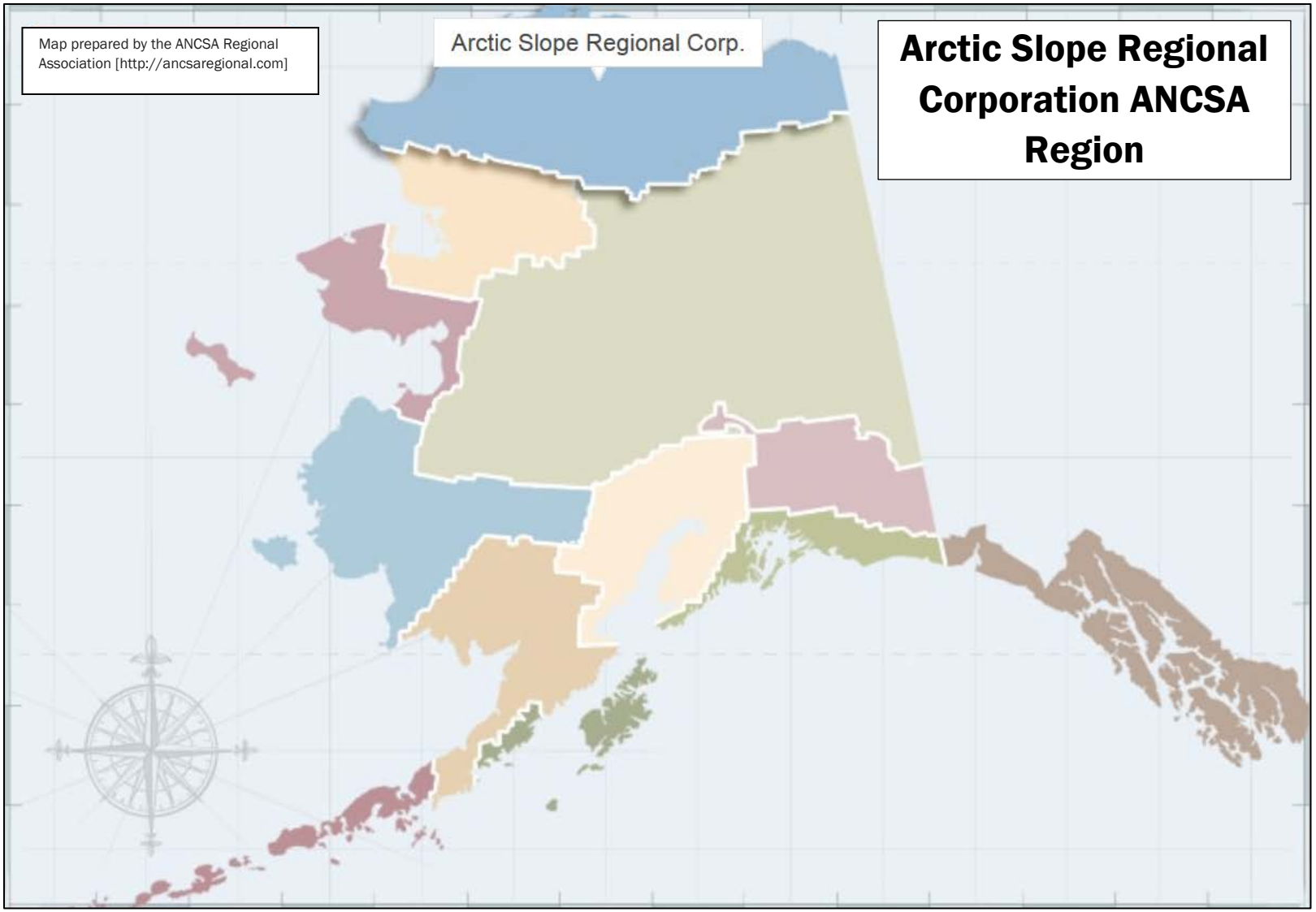

Map prepared by the ANCSA Regional Association [http://ancsaregional.com]
Arctic Slope Regional Corp.
Arctic Slope Regional Corporation ANCSA Region

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.

