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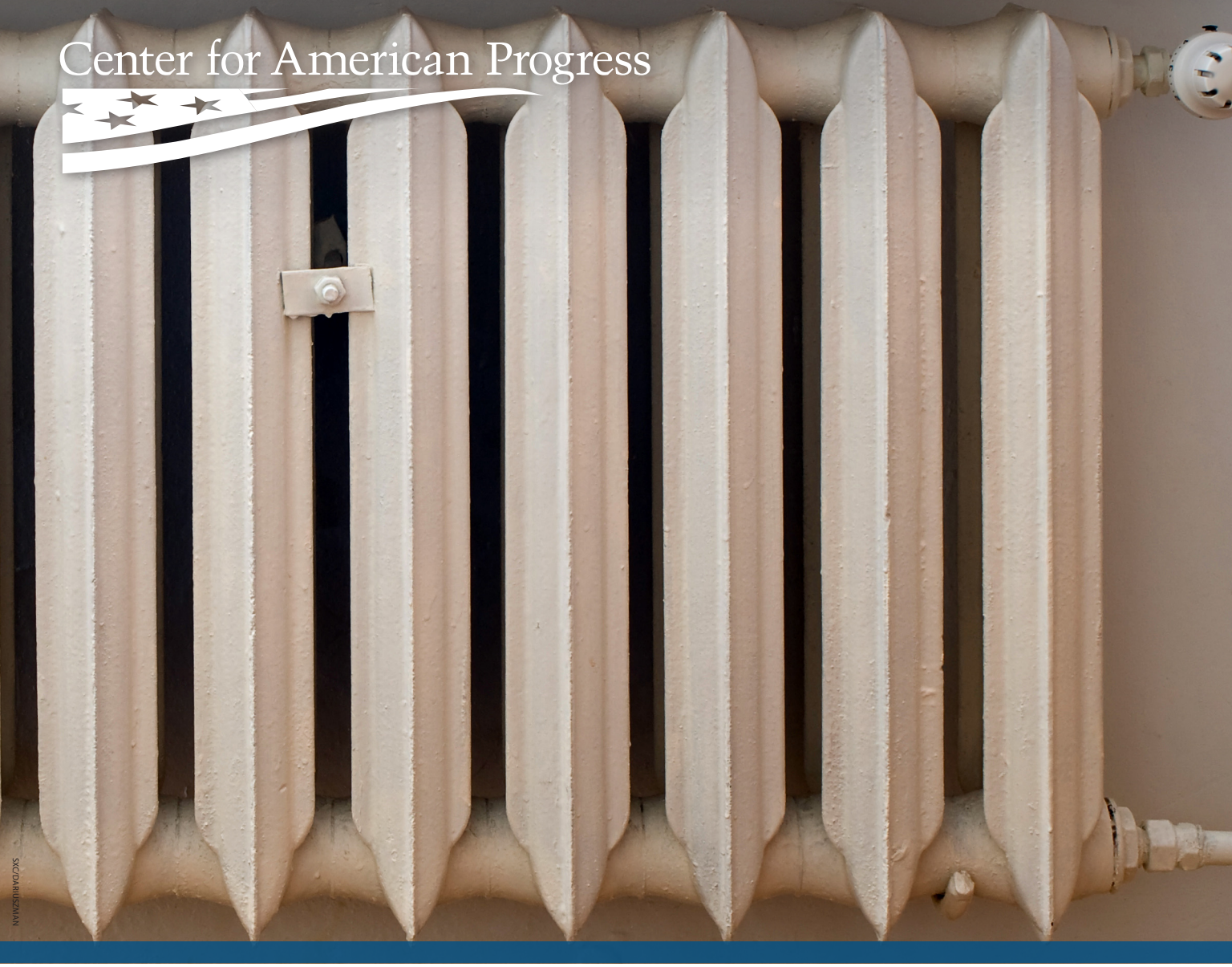

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Generating Heat Around the Goal of Making Home Energy Affordable to Low Income Americans

Current Challenges and Proposed Solutions

Joy Moses December 2008

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Introduction

This summer, people from across the country felt the sticker shock of drastically increased gasoline prices. Concerns about energy costs affected a broad range of Americans who suddenly wondered how they were going to balance their other expenses with the energy-related necessities of driving to work, air conditioning their homes, and preparing for winter heating bills. All at once, energy costs were at the forefront of conversations occurring among legislators, within the media, and at the dinner table.

As fall approached, oil and gas prices decreased, and new crises grabbed our national attention. Lost in the conversation shift is the fact that energy costs are still a dire problem for many low-income households due to the following:

- These families and individuals experienced energy-related financial strains well before this year's price spikes and will continue to do so even as prices rebound.

