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## Regional and Statewide Housing Characteristics

This ANCSA region summary only includes the highlights of housing characteristics at the ANCSA region level. The 2017 Alaska Housing Assessment provides a significant amount of data and analysis at statewide, ANCSA region and census area levels. That assessment provides a statewide analysis of housing characteristics, how they compare to national numbers, and the estimated housing needs. Within the 2017 Alaska Housing Assessment, written summaries are available for each individual ANCSA region and census area, and data profiles are also available characterizing the housing stock from the perspective of community, overcrowding, energy, affordability and need. These different tiers of information and analysis allow researchers, housing authorities, policymakers and others to generate answers to specific questions. For a more detailed discussion of estimating housing need and comparison of methods to previous housing assessments, see Appendix C Selected Methodology in the 2017 Alaska Housing Assessment.

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## Koniag Region Dashboard

**Population:** The Alaska Department of Labor and Workforce Development's current (2015) population estimate for the Koniag region is 13,819, a decrease of 1 percent from 2000.

**Housing Units:** There are currently 5,393 housing units in the Koniag region. Of these, 4,643 are occupied, 110 are for sale or rent, and the remaining 640 (12 percent) are seasonal or otherwise vacant units.

**Energy and Energy Costs:** The average home in the Koniag region is 1,855 square feet and uses 193 million BTUs of energy annually, compared to the statewide average of 227 million BTUs per year. Using AKWarm estimates, the average annual energy cost for homes in the Koniag region is \$4,680, which is approximately 1.1 times the statewide average and twice the national average.

**Overcrowding:** In the Koniag region 413 (9 percent) of occupied units are estimated to be either overcrowded (5 percent) or severely overcrowded (4 percent). This is nearly three times the national average and the sixth most overcrowded in the state.

**Drafty Homes and Ventilation:** Approximately 2,461 (53 percent) of homes in the Koniag region are drafty, exceeding seven air changes per hour at 50 Pascals (ACH50). The statewide average is 36 percent. In contrast, there are an estimated 1,811 occupied housing units (39 percent) in the Koniag region that are relatively airtight and lack a continuous ventilation system. These houses are at higher risk of issues with moisture and indoor air quality.

**Affordability:** On average, approximately 1,623 (35 percent) of households in the Koniag region are cost-burdened, spending more than 30 percent of total household income on housing costs, which include rent, utilities and energy costs. Statewide 31 percent of households are cost-burdened.

**Senior Housing:** There are an estimated 107 beds in senior housing facilities in the Koniag region. Currently the Alaska Department of Labor and Workforce Development estimates there are 1,295 seniors in the ANCSA region and projects an increase to 2,449 by 2030.

**Housing Issues:** There are an estimated 2,210 homes built before the 1980s in the Koniag region that have not been retrofitted through a state program in the past 10 years. Approximately 14 (0 percent) homes in the Koniag region lack complete kitchens and approximately 40 (1 percent) lack complete bathrooms.

## Koniag Region Housing Need Highlights

The primary housing need in the Koniag region is energy retrofits and the region must address a need for new housing to alleviate overcrowding and to accommodate the growing number of seniors.

The need for housing retrofits is acknowledged in the *Kodiak Regional Energy Plan*.<sup>1</sup> The first regional energy goal reported in the plan is “to encourage energy efficiency of homes and businesses.” The plan includes strategies to encourage energy efficiency through public outreach, education, technical assistance and smart meter technologies. In all seven communities in the region, energy efficiency and conservation programs were ranked as having high potential to decrease energy usage due to the age of housing units and number of units that have not been weatherized. Four communities ranked housing as a main concern.<sup>2</sup>

**Housing Gap:** There are currently 5,393 housing units in the region and 86 percent of these are occupied. An estimated 9 percent of housing units are overcrowded or severely overcrowded. This is higher than the state average overcrowding level and almost three times the national average.<sup>3</sup> The region’s population is projected to rise slightly in the next decade but only approximately 2 percent of the current housing units are for sale or rent (other vacant units are used seasonally or for other purposes), which means there are few available homes.

**Affordable Housing Need:** Approximately 35 percent of homes are cost-burdened, meaning they spend more than 30 percent of total household income on housing costs.<sup>4</sup> Addressing the need to retrofit homes should reduce energy costs and increase affordability.

