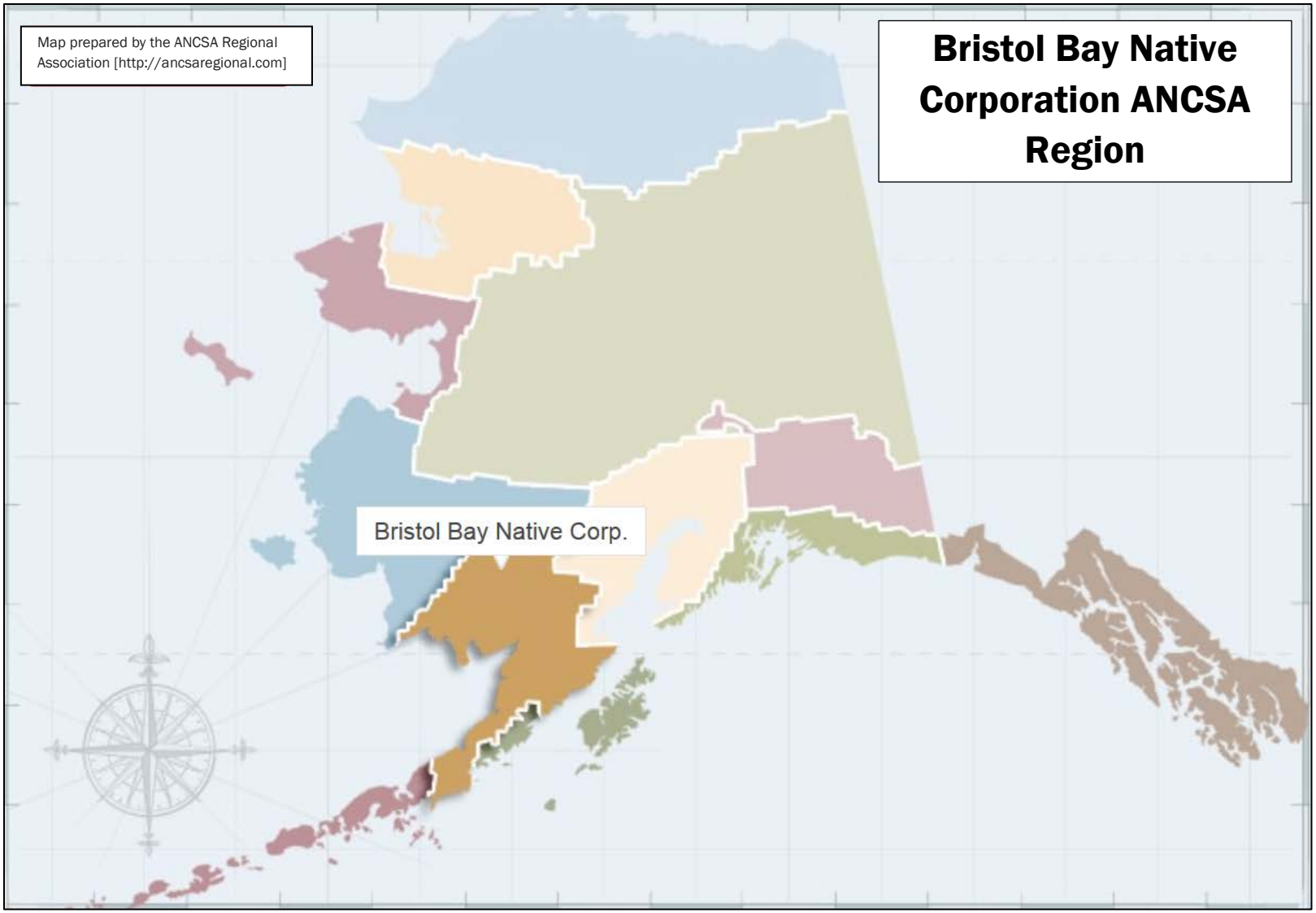
Map prepared by the ANCSA Regional Association [http://ancsaregional.com]
Bristol Bay Native Corporation ANCSA Region
Bristol Bay Native Corp.

Table of Contents

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.

