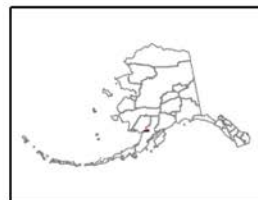
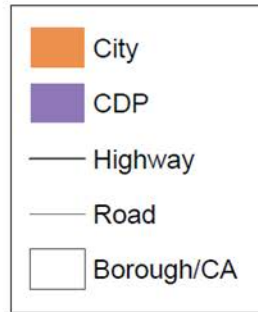


Bristol Bay Borough



CDP = Census Designated Place
CA = Census Area



Map Prepared by:
Alaska Department of Labor
& Workforce Development

September 2011

Source: US Census
2010 TIGERline

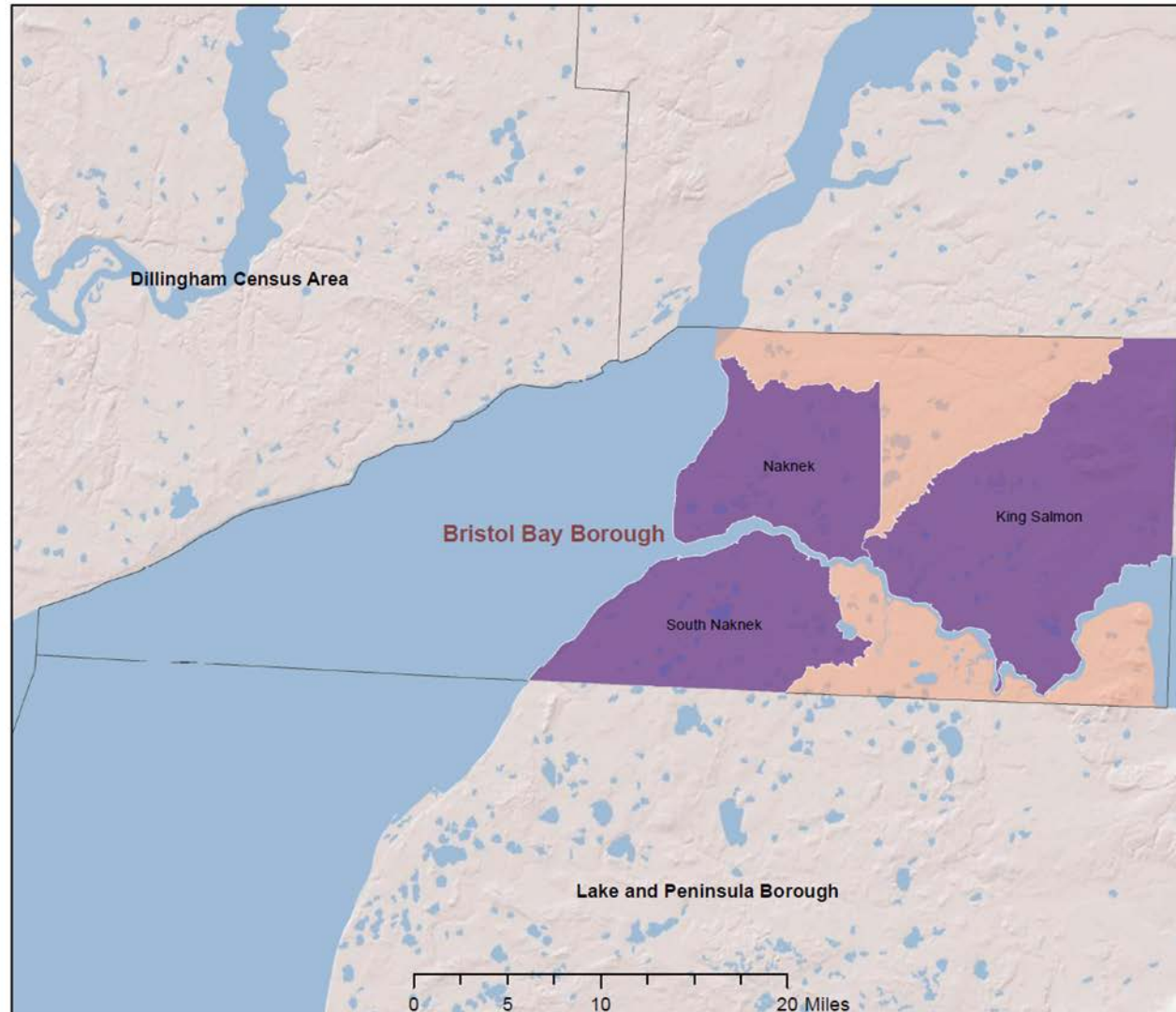


Table of Contents

Regional and Statewide Housing Characteristics.....	2
Bristol Bay Borough Dashboard.....	3
Bristol Bay Borough Housing Need Highlights.....	Error! Bookmark not defined.
Bristol Bay Borough Summary	6
Community	6
Overcrowding.....	7
Affordability.....	8
Energy	9
Single-family Units	9
Multifamily Units.....	11
Historical Household Electricity Usage.....	13
Inefficient and Older Homes	13
Housing Condition	14
Ventilation	14
Indoor Air Quality	14
Draftiness.....	14

Regional and Statewide Housing Characteristics

This census area summary only includes the highlights of housing characteristics at the census area 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 2017 Alaska Housing Assessment.

Bristol Bay Borough Dashboard

Population: The Alaska Department of Labor and Workforce Development's current (2015) population estimate for the Bristol Bay Borough is 887, a decrease of 29 percent from 2000.

Housing Units: There are currently 873 housing units in the Bristol Bay Borough. Of these, 398 are occupied, 50 are for sale or rent, and the remaining 473 are seasonal or otherwise vacant units.

Energy and Energy Costs: The average home in the Bristol Bay Borough is 1,462 square feet and uses 186 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 Borough is \$4,104. This is approximately the same as the statewide average and 1.8 times the national average.

Overcrowding: An estimated 29 (7 percent) of occupied units are either overcrowded (5 percent) or severely overcrowded (3 percent). This is more than twice the national average and makes this census area the 14th most overcrowded of the 30 census areas in the state.

Drafty Homes and Ventilation: Approximately 190 (47 percent) of homes in the Bristol Bay Borough are drafty, exceeding seven air changes per hour at 50 Pascals (ACH50). The statewide average is 36 percent. In contrast, there are an estimated 182 occupied housing units (45 percent) in the Bristol Bay Borough that are relatively airtight and lack a continuous ventilation system. These homes are at higher risk of issues with moisture and indoor air quality.

Affordability: On average, approximately 56 (14 percent) of households in the Bristol Bay Borough are cost-burdened, spending more than 30 percent of total household income on housing costs, including rent, utilities and energy. Statewide 31 percent of households are cost-burdened.