Arctic Slope Region Dashboard

Population: The Alaska Department of Labor and Workforce Development's current (2015) population estimate for the Arctic Slope region is 9,891, an increase of 34 percent from 2000.

Housing Units: There are currently 2,587 housing units in the Arctic Slope region. Of these, 2,036 are occupied, 127 are for sale or rent, and the remaining 424 (16 percent) are seasonal or otherwise vacant units.

Energy and Energy Costs: The average home in the Arctic Slope region is 1,170 square feet and uses 189 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 Arctic Slope region is $4,090. This is approximately 1.0 percent of the statewide average and 1.8 times the national average.

Overcrowding: In the Arctic Slope region 544 (27 percent) of occupied units are estimated to be either overcrowded (15 percent) or severely overcrowded (12 percent). This is more than eight times the national average and the fourth most overcrowded in the state.

Drafty Homes and Ventilation: Approximately 672 (33 percent) of homes in the Arctic Slope region are drafty, exceeding 7 air changes per hour at 50 Pascals (ACH50). The statewide average is 36 percent. In contrast, there are an estimated 672 occupied housing units (33 percent) in the Arctic Slope region that are relatively air-tight and lack a continuous ventilation system. These houses are at higher risk of issues with moisture and indoor air quality.

Affordability: On average, approximately 290 (14 percent) of households in the Arctic Slope 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 74 beds in senior housing facilities in the Arctic Slope region. Currently the Alaska Department of Labor and Workforce Development estimates there are 472 seniors in the ANCSA region and projects an increase to 926 by 2030.

Housing Issues: There are an estimated 768 homes built before the 1980's in the Arctic Slope region that have not been retrofitted through a state program in the past 10 years. Approximately 138 (7 percent) homes in the Arctic Slope region lack complete kitchens and approximately 216 (11 percent) lack complete bathrooms.

Arctic Slope Region Housing Need Highlights

A primary housing need in the Arctic Slope region is to alleviate overcrowding by providing new affordable housing units. Population growth is projected to outpace current construction rates.[1] Meeting this need will require innovation to overcome the challenges of high shipping costs of construction materials, an extreme climate, and the high cost of providing utility infrastructure to homes.

The projected population boom of senior citizens also creates a need for construction of new senior housing, with the population of people older than the age of 65 expected to nearly double by 2030.

Housing Gap: The Arctic Slope region has a significant housing gap. The largest component of this housing gap is the very high rates of overcrowding, with an estimated 27 percent of homes being overcrowded or severely overcrowded.[2] This is more than eight times the national average.

In addition to the current housing gap caused by overcrowding, if construction rates continue at the same pace as the past five years, it will not keep pace with projected population growth. This will further exacerbate existing overcrowding and affordability issues unless the rate of new residential building construction increases.

Affordable Housing Need: An estimated 14 percent of households are cost-burdened by housing in the Arctic Slope region, one of the lowest rates in the state. Compared to the rest of Alaska, the fair market rent is relatively low and the median renter wage is relatively high; however, there is still a need for affordable housing in the area, with the regional housing authority, Tagiugmiullu Nunamiullu Housing Authority (TNHA), having a waiting list of more than 300 for their affordable housing programs. Providing new affordable housing is difficult because the cost of shipping building materials and providing utility infrastructure in the region is extremely high.

Senior Housing Needs: The Arctic Slope region has slightly less assisted living housing per senior than the statewide average but a much higher rate of independent senior housing than the Alaska average.[3] With the population of seniors projected to nearly double by 2030, a significant number of new senior housing units need to be built in order to provide the current level of service.[4]

---

[1] U.S. Census Bureau. (2016). *American Community Survey, 2010–2014 American Community Survey Five-year Estimates*.
[2] Ibid
[3] AHFC Senior Housing Office. (2016). *Inventory List: Independent Living Homes/Facilities*. Revised 5/02/2016. Retrieved from: https://www.ahfc.us/senior-support/
[4] Hunsinger, Eddie, Sandberg, E., & Brooks, L. (2016)."Alaska Population Projections 2015 to 2045." Alaska Department of Labor and Workforce Development, Research and Analysis Section.