Bristol Bay Region Dashboard

Population: The Alaska Department of Labor and Workforce Development's current (2015) population estimate for the Bristol Bay region is 7,346, a decrease of 7 percent from 2000.

Housing Units: There are currently 4,645 housing units in the Bristol Bay region. Of these, 2,188 are occupied, 147 are for sale or rent, and the remaining 2,312 (50 percent) are seasonal or otherwise vacant units.

Energy and Energy Costs: The average home in the Bristol Bay region is 1,175 square feet and uses 141 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 Bristol Bay region is $4,180. This is approximately 1.0 percent of the statewide average and 1.8 times the national average.

Overcrowding: In the Bristol Bay region 354 (16 percent) of occupied units are estimated to be either overcrowded (10 percent) or severely overcrowded (7 percent). This is nearly five times the national average and the fifth most overcrowded in the state.

Drafty Homes and Ventilation: Approximately 1,050 (48 percent) of homes in the Bristol Bay 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 919 occupied housing units (42 percent) in the Bristol Bay 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 512 (23 percent) of households in the Bristol Bay 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 30 beds in senior housing facilities in the Bristol Bay region. Currently the Alaska Department of Labor and Workforce Development estimates there are 675 seniors in the ANCSA region and projects an increase to 1,284 by 2030.

Housing Issues: There are an estimated 1,258 homes built before the 1980s in the Bristol Bay region that have not been retrofitted through a state program in the past 10 years. Approximately 137 (6 percent) homes in the Bristol Bay region lack complete kitchens and approximately 268 (12 percent) lack complete bathrooms.

Bristol Bay Region Housing Need Highlights

Two significant housing needs in the Bristol Bay region are to increase the number of units built to meet population growth and alleviate overcrowding, and to build more senior facilities to house senior citizens whose population is expected to nearly double by 2030.[1]

The *Bristol Bay Regional Energy Plan* identified the need to retrofit residences to increase energy efficiency and decrease the region's high space heating costs.[2] The energy plan suggested residential projects such as outreach, school programs, assistance for homeowners signing up for efficiency programs, and expanding weatherization services to create a focus on energy-efficiency measures to reduce future energy costs.

Housing Gap: An estimated 16 percent of households in the Bristol Bay region are overcrowded or severely overcrowded, which is approximately five times the national average.[3] The current rate of new construction in the region is not sufficient to meet demand from projected population growth, which may result in additional overcrowding and/or homelessness.

Affordable Housing Need: An estimated 23 percent of households in the Bristol Bay region are cost-burdened, meaning they spend 30 percent or more of their total household income on housing-related costs.[4]

Senior Housing Needs: The Bristol Bay region currently has a lower ratio of senior housing facilities to senior citizens than the statewide average. The population of senior citizens is projected to nearly double by 2030 to an estimated 1,284 people older than the age of 65.[5]

Retrofit Needs: The Bristol Bay region has the highest rate of participation in energy programs in the state with an estimated 32 percent of occupied housing retrofit through the Weatherization Assistance Program, 4 percent signing up for the Home Energy Rebate Program, and another 3 percent certified to meet the Building Energy Efficiency Standard.[6] This appears to have had a

[1] Hunsinger, Eddie, Sandberg, E., & Brooks, L. (2016)."Alaska Population Projections 2015 to 2045." Alaska Department of Labor and Workforce Development, Research and Analysis Section.
[2] Southwest Alaska Municipal Conference & Information Insights. (2015). *Bristol Bay Regional Energy Plan. Phase II- Stakeholder Engagement*. Retrieved from: https://www.bbna.com/wp-content/uploads/BB-Regional-Energy-Plan-Phase-II-9.21.15.pdf
[3] U.S. Census Bureau. (2016). *American Community Survey, 2010–2014 American Community Survey Five-year Estimates*.
[4] Ibid.
[5] Hunsinger, Eddie, Sandberg, E., & Brooks, L. (2016). Alaska Population Projections 2015 to 2045. Alaska Department of Labor and Workforce Development, Research and Analysis Section.
[6] See Appendix C: Methodology for details.

significant impact on the housing stock in the region, as it has the lowest rate of unimproved homes built before 1980 and among the lowest rates of inefficient homes in Alaska.

