

**AHFC Weatherization Program**

**FY2011 Request: \$4,000,000**

**Reference No: 50683**

**AP/AL:** Appropriation  
**Category:** Development

**Project Type:** Energy

**Location:** Statewide  
**House District:** Statewide (HD 1-40)

**Contact:** Les Campbell  
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**Estimated Project Dates:** 07/01/2010 - 06/30/2015

**Brief Summary and Statement of Need:**

The Weatherization Program utilizes Federal U. S. Department of Energy (DOE) and Corporate (AHFC) funds to assist low- and moderate-income families attain decent, safe and affordable housing through cost-effective weatherization and rehabilitation of existing homes. Weatherization provides for fire safety through furnace and electrical repairs, education, chimney and woodstove repairs, and egress windows (installed during bedroom window replacements). - Gov \$3M Leg adds \$1M and reduces sup hsg dev pgm by \$1M

<b>Funding:</b>	<b>FY2011</b>	<b>FY2012</b>	<b>FY2013</b>	<b>FY2014</b>	<b>FY2015</b>	<b>FY2016</b>	<b>Total</b>
AHFC Div	\$1,000,000						\$1,000,000
Fed Rcpts	\$3,000,000						\$3,000,000
<b>Total:</b>	<b>\$4,000,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$4,000,000</b>

<input type="checkbox"/> State Match Required	<input type="checkbox"/> One-Time Project	<input type="checkbox"/> Phased - new	<input type="checkbox"/> Phased - underway	<input checked="" type="checkbox"/> On-Going
0% = Minimum State Match % Required		<input type="checkbox"/> Amendment	<input type="checkbox"/> Mental Health Bill	

**Operating & Maintenance Costs:**

	<u>Amount</u>	<u>Staff</u>
Project Development:	0	0
Ongoing Operating:	0	0
One-Time Startup:	0	
<b>Totals:</b>	<b>0</b>	<b>0</b>

**Additional Information / Prior Funding History:**

FY2010 - \$2,600,000 Federal; FY2009 - \$2,000,000 Federal and 60,000,000 GF; FY2008 Supplemental \$300,000,000 GF; FY2008 - \$1,800,000 Federal and \$4,700,000 AHFC Div; FY2007 - \$1,800,000 Federal and \$4,200,000 AHFC Div; FY2006 - \$1,800,000 Federal and \$3,000,000 AHFC Div; FY2005 - \$1,837,500 Federal and \$2,231,500 Corporate; FY2004 - \$1,800,000 Federal and \$3,000,000 AHFC Div; FY2003 - \$1,800,000 Federal and \$3,000,000 AHFC Div.

**Project Description/Justification:**

**The purpose of the program** is to provide cost-effective energy improvements to homes of low-income families.

**The projected outcomes are:**

- Reduce household operating costs of the resident;
- Improve resident health and safety;
- Improve durability and longevity of housing stock;
- Replace unsafe heating systems;
- Install smoke detectors in homes; and,
- Install carbon monoxide detectors in homes.

**Weatherization Program** – Federal U. S. Department of Energy (DOE) and Corporate (AHFC) funds to assist low- and moderate- income families attain decent, safe, and affordable housing through cost effective weatherization and rehabilitation of existing homes. Weatherization provides for fire safety through furnace and electrical repairs, education, chimney and woodstove repairs, and egress windows (installed during bedroom window replacements).

The Weatherization program utilizes US DOE, Corporate funds, and State General funds to assist families to attain decent, safe, efficient, and affordable housing through the weatherization and rehabilitation of existing homes. Much of the older housing stock cannot maintain a minimally comfortable indoor temperature. The “traditional” Weatherization program annually serves approximately 625 households and approximately 1,700 individuals. Program clients are mainly elderly, disabled, or families with small children. Most of the families receiving services are the working poor and are not receiving Public Assistance. With the extreme rise (up to and over 30% in the past five years) in cost of materials and shipping to Alaska, the dollar invested does not stretch nearly as far. Increased funding has allowed priority measures to be implemented in homes as well as to expand service to a greater number of eligible participants.