Retrofit Needs: An estimated 33 percent of housing units were built before 1980 and have not had an energy retrofit. Due to the availability of natural gas and home heating fuel subsidies, households in the Arctic Slope region have lower energy costs than most other regions but many of these homes would likely still benefit from energy retrofit work. An estimated 3.7 percent of housing units in the region were identified to be in "poor" to "dilapidated" physical condition by the property tax assessors, and would likely benefit from retrofits.

Arctic Slope Region Summary

Community

The Arctic Slope Regional Corporation ANCSA region is the northernmost region in Alaska and stretches east to west from the Canadian border to the Chukchi Sea along the northern coast of Alaska. The northern part of the region borders the Beaufort Sea, and the southern part of the region runs along the Brooks Range. The average home size in the Arctic Slope region is 1,164 square feet.

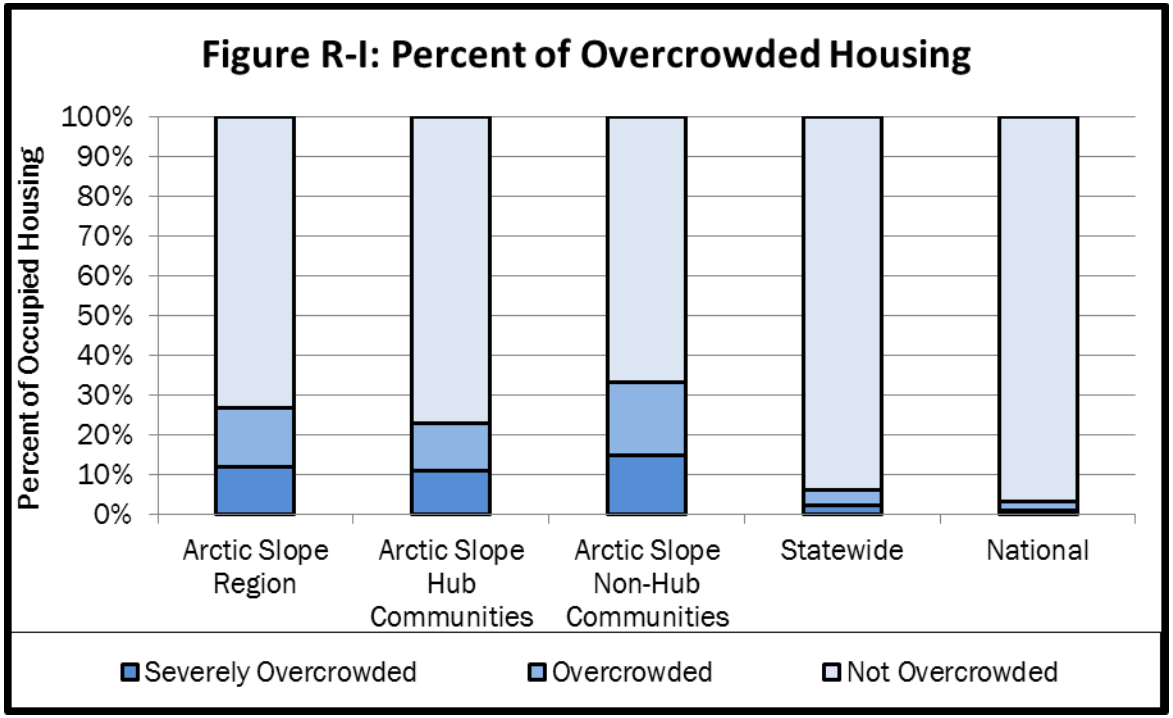
The ratio of dependents, both those under 16 and those over 65, relative to the working age population in the Arctic Slope region is lower than the statewide average and lower than the national ratio.[5] The Arctic Slope region is expected to see an increase in the nonworking age population by 2030.

The ratio of senior age dependents to the working age population is lower than the statewide average and lower than the national average. The Arctic Slope region is projected to see the ratio of senior age dependents to working age dependents increase by 2.2 times by 2030.

