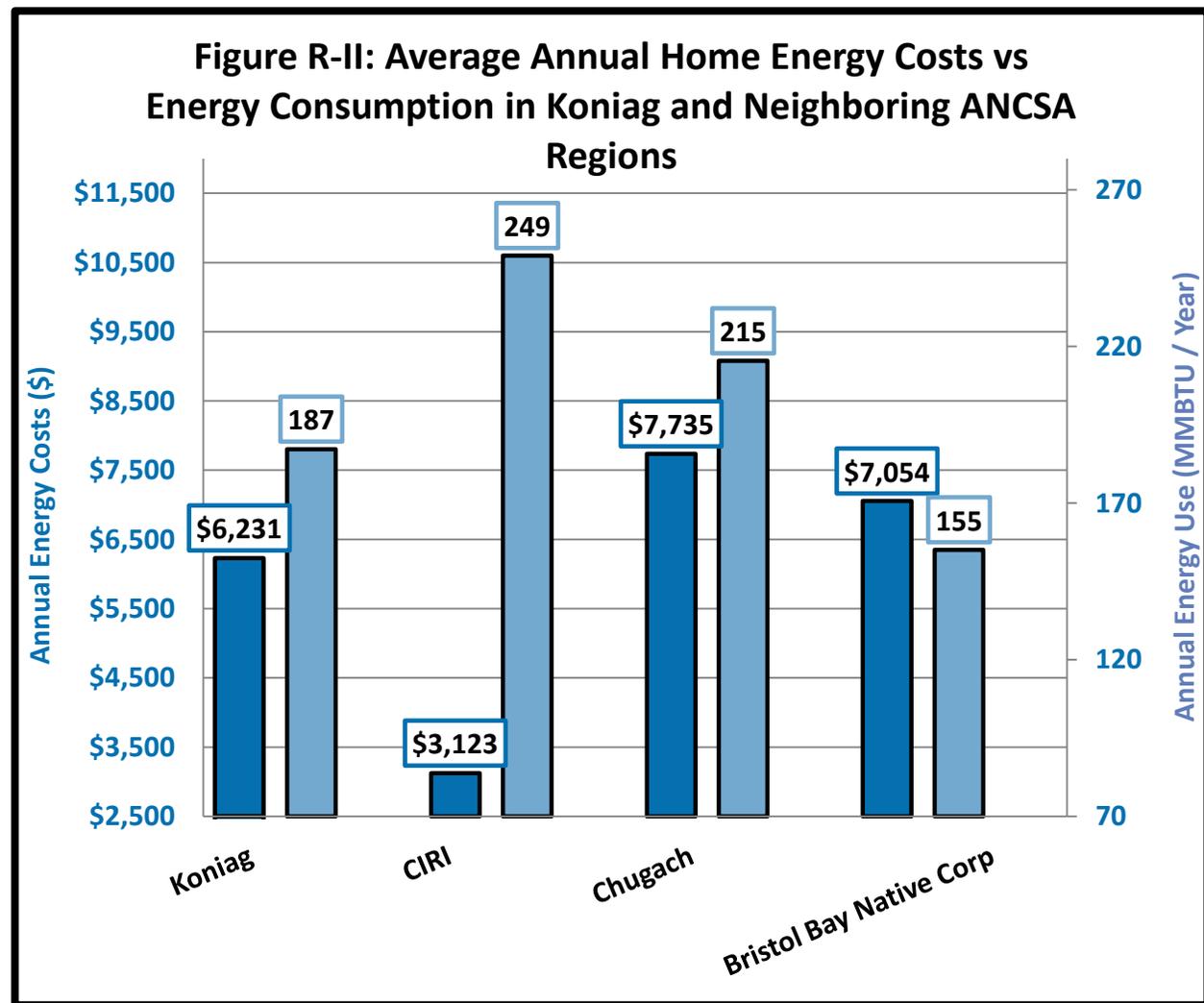
The Koniag, Inc. region is the sixth least overcrowded area in the state with 9% of occupied homes with more than one person per room. This is a higher rate of overcrowding than the nearby CIRI (4%) and Chugach (6%) regions (Figure R-1). The Bristol Bay region, Koniag’s neighbor to the northwest, has a higher rate of overcrowding (15%). Overcrowding in Koniag varies widely by community, from a low of 0% in Chiniak to a high of 23% of homes in Larsen Bay. Considering only the six most populous communities have a slightly smaller range of overcrowding, with between 2% and 19% of households with more than one person per room.



Approximately 3% of housing in the Koniag region is available for sale or rent. The community of Women’s Bay has the lowest percentage with no available housing and Larsen Bay has the highest percent of available housing at 5%.

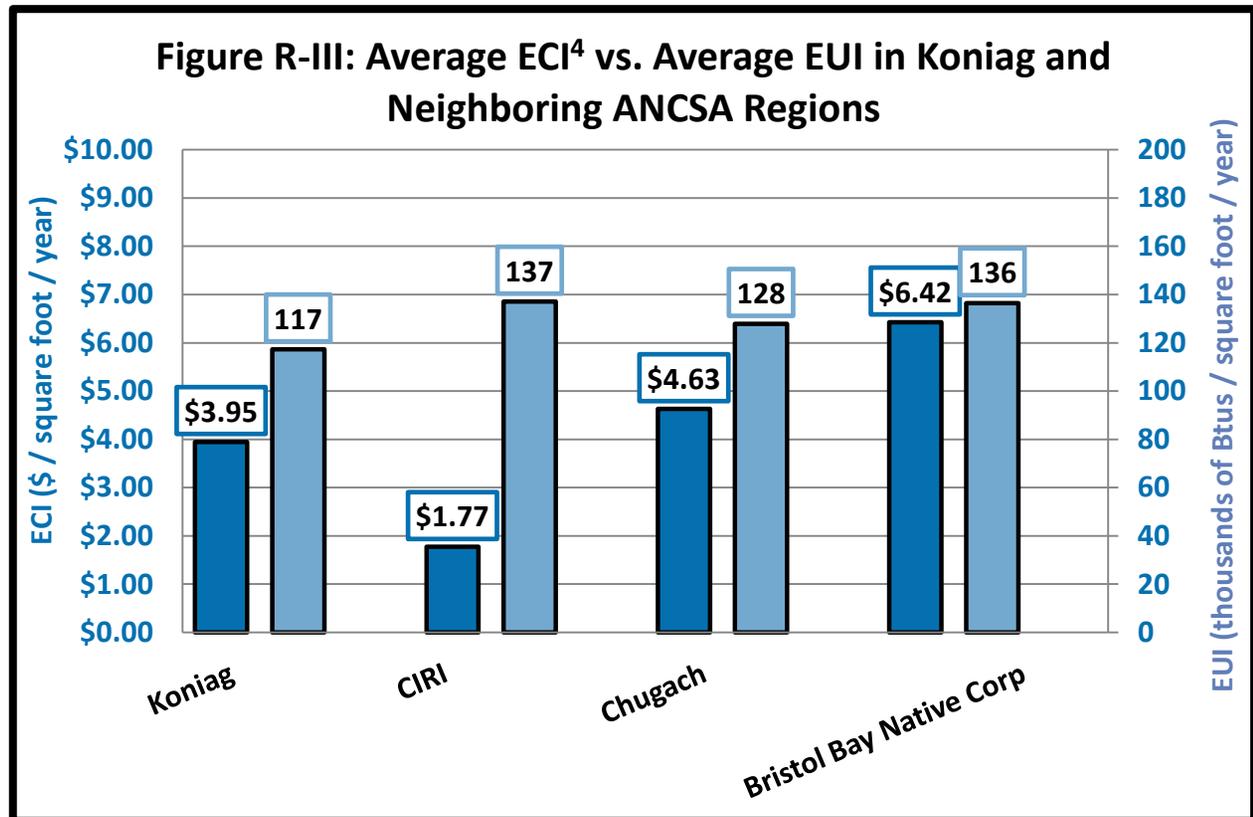
Energy²

The average annual energy cost per household in the Koniag region is \$6,231 with housing units using an average of 187 million BTUs of energy each year. Koniag has higher average annual energy use than the neighboring Bristol Bay Region (Figure R-II), but lower than that found in the Chugach and CIRI regions. The CIRI region uses approximately one-third more energy per year on average than Koniag. Residents of Koniag spend less on energy than residents in the Chugach and Bristol Bay regions, but approximately twice as much as an average household in the CIRI region. Though the CIRI region has higher energy use, its lower costs are largely due to CIRI's access to relatively inexpensive natural gas, while Koniag's primary heat comes from fuel oil.



