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Doyon Limited Dashboard¹

Population: The Alaska Department of Labor and Workforce Development's current (2012) population estimate for the Doyon ANCSA region is 114,815, an increase of 18% from 2000.

Housing Units: There are currently 50,507 housing units in the Doyon ANCSA region. Of these, 40,749 are occupied, 3,050 vacant units are for sale or rent, and the remaining 6,708 are seasonal or otherwise vacant units (Profile Figure R6).

Energy: The average home in the Doyon ANCSA region is 1,802 square feet and uses 146,000 BTUs of energy per square foot annually. This is 7% more 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 Doyon ANCSA region is \$8,050, which is approximately 2.9 times more than the cost in Anchorage, and 3.8 times more than the national average (Profile Figure R13).

Energy Programs: Approximately 18% of the occupied housing units in the Doyon 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 before 1940 are currently rated at 2-stars on average, compared to a current average rating of 4-stars for homes built after 2000.

Air-tightness: Within current housing stock, newer homes are tighter. On average, homes built in the last decade exceed the 2012 BEES standard of 4 air-changes per hour at 50 Pascals (ACH50). In contrast, homes built before 1940 are 3.6 times leakier than those built since 2000 (Profile Figure R7).

Ventilation: An estimated 26,180 occupied housing units (or 64%) in the Doyon 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: Five percent of occupied units are estimated to be either overcrowded (3%) or severely overcrowded (2%). This is roughly 2 times the national average and makes the Doyon region the third least overcrowded ANCSA region in the state.

Affordability: According to American Community Survey (ACS) data, approximately 33% of households in the Doyon 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 12% of census median area income for occupied housing.

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

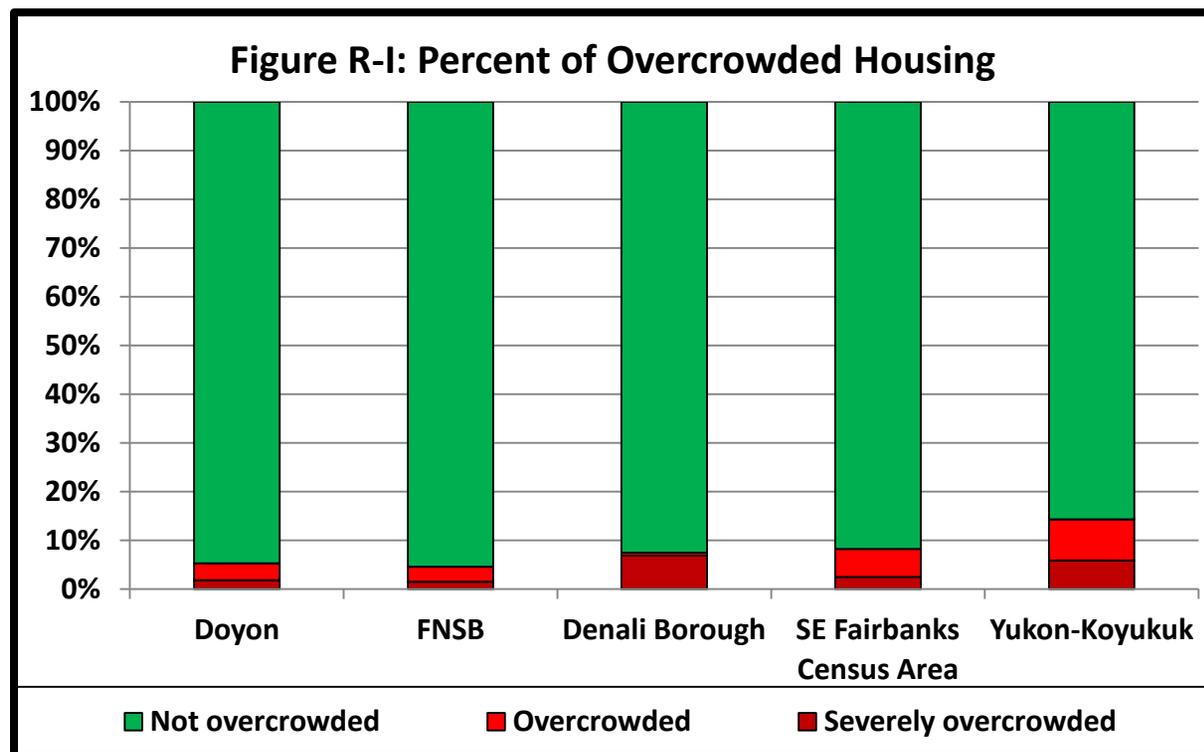
Doyon Limited Summary

Community

The Doyon Limited ANCSA region occupies the majority of Interior Alaska, stretching from the Canadian border to the east and to the western regions of NANA, Bering Straits, and Calista. The region has the third largest homes in Alaska, averaging 1,802 square feet per home. The average size of homes across the region’s census areas varies significantly, from a low of 1,042 square feet in the Yukon-Koyukuk census area to a high of over 1,800 square feet in the Denali and Fairbanks North Star Boroughs.

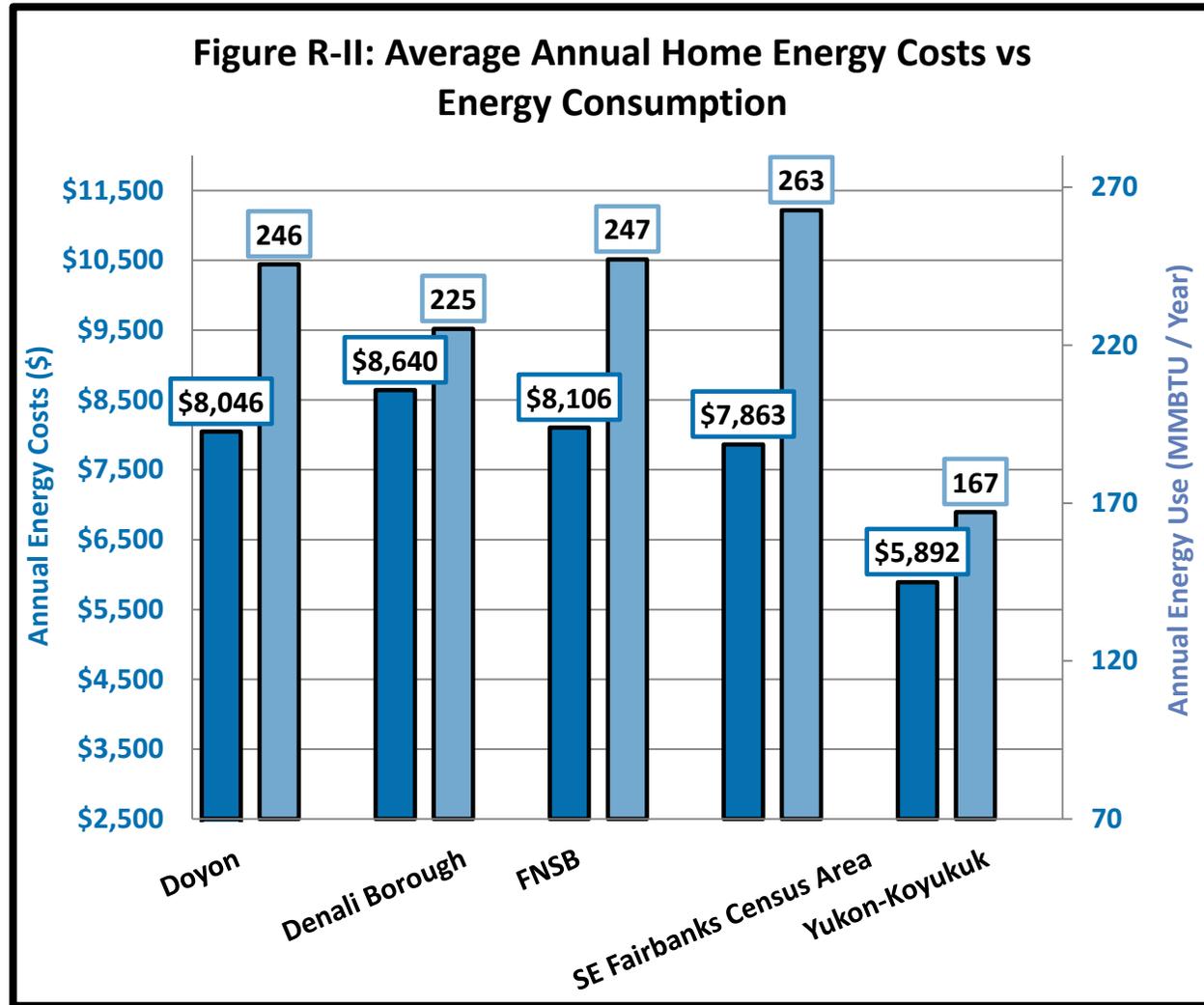
Overcrowding

The Doyon region has the third lowest level of overcrowding in Alaska, with approximately 5% of households with more than one person per room. CIRI and Sealaska are the only two regions that have lower levels of overcrowding. Overcrowding by census area within Doyon (Figure R-1). The least overcrowded census area is the Fairbanks North Star Borough, with 4% of housing units considered overcrowded or severely overcrowded. The highest percentage of overcrowding is found in the Yukon-Koyukuk census area where 14% of homes have more than one person per room.