Bristol Bay still has significant numbers of households that lack basic facilities, with an estimated 6 percent of occupied homes lacking complete kitchens and 12 percent of occupied homes lacking complete bathrooms.[7]

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

Bristol Bay Region Summary

Community

The Bristol Bay Native Corporation ANCSA region is located in the Southwest corner of mainland Alaska and leads into the Bristol Bay, with many communities located on the coast. The average home size in the Bristol Bay region is 1,169 square feet.

The ratio of dependents, both those under 16 and those over 65, relative to the working age population in the Bristol Bay region is lower than the statewide average and lower than the national ratio.[8] The Bristol Bay region is expected to see an increase in the nonworking age population by 2030.

The ratio of senior age dependents to the working age population is approximately the same as the statewide average and lower than the national average. The Bristol Bay region is projected to see the ratio of senior age dependents to working age dependents increase by 2.4 times by 2030.

There are an estimated 30 dedicated beds in senior housing in the Bristol Bay region, with 10 of those dedicated to assisted care living.[9] Currently the Alaska Department of Labor and Workforce Development estimates there are 675 seniors in the Bristol Bay region and projects that there will be 1,284 senior citizens by 2030.[10] In the Bristol Bay region 1.5 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.[11]

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 Bristol Bay region the primary pressure for new housing over the next 15 years will come from households with elderly people.

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

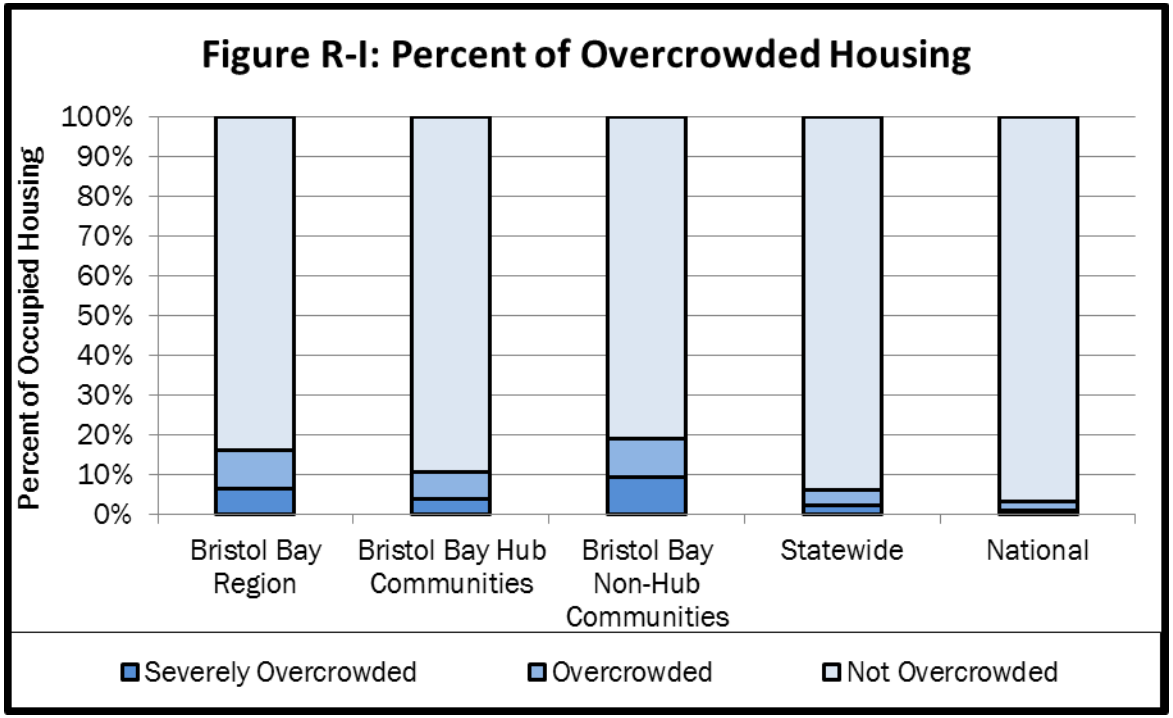
[9] AHFC Senior Housing Office. (2016). *Inventory List: Assisted Living Homes/Facilities*. Revised 5/02/2016.
AHFC Senior Housing Office. (2016). *Inventory List: Independent Living Homes/Facilities*. Revised 5/02/2016.
Retrieved from https://www.ahfc.us/senior-support/