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.

The average home heating index in the Koniag region is 8.8 BTUs/ft²/HDD. This is also the average home heating index in the community of Kodiak. The region also has the second lowest energy use per square foot³ (EUI) in the state, second only to the Aleut region. As shown in Figure R-III, homes in Koniag use approximately 117 kBTUs/ft². However, if the EUI is adjusted for heating degree days using the Home Heating Index, energy use in Koniag is in the middle of all ANCSA regions, with roughly half of the regions being more efficient and the other half being less efficient. This indicates that the relatively few number of heating degree days are a contributing factor to the low EUI in Koniag.



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.

Understanding the variations between regions participating in energy efficiency programs is essential to targeting work and resource allocation. Approximately 7% of homes in Koniag have completed the Weatherization program or the Home Energy Rebate Program since 2008. An additional 9% of homes have been certified to meet BEES. This participation is similar to the participation found in the nearby CIRI and Chugach regions (Figure R-IV).

Koniag has the second highest rate of BEES participation of all the regions, with 9% of occupied housing achieving BEES certification. Conversely, Koniag has

the lowest rate of completion in the Weatherization Program compared to all other regions. In terms of total percent participation in all energy programs Koniag ranks in the middle of all ANCSA regions.

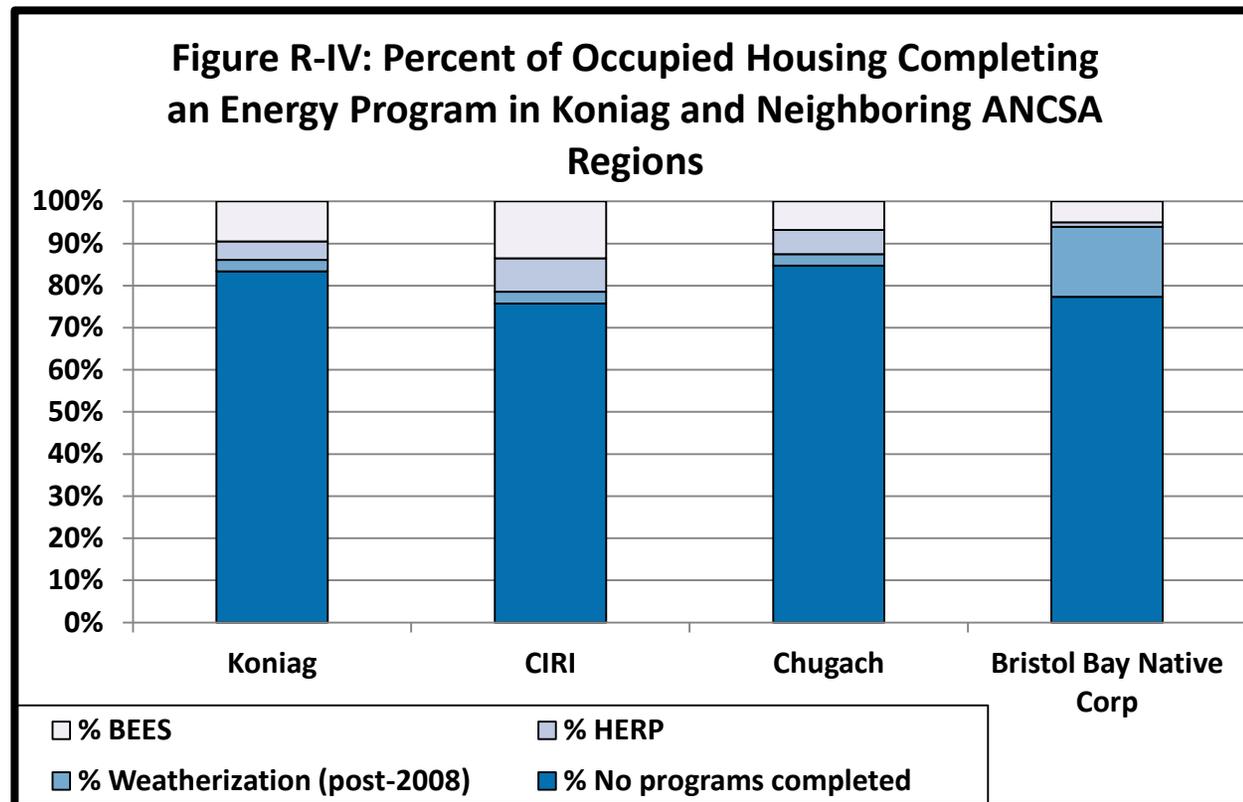


Figure R-V shows that approximately 85% of the energy used for space heating in Koniag comes from fuel oil. The majority of the remaining space heating needs are met by wood. Overall, wood accounts for approximately 13% of space heating energy, although its use varies by community. The proportion of space heating fuel types in the Koniag region is similar to that found in the neighboring Chugach and Bristol Bay regions, but is very different than the proportion of fuel types found in the CIRI region, where natural gas is used for approximately 85% of space heating energy.