**Senior Housing Needs:** There are 107 beds available in senior housing facilities in the region. Fifteen beds are in assisted-care living facilities.<sup>5</sup> There are currently 1,295 seniors, and this population is expected to increase to 2,449 by 2030.<sup>6</sup> Increasing

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<sup>1</sup> SWAMC and Information Insights. (2015). *Kodiak Regional Energy Plan. Volume I: Resource Inventory and Priorities*. Retrieved from <http://www.akenergyauthority.org/Policy/RegionalPlanning>.

<sup>2</sup> SWAMC and Information Insights. (2015). *Kodiak Regional Energy Plan. Volume II: Community Profiles*. Retrieved from <http://www.akenergyauthority.org/Policy/RegionalPlanning>.

<sup>3</sup> U.S. Census Bureau. (2016). *American Community Survey, 2010–2014 American Community Survey Five-year Estimates*.

<sup>4</sup> Ibid.

<sup>5</sup> AHFC Senior Housing Office. (2016). *Inventory List: Assisted Living Homes/Facilities*. Revised 5/02/2016.

AHFC Senior Housing Office. (2016). *Inventory List: Independent Living Homes/Facilities*. Revised 5/02/2016.

Retrieved from <https://www.ahfc.us/senior-support/>

<sup>6</sup> Hunsinger, Eddie, Sandberg, E., & Brooks, L. (2016). *Alaska Population Projections 2015 to 2045*. Alaska Department of Labor and Workforce Development, Research and Analysis Section.

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available senior housing should ensure adequate assisted and independent living facilities for the projected future population of seniors.

**Retrofit Needs:** The need to retrofit homes is likely the greatest need faced by the Koniag region, since 50 percent of homes were built before 1980 and have not yet had a retrofit.<sup>7</sup> Completing energy retrofits on these homes will help lessen the level of cost-burdened families. Approximately 8 percent of all housing units are 1-star homes, meaning they have the lowest rating on a 100-point system that ranks thermal resistance, air leakage, moisture protection and ventilation. These 1-star homes consume four times more energy than a home built to AHFC's Building Energy Efficiency Standard (BEES). More than half of the homes (53 percent) are drafty and an additional 39 percent face the opposite issue of being relatively airtight but lacking continuous ventilation. In both cases, ensuring homes are airtight and have a proper ventilation system can lessen energy bills, increase comfort and prevent health and durability issues such as mold growth.

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<sup>7</sup> See Appendix C: Methodology for details.

## Koniag Region Summary

### Community

The Koniag, Incorporated ANCSA 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 Koniag region is 1,790 square feet.

The ratio of dependents, both those under 16 and those over 65, relative to the working age population in the Koniag region is lower than the statewide average and lower than the national ratio.<sup>8</sup> The Koniag region is expected to see an increase in the non-working age population by 2030.

The ratio of senior age dependents to the working age population is higher than the statewide average and lower than the national average. The Koniag region is projected to see the ratio of senior age dependents to working age dependents increase by 2.1 times by 2030.

There are an estimated 107 dedicated beds in senior housing in the Koniag region, with 15 of those dedicated to assisted care living.<sup>9</sup> Currently the Alaska Department of Labor and Workforce Development estimates there are 1,295 seniors in the Koniag region and projects that there will be 2,449 senior citizens by 2030.<sup>10</sup> In the Koniag region 1.2 percent of senior citizens are in assisted care housing. This is lower than the statewide rate of 2.8 percent senior citizens in assisted care housing. Nationally, approximately 3.5 percent of senior citizens are in senior living facilities.<sup>11</sup>

Comparison of the growth rates in the senior age (65+) segment of the population to the young dependent age (0 to 15) population indicate that in the Koniag region the primary pressure for new housing over the next 15 years will come from households with elderly people.

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<sup>8</sup> Hunsinger, Eddie, Sandberg, E., & Brooks, L. (2016). "Alaska Population Projections 2015 to 2045." Alaska Department of Labor and Workforce Development, Research and Analysis Section.

U.S. Census Bureau. (2016). American Community Survey, 2010–2014 American Community Survey Five-year Estimates.

<sup>9</sup> AHFC Senior Housing Office. (2016). *Inventory List: Assisted Living Homes/Facilities*. Revised 5/02/2016.

