

**HB**

**35**

<TARGET><BILL>HB 35</BILL><SUBJECT>HB  
35</SUBJECT><COMM>HENE28</COMM></TARGET>

**Alaska Legislature  
House Special Committee on Energy**



**Rep. Charisse Millett**

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# Agenda

**Monday, February 11, 2013  
7:00 P.M. – 9:00 P.M.  
Barnes Committee Room (#124)**

\*+ HB 35 "An Act creating a low-interest loan program for homeowners who improve or replace their home heating systems; and providing for an effective date."

\*First hearing in committee of referral

+Teleconferenced

=Bill previously heard/scheduled

**Alaska State Legislature**  
**House of Representatives**  
Representative Tammie Wilson

*Interim*  
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Fairbanks, AK 99701  
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*Session*  
State Capitol  
Juneau, AK 99801  
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Rep.Tammie.Wilson@akleg.gov

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## **House Bill 35**

**"An Act creating a low-interest loan program for homeowners who improve or replace their home heating systems; and providing for an effective date."**

House Bill 35 will create a low-interest loan program, providing Alaskans an affordable avenue for converting to a more efficient heating system.

The loan program established under HB 35 will be overseen by the Alaska Housing Finance Corporation, allowing qualified applicants, regardless of income level, to receive up to a \$15,000 loan for a new heating appliance, including the costs of labor and materials. Conditions of the loan are set at one percent interest over a ten year term. The loan program is open to all forms of heating systems, allowing homeowners to convert to the available low-cost heating methods within their community.

An additional benefit of HB 35 will be the program's effects on a community's air quality. Currently, the U.S. Environmental Protection Agency has declared the Fairbanks North Star Borough a PM 2.5 nonattainment area. This designation has serious economic development impacts. One example of such impacts is the potential loss of Federal highway funding. By converting to cleaner heating systems, such as natural gas, the FNSB will be able to apply the loan program of HB 35 towards their required EPA state implementation plan to mitigate the existing air quality concerns.

I urge your support of HB 35 to help provide Alaska's homes and families with cleaner, efficient and affordable heating options.

# COST OF LIVING

## C2ER COST OF LIVING INDEX\*

For Selected Cities  
Third Quarter 2012

City	Composite Index 100%	Grocery		Utilities	Trans- portation	Health Care	Msc. Goods & Services
		Items 13.36%	Housing 28.64%				
<b>West:</b>							
<b>Fairbanks, AK</b>	<b>139.8</b>	<b>132.0</b>	<b>135.9</b>	<b>242.5</b>	<b>114.6</b>	<b>144.1</b>	<b>121.1</b>
Anchorage, AK	125.9	126.5	143.6	94.5	109.3	137.3	124.0
Kodiak, AK	130.4	146.3	126.7		128.2	129.4	117.3
Juneau, AK	141.5	132.5	169.9		115.0	142.2	119.8
Phoenix, AZ	96.0	99.3	95.2	96.5	106.8	91.5	92.3
San Diego, CA	134.4	108.1	209.6	92.5	107.0	112.6	104.4
Denver, CO	105.1	97.3	114.5	89.8	107.3	106.1	104.0
Boise, ID	97.2	97.8	84.6	95.0	102.0	105.0	106.3
Kalispell, MT	96.9	106.5	84.3	97.8	104.4	110.9	99.5
Carlsbad, NM	89.3	97.1	83.8	89.4	90.5	95.5	89.7
Seattle, WA	116.2	107.8	137.8	92.7	107.4	119.1	110.8
Pierre, SD	101.9	105.4	115.5	92.8	96.5	98.7	93.7
<b>South:</b>							
Miami, FL	108.1	108.5	113.9	100.6	112.4	106.8	103.9
Atlanta, GA	95.0	105.8	84.4	88.4	100.4	99.6	99.7
Lafayette, LA	96.5	94.8	111.1	82.9	102.3	86.6	88.2
Springfield, MO	89.2	98.8	74.7	97.2	103.1	98.3	89.5
Tulsa, OK	88.3	92.0	65.2	94.8	102.0	93.2	100.0
Memphis, TN	85.6	91.8	73.2	83.3	87.8	100.7	92.0
Dallas, TX	96.4	98.9	75.2	122.8	103.8	100.8	102.6
<b>North Central:</b>							
Indianapolis, IN	93.8	94.9	83.6	89.9	98.2	118.7	98.9
Grand Rapids, MI	91.5	94.6	75.9	100.3	105.1	87.8	97.1
Wausau, WI	95.7	102.1	80.2	102.3	101.8	106.1	101.3
<b>Northeast:</b>							
New York, NY	229.5	152.0	447.0	126.6	124.6	134.6	150.2
Philadelphia, PA	122.8	121.4	138.1	132.3	106.3	100.9	115.1
Boston, MA	142.8	118.5	180.5	151.4	108.6	122.9	130.5
Raleigh, NC	90.9	104.3	72.0	103.2	94.8	95.4	96.1
Richmond, VA	100.6	104.6	91.1	106.3	101.8	113.4	103.4
Avg. of 304 Urban Areas	100.0	100.0	100.0	100.0	100.0	100.0	100.0