Energy²

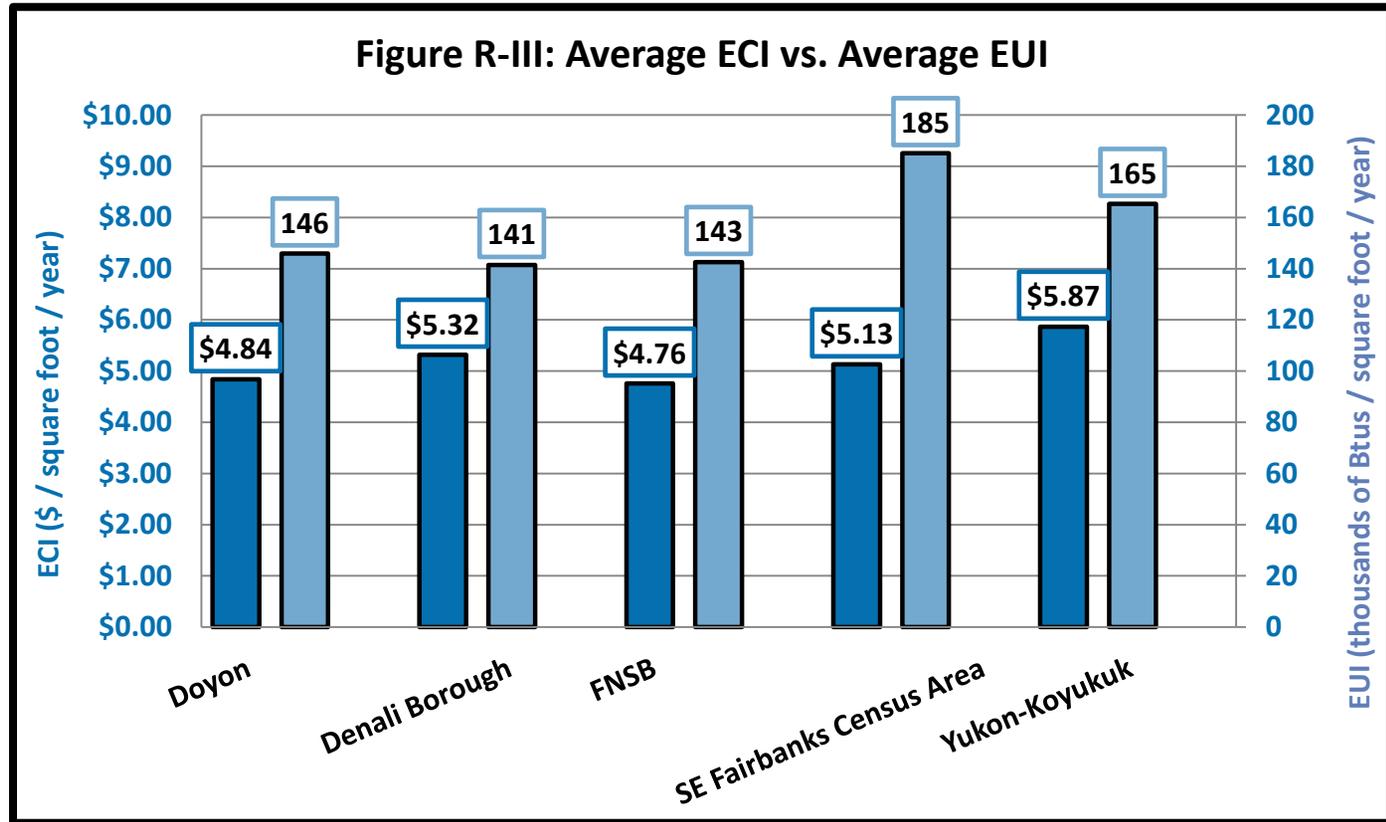
The average annual energy cost per household in the Doyon region is \$8,046, with housing units using an average of 246 million BTUS of energy each year. This is the highest average annual energy cost of any ANCSA region. Contributors to this include the extremely cold climate in Interior Alaska, the lack of access to inexpensive fuels, and a relatively large average home size. The lowest average annual energy use and costs in the region are found in the Yukon-Koyukuk census area (Figure R-II). One contributing factor to the low energy use in Yukon-Koyukuk is the average home size of 1,042 square feet, which is the lowest in the region and 760 square feet less than the regional average of 1,802 square feet. The highest average annual energy costs in the region are found in the Denali Borough. The highest average annual energy use is found in the Southeast Fairbanks census area.



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 Doyon region has an energy cost per square foot³ of 146 kBTU/ft², which is very close to the CIRI region’s 137 kBTU/ft². Figure R-III shows the energy use and cost per square foot for each census area in the region.⁴ The Southeast Fairbanks census area has the highest EUI of any census area in the region, while the highest ECI is found in the Yukon-Koyukuk census area.

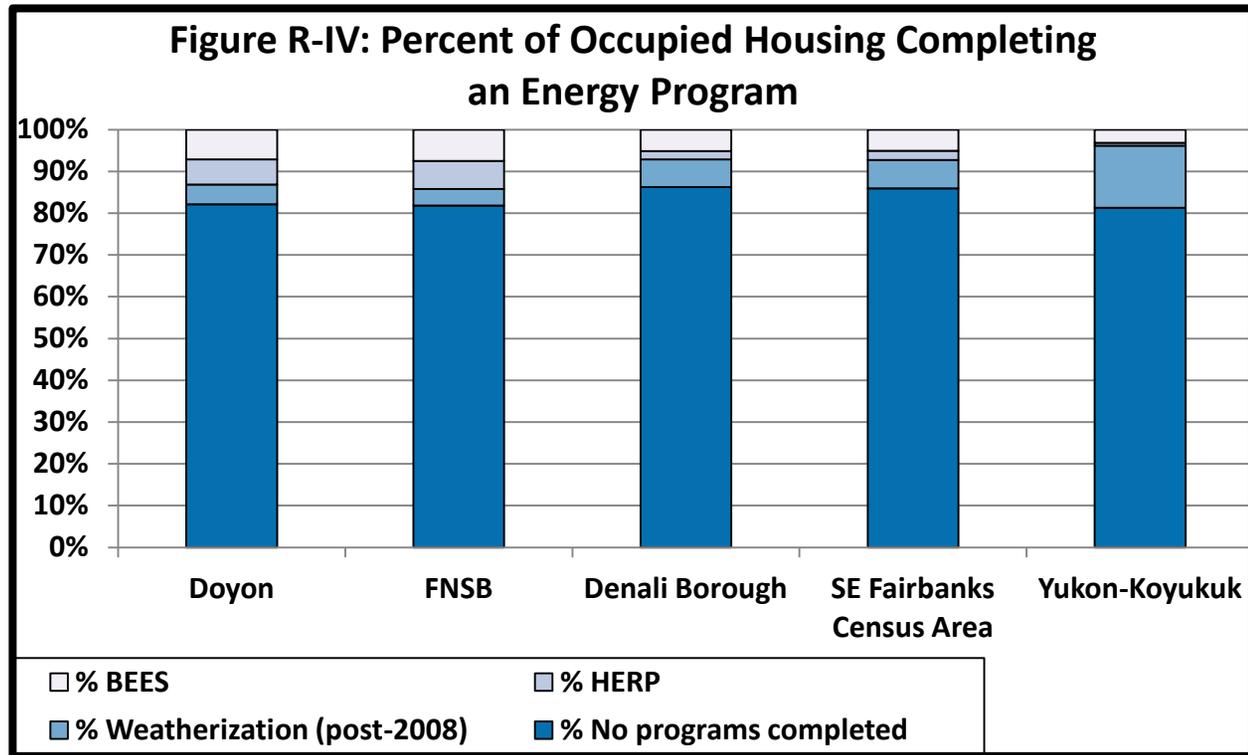
The Doyon region has the fourth lowest average home heating index in Alaska at 7.9 BTUs/ft²/HDD. The Southeast Fairbanks census area has the highest average home heating index within the region (10.8). The lowest average home heating index (7.7) is found in the Fairbanks North Star Borough.