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

[11] 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[12]

The Bristol Bay Native Corporation is the fifth most overcrowded ANCSA region in Alaska. Approximately 16 percent of households are overcrowded in the region as a whole. The rate of overcrowding in the Bristol Bay region is nearly 2.5 times the statewide average (6.4 percent) and nearly 4.9 times the national average (3.3 percent).



Overcrowding in the non-hub communities is more than 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 Bristol Bay region average nearly 1.8 times the overcrowding rate of the hub community, with approximately 19 percent of households overcrowded compared to the hub community's 11 percent. Further, 9.5 percent of non-hub community households are severely overcrowded. This is 9.5 times the national average.

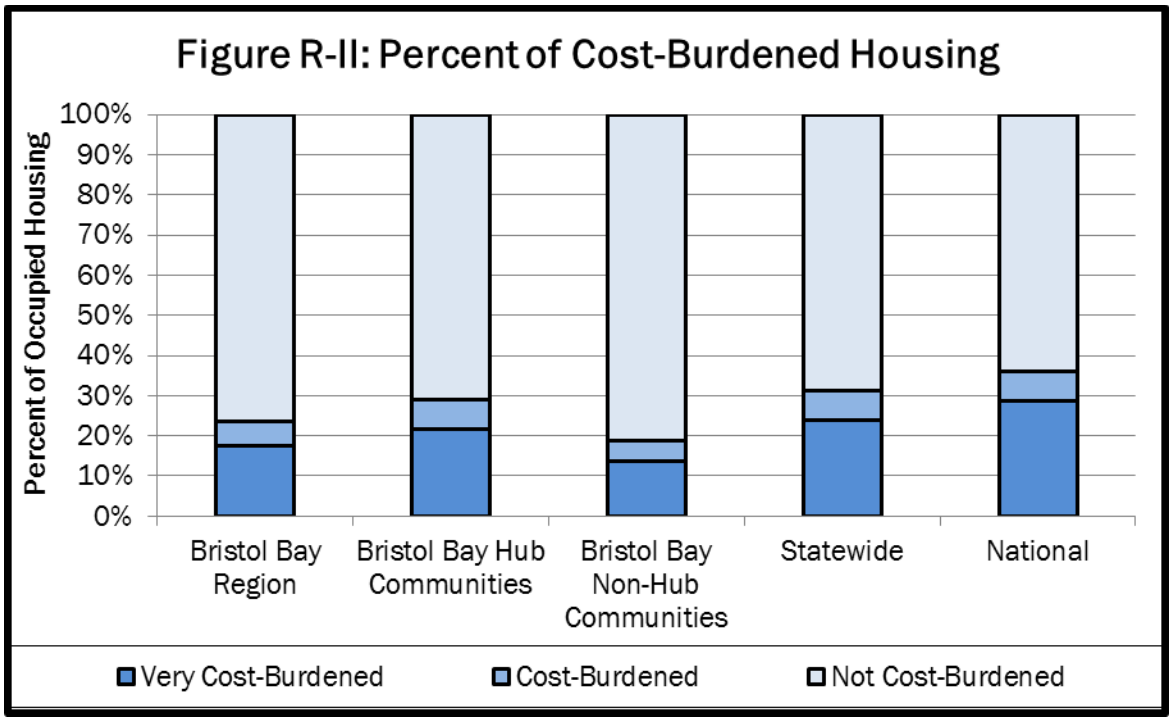
Approximately 3 percent of housing units in the Bristol Bay region are available for sale or rent. The percentage of units for sale or rent in non-hub communities (4 percent) is less than in the hub community (4 percent). Additionally, 50 percent of housing units in Bristol Bay region are considered vacant because they are used for seasonal, recreational or other non-year-round purposes.