**SOURCE:** Council for Community and Economic Research (C2ER) fka ACCRA (American Chamber of Commerce Researchers Association), *Cost of Living Index, Comparative Data for Urban Areas*, (3rd Qtr.), October 2012.

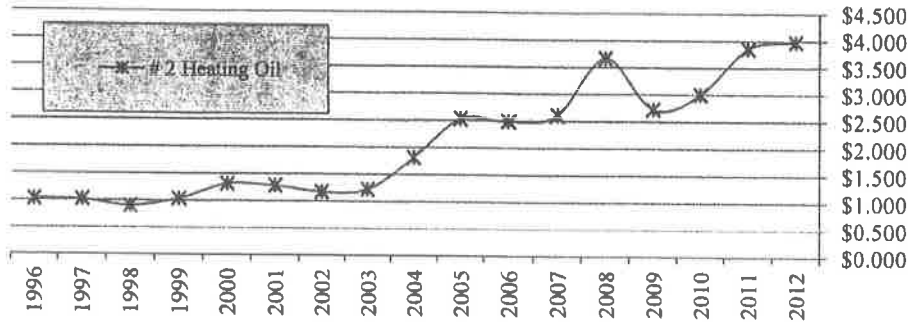
**NOTE:** This Cost of Living Index **does not measure inflation** (price change over time). Because each quarterly report is a separate comparison of prices at a single point in time, and because both the number and the mix of participants changes from one quarter to the next, **index data from different quarters cannot be compared**. The *Index* reflects cost differentials for professional and executive households in the top income quintile. For inflation data contact the US Bureau of Labor Statistics (BLS) at [www.bls.gov](http://www.bls.gov).

\* Item percentages change so please watch for current percentages.

## Cost of Living

### AVERAGE HEATING OIL PRICES

Fairbanks North Star Borough  
September 1996-2012



### HEATING OIL PRICES

Fairbanks North Star Borough  
September 1986-2012

Year	#1 Fuel Oil		#2 Fuel Oil	
	Average	Range (\$)	Average	Range (\$)
1986	\$0.778	(0.750-0.795)	\$0.728	(0.715-0.755)
1987	\$0.918	(0.918-0.970)	\$0.875	(0.815-0.920)
1988	\$0.880	(0.800-0.922)	\$0.847	(0.770-0.895)
1989	\$0.957	(0.900-0.992)	\$0.911	(0.860-0.952)
1990	\$1.179	(1.110-1.222)	\$1.140	(1.070-1.200)
1991	\$0.927	(0.880-0.977)	\$0.901	(0.850-0.940)
1992	\$0.975	(0.915-1.037)	\$0.941	(0.895-0.980)
1993	\$0.959	(0.925-1.025)	\$0.939	(0.918-0.970)
1994	\$0.961	(0.930-1.015)	\$0.908	(0.880-0.945)
1995	\$0.955	(0.900-1.040)	\$0.888	(0.830-0.960)
1996	\$1.088	(1.040-1.155)	\$1.023	(0.970-1.068)
1997	\$1.087	(1.050-1.120)	\$1.019	(0.970-1.060)
1998	\$0.964	(0.940-1.000)	\$0.900	(0.880-0.930)
1999	\$1.075	(1.030-1.120)	\$1.035	(1.000-1.050)
2000	\$1.372	(1.330-1.400)	\$1.312	(1.270-1.360)
2001	\$1.343	(1.300-1.380)	\$1.283	(1.260-1.310)
2002	\$1.212	(1.175-1.310)	\$1.175	(1.110-1.280)
2003	\$1.273	(1.220-1.320)	\$1.224	(1.200-1.260)
2004	\$1.824	(1.770-1.870)	\$1.809	(1.770-1.840)
2005	\$2.544	(2.500-2.610)	\$2.523	(2.480-2.560)
2006	\$2.494	(2.390-2.580)	\$2.479	(2.380-2.550)
2007	\$2.683	(2.640-2.730)	\$2.598	(2.540-2.640)
2008	\$3.670	(3.610-3.790)	\$3.670	(3.630-3.770)
2009	\$2.731	(2.680-2.750)	\$2.722	(2.690-2.740)
2010	\$3.020	(2.980-3.060)	\$3.000	(2.960-3.060)
2011	\$3.922	(3.890-3.950)	\$3.852	(3.820-3.880)
2012	\$4.055	(4.010-4.080)	\$3.977	(3.940-4.010)