There are an estimated 74 dedicated beds in senior housing in the Arctic Slope region, with 12 of those dedicated to assisted care living.[6] Currently the Alaska Department of Labor and Workforce Development estimates there are 472 seniors in the Arctic Slope region and projects that there will be 926 senior citizens by 2030.[7] In the Arctic Slope region 2.5 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.[8]

[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] 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/
[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] 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*

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



Overcrowding[9]

The Arctic Slope Regional Corporation is the fourth most overcrowded region in Alaska. Approximately 27 percent of households are overcrowded in the region as a whole. The rate of overcrowding in the Arctic Slope region is more than 4.2 times the statewide average (6.4 percent) and more than 8.1 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 Arctic Slope region average nearly 1.5 times the overcrowding rate of the hub community, with approximately 33 percent of households overcrowded compared to the hub community's 23 percent. Further, 14.9 percent of non-hub community households are severely overcrowded. This is 14.9 times the national average.

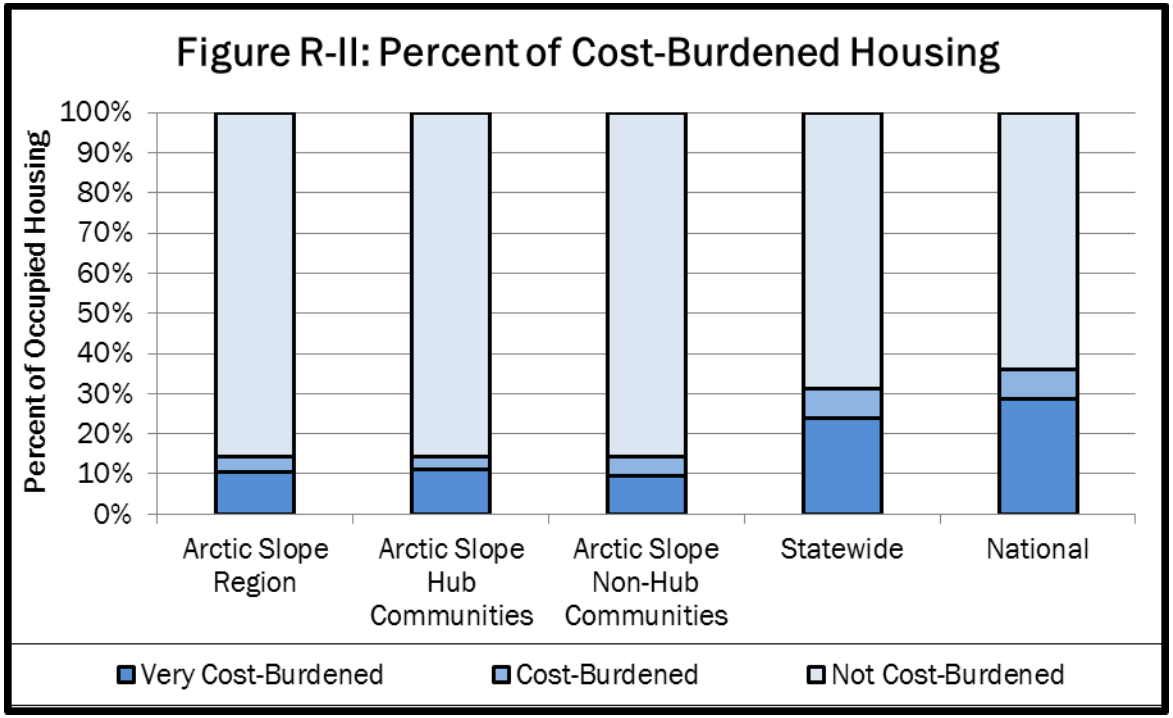
Approximately 5 percent of housing units in the Arctic Slope region are available for sale or rent. The percentage of units for sale or rent in non-hub communities (3 percent) is less than in the hub community (6 percent). Additionally, 16 percent of housing units in Arctic Slope are considered vacant because they are used for seasonal, recreational or other non-year round purposes.