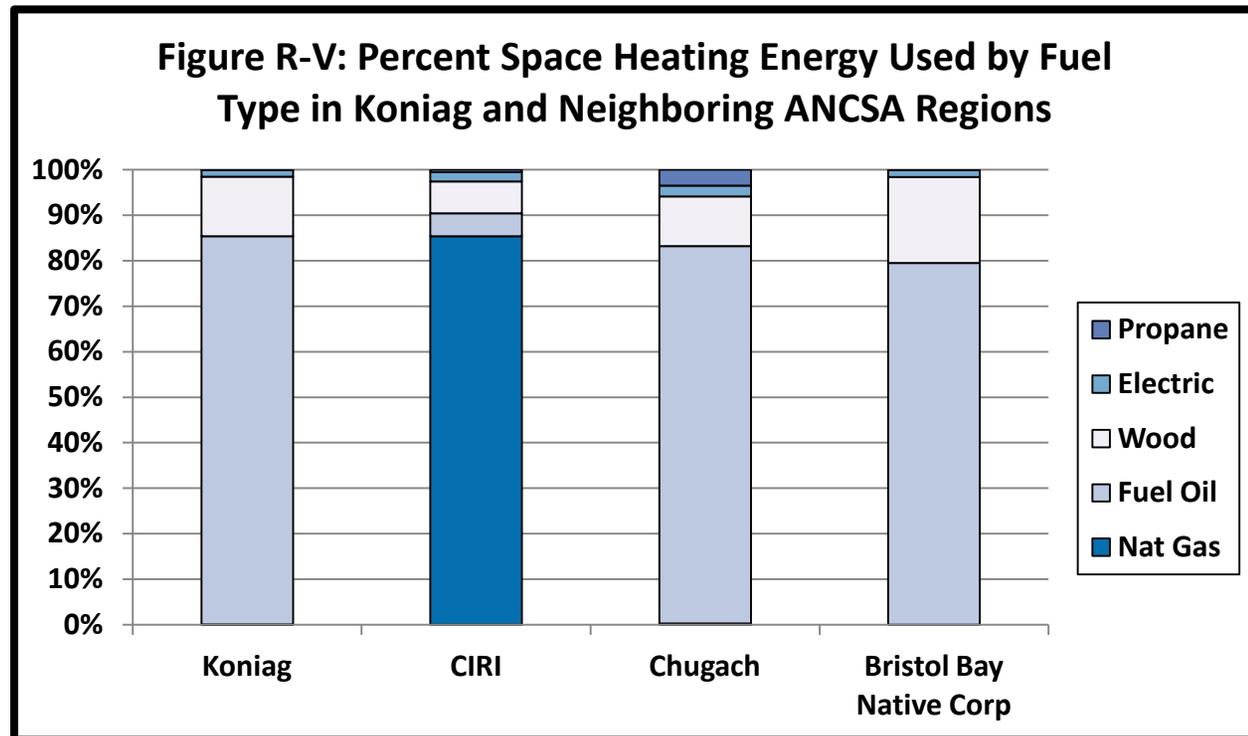
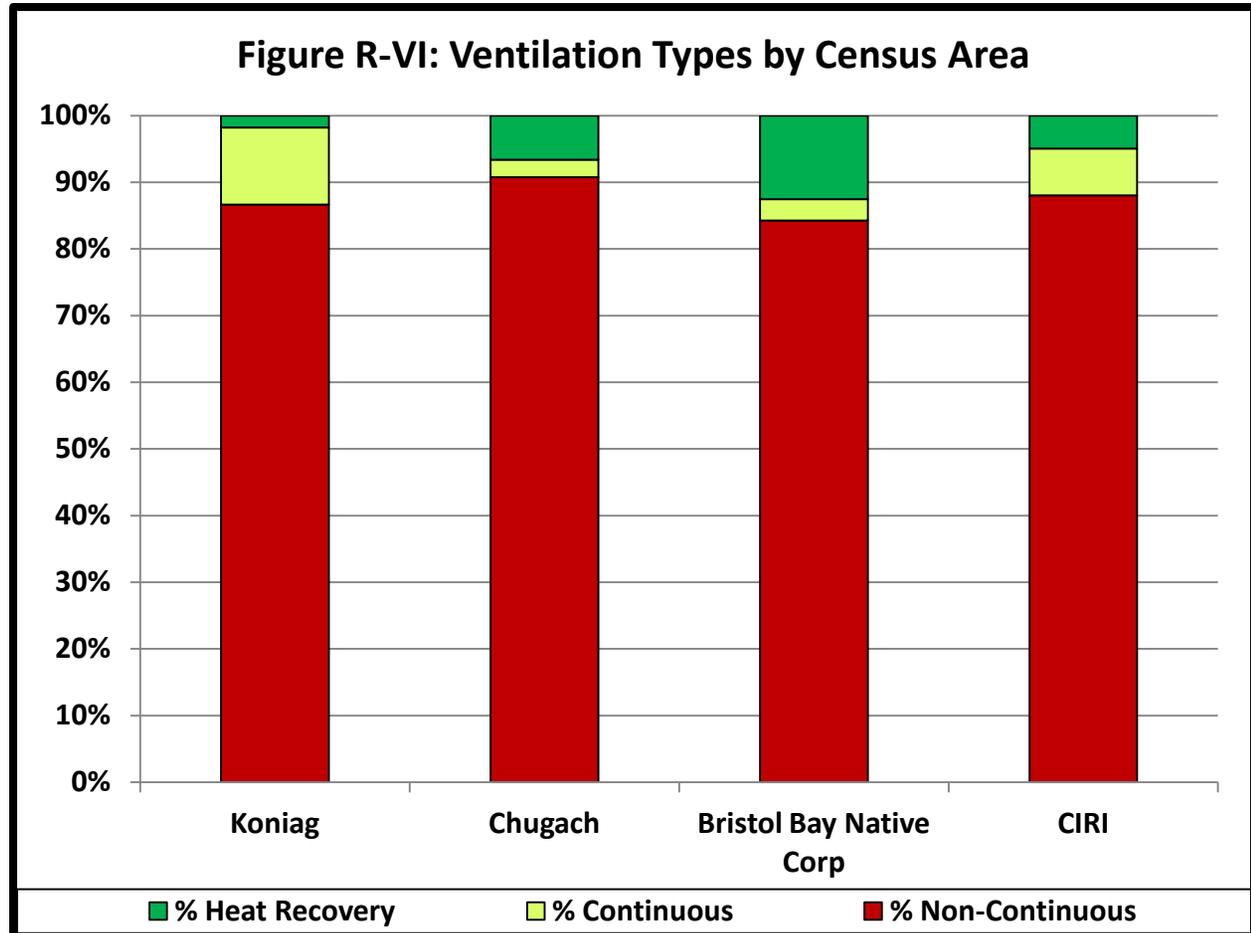


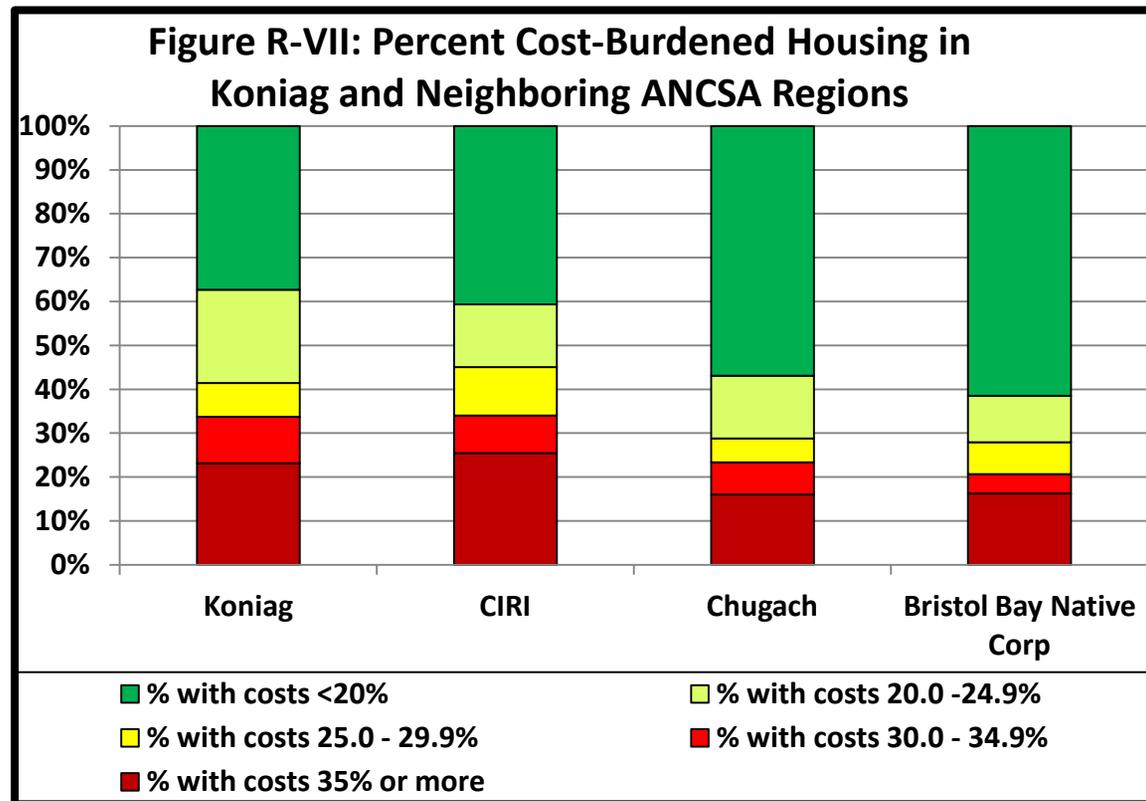
Figure R-VI shows the ventilation types found in housing units in the Koniag and nearby regions. Approximately 13% of housing units in the Koniag region have a heat recovery or continuous mechanical ventilation system installed. This is a higher percentage than that found in the CIRI region (12%) or the Chugach region (7%). However, the Bristol Bay region has a higher percentage of households with continuous ventilation systems (15%).