AHFC Senior Housing Office. (2016). *Inventory List: Independent Living Homes/Facilities*. Revised 5/02/2016.

Retrieved from <https://www.ahfc.us/senior-support/>

<sup>10</sup> Hunsinger, Eddie, Sandberg, E., & Brooks, L. (2016). "Alaska Population Projections 2015 to 2045." Alaska Department of Labor and Workforce Development, Research and Analysis Section.

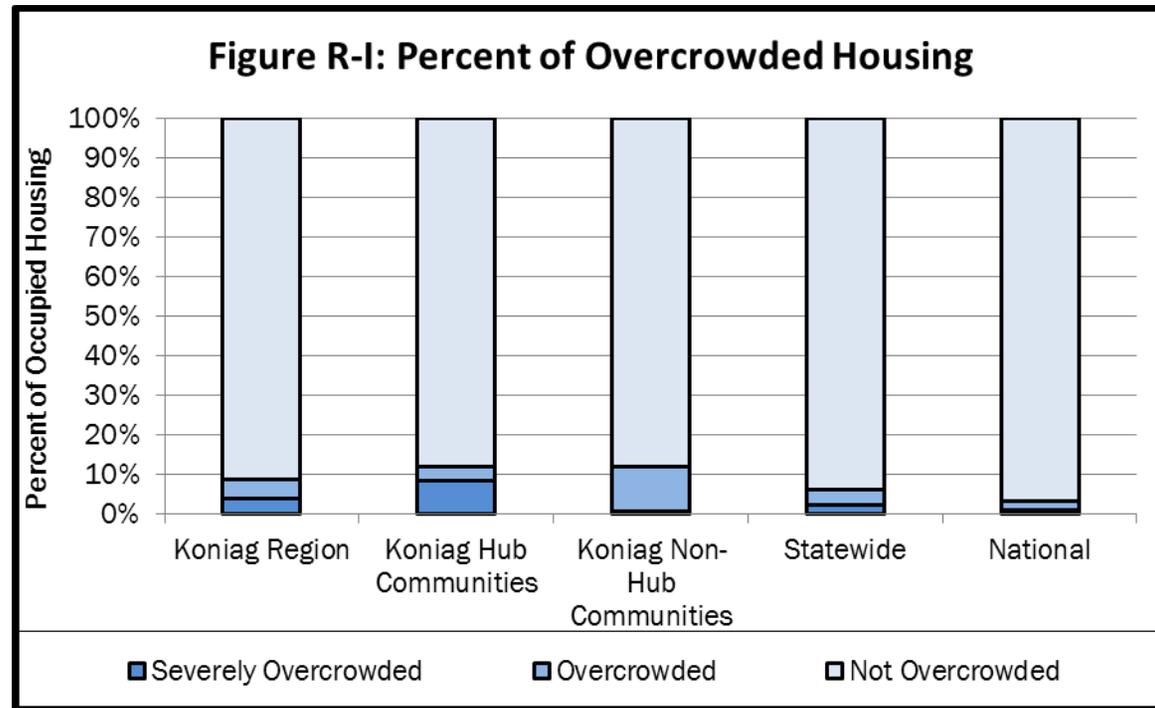
<sup>11</sup> Ribbe, M., Ljunggren, G., Steel, K., Topinkova, E., Hawes, C., Ikegami, N., ... Jonnson, P. (1997). "Nursing Homes in 10 Nations: A Comparison Between Countries and Settings." *Age and Ageing*, 26(S2), 3-12

## Overcrowding<sup>12</sup>

The Koniag region is the sixth most overcrowded ANCSA region in Alaska. Approximately 9 percent of households are overcrowded in the region as a whole. The rate of overcrowding in the Koniag region is more than 1.4 times the statewide average (6.4 percent) and nearly 2.7 times the national average (3.3 percent).

Overcrowding in the non-hub communities is approximately the same as that found in the hub community. Overcrowding is defined as households with more than 1 person per room. Severe overcrowding is defined as households with more than 1.5 persons per room. Non-hub communities in the Koniag region average more than 1 times the overcrowding rate of the hub community, with approximately 12 percent of households overcrowded compared hub community's 12 percent. Further, 0.8 percent of non-hub community households are severely overcrowded. This is 80 percent of the national average.