Senior Housing: There are an estimated 10 beds in senior housing facilities in the Bristol Bay Borough. Currently the Alaska Department of Labor and Workforce Development estimates there are 97 seniors in the census area and projects an increase to 215 by 2030.

Housing Issues: There are an estimated 239 homes built prior to the 1980s in the Bristol Bay Borough that have not been retrofitted through a state program in the past 10 years. Approximately six (2 percent) homes in the Bristol Bay Borough lack complete kitchens and approximately six (2 percent) lack complete bathrooms.

Bristol Bay Borough Housing Need Highlights

The Bristol Bay Borough census area has two significant housing needs: senior housing and existing home retrofits. The overall population of the census area is declining, down 29 percent from 2000, but the senior population is rising.¹ The ratio of senior age dependents to working age population is higher than the statewide average, and is projected to increase by 3.7 times by 2030. This means that the primary pressure for housing in the next decade will come from households with elderly Alaskans.

The *Bristol Bay Regional Energy Plan* similarly 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 to create a focus on energy-efficiency measures to reduce future energy costs.

Housing Gap: There are 873 housing units in the census area and 44 percent of are occupied.³ An estimated 7 percent of occupied units are overcrowded or severely overcrowded. This is more than twice the national average and slightly more than the state average. Fifty-six percent of residences in the census area are vacant and the vast majority (51 percent) are vacant because they are used seasonally or recreationally, meaning only 5 percent of houses are available for sale or rent.

Affordable Housing Need: The average annual energy cost for homes in the Bristol Bay census area is \$4,104 that is 1.8 times the national average.⁴ This makes approximately 14 percent of households cost-burdened, meaning they spend more than 30 percent of their income on housing.⁵

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 <http://www.akenergyauthority.org/Policy/RegionalPlanning>

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

⁴ U.S. Energy Information Administration, Independent Statistics and Analysis. (2016). Residential Energy Consumption Survey (RECS): 2009. Retrieved from <https://www.eia.gov/consumption/residential/data/2009/index.php>

⁵ U.S. Census Bureau. (2016). *American Community Survey, 2010–2014 American Community Survey Five-year Estimates*.