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

Affordability[13]

According to estimates from the U.S. Census American Community Survey (ACS), 23 percent of households in the Bristol Bay region are cost-burdened, that is, spend more than 30 percent of their income on housing costs. Non-hub communities have a lower percentage (19 percent) of households that are cost-burdened than the hub community (29 percent). The rate of cost-burdened households in Bristol Bay region is 70 percent of the national average (36 percent).

The median household income in the Bristol Bay region is $56,886. This is lower than the statewide median of $71,829. The national median is $53,482.



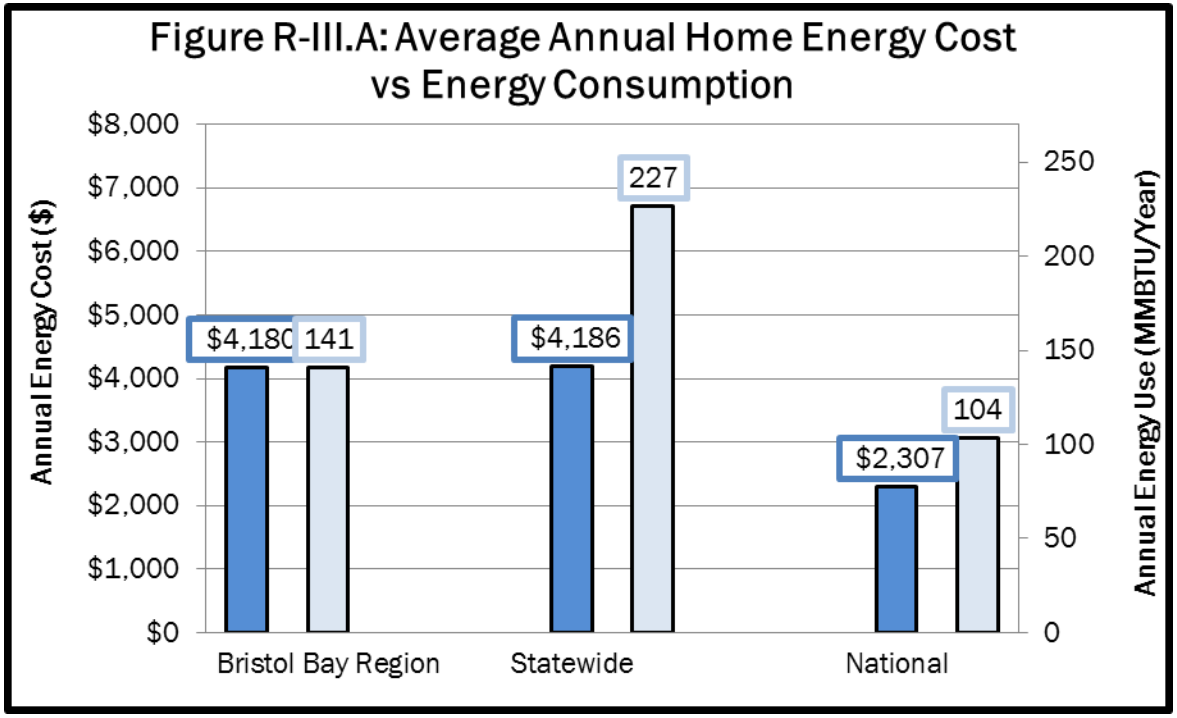
[13] U.S. Census Bureau. (2016). American Community Survey, 2010–2014 American Community Survey Five-year Estimates.

Energy[14]

Single-family Units

Single-family homes in the Bristol Bay region consume an average of 141 million BTUs per year in energy, the third lowest energy consumption in the state. This average annual energy consumption is 62 percent of the statewide average of 227 million BTUs and 1.4 times the national average.

Energy costs for single-family homes in the Bristol Bay region average $4,180 annually. This is the fourth lowest in the state. Bristol Bay energy costs are approximately the same as the statewide average and 1.8 times the national average.



With an average footprint of 1,175 square feet, single-family homes in the Bristol Bay 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 Bristol Bay region averages 130,044 BTUs per square foot, the fifth lowest in the state. This is 57 percent of the statewide average of 227,000 BTUs per square foot and three times the national average. The energy cost index (ECI), or annual energy cost per square foot, for a single-family home in the Bristol Bay region averages $3.56, the fifth highest in the state. This is 1.5 times the statewide average of $2.31 per square foot and 3.7 times the national average of $0.95 per square foot.