Approximately 2 percent of housing units in the Koniag region are available for sale or rent. The percentage of units for sale or rent in non-hub communities (4 percent) is more than in the hub community (2 percent). Additionally, 12 percent of housing units in the Koniag region are considered vacant because they are used for seasonal, recreational or other non-year-round purposes.

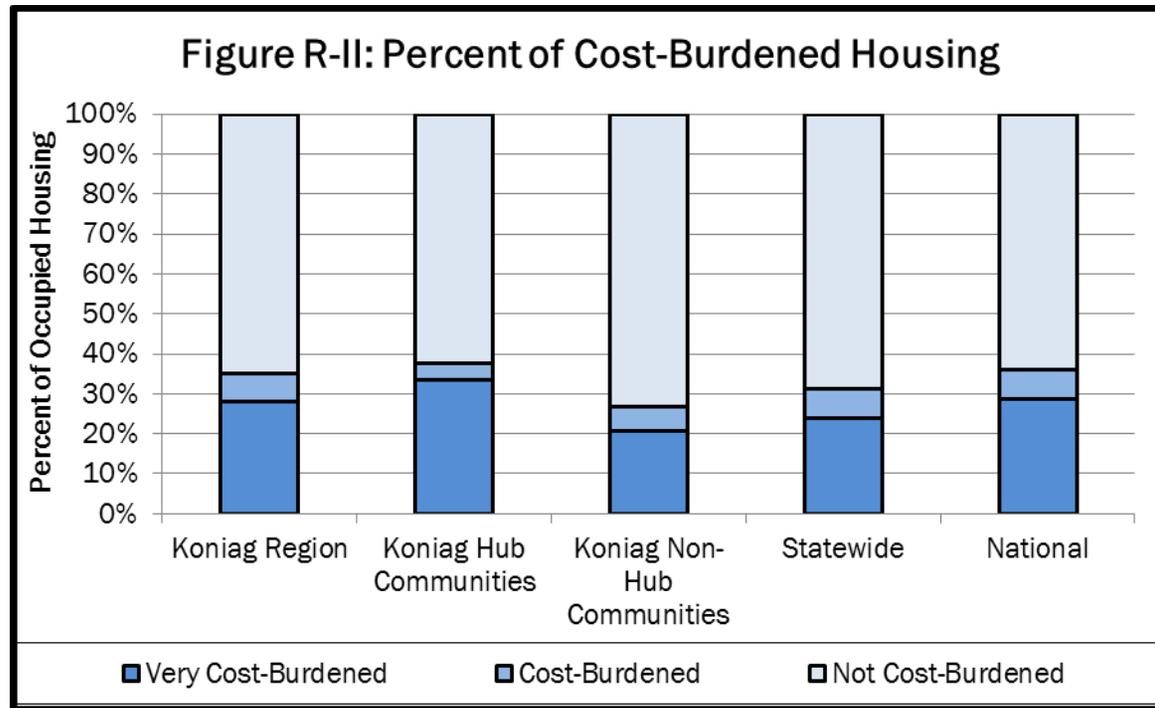


<sup>12</sup> U.S. Census Bureau. (2016). American Community Survey, 2010–2014 American Community Survey Five-year Estimates.

### Affordability<sup>13</sup>

According to estimates from the U.S. Census American Community Survey (ACS), 35 percent of households in the Koniag region are cost-burdened, that is, spend more than 30 percent of their income on housing costs. Non-hub communities have a lower percentage (27 percent) of households that are cost-burdened than the hub community (38 percent). The rate of cost-burdened households in the Koniag region is approximately the same as the national average (36 percent).

The median household income in the Koniag region is \$70,529. This is approximately the same as the statewide median of \$71,829. The national median is \$53,482.