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

Affordability[10]

According to estimates from the U.S. Census American Community Survey (ACS), 14 percent of households in the Arctic Slope region are cost-burdened, that is, have families that spend more than 30 percent of their income on housing costs. Non-hub communities have approximately the same percentage (14 percent) of households that are cost-burdened than the hub community (14 percent). The rate of cost-burdened households in the Arctic Slope region is 40 percent of the national average (36 percent).

The median household income in the Arctic Slope region is $74,609. This is higher than the statewide median of $71,829. The national median is $53,482.



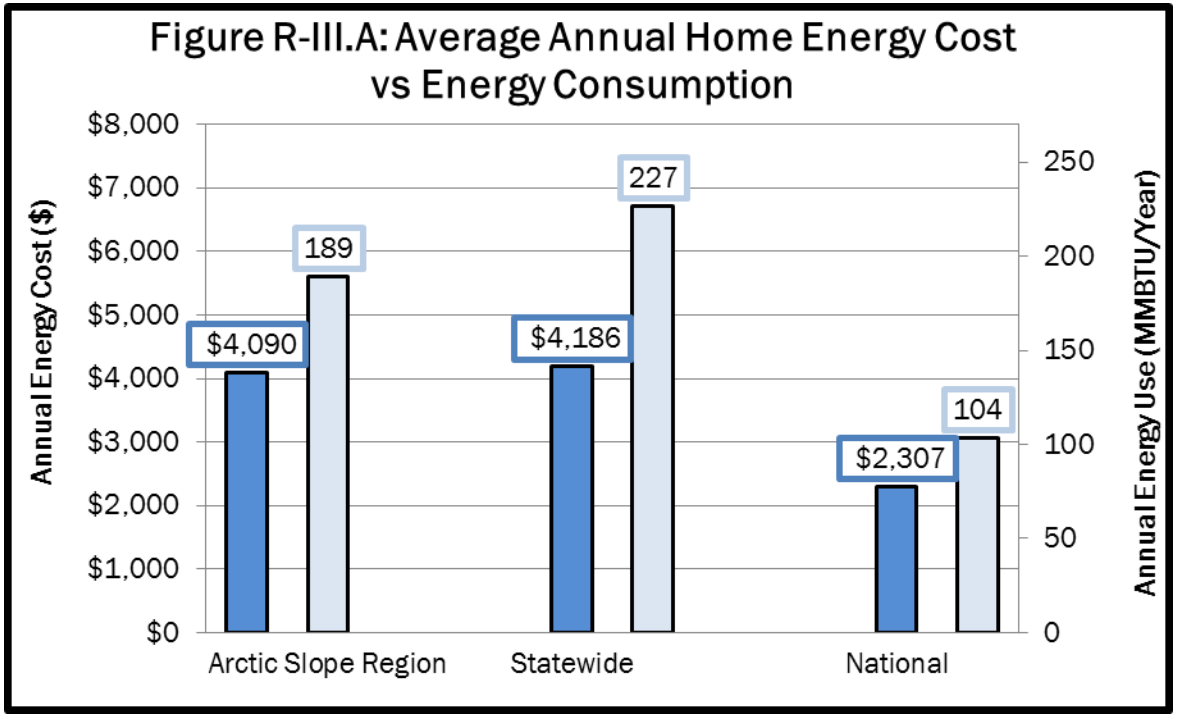
[10] U.S. Census Bureau. (2016). American Community Survey, 2010–2014 American Community Survey Five-year Estimates.

Energy[11]

Single-family Units

Single-family homes in the Arctic Slope region consume an average of 189 million BTUs per year in energy, the sixth highest energy consumption in the state. This average annual energy consumption is 84 percent of the statewide average of 227 million BTUs and 1.8 times the national average.

Energy costs for single-family homes in the Arctic Slope region average $4,090 annually. This is the second lowest in the state. Arctic Slope energy costs are 98 percent of the statewide average and 1.8 times the national average.