Senior Housing Needs: There are 10 beds in senior housing facilities in the census area, which contains a senior population of 97.⁶ This population is projected to increase to 215 by 2030.⁷ Increasing the amount of available senior housing could ensure adequate assisted and independent living facilities for the projected population.

Retrofit Needs: Approximately 7 percent of occupied homes in the Bristol Bay Borough are estimated to be inefficient, using around four times more energy than if they had been built to the level of AHFC's Building Energy Efficiency Standard (BEES).⁸ This is slightly more than the statewide average of 6 percent of inefficient homes. One-third of homes in the borough were built before 1980 and have not been retrofitted, making them good candidates for an energy retrofit.

⁶ AHFC Senior Housing Office. (2016). *Inventory List: Independent Living Homes/Facilities*. Revised 5/02/2016. Retrieved from <https://www.ahfc.us/senior-support/>

⁷ Hunsinger, Eddie, Sandberg, E., & Brooks, L. (2016). *Alaska Population Projections 2015 to 2045*. Alaska Department of Labor and Workforce Development, Research and Analysis Section.

⁸ See Appendix C: Methodology for details.

Bristol Bay Borough Summary

Community

The Bristol Bay Borough census area is located at the start of the Alaska Peninsula in the southwest corner of mainland Alaska. It is in the Bristol Bay Native Corporation ANCSA region. The average home size in the census area is 1,445 square feet.

The ratio of dependents, including those under 16 and over 65, relative to the working age population in the Bristol Bay Borough is lower than the statewide average and lower than the national ratio.⁹ The Bristol Bay Borough 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 higher than the statewide average and lower than the national average. The Bristol Bay Borough region is projected to see the ratio of senior age dependents to working age dependents increase by 3.7 times by 2030.

There are an estimated 10 dedicated beds in senior housing in the Bristol Bay Borough, with none of those dedicated to assisted care living.¹⁰ Currently the Alaska Department of Labor and Workforce Development estimates there are 97 seniors in the census area and projects that there will be 215 senior citizens by 2030.¹¹ In the Bristol Bay Borough no senior citizens are in assisted care housing, whereas statewide 2.8 percent of senior citizens are in assisted care housing. Nationally, approximately 3.5 percent of senior citizens are in senior living facilities.¹²

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

⁹ 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*.

¹⁰ AHFC Senior Housing Office. (2016). *Inventory List: Independent Living Homes/Facilities*. Revised 5/02/2016. Retrieved from <https://www.ahfc.us/senior-support/>

¹¹ Hunsinger, Eddie, Sandberg, E., & Brooks, L. (2016). Alaska Population Projections 2015 to 2045. Alaska Department of Labor and Workforce Development, Research and Analysis Section.

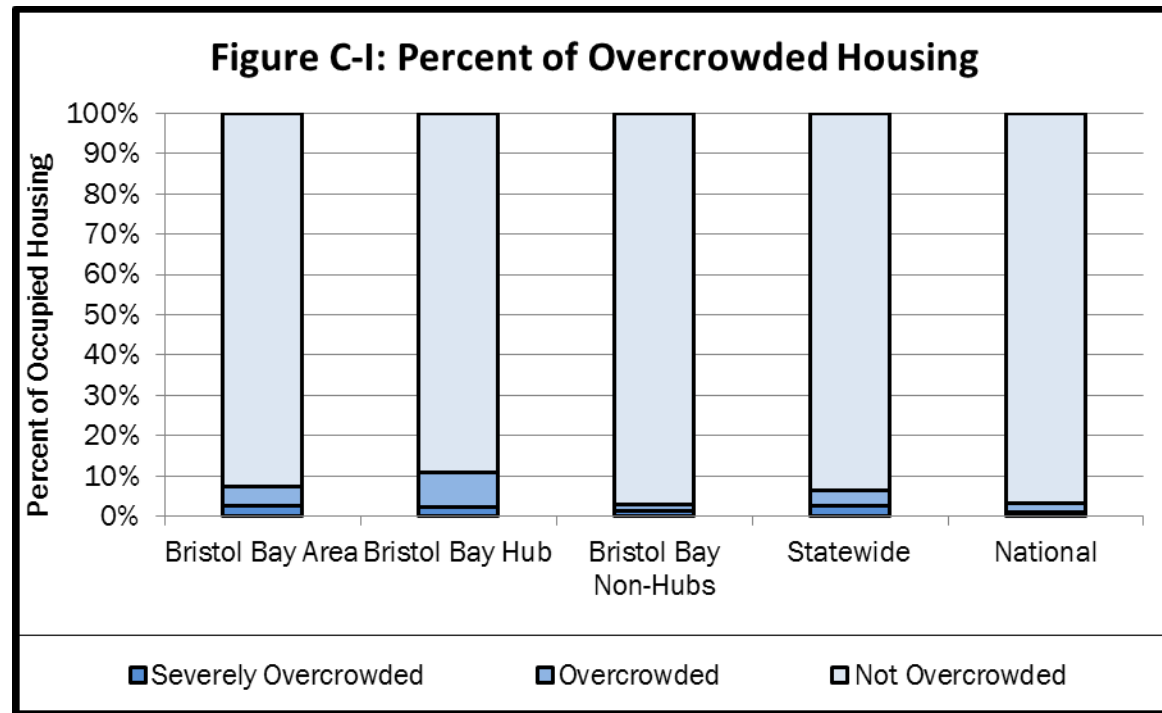
¹² Ribbe, M., Ljunggren, G., Steel, K., Topinkova, E., Hawes, C., Ikegami, N., ... Jonnson, P. (1997). Nursing Homes in 10 Nations: A Comparison Between Countries and Settings." *Age and Ageing*, 26(S2), 3-12.