The home heating index (HHI) in the Bristol Bay region for the average single-family homes is 7.87 BTUs/ft2/HDD. This is the fifth lowest in the state. The HHI for the Bristol Bay region is 89 percent of the statewide average. The normalized cost of energy, in terms of dollars per million BTUs, for a single-family home in the Bristol Bay region averages $25.31, the fifth highest in the state.

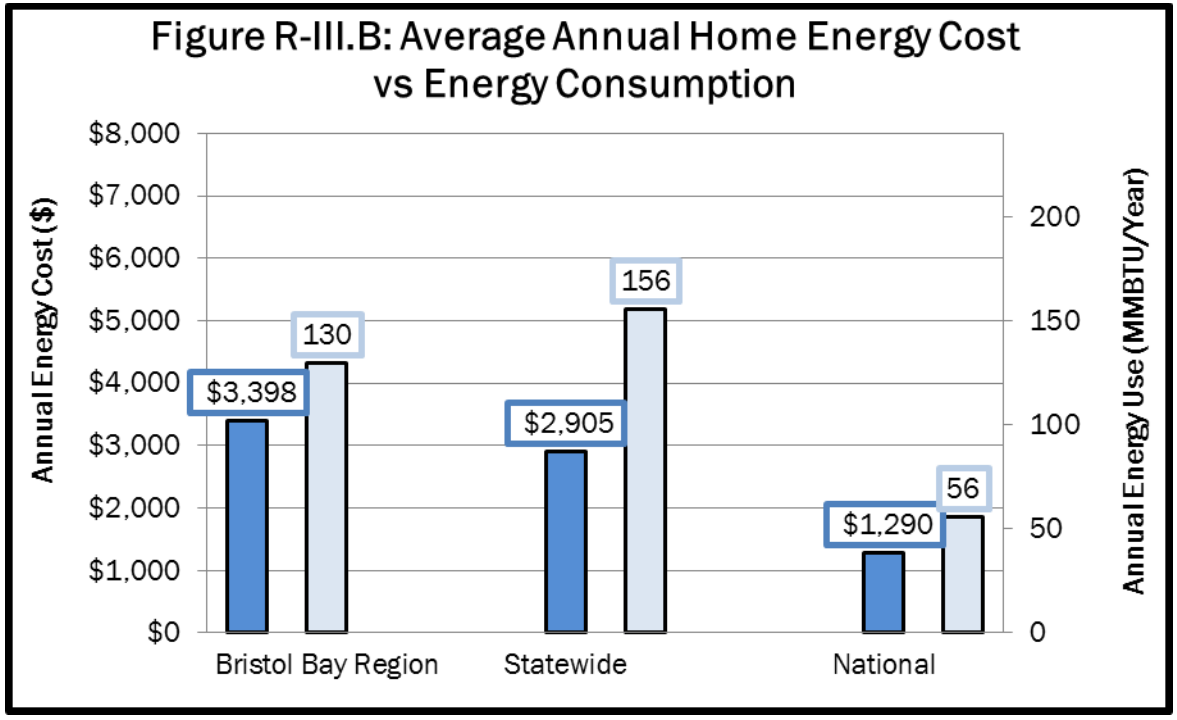
[14] See Appendix C: Methodology for details.

This is 1.6 times the statewide average of $15.80 per million BTUs and 1.1 times the national average of $22.27 per million BTUs.

Multifamily Units

Multi-family housing units in the Bristol Bay region consume an average of 130 million BTUs per year in energy, the fifth highest energy consumption in the state. This average annual energy consumption is 83 percent of the statewide average of 156 million BTUs and 1.4 times the national average.

Energy costs for multi-family housing units in the Bristol Bay region average $3,398 annually. This is the sixth highest in the state. Bristol Bay energy costs are 1.2 times the statewide average and 2.6 times the national average.