- As recent circumstances illustrated, low-income households are the least prepared to manage unusually high price surges and as a nation, we are unprepared to fully assist them. Absent appropriate policy shifts, the country will be equally unprepared for any future price surges.

- The current worldwide economic crisis is accompanied by high rates of unemployment and job losses to the economy here in the United States. As a result, a growing number of people are living with reduced resources and may find it newly difficult to pay for necessities such as home energy.

This year, more middle-class Americans experienced the reality of a world with energy prices that they considered unaffordable. Thus, they potentially have a better understanding of the consistent reality of low-income families that have a history of difficulty with paying their energy bills.

It is imperative that Americans prioritize a policy agenda that solves the problem of unaffordable home energy for low-income households—health, safety, and other relevant concerns dictate this course of action. Recommendations to help low-income households with their energy costs include:

- The United States should set a national goal of making home energy affordable to all low-income households.

- In order to reach this goal we must move forward with retooling currently existing programs that help vulnerable families and individuals manage their energy costs—such as the Low Income Home Energy Assistance Program and the Weatherization Assistance Program—in order to better prepare households to address current and future price pressures. In addition, retooling would help the programs take advantage of emerging technologies, while also allowing the nation to address other significant concerns related to the environment and the creation of new employment opportunities.

The recent history of home energy prices

Since the beginning of the decade, the prices of fossil fuels and other energy sources have fluctuated, but they have generally trended upward, continuing previously existing patterns (see Table 1).[1] These price increases have notably affected the home energy costs of American households. The degree to which an individual family has been affected is highly related to its sources of energy. Those relying on heating oil, propane, and natural gas to heat their homes experienced the most intense impacts.

Examining the inflation-adjusted costs of home energy sources reveals the severity of the problem. Between 2000 and 2007, the real price of heating oil increased by 64 percent, while the prices of natural gas and electricity went up by 39 percent and 7 percent, respectively.[2] But these price shifts tell only part of the story. During that same time period, the real incomes of the lowest-income households (the bottom fifth) actually decreased by 5.5 percent and the rate of inflation was 20 percent.[3] Thus, poor families earned less money while the prices of consumer goods went up and the costs of some home energy sources went way up.

These upward price trends continued into 2008, with the first half of the year witnessing extraordinarily high prices for heating oil and propane. For the whole of 2008, the real prices of all fuels are expected to demonstrate an increase or no change over the previous year.[4] However, this year-long view masks a significant turnaround in heating oil and propane prices that began during the fall months. As of December, the Energy Information Administration was projecting that the prices of these two fuels had dropped to a point

Table 1. Real prices of electricity, natural gas, heating oil, and propane, 2000 to 2007

U.S. households end up paying more for home energy sources

	2001	2002	2003	2004	2005	2006	2007	2000-2007	2008 (Projected)
Electricity	1%	-3%	1%	0%	2%	7%	-1%	7%	2%
Natural gas	21%	-19%	19%	9%	14%	5%	-8%	39%	0%
Heating oil	-7%	-11%	18%	11%	28%	12%	6%	64%	16%
Propane	N/A	N/A	N/A	N/A	14%	9%	6%	N/A	9%

Source: Based on data contained in the Energy Information Administration Monthly Energy Review (November 2008); EIA Short Term Energy Outlooks (2004-2008).

where they would likely be cheaper during the winter of 2008-09 than they were during the winter of 2007-08.[5] Therefore, heating oil and propane experienced great price fluctuations during 2008 and are predicted to decline in 2009.

A number of factors cause these ups and downs in home energy prices. Significant among them is the price of crude oil. Heating oil, propane, and natural gas prices are all linked to the price of crude. Heating oil and propane are derived from crude oil.[6] Also, when the prices of certain crude oil products get too high, some consumers are able to switch to natural gas or propane, which elevates the demand, and therefore the prices, of those energy sources.[7] In recent years, a number of factors caused increases in the price of crude. Some of the reasons include:

- Worldwide economic growth, which fueled greater oil demand
- Slow growth of oil production
- Declines in the value of the dollar
- Instability in some major oil-producing regions
- Speculation in energy markets
- Natural disasters (for example, Hurricanes Katrina and Rita disrupted crude oil production in the Gulf Coast, causing price spikes in 2005)[8]

A major reason for this fall's decreases in the price of crude, and therefore heating oil and propane, was a drop in the demand for oil. Demand went down due to the global economic crisis and the resulting decline in economic growth, and the high oil prices in the first half of 2008.[9] Future prices will depend on the magnitude and duration of the economic downturn and the extent to which oil-producing nations reduce supply in response.[10] Current projections do not suggest a reversal of the increases in the real prices of home energy fuels that occurred between 2000 and 2007. As a result, the current expectation is that prices will decrease, but not revert to previously low levels.