Overcrowding¹³

The Bristol Bay Borough is the 14th most overcrowded census area in Alaska. Approximately 7 percent of households are overcrowded in the census area as a whole. The rate of overcrowding in the Bristol Bay Borough is more than 1.1 times the statewide average (6.4 percent) and approximately 2.2 times more than the national average (3.3 percent).

Overcrowding in the non-hub communities is less prevalent than in the hub community of King Salmon. 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 Borough have an average overcrowding rate that is less than one-third that of the overcrowding rate of the hub community, with approximately 3 percent of households overcrowded compared to the hub community's 11 percent. Further, 1.5 percent of non-hub community households are severely overcrowded. This is 1.5 times more than the national average.

Approximately 5 percent of housing units in the Bristol Bay Borough are available for sale or rent. The percentage of units for sale or rent in the non-hub communities (6 percent) is more than in the hub community (3 percent). Additionally, 51 percent of housing units in the Bristol Bay Borough are considered vacant because they are used for seasonal, recreational or other non-year-round purposes.

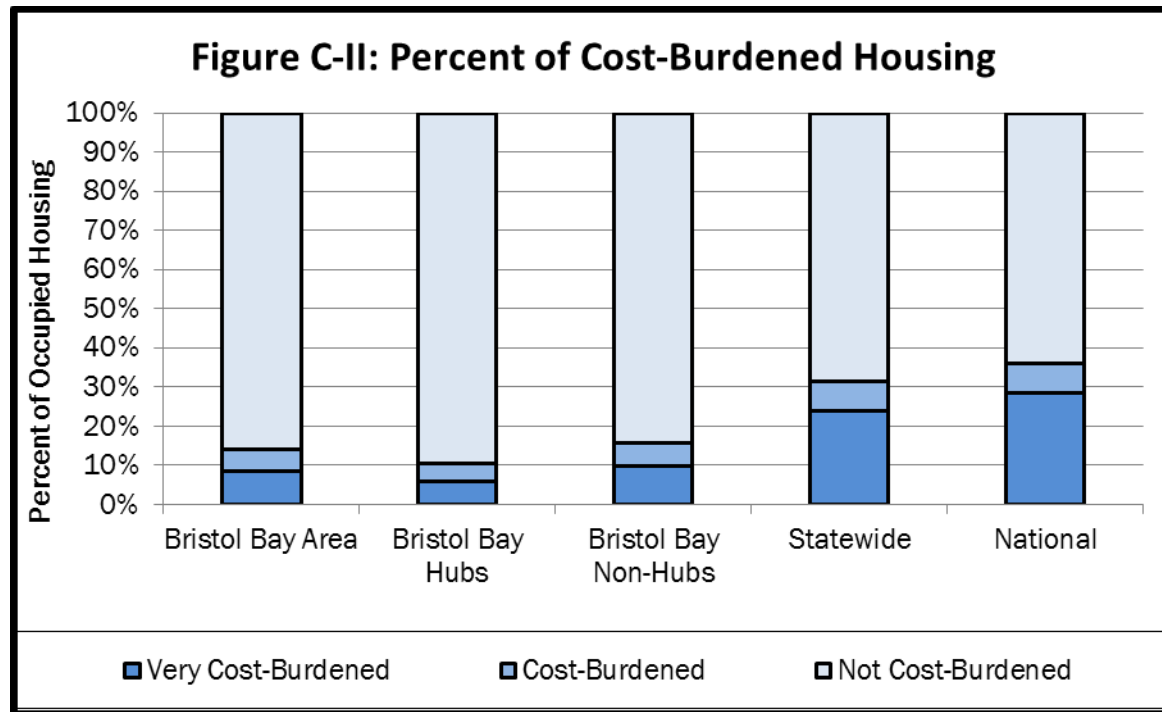


¹³ U.S. Census Bureau. (2016). *American Community Survey, 2010–2014 American Community Survey Five-year Estimates*.

Affordability¹⁴

According to estimates from the U.S. Census American Community Survey (ACS), 14 percent of households in the Bristol Bay Borough are cost-burdened, that is, spend more than 30 percent of their income on housing costs. Non-hub communities have a higher percentage (16 percent) of households that are cost-burdened than the hub community of King Salmon (10 percent). The rate of cost-burdened households in the Bristol Bay Borough is 40 percent of the national average (36 percent).

The median household income in the Bristol Bay Borough is \$82,500. This is higher than the statewide median of \$71,829. The national median is \$53,482.



¹⁴ U.S. Census Bureau. (2016). *American Community Survey, 2010–2014 American Community Survey Five-year Estimates*.

Energy¹⁵

Single-family Units

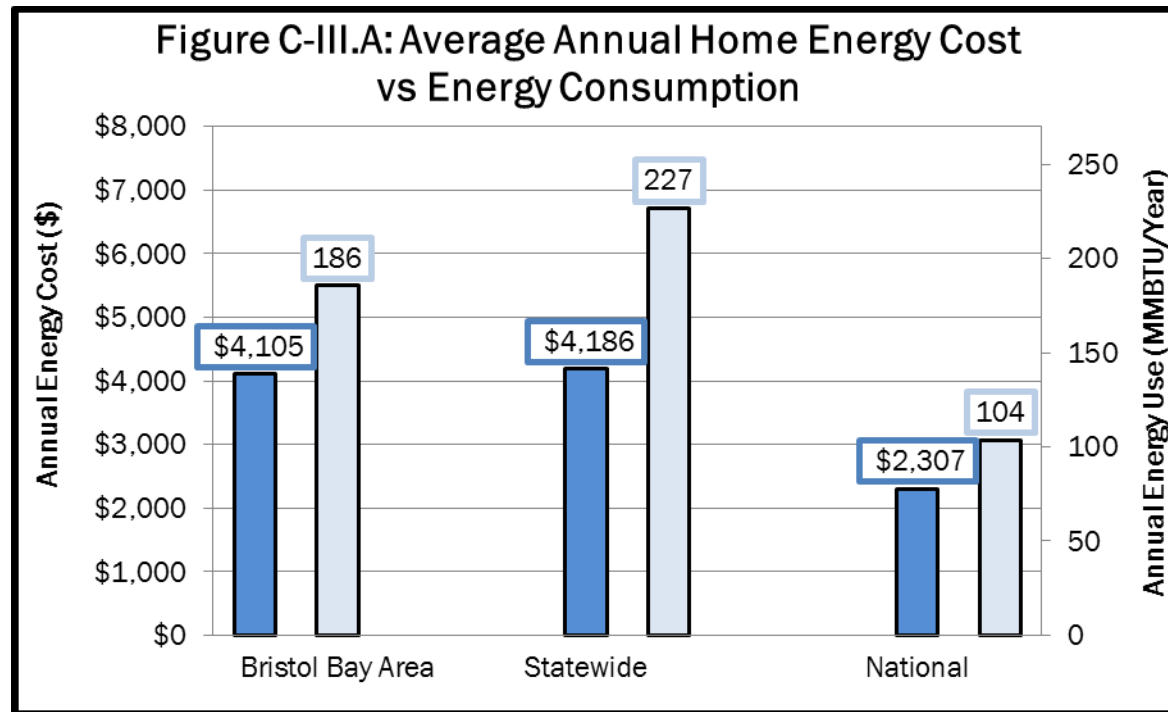
Single-family homes in the Bristol Bay Borough consume an average of 186 million BTUs per year, the 14th highest energy consumption of the 30 census areas. This average annual energy consumption is 82 percent of the statewide average of 227 million BTUs and 1.8 times the national average.