Affordability

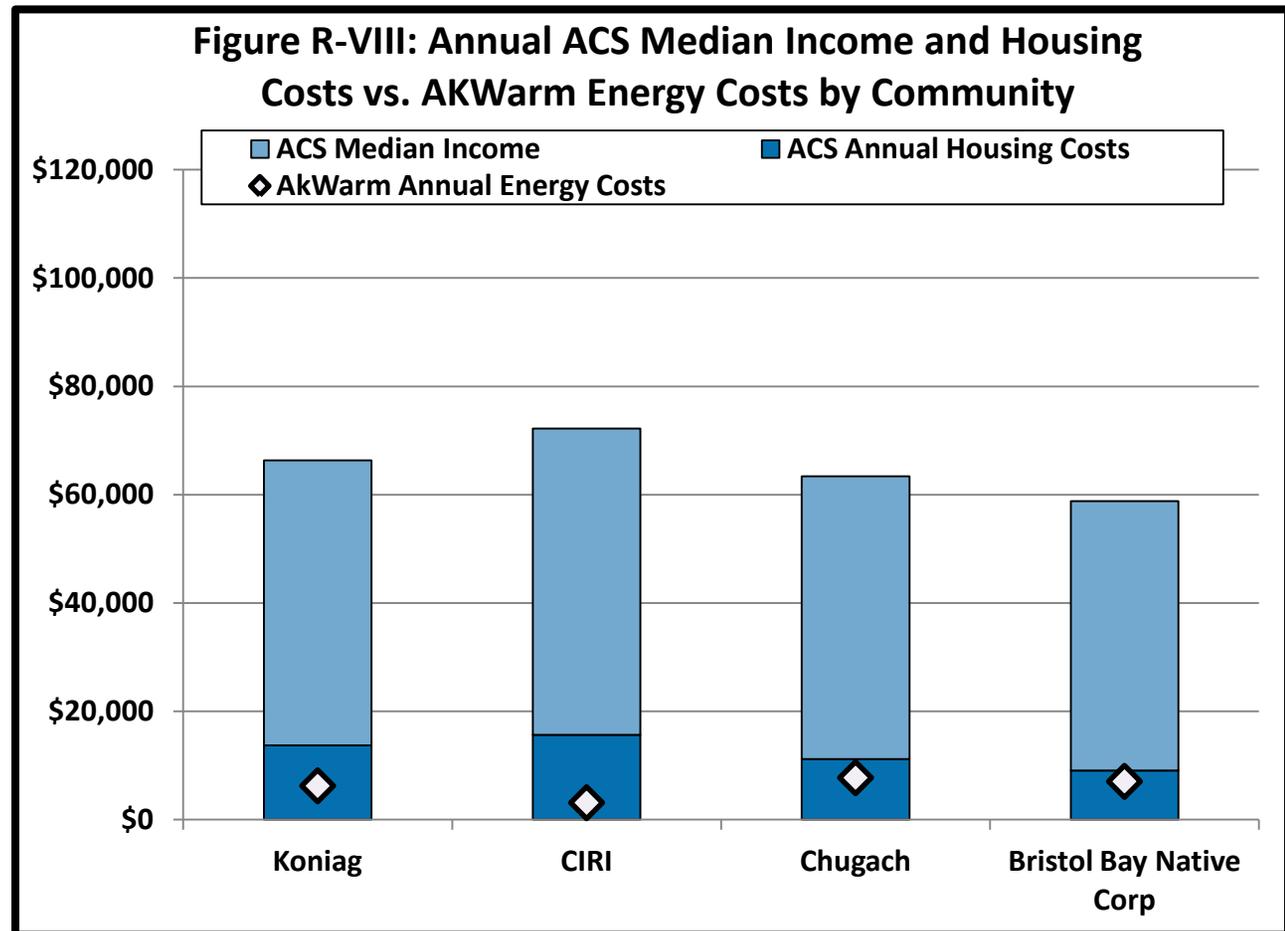
Koniag has the second highest percentage of housing units that are considered cost burdened in the state, with approximately 33.8% of households spending 30% or more of total household income on housing costs.⁴ This rate of cost-burdening is second to the nearby CIRI region (Figure R-VII), which has 34% of households considered cost-burdened. It is significantly higher than the neighboring regions of Chugach (23.3%) and Bristol Bay (20.7%).

Affordability varies by community in the Koniag region, from an estimated no cost-burdened households in Chiniak to 69% of households in Akhiok. Affordability in the six most populous communities varies less, with a range of 15% to 39% of households spending 30% or more of household income on housing costs.



⁴ CCHRC's analysis of ACS energy costs indicate that there are 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.

Figure R-VIII shows the median household income for the region and is plotted along with reported housing and energy costs.⁴ Median incomes within the Koniag region range from a low of \$16,250 in Akhiok to a high of \$95,259 in Port Lions. Considering only the six most populous communities the median income levels range from \$34,375 to \$95,259.



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 this region follows. 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.

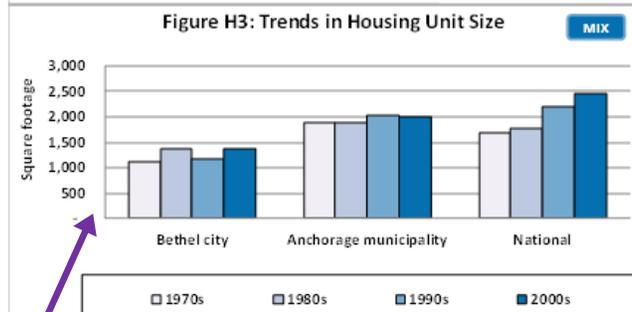
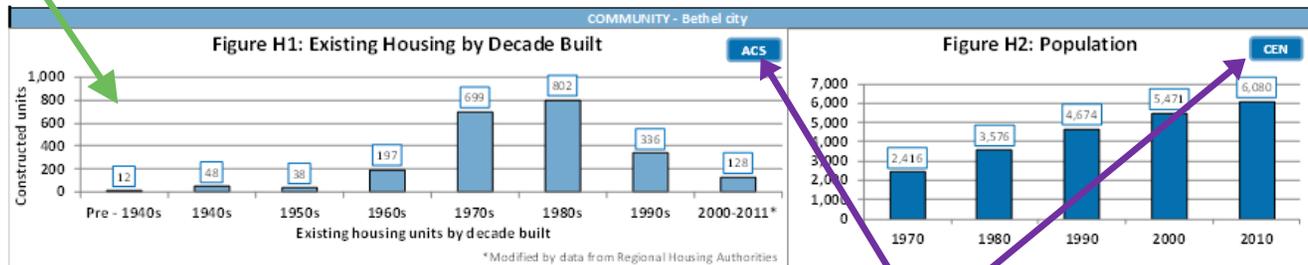
How to Interpret the Profile: Data Sources, Definitions & Clarifications

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.