**SOURCE:** Fairbanks North Star Borough, Community Research Center surveys, 1986-2012.

**NOTE:** Discounts of several cents per gallon may be available from retailers depending on method and timing of payment. Prices based on automatic delivery of 500 gallons of heating oil, without early payment discount.

## Cost of Living

### RESIDENTIAL HEATING FUEL COMPARISON

Fairbanks, Alaska  
November 2012

Fuel (see notes below)	Avg Price	Per Unit	Gross Heat (BTU)	Heater Efficiency	\$/100,000 BTU's of Useful Heat	Useful BTU's per \$1.00
Electricity (100% eff.)	\$0.2277	/kWh	3,413	100%	\$6.672	14,989
District Hot Water Heat	\$27.0300	/mmbtu	1,000,000	100%	\$2.703	36,996
District Steam Heat	\$10.5000	/1,000 lbs	1,066,000	100%	\$0.985	101,524
Fuel oil #2 (85% eff.)	\$3.8670	/gal	135,000	85%	\$3.370	29,674
Natural gas (85% eff.)	\$23.3500	/mcf	1,010,000	85%	\$2.720	36,767
Propane (85% eff.)	\$4.1170	/gal	91,333	85%	\$5.303	18,857
Wood, pellet (85% eff.)	\$282.0000	/ton	16,000,000	85%	\$2.074	48,227
Wood, birch (70% eff.)	\$325.0000	/cord	20,500,000	70%	\$2.265	44,154
Wood, spruce (70% eff.)	\$327.0000	/cord	15,000,000	70%	\$3.114	32,110
Coal, stoker	\$115.0000	/ton	15,200,000	55%	\$1.376	72,696
Electricity (distributed): PRICE includes rate, customer charge, RCA charge, cost of fuel adjustment charge.				0.293 watt hours = (1) BTU	\$0.228	per kWh
Hot water				per million BTU's	\$27.030	hot water
Steam				per 1,000 lbs p/month	\$10.500	steam heat
Wood, according to a table on the energy content of Interior Alaska trees prepared by George Sampson, a former Institute of Northern Forestry research forester. Paper birch provides 25.4 million BTU per cord, tamarack provides 24.8 million BTU per cord.				varies: p/ton, p/cord	\$325.833	per cord of wood
Fuel oil (common: "60% #2, 40% #1 blend" or "-15, #2") (delivered by truck)				135,000 BTU/gal	\$3.867	per gal
Natural gas (liquefied, trucked to Fairbanks, delivered by pipeline): NOTE: an average home in Fairbanks may use 250 CCF or 25,000 cubic feet (cf) of gas in a typical January, when natural gas is used for heating only. PRICE includes rate, customer charge, RCA.				1,010 BTU/cf	\$2.335	per 100 cubic feet (CCF)
Propane (delivered by truck to homes)				91,333 BTU/gal	\$4.117	per gal
Coal delivered to downtown				avg. \$115/ton	\$115.000	per ton

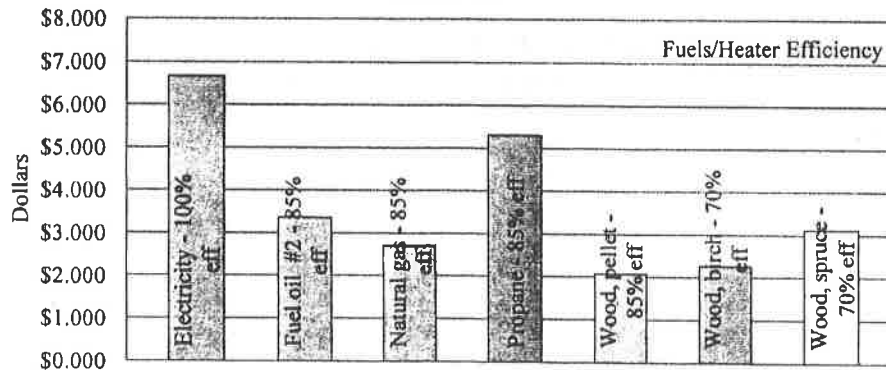
**SOURCE:** Golden Valley Electric Association, Inc. (GVEA), LEED Accredited Professional Energy End Use Specialist and SNAP Program Tech, Todd Hoener, *Heating Fuel Comparison, November 2012*, and FNSB Community Research Center, 2012.