With an average footprint of 1,320 square feet, multi-family housing units in the Bristol Bay region are larger than the statewide average of 1,284 square feet. Nationally the average unit in multi-family housing is 930 square feet.

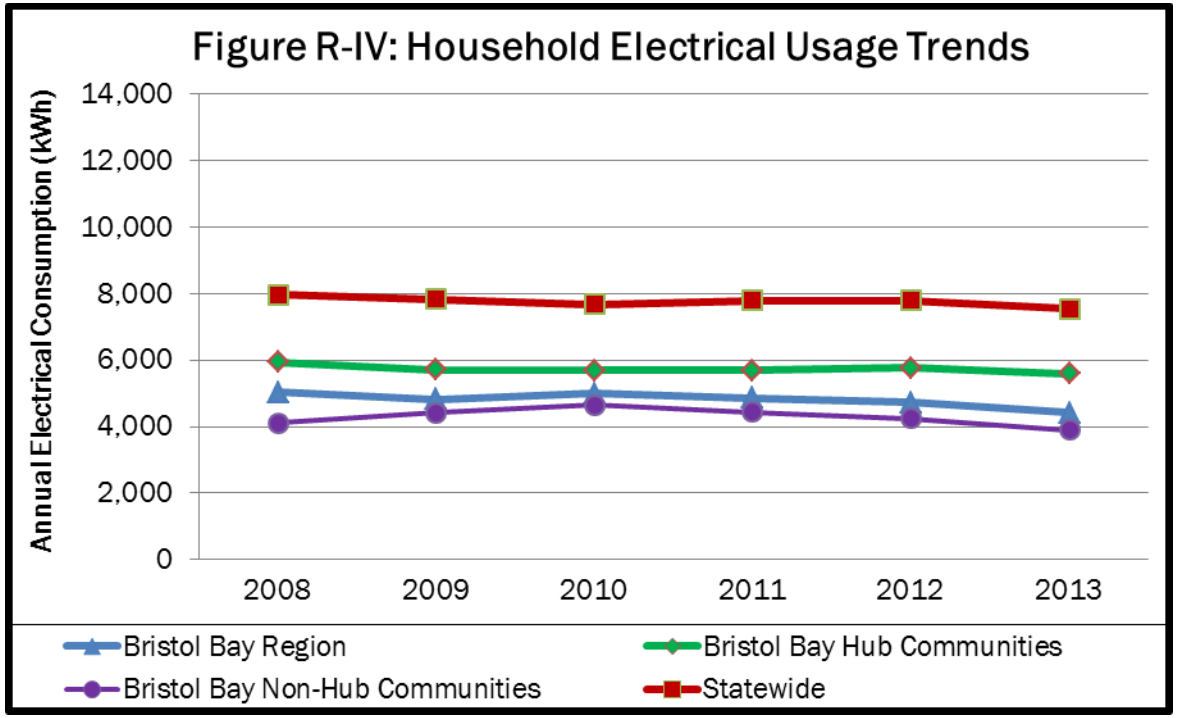
The energy use intensity (EUI), or annual energy used per square foot for a unit in multi-family housing in the Bristol Bay region averages 99,355 BTUs per square foot, the lowest in the state. This is 78 percent of the statewide average of 128,000 BTUs per square foot and 1.7 times the national average. The energy cost index (ECI), or annual energy cost per square foot, for a unit in multi-family housing in the Bristol Bay region averages $2.57, the sixth lowest in the state. This is 1.1 times the statewide average of $2.27 per square foot and 1.9 times the national average of $1.39 per square foot.

The home heating index (HHI) in the Bristol Bay region for the average multi-family housing unit is 5.31 BTUs/ft2/HDD. This is the third lowest in the state. The HHI for the Bristol Bay region is 64 percent of the statewide average. The normalized cost of energy, in terms of dollars per million BTUs, for a unit in multi-family housing in the Bristol Bay region averages $20.50, the sixth lowest

in the state. This is 1.6 times the statewide average of $12.79 per million BTUs and 89 percent of the national average of $23.12 per million BTUs.