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 communities participating in energy efficiency programs is essential to targeting work and resource allocation in the region. Approximately 18% of homes in the Doyon region have completed the Weatherization or Home Energy Rebate programs or have achieved BEES certification since 2008. Figure R-IV shows that participation in the energy programs varies by the region's census areas. The Fairbanks North Star Borough has the highest participation in the BEES certification program in the region, with approximately 7% of homes certified as meeting the efficiency standards. Within the region, the



Fairbanks North Star Borough also has the highest participation in the Home Energy Rebate Program, with approximately 7% of housing units having participated in the program. The highest participation rate for the Weatherization program has occurred in the Yukon-Koyukuk census area with an estimated 15% of homes completing a Weatherization retrofit.

Approximately 87% of the energy used for space heating in the Doyon region comes from fuel oil. Figure R-V shows the fuel types used for space heating in the Doyon region and its census areas. Fuel oil and wood are the most common fuel types in the region. The Fairbanks North Star Borough (FNSB) uses the smallest percentage of wood for space heating (8%) of any of the region's census areas. The highest use of wood occurs in the Yukon-Koyukuk census area, meeting 44% of space heating needs.

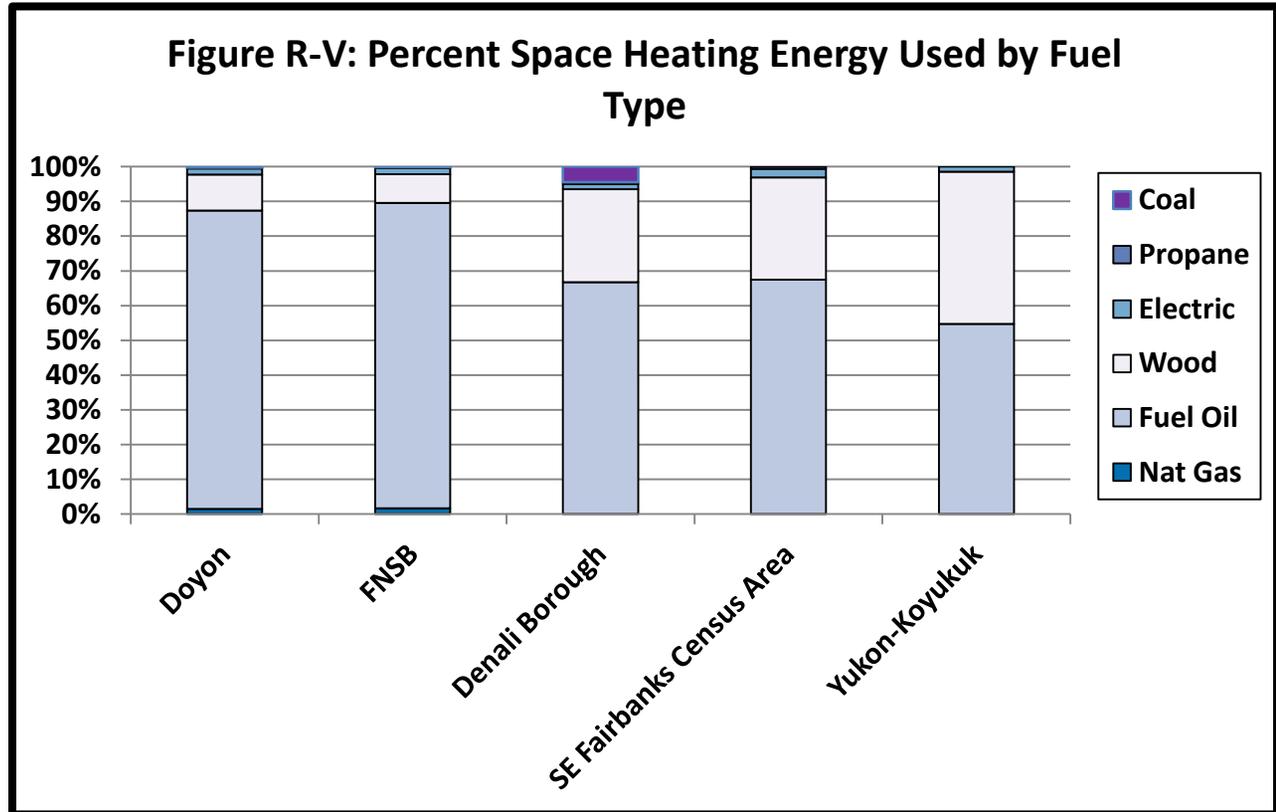
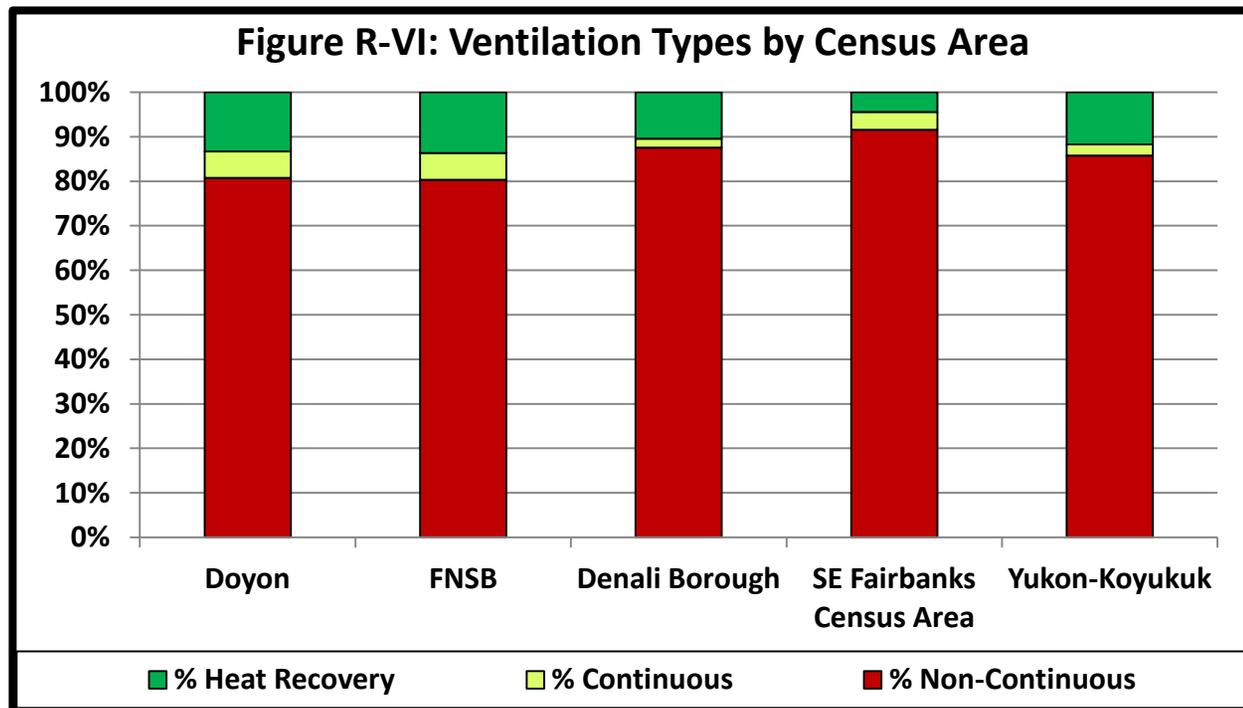
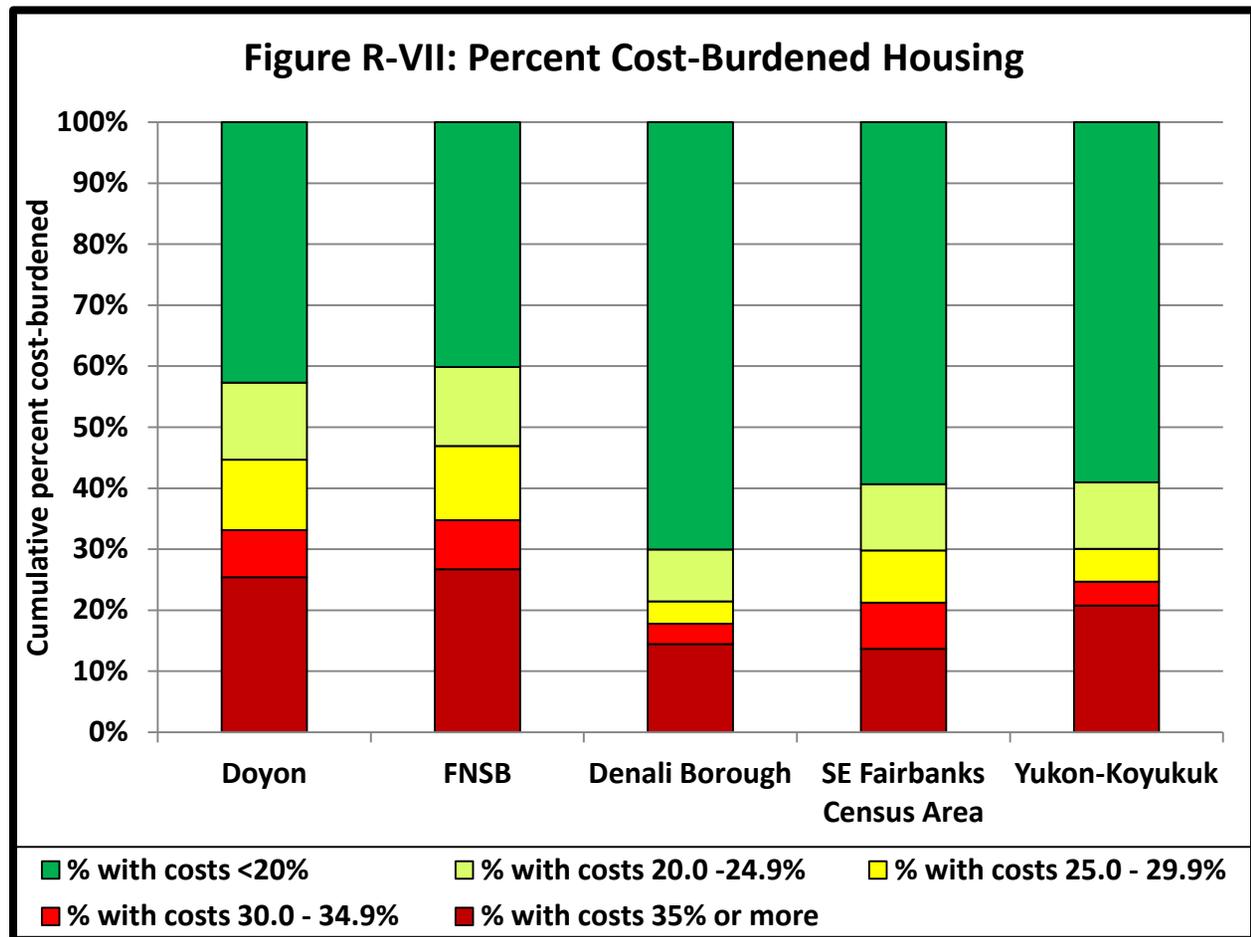