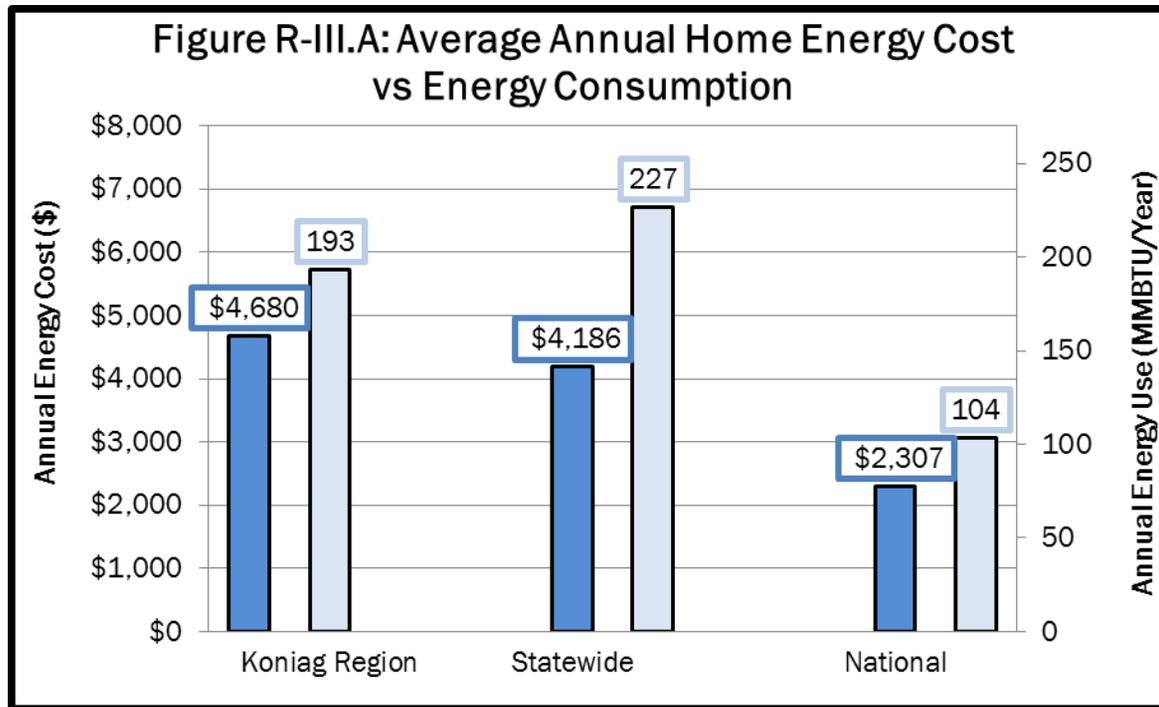
<sup>13</sup> U.S. Census Bureau. (2016). American Community Survey, 2010–2014 American Community Survey Five-year Estimates.

## Energy<sup>14</sup>

### Single-family Units

Single-family homes in the Koniag region consume an average of 193 million BTUs per year in energy, the fifth highest energy consumption in the state. This average annual energy consumption is 85 percent of the statewide average of 227 million BTUs and 1.9 times the national average.

Energy costs for single-family homes in the Koniag region average \$4,680 annually. This is the sixth lowest in the state. Koniag energy costs are 1.1 times the statewide average and twice the national average.



With an average footprint of 1,855 square feet, single-family homes in the Koniag region are smaller than the statewide average of 1,955 square feet. Nationally the average house size is 2,425 square feet.

The energy use intensity (EUI), or annual energy used per square foot for a single-family home in the Koniag region averages 113,906 BTUs per square foot, the second lowest in the state. This is 50 percent of the statewide average of 227,000 BTUs per square foot and 2.7 times the national average. The energy cost index (ECI), or annual energy cost per square foot, for a single-family home in the Koniag region averages \$2.52, the third lowest in the state. This is 1.1 times the statewide average of \$2.31 per square foot and 2.7 times the national average of \$0.95 per square foot.

The home heating index (HHI) in the Koniag region for the average single-family homes is 9.18 BTUs/ft<sup>2</sup>/HDD. This is the fifth highest in the state. The HHI for the Koniag region is approximately the same as the statewide average. The normalized cost of energy, in terms of dollars per million BTUs, for a single-family home in the Koniag region averages \$21.01, the sixth lowest in the

<sup>14</sup> See Appendix C: Methodology for details.