Costs to low-income households

Changes in home energy prices affect all Americans, but high prices and price surges are particularly troublesome for those with limited budgets. The most revealing indicator of how families are managing energy costs is the measurement of their energy burden, or the percentage of their income that is being spent on home energy needs. The energy burdens of low-income households have traditionally been significantly higher than those of higher-income families. As Table 2 indicates, during fiscal year 2006 (the most recent fiscal year for which such data are available) low-income families experienced more than twice the energy burdens of average households.[11] Low-income households, on average, spent between 13.2 percent and 20.1 percent of their incomes on home energy costs, reflecting an increased burden since the previous year across all fuel types. The energy burden is higher on low-income families despite the fact that they consume 13.5 percent

less energy—due to their smaller living spaces—than higher income families. Although they have lower energy bills, the burden is greater on low-income households because of their much lower income.[12]

These disparities were heightened during the first half of 2008, a period defined by energy price surges. In the event of similar price spikes in the future, a significant impact would be felt by low-income households that are already spending a large share of their incomes on home energy.

Table 2. Average annual home energy burden for low-income households based on fuel type

The percentage of income spent by these households on home energy is rising and is more than is spent by the average across income groups

Main Heating Fuel	FY 2001	FY 2003	FY 2005	FY 2006	FY 2006 (Avg. Across All Income Groups)
Natural Gas	15.9%	14.2%	15.4%	16.9%	7.6%
Electricity	11%	11.8%	12.2%	13.2%	6.4%
Heating Oil	15.3%	16.3%	18.6%	20.1%	8.9%
Propane	15.7%	15.1%	15.7%	16.9%	9.3%
All Fuels	14%	13.6%	14.6%	16%	7.4%

Sources: LIHEAP Home Energy Notebooks for fiscal years 2001, 2003, 2005, 2006.

Certain factors influence the actual energy bills of consumers, including:

- **Fuel type.** As noted above, the type of primary fuels being used by households can have a significant impact on their home energy bills.

- **Weather.** Extraordinarily cold winters lead to more extensive use of heating and therefore higher home energy bills, while milder winters have the opposite result. This same framework applies to summer and the costs of cooling.[13]

- **Consumption.** Costs also are influenced by consumption levels that are impacted by family habits and the energy efficiency of a home. As compared with all other households, low-income consumers exhibit similar patterns of usage, with the most significant portions of their energy expenditures going toward space heating (37 percent) and appliances (32 percent).[14] Thus, low income families do not have unusual energy usage habits that impact their bills, but they may still have problems with energy efficiency.

- **Availability of air conditioning.** Low-income people increasingly have access to central air conditioning. In 1979, only 8.5 percent of these households possessed such systems, but by 2005, that number had grown to 45 percent.[15] It can be expected that increased use of air conditioning will lead to increased cooling costs.

Characteristics of energy-poor households

Researchers at the Applied Public Policy Research Institute for Study and Evaluation analyzed the energy burdens of American households and developed a category to describe those who are experiencing severe hardship. These "high energy burden" households spend more than 10.9 percent of their incomes on home energy, driving their total shelter costs well above affordable levels. The researchers found that certain subgroups of the low-income population are at greater risk of having high energy burdens (see Table 3). These groups include the elderly, African Americans, homeowners, those relying on public assistance, people living in the South, and individuals who live alone.[16]

Particularly striking are the burdens experienced by low-income African Americans, 53.9 percent of whom have high energy burdens.[17] Even when compared with other racial groups experiencing similar levels of economic hardship, African Americans experience a much greater disadvantage in the area of home energy. Another group deserving of focus are the elderly—44.5 percent of low-income households relying on retirement income experience high energy burdens as well as 34.8 percent of homes with an elderly member.[18] Although the reasons for these disparities are not completely clear, it is likely that African Americans and the elderly are living in more dilapidated housing stock that suffers from a greater level of energy inefficiency.

Table 3. Incidence of high energy burden within certain low-income subpopulations

African Americans and the elderly experience a greater likelihood of having high energy burdens compared to other populations

Household/individual characteristics	% High-energy burden
All households	10.8%
All low-income households	33.5%
Race	
African American	53.9%
White	31.8%
Asian or Pacific Islander	6.3%
Hispanic	21.3%
Other	27.7%
Vulnerable	
Elderly	34.8%
Child	26%
Source of income	
Wages	28.5%
Retirement income	44.5%
Public assistance	51.7%
Other	37.7%
Tenure	
Own	35.2%
Rent	31.9%
Region	
Northeast	38.6%
Midwest	34.6%
South	39.2%
West	18.5%

Source: LIHEAP Energy Burden Evaluation Study (APPRISE).