Figure R-VI shows the ventilation types found in housing units in the Doyon region and its census areas. Approximately 19% of housing units in the Doyon region have a heat recovery or continuous mechanical ventilation system installed. The Fairbanks North Star Borough has the highest rate of installed continuous ventilation systems, with 20% of homes having such a system. The lowest occurrence of continuous mechanical ventilation is found in the Southeast Fairbanks census area, where approximately 8% of homes have such systems.



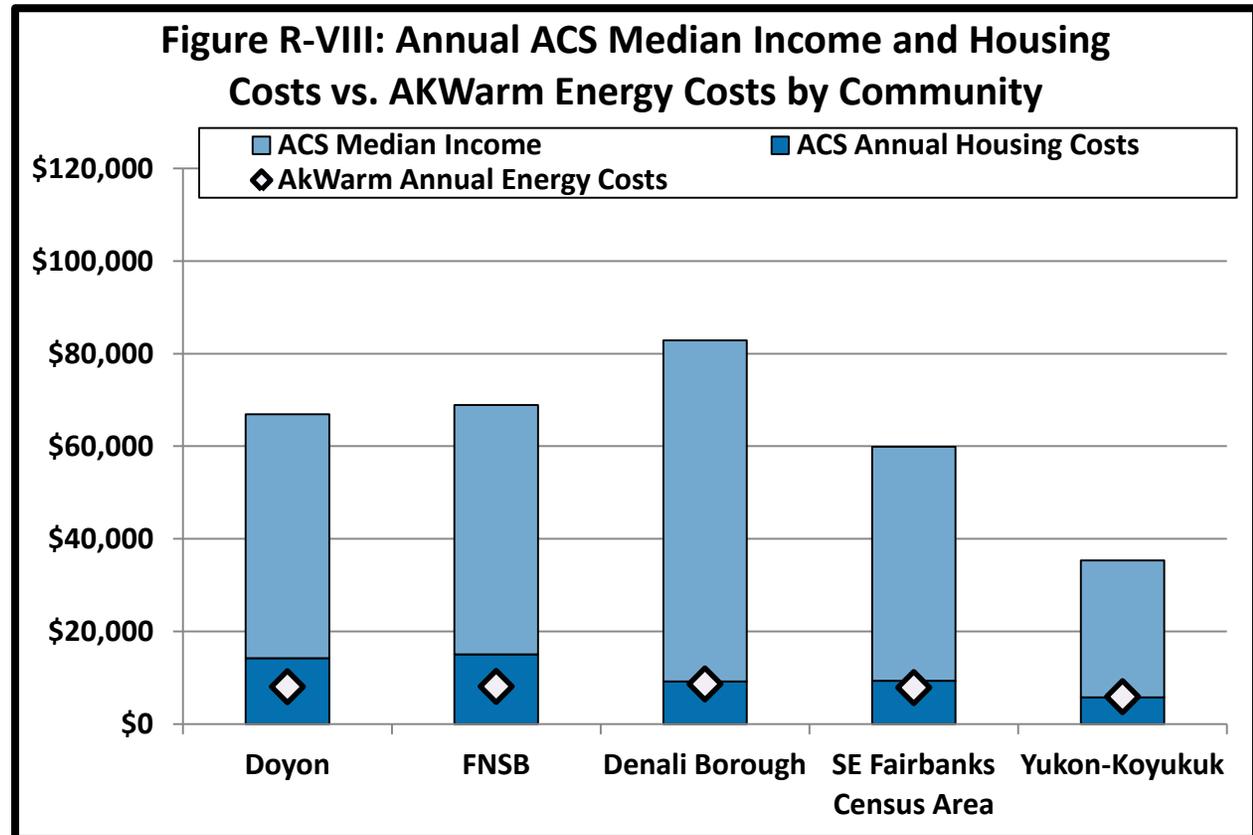
Affordability

According to ACS data, approximately 33% of households in the Doyon region are cost-burdened, spending 30% or more of household income on housing costs⁵. The Doyon region has the third highest percentage of cost-burdened housing in Alaska. Figure R-VII shows the percent of cost-burdened households in the different census areas in the region, which range from a low 17% in the Denali Borough to a high of 35% in the Fairbanks North Star Borough.