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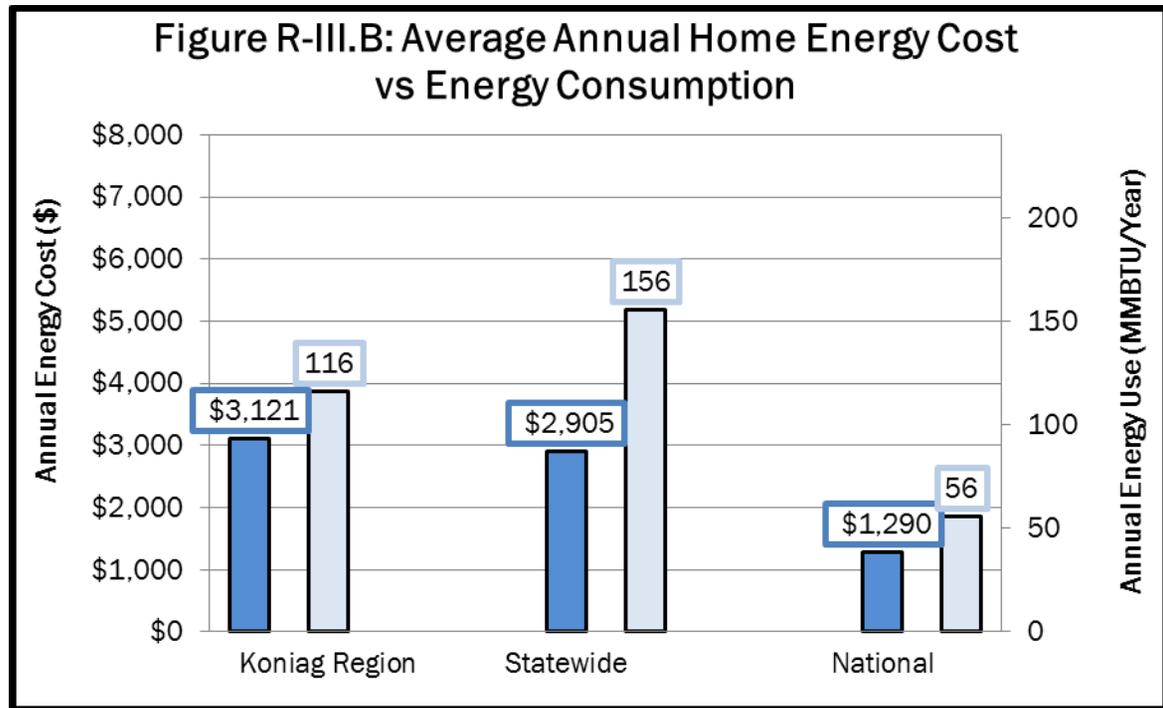
state. This is 1.3 times the statewide average of \$15.80 per million BTUs and 94 percent of the national average of \$22.27 per million BTUs.

### Multifamily Units

Multifamily housing units in the Koniag region consume an average of 116 million BTUs per year in energy, the third lowest energy consumption in the state. This average annual energy consumption is 75 percent of the statewide average of 156 million BTUs and 1.9 times the national average.

Energy costs for multifamily housing units in the Koniag region average \$3,121 annually. This is the fifth lowest in the state. Koniag energy costs are 1.1 times the statewide average and 2.4 times the national average.

With an average footprint of 1,234 square feet, multifamily housing units in the Koniag region are smaller than the statewide average of 1,284 square feet. Nationally the average unit in multifamily housing is 930 square feet.