Energy costs for single-family homes in the Bristol Bay Borough average \$4,104 annually. This is the 10th lowest in the state. Bristol Bay Borough energy costs are 98 percent of the statewide average and 1.8 times the national average.

With an average footprint of 1,462 square feet, single-family homes in the Bristol Bay Borough 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 Borough averages 139,000 BTUs per square foot, the 12th highest in the state. This is 1.1 times the statewide average of 128,000 BTUs per square foot and 3.2 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 Borough averages \$2.81, the 15th highest in the state. This is 1.2 times the statewide average of \$2.31 per square foot and three times the national average of \$0.95 per square foot.

The home heating index (HHI) in the Bristol Bay Borough for the average single-family home is 9.47 BTUs/ft²/HDD. This is the 13th highest in the state. The HHI for the Bristol Bay Borough is higher than the statewide average of 8.83 BTU/ft²/HDD. The normalized cost of energy, in terms of dollars per million BTUs, for a single-family home in the Bristol Bay Borough averages



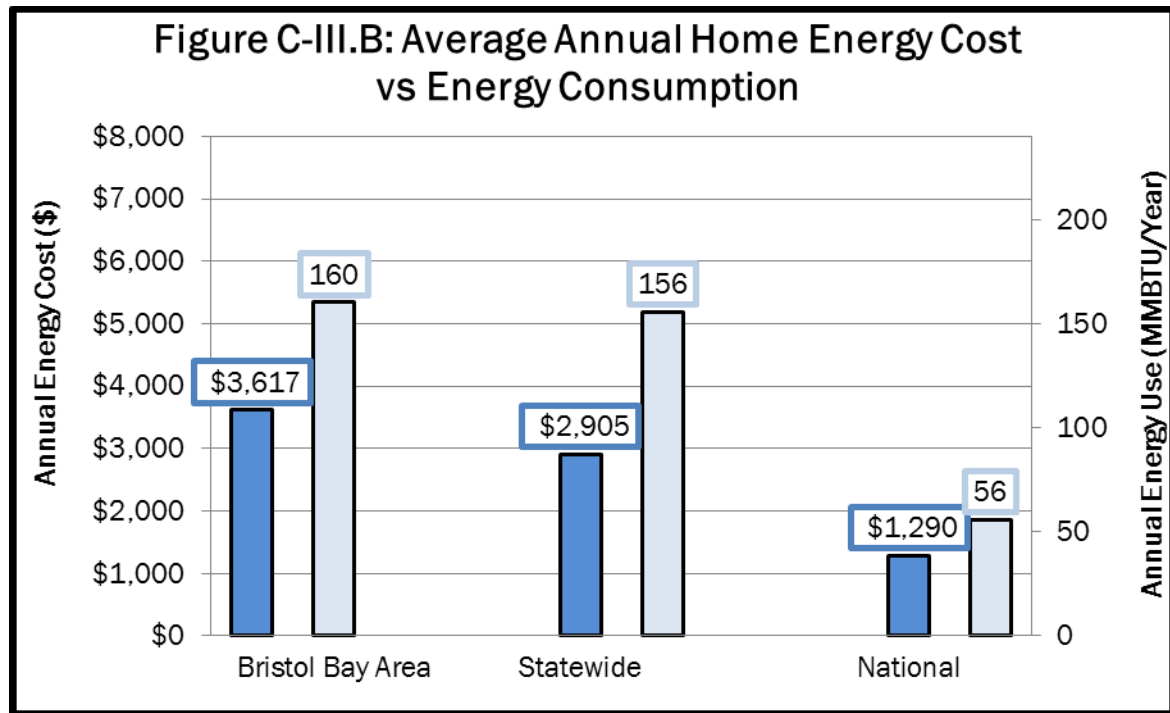
¹⁵ See Appendix C: Methodology for details.

\$20.76, the 12th lowest in the state. This is 1.3 times the statewide average of \$15.80 per million BTUs and 93 percent of the national average of \$22.27 per million BTUs.