⁵ 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 gives the median household income for the Doyon region and its census areas, alongside housing and energy costs.⁵ Median household incomes vary by census area, from a low of \$29,539 in the Yukon-Koyukuk census area to a high of \$73,718 in the Denali Borough.



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.

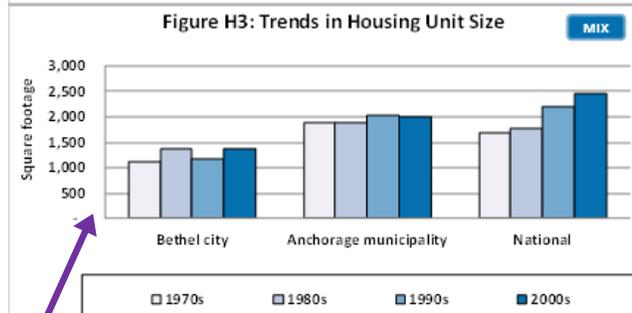
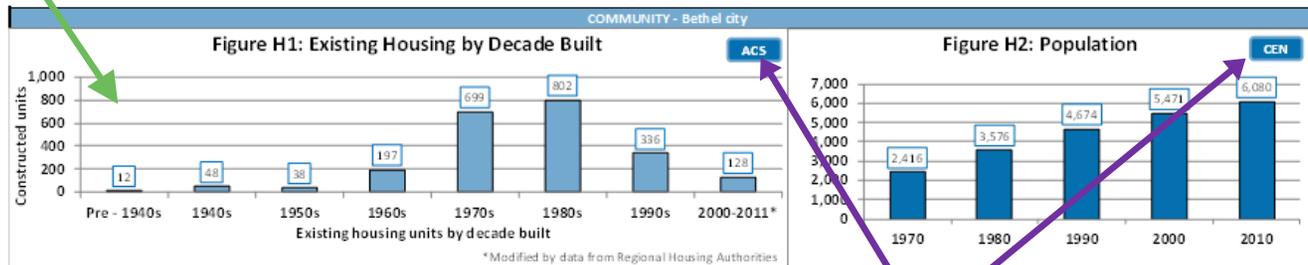
How to Interpret the Profile: Data Sources, Definitions & Clarifications

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:

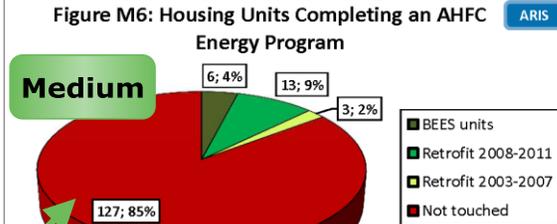
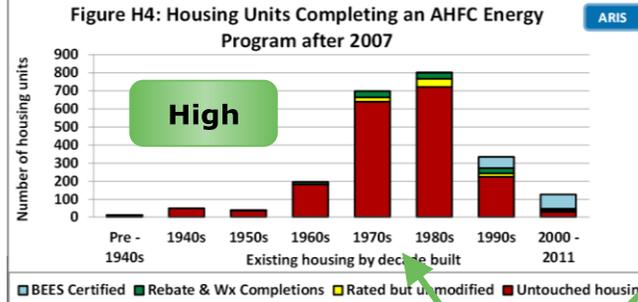
- 2011 American Community Survey 5 year estimates (ACS) **ACS**
- Alaska Retrofit Information System energy audits **ARIS**
- 2010 Decennial Census **CEN**
- Mixed data source; see individual graphs for details. **MIX**

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.

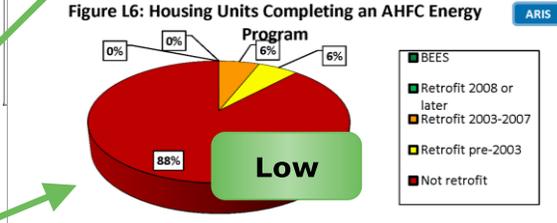
How to Interpret the Profile: Data Sources, Definitions & Clarifications

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	
Category	Number
All Housing	
All Occupied Housing	
All Housing	
Vacant housing for Sale or Rent	

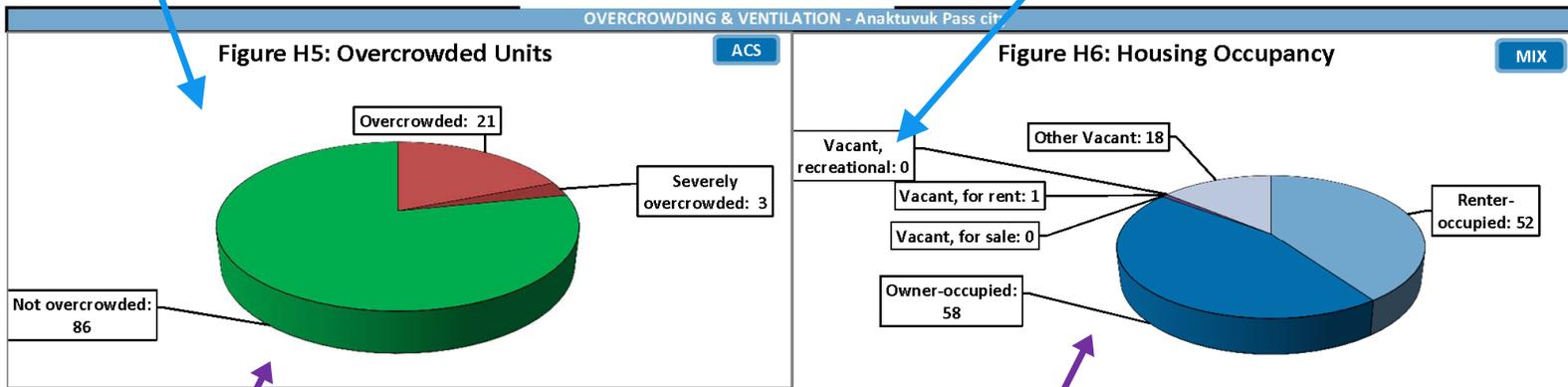
Units weatherized before 2008 are eligible to participate in the program again. (Data source: Alaska Housing Finance Corporation).

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.

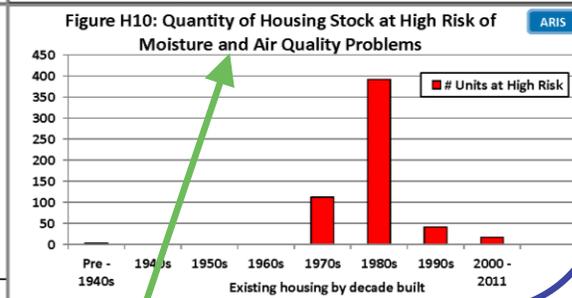
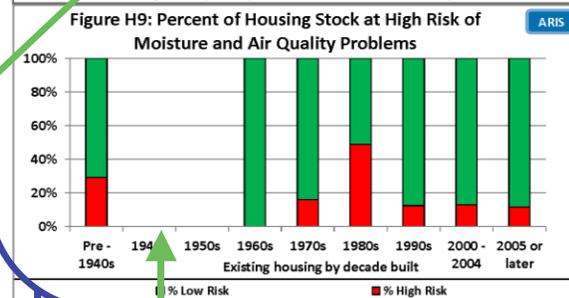
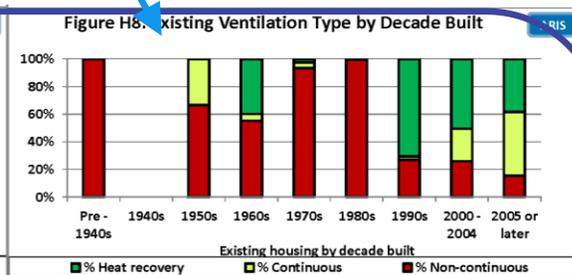
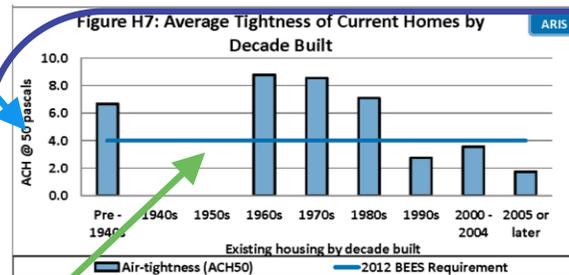
Continuous: Mechanical ventilation without heat recovery operated with automatic controls.