With an average footprint of 1,170 square feet, single-family homes in the Arctic Slope 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 Arctic Slope region averages 170,737 BTUs per square foot, the highest in the state. This is 75 percent of the statewide average of 227,000 BTUs per square foot and four times the national average. The energy cost index (ECI), or annual energy cost per square foot, for a single-family home in the Arctic Slope region averages $3.50, the sixth 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 Arctic Slope region for the average single-family homes is 6.47 BTUs/ft2/HDD. This is the lowest in the state. The HHI for the Arctic Slope region is 73 percent less than the statewide average. The normalized cost of energy, in terms of dollars per million BTUs, for a single-family home in the Arctic Slope region averages $18.70, the third lowest

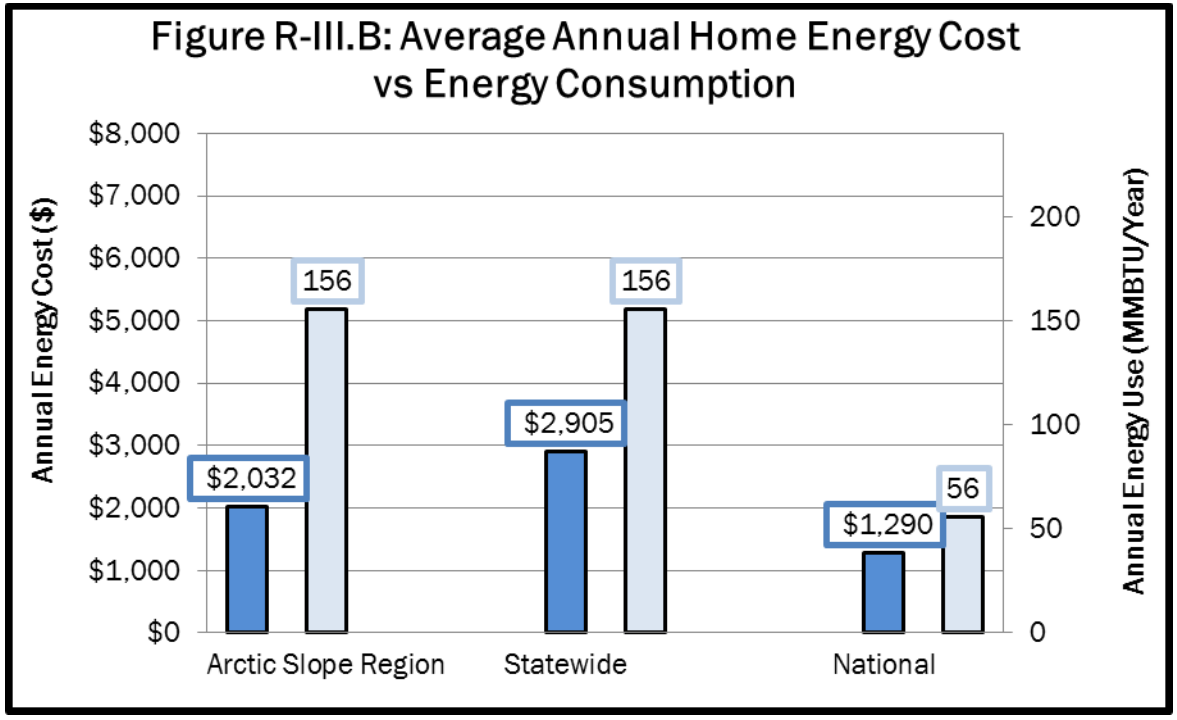
[11] See Appendix C: Methodology for details.

in the state. This is 1.2 times the statewide average of $15.80 per million BTUs and 84 percent of the national average of $22.27 per million BTUs.

Multifamily Units

Multi-family housing units in the Arctic Slope region consume an average of 156 million BTUs per year in energy, 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 multi-family housing units in the Arctic Slope region average $2,032 annually. This is the lowest in the state. Arctic Slope energy costs are 70 percent of the statewide average and 1.6 times the national average.



With an average footprint of 1,027 square feet, multi-family housing units in the Arctic Slope region are smaller than the statewide average of 1,284 square feet. Nationally the average unit in multi-family housing is 930 square feet.