Multifamily Units

Multifamily housing units in the Bristol Bay Borough consume an average of 160 million BTUs per year, the third highest energy consumption in the state. This average annual energy consumption is approximately the same as the statewide average of 156 million BTUs and 1.8 times the national average.

Energy costs for multifamily housing units in the Bristol Bay Borough average \$3,617 annually. This is the ninth highest in the state. Bristol Bay Borough energy costs are 1.2 times the statewide average and 2.8 times the national average.



With an average footprint of 1,293 square feet, multifamily housing units in the Bristol Bay Borough are approximately the same as 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 multifamily housing unit in the Bristol Bay Borough averages 125,000 BTUs per square foot, the eighth highest in the state. This is 98 percent of the statewide average of 128,000 BTUs per square foot and 2.1 times the national average. The energy cost index (ECI), or annual energy cost per square foot, for a multifamily housing unit in the Bristol Bay Borough averages \$2.80, the 14th highest in the state. This is 1.2 times the statewide average of \$2.27 per square foot and twice the national average of \$1.39 per square foot.

The home heating index (HHI) in the Bristol Bay Borough for the average multifamily housing unit is 7.79 BTUs/ft²/HDD. This is the 11th highest in the state. The HHI for the Bristol Bay Borough is lower than the statewide average of 8.28 BTU/ft²/HDD. The normalized cost of energy, in terms of dollars per million BTUs, for a unit in multifamily housing in the Bristol Bay Borough averages

\$19.64, the 11th lowest in the state. This is over 1.5 times the statewide average of \$12.79 per million BTUs and 85 percent of the national average of \$23.12 per million BTUs.

Historical Household Electricity Usage¹⁶

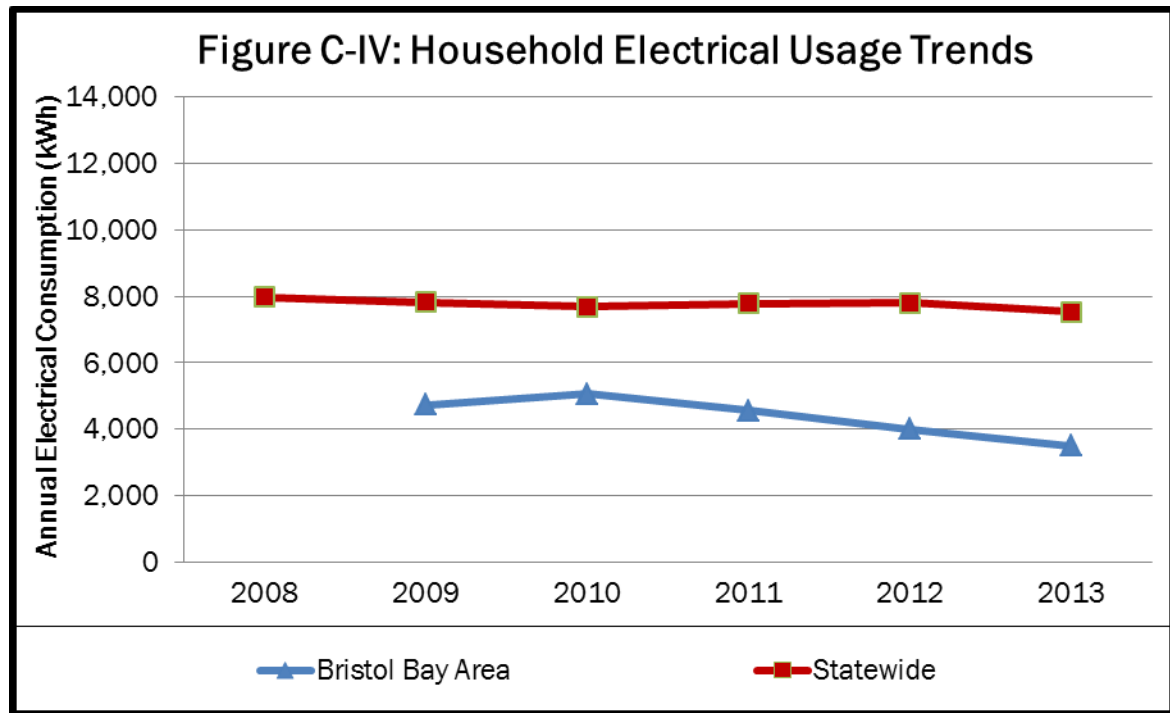
In 2013 the average household in the Bristol Bay Borough consumed approximately 3,498 kWh of electricity annually. This is approximately 26 percent less than in 2009. Statewide, the average household consumed 7,540 kWh of electricity in 2013, a decrease of 5 percent since 2008.