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

3

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.

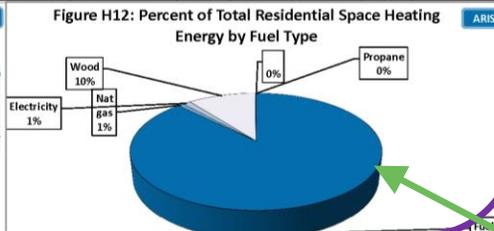
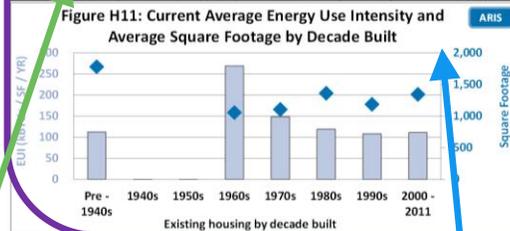
Space Heating, DHW, Appliances:
Estimated annual energy for the end uses of: Space Heating, Domestic Hot Water, and all other energy including lights, appliances, and electronics.

ECI: Energy Cost Index, the amount of money spent on energy per year divided by square footage.

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

Home Heating Index:
The energy used per square foot per year divided by the area's heating degree days.



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--

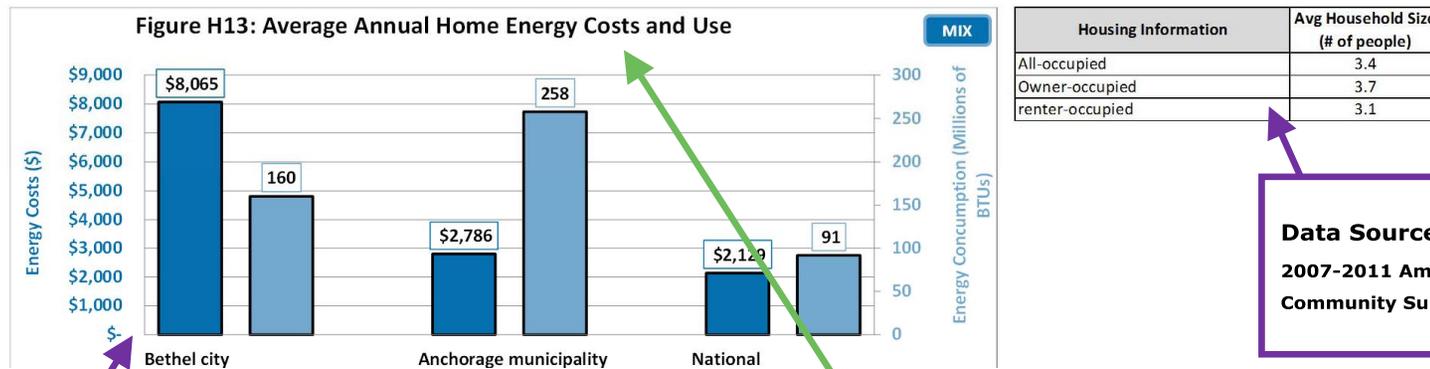
- Green:** the average value meets or exceeds the 2012 BEES requirement.
- Yellow:** value is 75-99% of the 2012 BEES requirement.
- Red:** value is less than 75% of the 2012 BEES requirement.

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 Source:
2007-2011 American Community Survey

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.

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%	

Figure H14: Affordability - Housing Costs as a Percent of Income

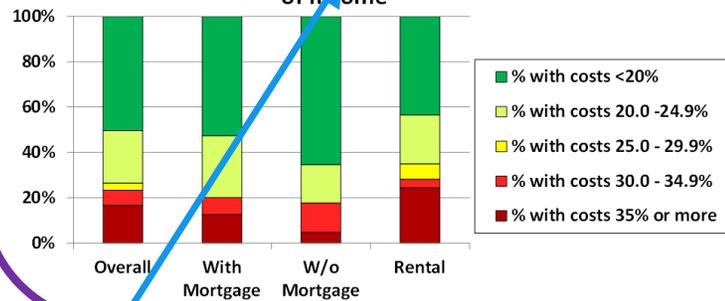


Figure H15: Number of Cost-Burdened Housing Units



Rental housing costs: Contract rent, fuels, utilities.

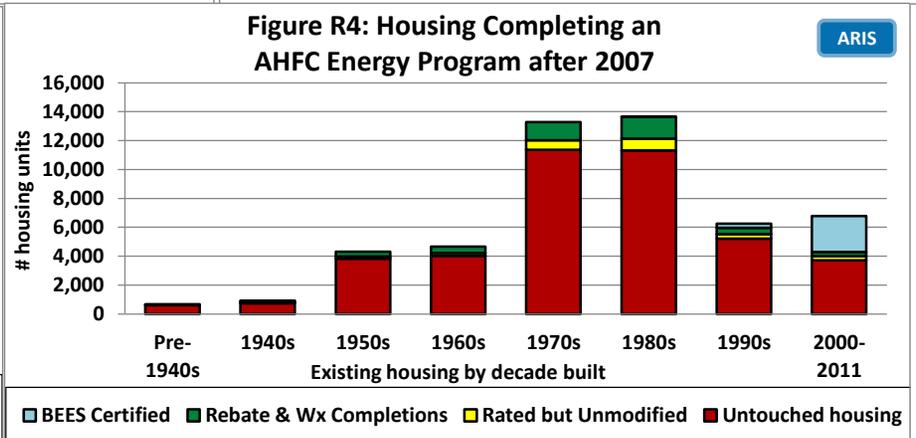
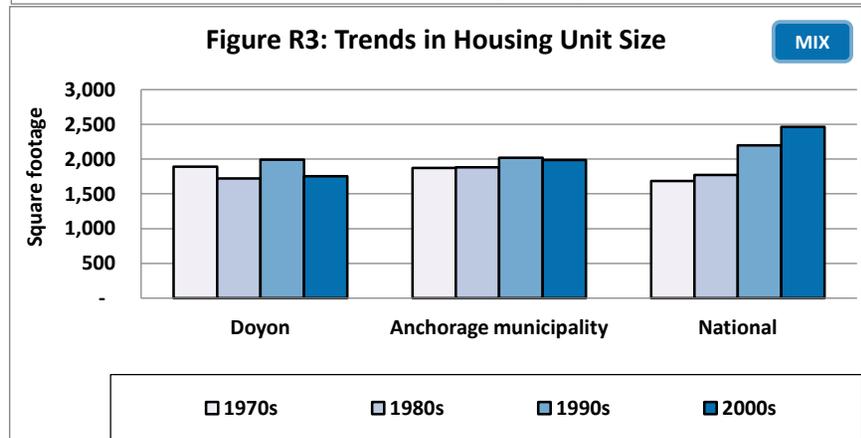
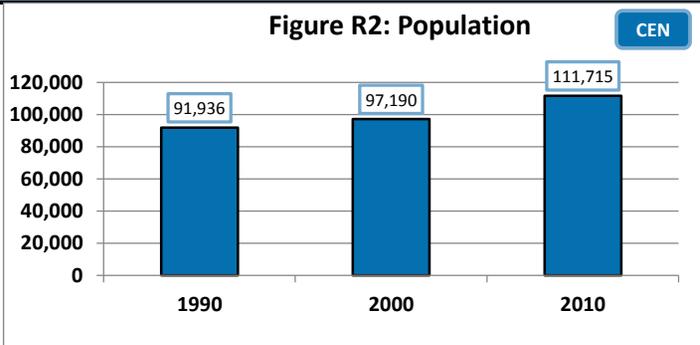
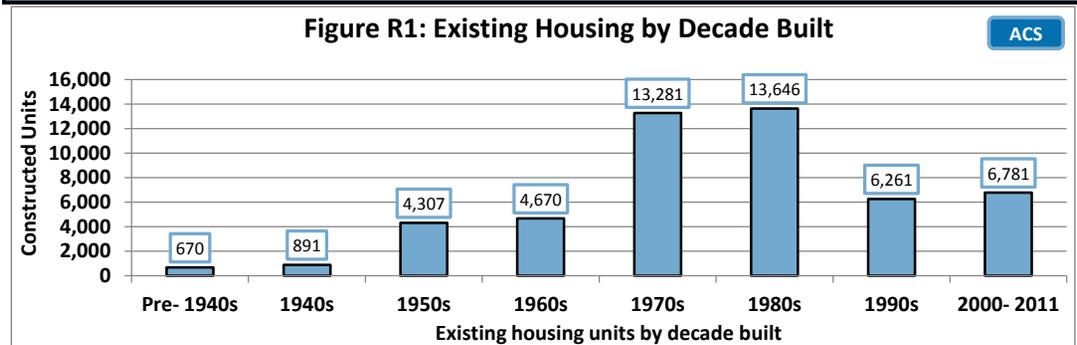
Owner housing costs: Mortgage payments, property taxes, insurance, fuels, utilities, condo fees.