Regional Residential Electrical Use Trends[15]

In 2013 the average household in the Bristol Bay region consumed 4,425 kWh of electricity annually. This is approximately 12 percent less than in 2008. Hub communities in the region averaged 5,599 kWh per year. This is a decrease of 6 percent over the same period. In contrast, non-hub communities averaged 3,890 kWh in 2013, a decrease of 5 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[16]

Approximately 147 (7 percent) of the occupied homes in the Bristol Bay 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 32 percent of all homes in the Bristol Bay region fit these two criteria. This is lower than the statewide average of 39 percent.

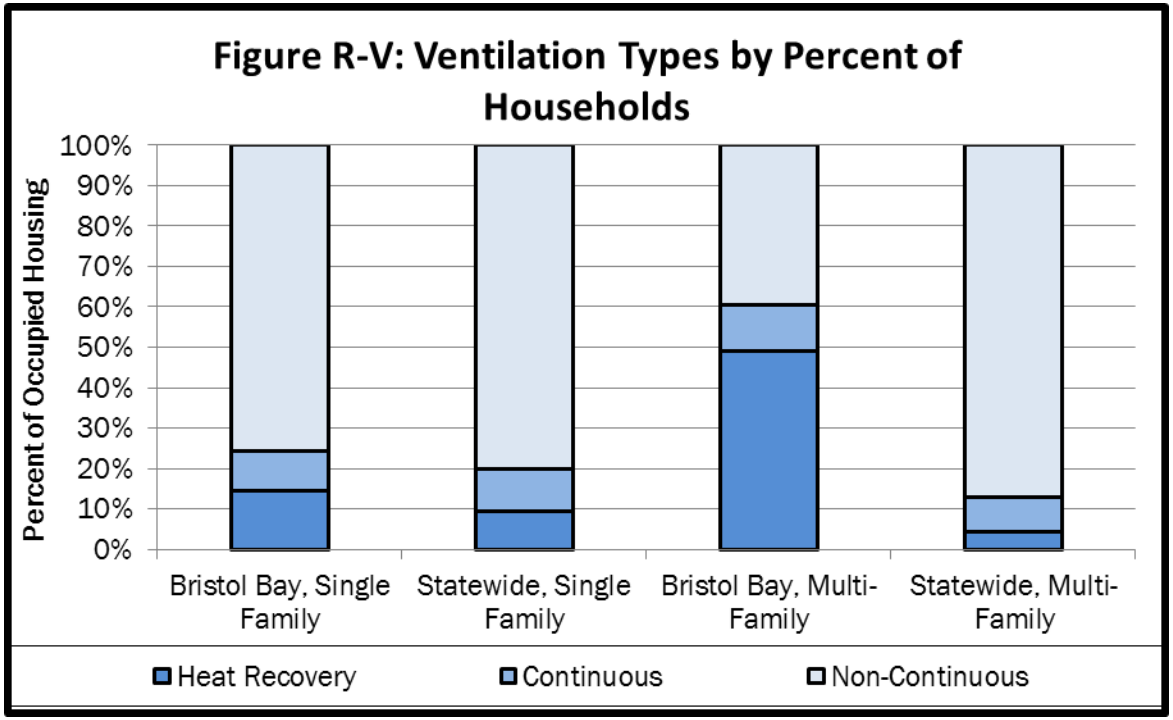
[15] Fay, G., Villalobos Melendez, A. & West. C. (2014). *Alaska Energy Statistics: 1960-2011*. UAA Institute of Social and Economic Research. Retrieved from: http://iser.uaa.alaska.edu/Publications/2013_12-AlaskaEnergyStatistics2011Report_Final_2014-04-30.pdf

[16] See Appendix C: Methodology for details.

Housing Condition [17]

Ventilation

Approximately 24 percent of the occupied homes in the Bristol Bay region have heat recovery or continuous mechanical ventilation systems installed. This is the fifth highest 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 Bristol Bay region has the sixth highest percentage of housing units in the state that are relatively airtight and lack continuous mechanical ventilation. Approximately 575 (26 percent) of the occupied homes in the Bristol Bay region are estimated to be at moderate risk, with 337 (15 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 722 (33 percent) of the occupied homes in the Bristol Bay region are estimated to be drafty, with 324 (15 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.

[17] See Appendix C: Methodology for details.