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:

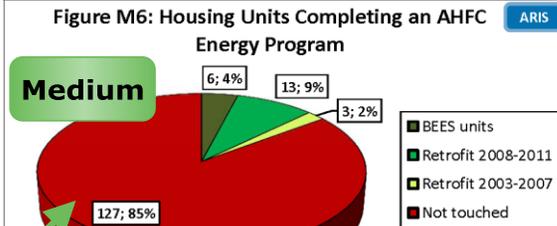
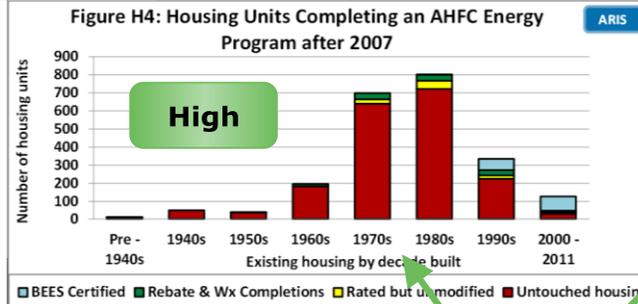
- 2011 American Community Survey 5 year estimates (ACS) **ACS**
- Alaska Retrofit Information System energy audits **ARIS**
- 2010 Decennial Census **CEN**
- Mixed data source; see individual graphs for details. **MIX**

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.

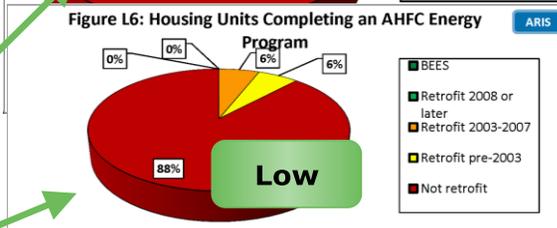
How to Interpret the Profile: Data Sources, Definitions & Clarifications

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.

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

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)

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

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 2008)	
Date Range	Units
2008-2011	17
2003-2007	-
1990-2002	10

Housing Stock Estimates	
All Housing	Nu
All Occupied Housing	
All Housing	
Vacant housing for Sale or Rent	

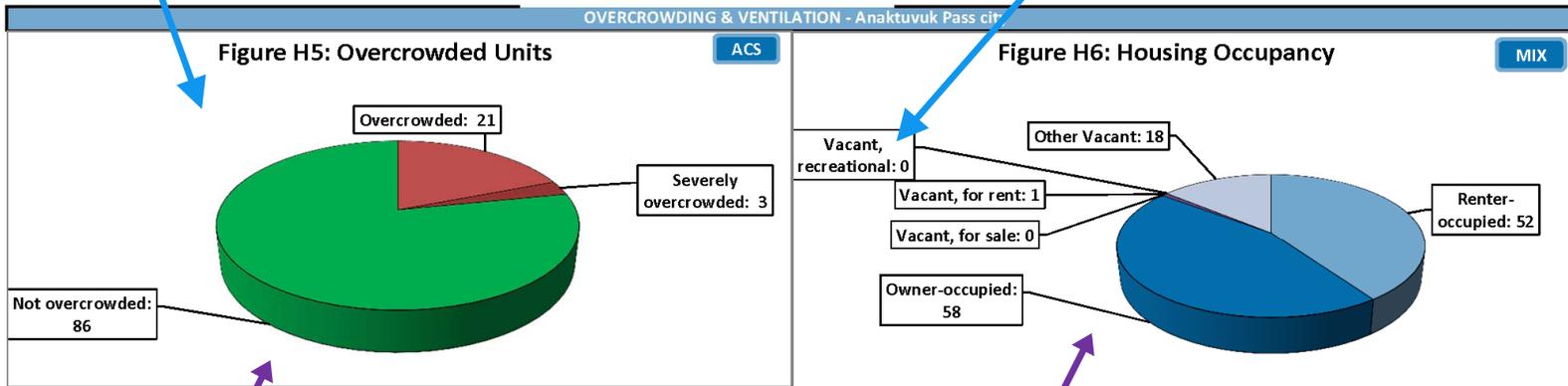
Units weatherized before 2008 are eligible to participate in the program again. (Data source: Alaska Housing Finance Corporation).

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.

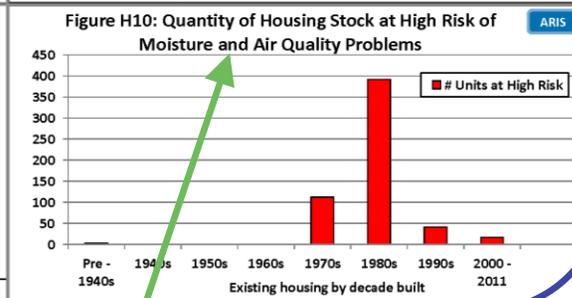
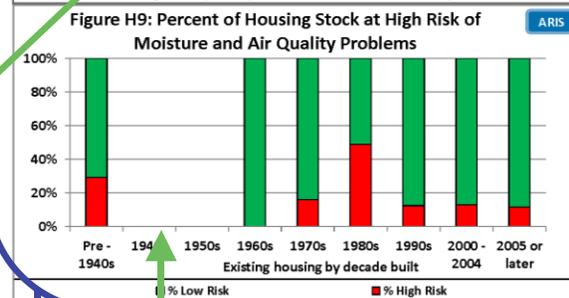
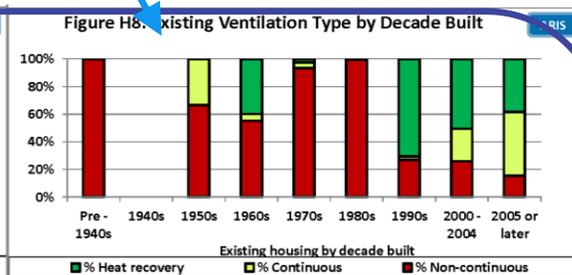
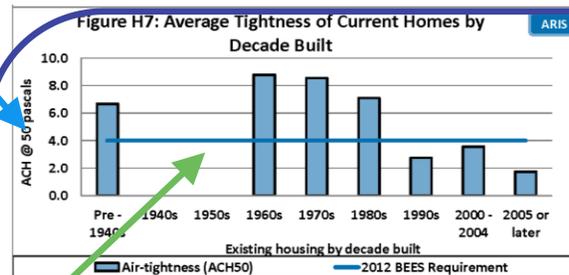
Continuous: Mechanical ventilation without heat recovery operated with automatic controls.

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

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.

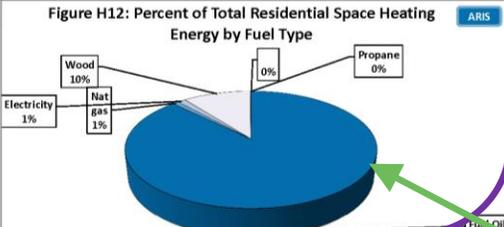
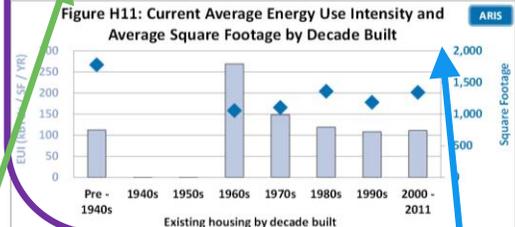
Space Heating, DHW, Appliances:
Estimated annual energy for the end uses of: Space Heating, Domestic Hot Water, and all other energy including lights, appliances, and electronics.