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.

ANCSA Region Profile for: Doyon

Climate Zone (Heating Degree Day Range) Zone 8 (12,600 - 16,800 HDD)

COMMUNITY - Doyon



Houses Lacking Complete Plumbing or Kitchen Facilities	Households	
	Number	Percent
Lack complete plumbing	3,260	8%
Lack complete kitchen	2,649	7%

Avg Annual Energy Cost with PCE	\$8,046
Avg Annual Energy Cost without PCE	\$8,130

Weatherization Retrofits (funding increased 2008)	
Date Range	Units
2008-2011	1,931
2003-2007	630
1990-2002	2787

Estimated Total Annual Community Space Heating Fuel Use		
Fuel Oil	49,913,262	(gallons)
Natural Gas	1,185,560	(ccf)
Electricity	41,018,530	(kWh)
Wood	39,730	(cords)
Propane	203,138	(gallons)
Coal	1,401	(tons)

Housing Need Indicators	Number of units	% Occupied Housing
Overcrowded	2,143	5%
Housing cost burdened	12,775	31%
1 Star Homes	2,267	6%

Housing Stock Estimates	Number of Units
All Housing	50,507
All Occupied Housing	40,749
All Vacant housing	9,758
Vacant Housing for Sale or Rent	3,050

OVERCROWDING & VENTILATION - Doyon

Figure R5: Overcrowded Units

ACS

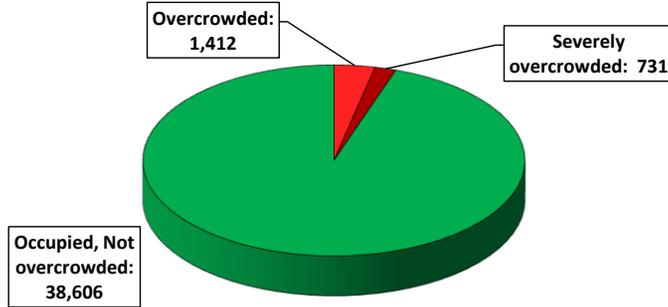


Figure R6: Housing Occupancy

MIX

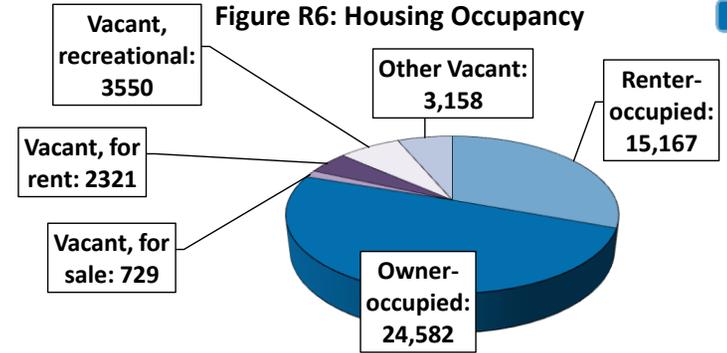


Figure R7: Average Air-Tightness of Current Homes by Decade Built

ARIS

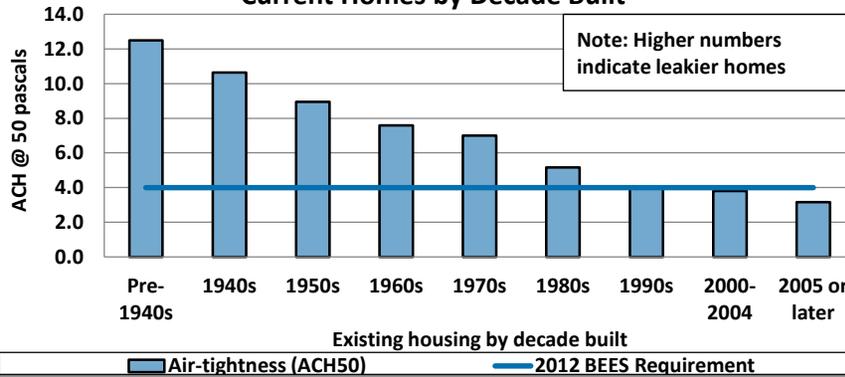


Figure R8: Existing Ventilation Type by Decade Built

ARIS

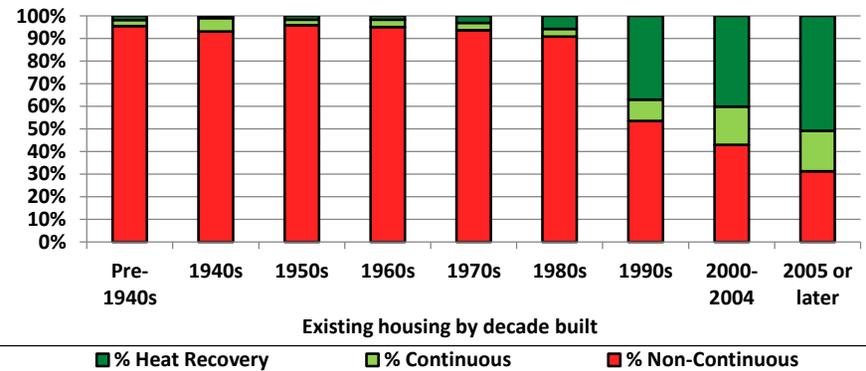


Figure R9: Percent of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS

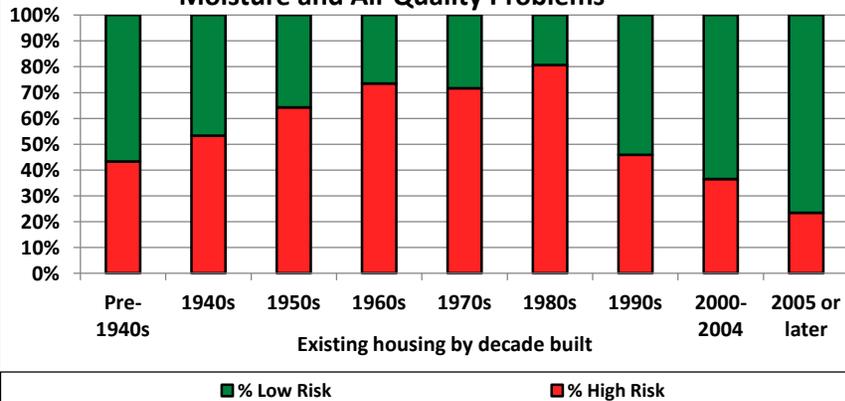
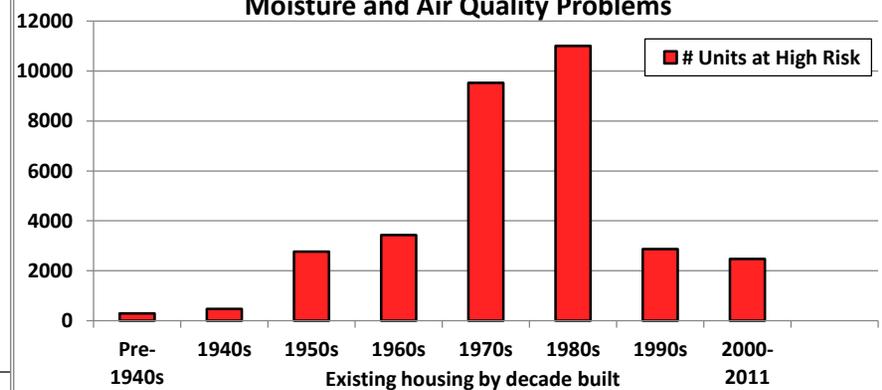