Inefficient and Older Homes¹⁷

Approximately 27 (7 percent) of the occupied homes in the Bristol Bay Borough are estimated to be 1-star homes. A 1-star home uses approximately four times more energy than if it was built to AHFC's Building Energy Efficiency Standard (BEES).

Statewide, approximately 14,600 (6 percent) of occupied homes are estimated to be 1-star homes.

Older homes built before 1980 that have not been retrofit are potentially homes in need. Approximately 33 percent of all homes in the Bristol Bay Borough fit these two criteria. This is lower than the statewide average of 39 percent.



¹⁶ 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

¹⁷ See Appendix C: Methodology for details.

Housing Condition ¹⁸

Ventilation

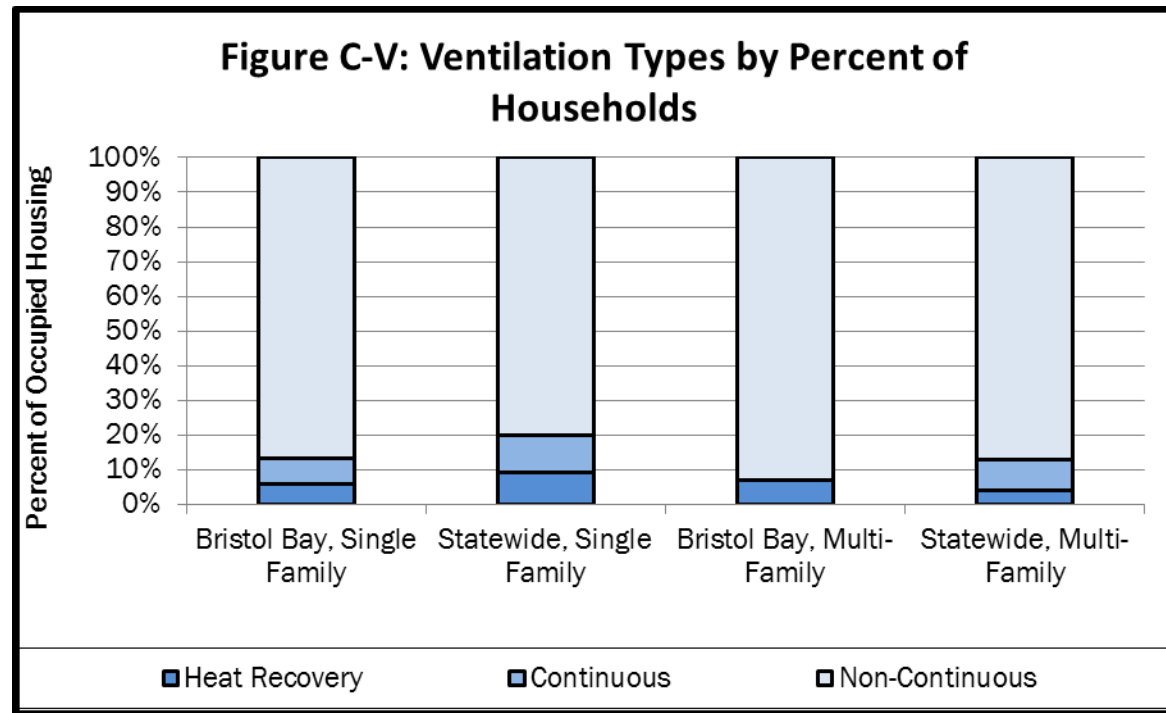
Approximately 13 percent of the occupied homes in the Bristol Bay Borough region have heat recovery or continuous mechanical ventilation systems installed. This is the 12th lowest percentage of housing units in the state with continuous ventilation, with or without heat recovery. Statewide approximately 20 percent of occupied homes have continuous mechanical ventilation systems.

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 Borough has the 12th lowest percentage of housing units in the state that are relatively airtight and lack continuous mechanical ventilation. Approximately 129 (32 percent) of the occupied homes in the Bristol Bay Borough are estimated to be at moderate risk, with 49 (12 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 at high risk.

Draftiness

Drafty homes were defined as those showing 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 133 (34 percent) of the occupied homes in the Bristol Bay Borough are estimated to be drafty, with 54 (14 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.



¹⁸ See Appendix C: Methodology for details.