Weatherization improves occupant health and safety through the replacement of unsafe heating systems and installation of carbon monoxide detectors. Carbon monoxide problems are resolved, fire safety threats alleviated, egress windows installed, handrails and steps repaired, and moisture and mold problems abated. Client health improves as toxins and asthma triggers are removed and ventilation issues are addressed. Technology has developed concurrently with the program and provides the foundation for improved approaches to new construction for arctic conditions.

**Benefits of weatherization:**

- Reduces overall fuel use / saves client’s dollars;
- Helps keep people in their existing homes, reducing the need for public housing;
- Improves existing housing stock, reducing the need for more public housing;
- Materials are purchased from local Alaskan vendors;
- Contractors and crews are hired locally and receive training (wages spent locally);
- Savings from fuel costs reinvested in local economy;
- Extensive client education on long-term operations and maintenance (O&M) required to maintain houses;
- Weatherization techniques improve building stock by addressing critical durability issues;
- Health and safety of residents dramatically improved in many cases due to mitigation of problems in the home, i.e., rot, mildew; and helps in eliminating ice dams; and,
- Egress windows, smoke alarms, and CO detectors are installed to protect families from fire and carbon monoxide poisoning.

AHFC’s ability to properly diagnose and correct problems in existing housing stock through the Weatherization program helps provide a safe, clean environment to clients improving the overall quality of life to pursue a better life for their families .

**Regional Funding Allocation**

Northern .....	10.55%
Western .....	10.57%

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Southwestern .....	7.29%
Interior .....	6.59%
Fairbanks .....	14.40%
Southcentral (not Anchorage) .....	13.09%
Anchorage .....	26.47%
Southeast (not Juneau) .....	6.26%
Juneau City and Borough .....	4.78%

In a national study conducted by the United States Department of Energy's Oak Ridge National Laboratory, the weatherization programs were proven effective in saving both costs and energy on a national and local level. In 1989, this study showed the Weatherization program's annual average energy savings for all fuels was 18.2%. In the updated 1996 study, improvements in the program had increased the average energy savings to over 23%. AHFC will produce new studies at the end of this program year on projected and actual savings.

The study also surveyed the occupants of the weatherized dwellings to allow them to report on draft reduction, comfort level, safety, and their own health-based incidents of illness due to temperature and air quality within the home. On every rating scale, the occupants reported significant and positive change between the before and after periods, while the control group reported no change.

For every dollar invested, the Weatherization program returns \$1.39 in energy-related benefits. In overall benefits (including health and safety and other non-energy benefits), the Weatherization program's cost effectiveness was found to return \$2.40 for every dollar invested in the program.

***Determining Savings and Diagnostics***

In 1996, Alaska weatherization crews began training for and using a computerized energy audit called AkWarm, which requires all conservation measures to have a savings-to-investment ratio of at least one. Extensive diagnostic procedures are also used to determine what measures will provide the greatest savings at the lowest possible costs. Heating systems are diagnosed and system efficiencies are increased an average of 5% to 10%. Blower doors are used to find and reduce air leakage which is one of the largest causes of heat loss in a building. Although no formal study has been funded for the Weatherization program, reports from rural communities often place energy savings at 40% to 60 % per household.

***Increased Cost of Doing Business/Rise in Fuel Costs***

This year, both the price of materials and freight has risen sharply in all areas of Alaska. In rural Alaska, the cost to provide services are approximately 30% higher than last year (AVCP Housing Authority estimates this figure to be as high as 37%). At the same time, many of these remote communities report heating fuels to be between three to five dollars a gallon and rising. The Department of Health and Social Services is currently updating a survey of ten select communities (including both urban and rural) to determine the overall increase in fuel costs over the last year and are finding that the average increase is 30 percent.

***Waiting List***

The active waiting list (priority clients approved for service with completed applications) numbers over several thousand in the urban and road connected areas of the state. In the western and northern areas alone, there are over 1,000 households in the villages that have yet to be served. There are

also many communities not yet served in the Interior, Bristol Bay, and Southeast area which have also been waitlisted for weatherization. With the over 30% rise in the cost of service, the number of homes that AHFC can serve and the measures that can be applied to those homes is becoming significantly reduced. According to the 2005 Alaska Housing Needs Assessment, there are approximately 33,000 low-income households in need of weatherization services.