**NOTE:** A British Thermal Unit (BTU) is the amount of heat energy needed to raise the temperature of one pound of water by one degree F. This is the standard measurement used to state the amount of energy that a fuel has as well as the amount of output of any heat generating device.

A common index of the cost of heat is "dollars per 100,000 BTUs of useful heat." In order to calculate useful heat (heat actually delivered to

### COMPARISON PRICE PER 100,000 BTUs OF USEFUL HEAT

Fairbanks, Alaska  
November 2012



March 11, 2011



**sierra  
research**

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**Memo to:** Honorable Luke Hopkins, Mayor  
Fairbanks North Star Borough

**From:** Bob Dulla and Frank Di Genova

**Subject:** Emission Reduction Benefits of Natural Gas Displacing Conventional Heating Fuels in Fairbanks

For a variety of reasons, including poor dispersion, low temperatures, and limited fuel mix, Fairbanks has poor wintertime air quality and frequently exceeds the National Ambient Air Quality Standard for  $PM_{2.5}$ . A recent inventory of emissions shows that space heating, and particularly heating with wood, is responsible for the vast majority (74%) of the direct wintertime  $PM_{2.5}$  emissions (and an even higher percentage of nuisance smoke complaints). By contrast, oil burning provides roughly the same amount of heating as wood (BTU basis) but contributes only about 1% of direct  $PM_{2.5}$  emissions. However, distillate oil burning for space heating contributes about 42% of (gaseous) sulfur dioxide emissions, and these and other gaseous emissions can convert in the atmosphere to secondary  $PM_{2.5}$ , adding significantly to the total  $PM_{2.5}$  burden. Displacement of wood burning and, to a lesser extent, displacing of oil burning, with much cleaner natural gas can significantly reduce these direct and indirect  $PM_{2.5}$  emissions.

Based on EPA emission factor data, switching from a conventional wood stove to natural gas reduces direct PM emissions by 99.7%, and switching from residential distillate oil burning to natural gas reduces direct PM by 38.6%. In addition, the fuel oil to gas switch reduces emissions of (gaseous) sulfur dioxide by 99.7%.

According to the 2000 Census, there are 25,583 households in the Fairbanks  $PM_{2.5}$  nonattainment area. Shifting 12,000 homes to natural gas would largely eliminate directly emitted PM from almost 50% of the homes in the nonattainment area and substantially reduce the secondary PM burden as well. No other option has been identified to date that can produce reductions of this magnitude and significantly move the Borough towards attainment in a cost effective manner.

cc. Glenn Miller  
Jim Conner



## CITY OF FAIRBANKS

Jerry Cleworth, Mayor

800 CUSHMAN STREET  
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January 18, 2013

Representative Tammie Wilson  
Alaska State Legislature  
State Capitol, Room 415  
Juneau, AK 99801-1182

Re: House Bill 35

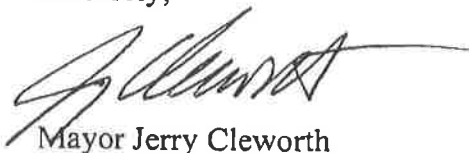
Dear Representative Wilson:

Thank you for introducing HB35. This bill accomplishes two important goals; it is an important tool for the mitigation of air quality violations, and greatly helps to set in place the infrastructure to utilize natural gas.

Residents are quite knowledgeable about the air quality problems that face our area, but simply do not have resources that could exact a change. The bill will enable residents with limited means to be able to convert to natural gas and greatly reduce their energy costs. It also helps to make the gas trucking project viable economically. The plan for trucking LNG is dependent on a rapid build-out to maximize use.

This bill is a fundamental component of the energy legislation that is before Representatives in Juneau this year and addresses the issue through loans and not grants. If we can be of further help, please let us know.

Sincerely,



Mayor Jerry Cleworth



Representative Tammie Wilson

State Capital Room 415

Juneau, Alaska 99801

Dear Representative Wilson:

I am writing to express my appreciation for your work in introducing HB 35, that would create a low interest loan program to encourage and assist homeowners in converting from more expensive, less efficient home heating systems to other means of heat, including natural gas, propane and where available, District Heat.