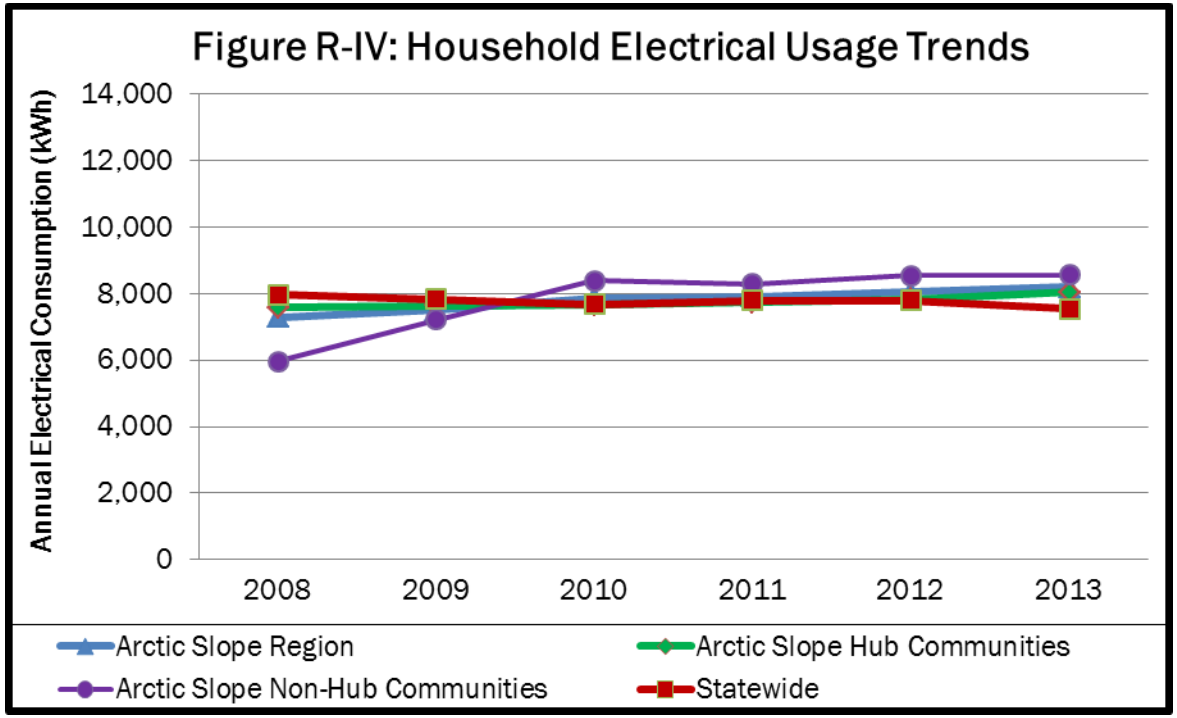
The energy use intensity (EUI), or annual energy used per square foot for a unit in multi-family housing in the Arctic Slope region averages 166,019 BTUs per square foot, the highest in the state. This is 1.3 times the statewide average of 128,000 BTUs per square foot and 2.8 times the national average. The energy cost index (ECI), or annual energy cost per square foot, for a unit in multi-family housing in the Arctic Slope region averages $1.98, the lowest in the state. This is 87 percent of the statewide average of $2.27 per square foot and 1.4 times the national average of $1.39 per square foot.

The home heating index (HHI) in the Arctic Slope region for the average multi-family housing unit is 5.95 BTUs/ft2/HDD. This is the fifth lowest in the state. The HHI for the Arctic Slope region is 72 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 Arctic Slope region averages $5.47, the lowest

in the state. This is 43 percent of the statewide average of $12.79 per million BTUs and 24 percent of the national average of $23.12 per million BTUs.