### ***Homelessness and Affordability***

Other benefits to Alaska include the fact that weatherization is helping many low-income clients to stay in their homes, reducing homelessness, and providing affordable housing opportunities. Over 80% of weatherized units are owner-occupied. The median cost of a home today in the Anchorage area is \$252,000 which is outside the reach of any low-income person. It is estimated that the average family pays approximately 3.5% of their income in energy-related costs, while the low-income family spends 14%. With the cost of heating fuel continuing to skyrocket, the energy burden on low-income families will continue to threaten their ability to stay in these homes. A director of weatherization in the Fairbanks area estimated that weatherization has prevented at least 20 families from losing their homes each year. A heating system breakdown at -20 degrees F, occurring to a family living from paycheck to paycheck, has the potential impact to force that family to move out of the house. Weatherization is the only program available in Alaska that repairs and replaces heating systems for low-income families. It is the last resort for many families.

### ***Health and Safety***

In addition, Weatherization works hand-in-hand with local fire officials to reduce significant safety hazards. Carbon monoxide and smoke detectors are placed in houses where appropriate. Mold and moisture are reduced or eliminated. Long-term durability improvements are made, reducing the need for new housing units and saving current housing stock. The intensive client education that accompanies weatherization helps the client to more fully understand the operation and maintenance of their own home for years to come.

### ***Jobs and Skills***

Weatherization hires and trains locally in every community where work is being done. The advanced level of retrofit training that is given to each employee stays in these communities and often carries into other building projects ensuring overall energy efficiency in community buildings as well as other housing projects. The building sciences have been advanced significantly by the technology developed and used in the Weatherization program, ensuring more efficient, durable, and safer buildings overall. Professional skills spread into the private sector improving new housing stock. *More than 140 Alaskans are employed in the program this year.*

### ***Individual and Community Benefits***

Weatherization works very well in Alaska and has proven community as well as individual benefits. For the individual, serious risks to health are reduced and eliminated including: carbon monoxide, mold, rot, frozen pipes, and heating system failure. Much needed household funds are diverted from making payments on critical heating fuel to food, medical, and other household needs. Almost all Weatherization households contain a priority one client; 27% elderly, 36% disabled, and 39% with children under the age of six.

For the community, long-term durability improvements on the housing stock are made, reducing the need for new housing units and providing affordable shelter to low-income clients. Job creation

provides important cash flow and skills development. Professional skills extend into the private sector improving new housing stock. Local suppliers provide materials for the program. The dollars stay in the state and in the communities where Weatherization is being implemented.

**Recent Program Changes**

With special funding received in FY2008 and FY2009, changes were made to increase the median income guidelines from 60% to 100%, and the per-unit limits were adjusted for urban and rural areas. AHFC is working with the new (Regional Housing Authorities) and existing partners to provide training necessary to meet program goals. An ambitious effort has been underway to train local crews. This has dramatically increased the number of units weatherized. State and Federal funds are distributed based on federal formulas used by the Weatherization program for 20+ years and are based on population, income, cost of fuel, and heating degree days.

In addition, the **Home Energy Rating Rebate Program** was reinstated to provide rebates to owner-occupied homes, either newly-constructed or purchased homes that achieve Five Star Plus, or for making energy efficiency improvements to existing homes using energy ratings dated on or after April 5, 2008 statewide.

The rebate amounts are determined by the step increases achieved between the as-is energy rating and post-improvement energy rating. A final rating of a One-Star-plus (1+) or greater must be achieved for existing homes to qualify for a rebate. This is a one-time rebate for any one family or home for improvements to existing homes and actual expenses for improvements are verified with dividends, and a one-time rebate for construction of, or purchase of, a newly- constructed Five-Star-Plus home. For improvements to existing homes, the maximum rebate amounts to:

One Step	Up to \$4,000
Two Steps	Up to \$5,500
Three Steps	Up to \$7,000
Four Steps	Up to \$8,500
Five Steps	Up to \$10,000

For the newly-constructed Five-Star-Plus (5«+) rebate of \$7,500, owner/builders or purchasers must meet AHFC financing requirements to participate. The financing requirements consist of recorded copies of the PUR-101 and PUR-102 or Certification of Occupancy from an approved local government, i.e., borough, city, etc.; contractor license with residential endorsement, and homeowner must also provide a Five-Star-Plus energy rating and proof of ownership; statutory warranty deed, or deed transfer.