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 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 Use (million Btus)			Avg. EUI (kBtu/SqFt)	Avg. ECI (\$ / SqFt)	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	153	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 or later	28	5-star	91.9	1,233	\$ 4,504	92	39	28	25	79	\$ 3.82	2.5



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

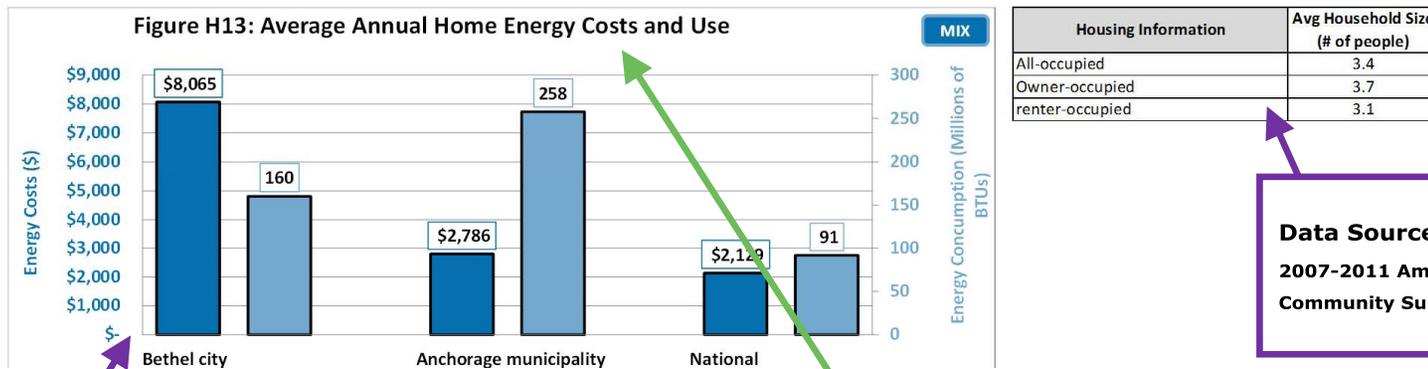
Communities are categorized in this report by the amount of ARIS data available, and reporting is more extensive for locations with more data. Data quantities are defined as--

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



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.

Data Source:
2007-2011 American Community Survey

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.

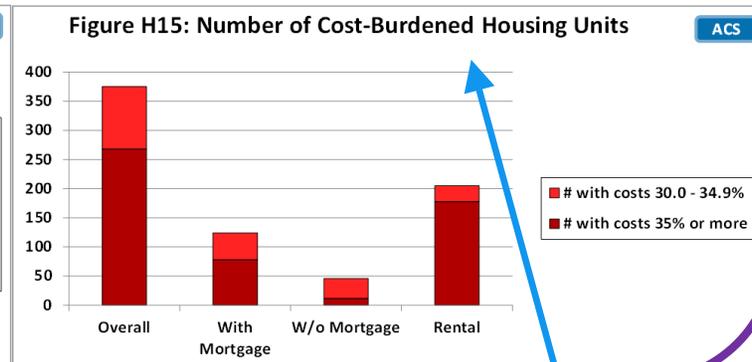
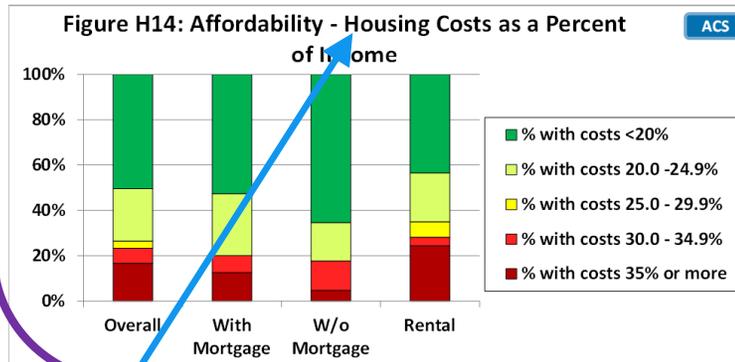
Data Source: Median income comes from 2007-2011 ACS estimates; energy costs come from AHFC's Alaska Retrofit Information System (ARIS).

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%
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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 - Koniag

Figure R1: Existing Housing by Decade Built

ACS

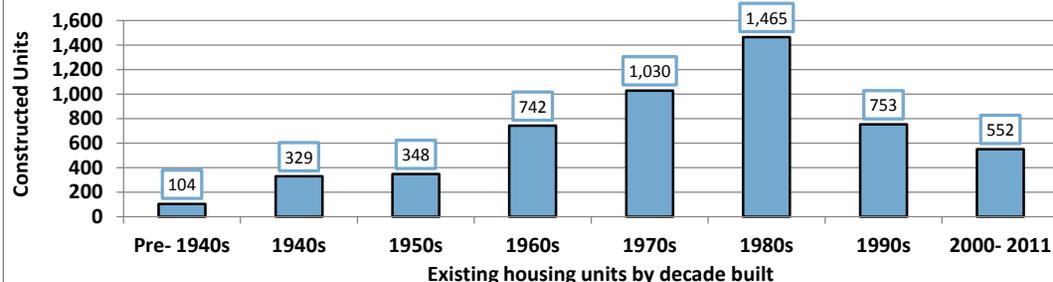


Figure R2: Population

CEN

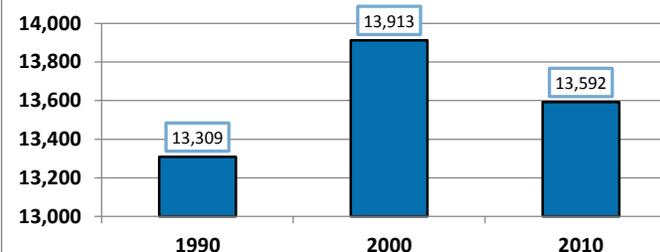


Figure R3: Trends in Housing Unit Size

MIX

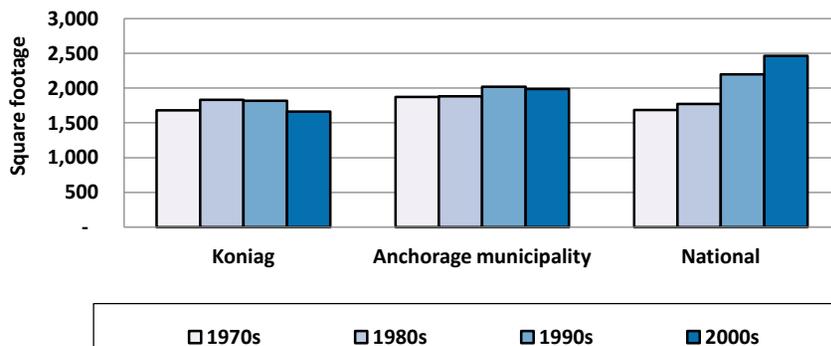
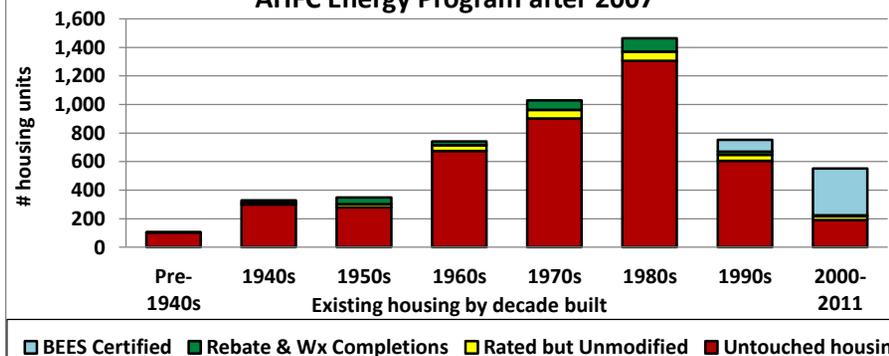