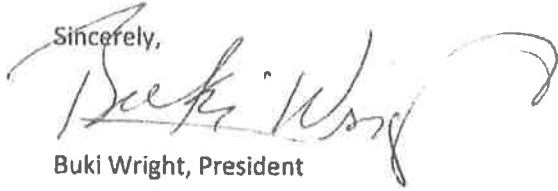
As you know, Aurora Energy sells heat and electricity from its Chena Power Plant in downtown Fairbanks. The coal-fired cogeneration plant produces steam, which is then used to generate electricity and to power Aurora's Hot Water and Steam distribution systems providing clean, hassle-free, reliable, inexpensive heat throughout the core area of Fairbanks. In fact, a home connected to the Aurora District Heat system produces virtually zero emissions, because the heat source is at the power plant, where the plant operations and emissions are constantly monitored and fully regulated. When a new home is added to the system, the oil or gas boiler or furnace at that location is taken out of service, thus eliminating that emission source, and in the case of oil heat, eliminating the need for a fuel oil storage tank on the property.

Additionally, for well over ten years, Aurora Energy's hot water and steam District Heat have been the lowest cost heat alternative available, lower than either oil heat or natural gas heat. The impediment to more residences connecting to the Aurora system has been the relatively high cost of connecting to the system. Since the heat is generated at the power plant, the heat is distributed to customers through pipes in the streets. It can be costly to connect, and for smaller residences, the cost is sometimes prohibitive, compared to the savings brought about by the conversion. The loan program envisioned by HB 35 can be a tremendous help to those small homeowners and others.

As long as District Heat is treated on an equivalent basis with other alternative heat sources eligible for the loan program, Aurora Energy supports the concept of the loan program. We look forward to working with you to ensure a solid bill that will provide much needed help to the homeowners in Alaska, while continuing to improve the quality of the air we all breathe.

Thank you again, and we look forward for your work in this vital area.

Sincerely,

A handwritten signature in cursive script, appearing to read "Buki Wright". The signature is written in black ink and includes a large, sweeping flourish at the end.

Buki Wright, President

Aurora Energy, LLC.



**Fairbanks North Star Borough** Mayor's Office  
809 Pioneer Road PO Box 71267 Fairbanks, Alaska 99707-1267 (907)459-1300 FAX 459-1102

February 6, 2013

Representative Tammie Wilson  
State Capitol, Room 412  
Juneau, Alaska 99801-1182

Dear Representative Wilson,

On behalf of the Fairbanks North Star Borough I would like to thank you for efforts to address the high cost of heating homes and businesses in Interior Alaska with HB35. As you well know, The Council for Community and Economic Research in its report last summer listed Fairbanks having the highest utility costs among urban areas nationwide, 112 percent more than the typical urban resident in 2011. The second most-expensive city was Juneau, where residents paid 64 percent more than the average.

Many areas of the U.S. and Southcentral Alaska are benefiting from low prices in natural gas, which is the most common energy source in most areas - but not yet in Fairbanks. The Borough through its Interior Natural Gas Utility in conjunction with other entities both public and private, is working to expand and build the natural gas distribution system in the borough.

House Bill 35, will allow many of our residents to utilize a low interest loan program to convert their home heating systems to a more efficient unit. Specifically, this legislation will be very important when natural gas becomes readily available to our residents. For this reason, I support passage of HB 35.

Sincerely,

Luke Hopkins, Mayor



Est. 1958

## Southeast Conference



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February 7, 2013

Representative Tammie Wilson  
State Capitol, Room 412  
Juneau, AK 99801

Re: HB 35 – Home Heating Conversion Loans

Dear Representative Wilson:

Southeast Conference is the State's regional development organization (ARDOR) whose mission is to undertake activities that promote strong economies, healthy communities and a quality environment in Southeast Alaska. For over a dozen years our energy committee has worked with the State, local governments and utilities toward reducing and someday, eliminating the use of diesel as a primary fuel source for both the generation of electricity and especially space heat – especially in our more rural communities where the extremely high cost of energy has devastated the local economies.

House Bill 35 can be an effective tool to assist Alaskans in lowering the cost of energy in their homes by utilizing a low interest loan program to convert inefficient heating systems to much more efficient units.

Southeast Conference supports HB 35 and requests full consideration and support as this legislation makes its way through the public process. Thank you for your considerable work on this legislation and we look forward to its passage and enactment. Feel free to contact me or Southeast Conference Energy Coordinator, Robert Venables regarding our support for HB 35.