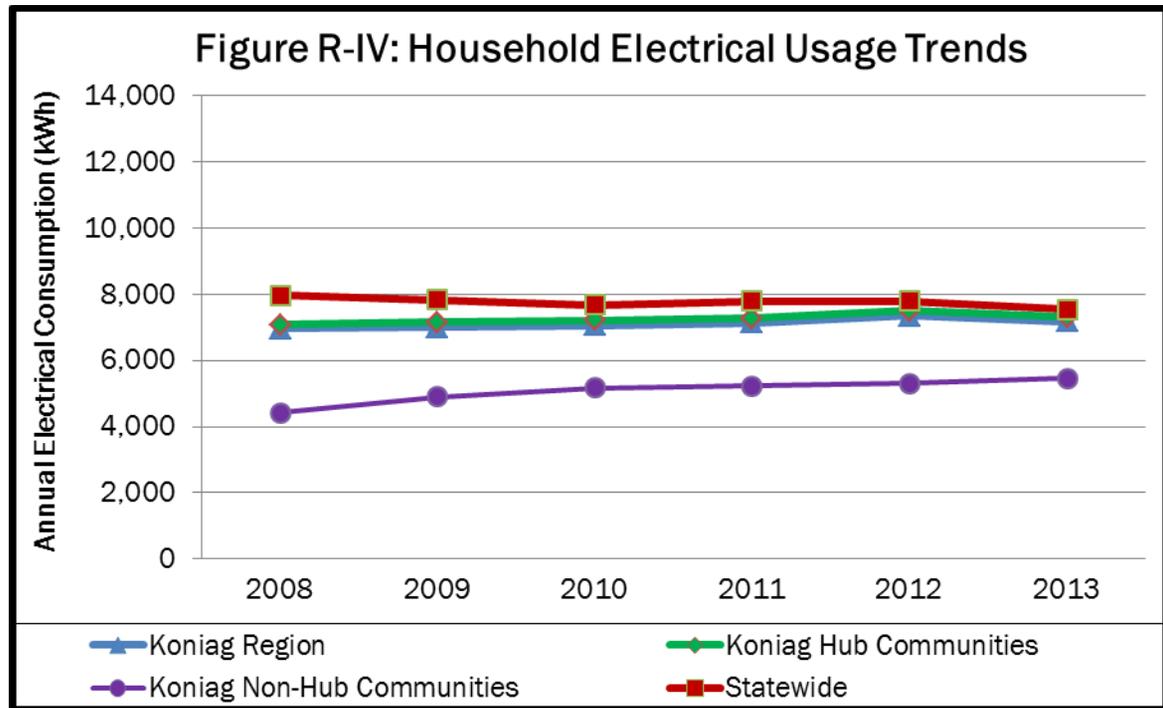


The energy use intensity (EUI), or annual energy used per square foot for a unit in multifamily housing in the Koniag region averages 100,233 BTUs per square foot, the fourth lowest in the state. This is 78 percent of the statewide average of 128,000 BTUs per square foot and 1.7 times the national average. The energy cost index (ECI), or annual energy cost per square foot, for a unit in multifamily housing in the Koniag region averages \$2.53, the fifth lowest in the state. This is 1.1 times the statewide average of \$2.27 per square foot and 1.8 times the national average of \$1.39 per square foot.

The home heating index (HHI) in the Koniag region for the average multifamily housing unit is 6.94 BTUs/ft<sup>2</sup>/HDD. This is the fifth highest in the state. The HHI for the Koniag region is 84 percent of the statewide average. The normalized cost of energy, in terms of dollars per million BTUs, for a unit in multifamily housing in the Koniag region averages \$20.69, the sixth highest in the state. This is 1.6 times the statewide average of \$12.79 per million BTUs and 90 percent of the national average of \$23.12 per million BTUs.

### Regional Residential Electrical Use Trends<sup>15</sup>

In 2013 the average household in the Koniag region consumed 7,174 kWh of electricity annually. This is approximately 3 percent more than in 2008. Hub communities in the region averaged 7,309 kWh per year. This is an increase of 3 percent over the same period. In contrast, non-hub communities averaged 5,462 kWh in 2013, an increase of 24 percent since 2008. Statewide, the average household consumed 7,540 kWh of electricity in 2013, a decrease of 5 percent since 2008.



### Inefficient and Older Homes<sup>16</sup>

Approximately 395 (9 percent) of the occupied homes in the Koniag region are estimated to be 1-star homes. A 1-star home uses approximately four times more energy than if built to AHFC's Building Energy Efficiency Standard (BEES). Statewide, an estimated 14,966 (6 percent) of occupied homes are 1-star homes.

Homes built before 1980 that have not been retrofit are potentially homes in need. Approximately 50 percent of all homes in the Koniag region fit these two criteria. This is higher than the statewide average of 39 percent.

<sup>15</sup> Fay, G., Villalobos Melendez, A. & West. C. (2014). *Alaska Energy Statistics: 1960-2011*. UAA Institute of Social and Economic Research. Retrieved from: [http://iser.uaa.alaska.edu/Publications/2013\\_12-AlaskaEnergyStatistics2011Report\\_Final\\_2014-04-30.pdf](http://iser.uaa.alaska.edu/Publications/2013_12-AlaskaEnergyStatistics2011Report_Final_2014-04-30.pdf)

<sup>16</sup> See Appendix C: Methodology for details.