Figure R4: Housing Completing an AHFC Energy Program after 2007

ARIS



Houses Lacking Complete Plumbing or Kitchen Facilities	Households	
	Number	Percent
Lack complete plumbing	58	1%
Lack complete kitchen	44	1%

Avg Annual Energy Cost with PCE	\$6,231
Avg Annual Energy Cost without PCE	\$6,234

Weatherization Retrofits (funding increased 2008)	
Date Range	Units
2008-2011	90
2003-2007	42
1990-2002	119

Estimated Total Annual Community Space Heating Fuel Use		
Fuel Oil	3,724,975	(gallons)
Natural Gas	-	(ccf)
Electricity	2,583,675	(kWh)
Wood	4,216	(cords)
Propane	2,842	(gallons)
Coal	-	(tons)

Housing Need Indicators	Number of units	% Occupied Housing
Overcrowded	398	9%
Housing cost burdened	1,334	30%
1 Star Homes	410	9%

Housing Stock Estimates	Number of Units
All Housing	5,323
All Occupied Housing	4,445
All Vacant housing	878
Vacant Housing for Sale or Rent	157

OVERCROWDING & VENTILATION - Koniag

Figure R5: Overcrowded Units

ACS

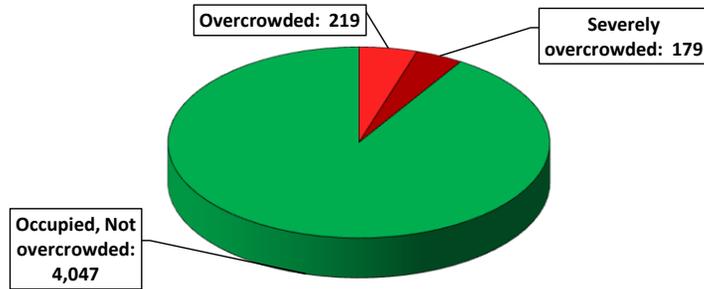


Figure R6: Housing Occupancy

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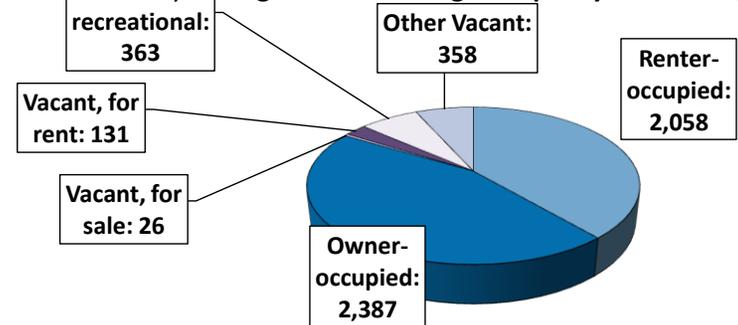


Figure R7: Average Air-Tightness of Current Homes by Decade Built

ARIS

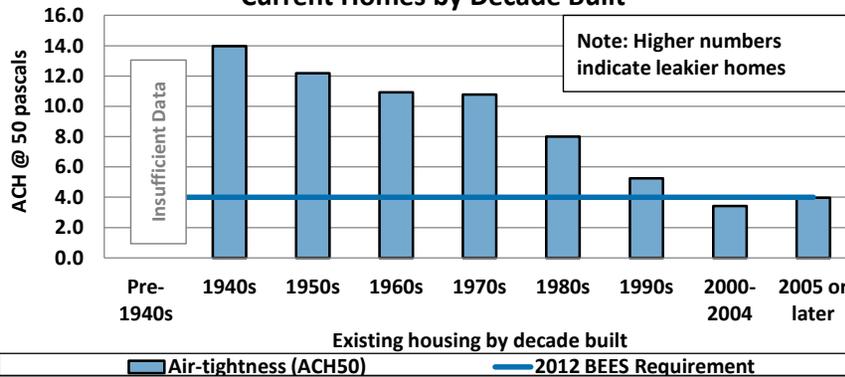


Figure R8: Existing Ventilation Type by Decade Built

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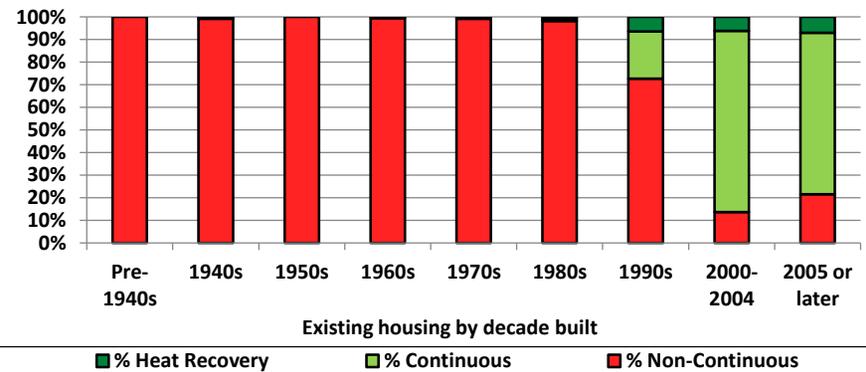


Figure R9: Percent of Housing Stock at High Risk of Moisture and Air Quality Problems

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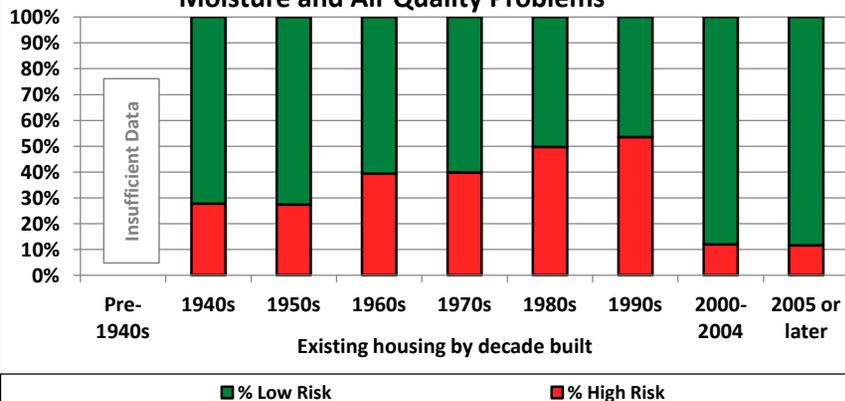
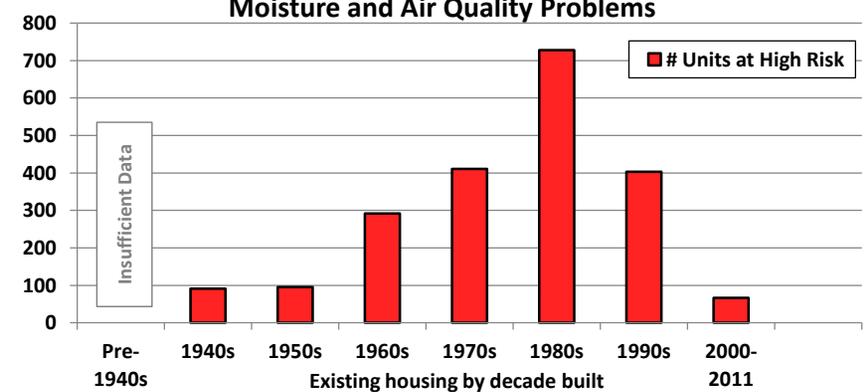