Regional Residential Electrical Use Trends[12]

In 2013 the average household in the Arctic Slope region consumed 8,205 kWh of electricity annually. This is approximately 12 percent more than in 2008. Hub communities in the region averaged 8,044 kWh per year. This is an increase of 6 percent over the same period. In contrast, non-hub communities averaged 8,565 kWh in 2013, an increase of 44 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[13]

Approximately 96 (5 percent) of the occupied homes in the Arctic Slope 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 34 percent of all homes in the Arctic Slope region fit these two criteria. This is lower than the statewide average of 39 percent.

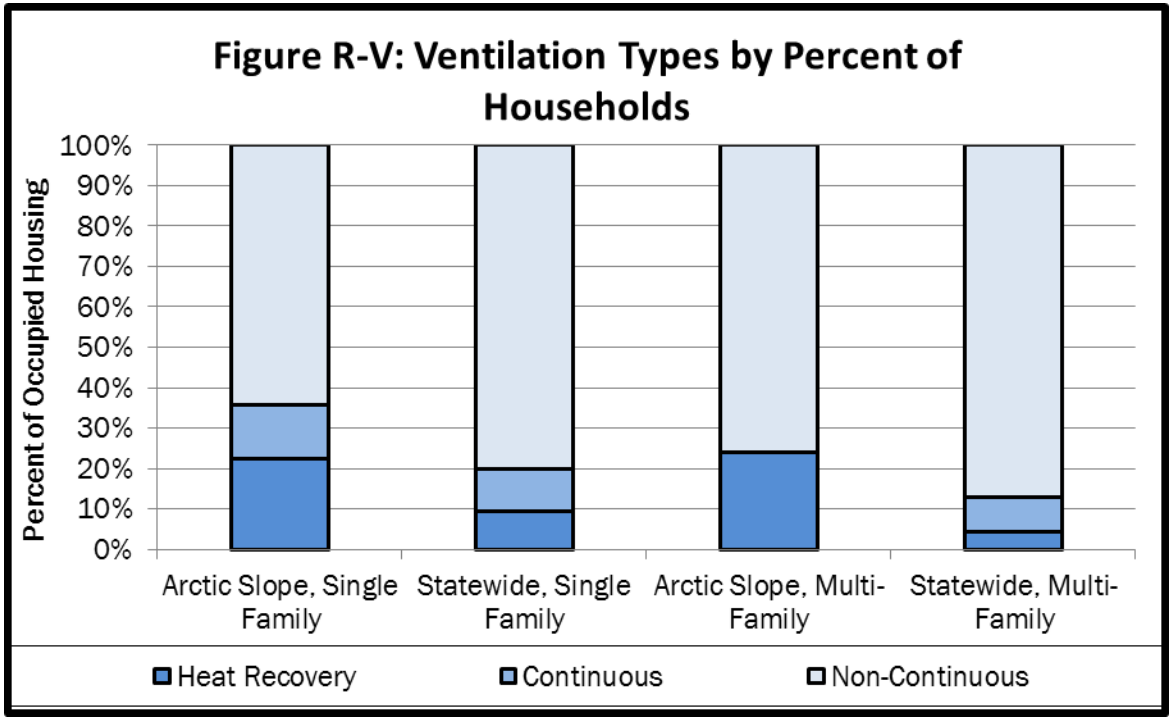
[12] Fay, G., Villalobos Melendez, A. & West. C. (2014). *Alaska Energy Statistics: 1960-2011*. UAA Institute of Social and Economic Research. Retrieved from: http://iser.uaa.alaska.edu/Publications/2013_12-AlaskaEnergyStatistics2011Report_Final_2014-04-30.pdf

[13] See Appendix C: Methodology for details.

Housing Condition [14]

Ventilation

Approximately 36 percent of the occupied homes in the Arctic Slope region have heat recovery or continuous mechanical ventilation systems installed. This is the 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 Arctic Slope region has the fifth lowest percentage of housing units in the state that are both relatively air-tight and lack continuous mechanical ventilation. Approximately 449 (22 percent) of the occupied homes in the Arctic Slope region are estimated to be at moderate risk, with 221 (11 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 486 (24 percent) of the occupied homes in the Arctic Slope region are estimated to be drafty, with 185 (9 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.

[14] See Appendix C: Methodology for details.