Sincerely,

Shelly Wright  
Executive Director



# FY 2012 100 % OF MEDIAN INCOME LIMITS FOR ALASKA

Effective  
December 1,  
2011

Community Name	INCOME LIMIT - 1 PERSON	INCOME LIMIT - 2 PERSONS	INCOME LIMIT - 3 PERSONS	INCOME LIMIT - 4 PERSONS	INCOME LIMIT - 5 PERSONS	INCOME LIMIT - 6 PERSONS	INCOME LIMIT - 7 PERSONS	INCOME LIMIT - 8 PERSONS	EA ADDED FAMILY MEMBER
Anchorage Municipality Low Income Limit	59,700	68,200	76,700	85,200	92,100	98,900	105,700	112,500	6,816
Aleutians East Borough Low Income Limit	49,800	56,900	64,000	71,100	76,800	82,500	88,200	93,900	5,688
Aleutians West Census Low Income Limit	60,900	69,600	78,300	87,000	94,000	101,000	107,900	114,900	6,960
Bethel Census Area Low Income Limit	55,300	63,200	71,100	79,000	85,400	91,700	98,000	104,300	6,320
Bristol Bay Borough Low Income Limit	55,600	63,500	71,400	79,300	85,700	92,000	98,400	104,700	6,344
Denali Borough Low Income Limit	68,500	78,300	88,100	97,800	105,700	113,500	121,300	129,100	7,824
Dillingham Census Area Low Income Limit	49,800	56,900	64,000	71,100	76,800	82,500	88,200	93,900	5,688
Fairbanks North Star Borough Low Income Limit	59,300	67,700	76,200	84,600	91,400	98,200	105,000	111,700	6,768
Haines Borough Low Income Limit	49,800	56,900	64,000	71,100	76,800	82,500	88,200	93,900	5,688
Hoonah-Angoon Census Area Low Income Limit	49,800	56,900	64,000	71,100	76,800	82,500	88,200	93,900	5,688
Juneau Borough Low Income Limit	66,000	75,400	84,800	94,200	101,800	109,300	116,900	124,400	7,536
Kenai Peninsula Borough Low Income Limit	52,100	59,600	67,000	74,400	80,400	86,400	92,300	98,300	5,952
Ketchikan Gateway Borough Low Income Limit	54,600	62,400	70,200	78,000	84,300	90,500	96,800	103,000	6,240
Kodiak Island Borough Low Income Limit	49,800	56,900	64,000	71,100	76,800	82,500	88,200	93,900	5,688
Lake and Peninsula Borough Low Income Limit	49,800	56,900	64,000	71,100	76,800	82,500	88,200	93,900	5,688
Matanuska-Susitna Borough Low Income Limit	58,300	66,600	74,900	83,200	89,900	96,600	103,200	109,900	6,656
Nome Census Area Low Income Limit	50,100	57,200	64,400	71,500	77,300	83,000	88,700	94,400	5,720
North Slope Borough Low Income Limit	53,700	61,400	69,100	76,700	82,900	89,000	95,200	101,300	6,136
Northwest Arctic Borough Low Income Limit	49,800	56,900	64,000	71,100	76,800	82,500	88,200	93,900	5,688
Petersburg Census Area Low Income Limit	55,400	63,300	71,200	79,100	85,500	91,800	98,100	104,500	6,328
Prince of Wales-Hyder Census Low Income Limit	49,800	56,900	64,000	71,100	76,800	82,500	88,200	93,900	5,688
Sitka City & Borough Low Income Limit	53,000	60,600	68,200	75,700	81,800	87,900	93,900	100,000	6,056
Skagway Municipality Low Income Limit	55,400	63,300	71,200	79,100	85,500	91,800	98,100	104,500	6,328
Southeast Fairbanks Census Area Low Income Limit	49,800	56,900	64,000	71,100	76,800	82,500	88,200	93,900	5,688
Valdez-Cordova Census Low Income Limit	51,800	59,200	66,600	73,900	79,900	85,800	91,700	97,600	5,912
Wade Hampton Census Area Low Income Limit	49,800	56,900	64,000	71,100	76,800	82,500	88,200	93,900	5,688
Wrangell City and Borough Census Area Low Income Limit	49,800	56,900	64,000	71,100	76,800	82,500	88,200	93,900	5,688
Yakutat City & Borough Low Income Limit	55,400	63,300	71,200	79,100	85,500	91,800	98,100	104,500	6,328
Yukon-Koyukuk Census Area Low Income Limit	49,800	56,900	64,000	71,100	76,800	82,500	88,200	93,900	5,688
<b>2012 DOE Poverty Income Levels</b>	<b>25,080</b>	<b>33,860</b>	<b>42,640</b>	<b>51,420</b>	<b>60,200</b>	<b>68,980</b>	<b>77,760</b>	<b>86,540</b>	<b>8,780</b>