## Housing Condition <sup>17</sup>

### Ventilation

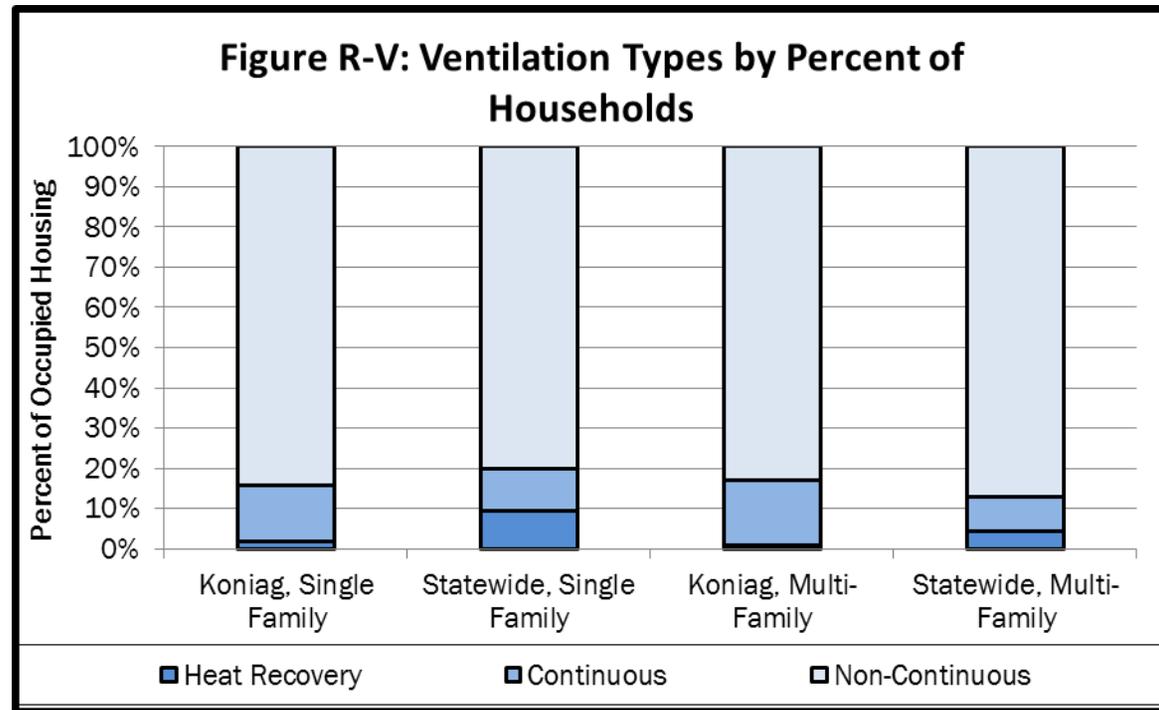
Approximately 16 percent of the occupied homes in the Koniag region have heat recovery or continuous mechanical ventilation systems installed. This is the fourth lowest in the state. Statewide approximately 20 percent of occupied homes have continuous mechanical ventilation systems, with or without heat recovery.

### Indoor Air Quality

A tight home with no or inadequate ventilation has an increased risk of issues with indoor air quality or moisture. The Koniag region has the second lowest percentage of housing units in the state that are relatively airtight and lack continuous mechanical ventilation. Approximately 1,326 (29 percent) of the occupied homes in the Koniag region are estimated to be at moderate risk, with 466 (10 percent) estimated to be at high risk. Statewide, approximately 30 percent of occupied homes are estimated to be at moderate risk and 26 percent are estimated to be at high risk.

### Draftiness

To quantify drafty homes, the following definitions were used. Drafty homes will see test results of between 7 and 12 air changes per hour at 50 Pascals (ACH50) when subjected to a blower door test. Very drafty homes will see test results of greater than 12 ACH50. Approximately 1,523 (33 percent) of the occupied homes in the Koniag region are estimated to be drafty, with 937 (20 percent) estimated to be very drafty. Statewide approximately 24 percent of occupied homes are estimated to be drafty and 12 percent are estimated to be very drafty.



<sup>17</sup> See Appendix C: Methodology for details.