Figure R10: Quantity of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS



ENERGY - Koniag												
Current Koniag 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	1,160	3-star	68.1	1,701	\$6,231	187	123	32	29	117	\$3.95	9.7
Pre- 1940	3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1940- 49	43	2-star	50.8	1,249	\$6,227	184	133	24	27	162	\$5.49	14.3
1950- 59	83	2-star	58.9	1,416	\$6,336	194	136	31	28	142	\$4.78	12.1
1960- 69	88	2-star	58.9	1,666	\$6,981	216	155	31	29	137	\$4.56	12.0
1970- 79	173	2-star plus	61.9	1,682	\$6,946	210	150	32	29	135	\$4.55	11.6
1980- 89	236	3-star	69.4	1,831	\$6,447	198	137	31	30	112	\$3.66	9.4
1990- 99	168	4-star	80.4	1,817	\$5,384	154	84	28	25	86	\$3.05	6.3
2000- 2004	260	5-star	89.6	1,663	\$3,920	108	48	33	27	66	\$2.42	3.6
2005 or later	106	4-star plus	85.9	1,879	\$4,518	127	68	31	28	70	\$2.50	4.5

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

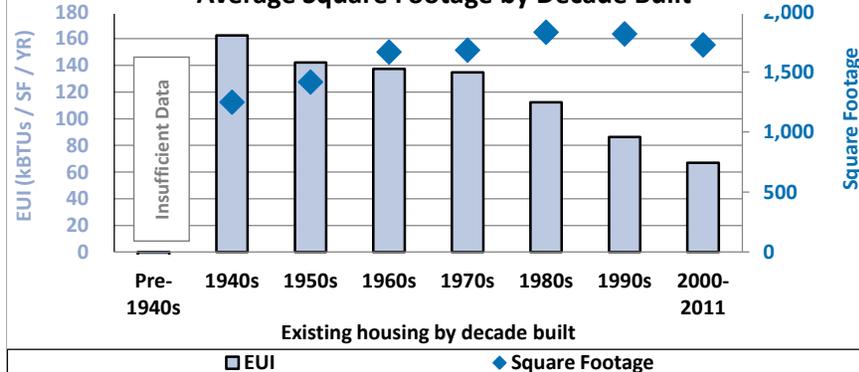
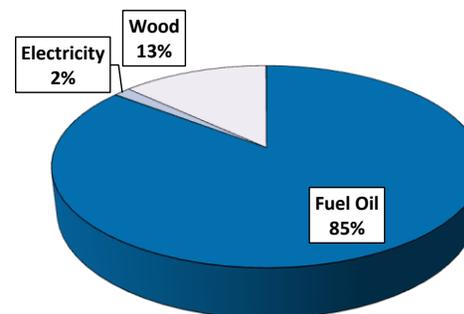


Figure R12: Percent of Total Residential Space Heating Energy by Fuel Type

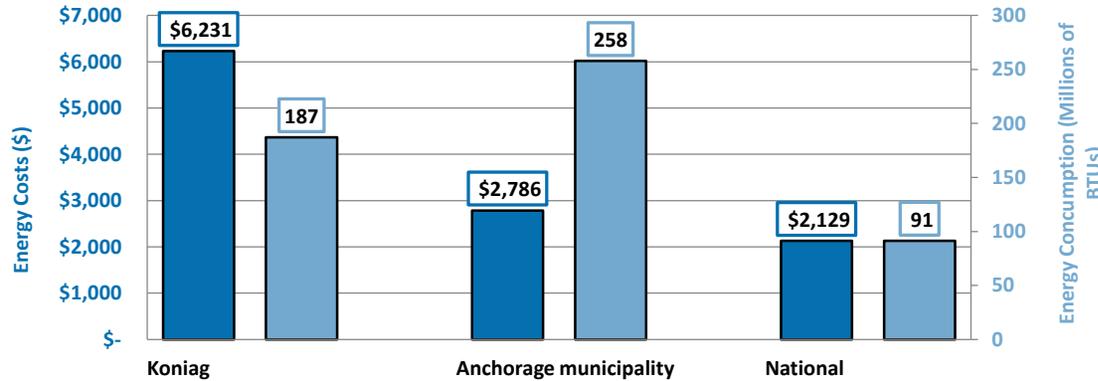


Current Koniag Housing Envelope Characteristics By Decade Built											
Current Residential Units by Year Built	# of AkWarm Records	ACH 50	Ceiling R	Above Grade Wall R	Below Grade Wall R	Above Grade Floor R	On Grade Floor R	Below Grade Floor R	Door U	Garage Door U	Window U
OVERALL	1,160	8.9	24	13	4	16	3	3	0.32	0.32	0.52
Pre- 1940	3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1940- 49	43	14.0	18	10	4	13	2	2	0.38	0.38	0.58
1950- 59	83	12.2	21	11	3	17	2	3	0.35	0.35	0.54
1960- 69	88	10.9	18	10	3	13	2	2	0.34	0.34	0.59
1970- 79	173	10.8	19	12	4	15	3	3	0.36	0.36	0.57
1980- 89	236	8.0	27	15	5	15	3	3	0.32	0.32	0.55
1990- 99	168	5.3	35	19	7	20	3	3	0.24	0.24	0.41
2000- 2004	260	3.4	43	18	12	29	3	3	0.25	0.25	0.35
2005 or later	106	4.0	46	16	8	22	4	4	0.25	0.25	0.35

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

AFFORDABILITY - Koniag

Figure R13: Average Annual Home Energy Cost and Use



Housing Information	Avg Household Size (# of people)
All-occupied	2.9
Owner-occupied	3.0
Renter-occupied	2.7

Median value of owner-occupied house with mortgage
\$263,000

Median value of owner-occupied house without a mortgage
\$107,700

Median Household Income	
Housing Units	Annual Household Income
All-occupied	\$ 66,326
Renter-occupied	\$ 50,599
Owner-occupied	\$ 85,302
w/ mortgage	\$ 103,988
w/o mortgage	\$ 53,333

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 1,145	\$ 13,740
Gross rent	\$ 963	\$ 11,556
Owner-occupied	\$ 1,489	\$ 17,868
Housing units w/ mortgage	\$ 2,034	\$ 24,408
Housing units w/out a mortgage	\$ 638	\$ 7,656

Avg % of Median Income Spent on Energy	9.4%
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Figure R14: Affordability - Housing Costs as a Percent of Income

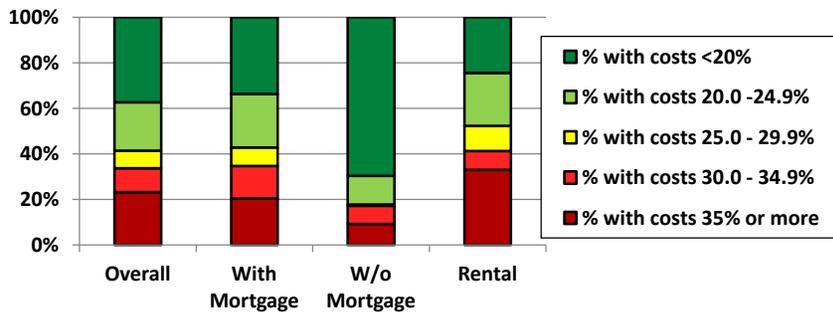


Figure R15: Number of Cost-Burdened Housing Units