# Fiscal Note

State of Alaska  
2013 Legislative Session

Bill Version: HB 35 (O)  
Fiscal Note Number: \_\_\_\_\_  
( ) Publish Date: \_\_\_\_\_

Identifier: HB035-DOR-AHFC-02-08-13  
Title: HOME HEATING CONVERSION LOANS  
Sponsor: \*\* T.WILSON, THOMPSON  
Requester: (H) ENE

Department: Department of Revenue  
Appropriation: Alaska Housing Finance Corporation  
Allocation: AHFC Operations  
OMB Component Number: 110

**Expenditures/Revenues**

Note: Amounts do not include inflation unless otherwise noted below. (Thousands of Dollars)

	FY2014	Included in	Out-Year Cost Estimates				
	Appropriation Requested	Governor's FY2014 Request	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
<b>OPERATING EXPENDITURES</b>	<b>FY 2014</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>
Personal Services	***		***	***	***	***	***
Travel							
Services							
Commodities							
Capital Outlay							
Grants & Benefits							
Miscellaneous							
<b>Total Operating</b>	***	<b>0.0</b>	***	***	***	***	***

**Fund Source (Operating Only)**

None							
<b>Total</b>	***	<b>0.0</b>	***	***	***	***	***

**Positions**

Full-time							
Part-time							
Temporary							

<b>Change in Revenues</b>							
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**Estimated SUPPLEMENTAL (FY2013) cost:** 0.0

**Estimated CAPITAL (FY2014) cost:** 0.0

**ASSOCIATED REGULATIONS**

Does the bill direct, or will the bill result in, regulation changes adopted by your agency? Yes  
If yes, by what date are the regulations to be adopted, amended or repealed? 09/30/13

**Why this fiscal note differs from previous version:**

Initial version
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Prepared By:	<u>Les Campbell</u>	Phone:	<u>(907)330-8356</u>
Division:	<u>Alaska Housing Finance Corporation</u>	Date:	<u>02/08/2013 05:30 PM</u>
Approved By:	<u>Dan Fauske CEO, Alaska Housing Finance Corporation</u>	Date:	<u>02/08/13</u>
	<u>Department of Revenue</u>		

## FISCAL NOTE ANALYSIS

STATE OF ALASKA  
2013 LEGISLATIVE SESSION

BILL NO. HB 35

### Analysis

HB 35 creates a lending program similar to the existing AHFC residential energy improvement second mortgage program but the proposed loan may only be used to improve or replace the homeowner's heating system. Similar to other loans of this type, it would be originated by an AHFC approved lender and administered and serviced by AHFC. AHFC would pay for its costs through repayments of principal on the loan. Loan interest would be returned to the general fund.

An appropriation by the legislature is required to fund the program. An indeterminate fiscal note is provided because AHFC is unsure of the intent of the legislature regarding the size of the fund so it estimates a 10 percent administrative fee will be required to cover the costs of the program, including payment to lending partners. No additional staff is expected.

This is an Indeterminate fiscal note.



THE STATE  
of **ALASKA**

GOVERNOR SEAN PARNELL

Department of  
Health and Social Services

ALASKA COMMISSION ON AGING

P.O. Box 110693  
Juneau, Alaska 99811-0693  
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February 8, 2013

Representative Tammie Wilson  
Alaska Capitol, Room 412  
Juneau, AK 99801-1182

**Subject: Support for HB 35, Low Interest Loan Program for Home Heating System Improvements**

Dear Representative Wilson:

The Alaska Commission on Aging (ACoA) is pleased to offer our support for HB 35, a bill sponsored by you and Representatives Thompson, Higgins, Isaacson, and Kreiss-Tomkins to establish a low-interest loan program for all homeowners, regardless of income, that allows them to convert to an energy efficient heating system at an affordable cost. HB 35 is also co-sponsored by Representatives Kawasaki, Peggy Wilson, and Kerttula.

The high cost of energy is a statewide problem. The price of heating fuel is expensive but especially hard felt by Alaskans on a fixed income. During the winter, older people often spend much of their day at home. They typically experience cooler body temperatures than younger people. Many seniors live in older homes, which are often poorly insulated, and have inefficient heating systems. In order to save money, some seniors turn down their thermostats way low and may even resort to closing off rooms during the winter or more dangerous practices such as using their kitchen stoves for heat. They also cut back on food and prescription medication expenditures in order to afford energy to heat their homes. These cost-cutting measures can compromise senior health and quality of life, which can be avoided, by replacing the old furnace with a new cost-efficient heating system.