Figure R10: Quantity of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS



ENERGY - Doyon												
Current Doyon 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	12,128	3-star	71.3	1,802	\$8,046	246	189	25	30	146	\$4.84	7.9
Pre- 1940	87	2-star	52.2	1,795	\$9,705	309	260	19	30	192	\$6.10	11.4
1940- 49	177	2-star	59.0	1,457	\$7,532	227	179	21	28	170	\$5.74	9.6
1950- 59	655	2-star plus	60.2	1,621	\$8,632	265	212	24	29	173	\$5.76	9.9
1960- 69	906	2-star plus	64.3	1,807	\$8,982	279	224	26	29	162	\$5.33	9.2
1970- 79	2,640	2-star plus	66.8	1,893	\$8,939	276	220	25	30	157	\$5.16	8.8
1980- 89	3,239	3-star plus	74.8	1,724	\$7,633	232	178	25	29	142	\$4.72	7.6
1990- 99	1,243	4-star	78.7	1,992	\$7,666	232	166	25	29	126	\$4.19	6.6
2000- 2004	1,452	4-star	80.4	1,751	\$6,555	195	140	25	30	119	\$4.02	6.0
2005 or later	1,728	4-star plus	83.6	1,777	\$6,127	178	123	25	30	110	\$3.78	5.4

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

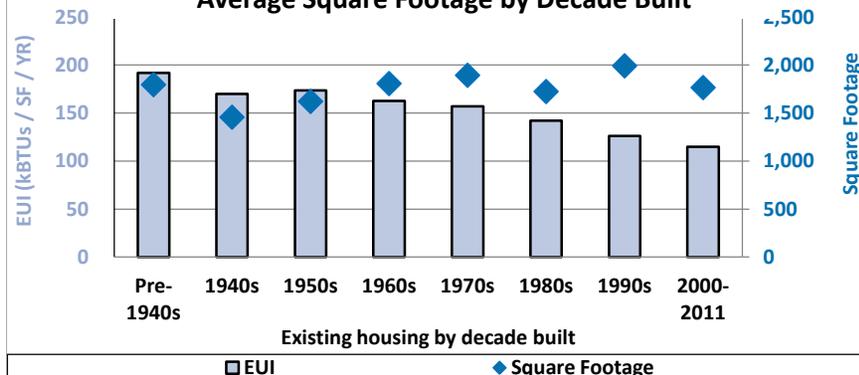
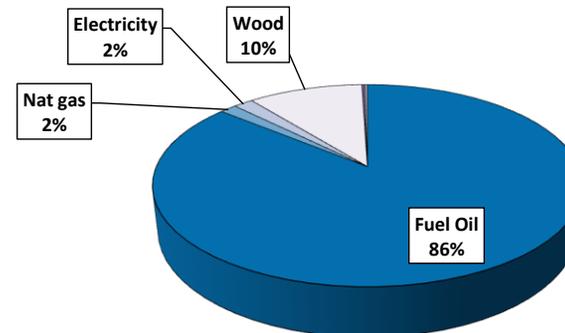


Figure R12: Percent of Total Residential Space Heating Energy by Fuel Type

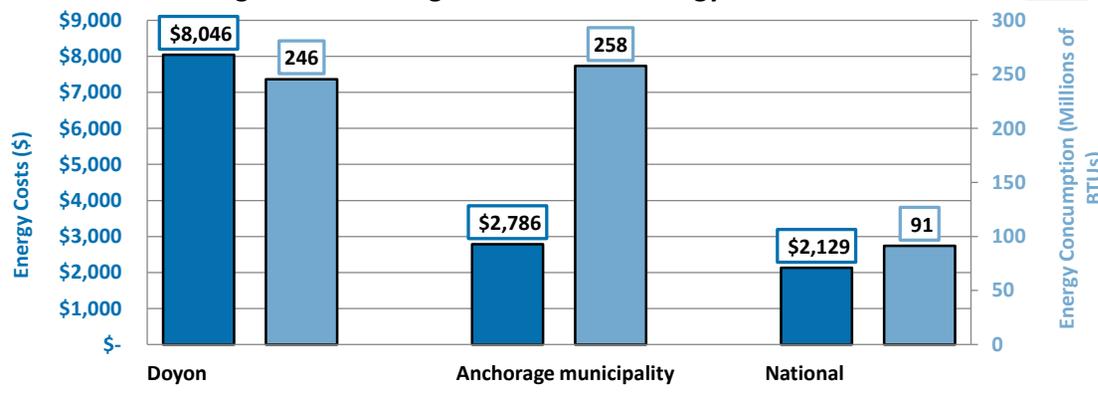


Current Doyon Housing Envelope Characteristics By Decade Built											
Current Residential Units by Year Built	# of AkWarm Records	ACH 50	Ceiling R	Above Grade Wall R	Below Grade Wall R	Above Grade Floor R	On Grade Floor R	Below Grade Floor R	Door U	Garage Door U	Window U
OVERALL	12,128	6.0	30	15	7	25	3	3	0.31	0.31	0.47
Pre- 1940	87	12.5	21	12	3	20	3	2	0.41	0.41	0.57
1940- 49	177	10.6	23	13	4	21	3	2	0.36	0.36	0.56
1950- 59	655	8.9	24	12	4	18	3	3	0.35	0.35	0.53
1960- 69	906	7.6	26	13	4	20	3	3	0.36	0.36	0.53
1970- 79	2,640	7.0	28	14	7	23	3	3	0.33	0.33	0.53
1980- 89	3,239	5.2	33	17	9	25	3	3	0.29	0.29	0.45
1990- 99	1,243	4.0	37	19	12	30	4	3	0.28	0.28	0.41
2000- 2004	1,452	3.8	38	17	12	27	5	3	0.26	0.26	0.38
2005 or later	1,728	3.2	42	18	15	34	6	4	0.24	0.24	0.31

BEES 2009 - Climate Zone 8	7.0	38	30	15	38	15	15	15	0.22	0.22	0.22
BEES 2012 - Climate Zone 8	4.0	48	30	15	38	15	15	15	0.22	0.22	0.22

AFFORDABILITY - Doyon

Figure R13: Average Annual Home Energy Cost and Use



Housing Information	Avg Household Size (# of people)
All-occupied	2.6
Owner-occupied	2.7
Renter-occupied	2.5

Median value of owner-occupied house with mortgage
\$218,600

Median value of owner-occupied house without a mortgage
\$166,000

Median Household Income	
Housing Units	Annual Household Income
All-occupied	\$ 66,935
Renter-occupied	\$ 47,549
Owner-occupied	\$ 82,271
w/ mortgage	\$ 92,599
w/o mortgage	\$ 63,260

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 1,186	\$ 14,232
Gross rent	\$ 1,081	\$ 12,972
Owner-occupied	\$ 1,311	\$ 15,732
Housing units w/ mortgage	\$ 1,810	\$ 21,720
Housing units w/out a mortgage	\$ 505	\$ 6,060

Avg % of Median Income Spent on Energy **12.0%**

Figure R14: Affordability - Housing Costs as a Percent of Income

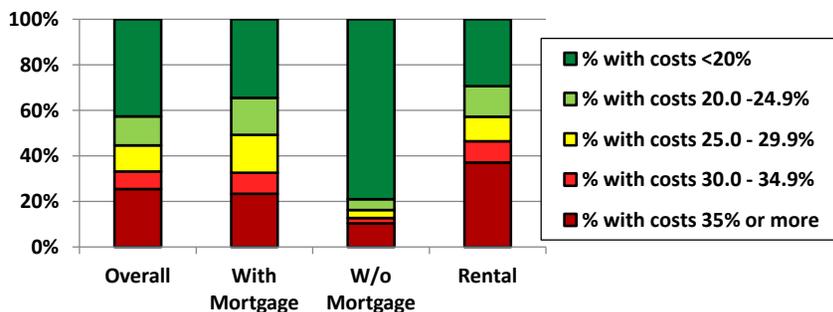


Figure R15: Number of Cost-Burdened Housing Units