ACoA supports passage of HB 35 and believes that this program will help all Alaskans with their heating bills, especially older Alaskans on a fixed income. Many low-income seniors do not have the cash reserves to afford the purchase and installation of a new, energy efficient heating system. HB 35 provides an affordable means for all Alaskans to purchase heating systems to address escalating heating costs. We thank you for your sponsorship and support of this bill. Please feel free to contact Denise Daniello, ACoA's executive director, by phone (465-4879) or email ([denise.daniello@alaska.gov](mailto:denise.daniello@alaska.gov)) should you have questions or require additional information.

Sincerely,

Handwritten signature of Paula Pawlowski in black ink.

Paula Pawlowski  
Chair, Alaska Commission on Aging

Sincerely,

Handwritten signature of Denise Daniello in black ink.

Denise Daniello  
ACoA Executive Director

## Estimated Savings by Weatherization Type

The following shows the estimated average annual savings in energy costs by type of weatherization improvement.

Weatherization Improvement	Percent of Savings
More Efficient furnaces, boilers	52 percent of savings
More insulation: walls, doors	14 percent of savings
Sealed air leaks	14 percent of savings
Insulation: ceiling, foundation	10 percent of savings
Replace water heaters	6 percent of savings
Replace, fix windows	5 percent of savings

Source: Northern Economics estimates. FNSB gas distribution system analysis



## Determining the efficiency of your furnace, boiler

By CCHRC staff

*The "Ask a Builder" series is dedicated to answering some of the many questions Fairbanks residents have about building, energy and the many other parts of home life.*

### Q: What is AFUE, and what does it mean for my furnace or boiler?

**A:** AFUE stands for Annual Fuel Utilization Efficiency and is listed on the energy tags for furnaces and boilers. AFUE is meant to provide an average of the space heating efficiency you can expect from the heating appliance during the year. If you are in the market for a furnace or boiler or you are wondering about the efficiency of an appliance you own, the AFUE is a good starting point. However, it is important to understand how it is measured, because it might not provide an accurate assessment of the efficiency of your home's heating system.

There are several different types of efficiencies that are used to describe combustion and electric furnaces and boilers. There is the combustion efficiency, which measures how effective the heating appliance is at converting fuel into heat. A heating contractor can measure combustion efficiency in the field: the test involves measuring the concentrations of different gases, such as carbon dioxide, in the exhaust. Often, a contractor will measure the combustion efficiency during a routine maintenance check-up.

Another efficiency is the steady-state efficiency, which is the efficiency of the appliance when it is fired continuously after it has warmed up. You can think of this efficiency like the gas mileage of your car driving on the highway.

In contrast, the AFUE is the seasonal efficiency, so it represents the efficiency of the appliance including when it is cycling off and on to provide heat during the winter. You might liken AFUE to your average gas mileage including when you are driving in stop-and-go traffic. For this reason, the AFUE always will be less than the steady-state efficiency of the appliance.

AFUE is determined in a lab, using a procedure established by the American Society of Heating, Refrigeration and Air-Conditioning Engineers Inc. Since all furnaces and boilers that use fuel oil, natural gas or electricity as fuel undergo the same test to determine AFUE, ASHRAE had to design the procedure so that it compared each appliance under conditions commonly encountered in the United States — in other words, under conditions much warmer than our climate in Alaska. The procedure also assumes averaged parameters for when the appliance will cycle on and cycle off, what the room temperature is and how oversized the appliance is (many houses have heating appliances that can provide more heat than the house needs). For this reason, AFUE is an indication of the seasonal efficiency of a furnace or boiler installed in an average house in America.

Unfortunately, your house might not be like the average American home (for one, in Alaska, houses are in a much colder location than average).

Still, AFUE is a good number to look at when you want to compare different models of furnaces or boilers. The test to determine AFUE provides a "level playing field" for these appliances, so their seasonal fuel use can be compared. It does not, on the other hand, predict the efficiency of any appliance in a particular installation.

That efficiency is affected by the distribution, the control system, how often the appliance is maintained, and other case-specific variables. Consequently, it is important to install properly and maintain your own system, in addition to choosing an efficient appliance, to achieve a high seasonal efficiency.

**Ask a Builder articles promote home awareness for the Cold Climate Housing Research Center. If you have a question, contact us at [info@cchrc.org](mailto:info@cchrc.org) or 457-3454.**

### ASK A BUILDER