The future impact of cap and trade on home energy prices

The world is facing an ever-growing imperative to address the danger of global warming. The associated environmental and economic costs have the potential to be devastating. The list of concerns includes, but is not limited to: more severe extreme weather events (e.g., hurricanes, floods), increased water scarcity, and declining crop yields.[19] Such factors produce growing economic and national security challenges.[20]

Addressing these concerns requires the United States (and other nations) to reduce their reliance on fossil fuels such as gasoline, heating oil, and coal. Thus, federal policymakers are currently considering "cap-and-trade" proposals that would encourage transitions to cleaner fuels. These cap-and-trade policy solutions may lead to increased energy prices for low-income consumers. However, if executed correctly, such legislation also could result in increased resources for programs that could help low-income families manage any price increases caused by cap and trade, and the currently existing price pressures described in this paper.

For more information on cap-and-trade programs, please refer to the Center for American Progress' "Investing in a Green Economy" and "Capturing the Energy Opportunity: Creating a Low-Carbon Economy."

The detrimental effects of high-energy costs on low-income families

Unaffordable home energy prices have a detrimental effect on the lives of those with limited incomes. Devastating results come in the form of home energy arrearages and shut-offs, cutbacks on necessities and other items, risks to health and safety, and housing instability.

Energy arrearages and shut-offs

Earlier this year, an estimated 15.6 million households were in arrears on their home energy bills.[21] Approximately 14.8 percent of all households were at least 30 days delinquent, compared with 13.5 percent during the previous year.[22]

Unpaid utility bills harm home energy suppliers and low-income families. In early 2008, the suppliers were experiencing a loss of nearly $5 billion in unpaid household bills,[23] costs that they may be passing on to other consumers. Families unable to pay their bills could face utility shut-offs that completely deprive them of the basics of living such as heating, cooling, lights, refrigeration, and the ability to cook food. A survey conducted by the Energy Programs Consortium in May 2008 revealed that 8 percent of low-income respondents (defined as those living at 150 percent of the federal poverty level) experienced a utility shut-off during the past year due to rising home energy and gasoline costs.[24]

Cutbacks on necessities and other items

In addition to experiencing threats of disruption to their home energy services, low-income families sometimes limit the amount of money they spend on necessities and other important items in order to help manage their energy costs. Of particular concern are reduced purchases of food. According to the Energy Programs Consortium survey, 70 percent of those living at or below 150 percent of poverty reported that they were buying less food in response to increases in home energy and gasoline costs.[25] Further, families that are a little above this poverty marker (151 percent to 250 percent of poverty) and families across all other income levels also reported spending less on food—although they were affected to a lesser degree than the lowest-income families.

Table 4. Actions taken by U.S. households as a result of high energy prices

Those families at or below 150 percent of poverty are the most affected by increased home energy prices

Actions taken	All respondents	<=150% of poverty	151%-250% of poverty
Reduced purchases of food	43%	70%	51%
Reduced purchases of medicine	18%	31%	23%
Changed plans for education or children's education	11%	19%	18%
Behind on credit card bills	11%	18%	15%
Reduced amount of money put into savings	55%	58%	58%

Source: 2008 Energy Costs Survey (NEADA).

Thirty-one percent of the poorest families indicated that they purchased less medicine due to high energy costs.[26] They changed plans for education (19 percent), fell behind on credit card bills (18 percent), and reduced their contributions to savings (58 percent) (see Table 4).[27] In short, Americans of all income levels have suffered financially from high energy costs, but those at the bottom of the economic spectrum are under the greatest strain.

Health risks

Being unable to afford home energy can be harmful to the health of household members. As indicated above, some people purchase less medicine when their utility bills are too high. Other health hazards can occur if inside temperatures are too low or too high as a result of shut-offs or household member efforts to lower bills by reducing their use of heating and cooling sources. Thirty-one percent of households with incomes at or below 150 percent of poverty kept their homes at a temperature that they thought was unsafe or unhealthy at some point during the past year.[28] Likewise, so did 24 percent of those between 151 percent to 250 percent of poverty.[29]

These temperature extremes can be damaging to vulnerable populations, including the elderly, the disabled, and small children. These groups are particularly susceptible to hypothermia (cold stress or low body temperatures) and hyperthermia (heat stress or high body temperatures), conditions that can cause illness or death.[30]

Of the approximately 600 people who die from hypothermia each year, half are typically 65 or older.[31] Likewise, this group accounts for 44 percent of those who die from weather-related heat exposure.[32] Senior citizens are at increased risk for these conditions because they do not adjust well to sudden changes in temperature and are more likely to have medical conditions or take medications (including over-the-counter cold medications) that impair the body's response to hot and cold temperatures.[33]

Young children are particularly at risk from extreme temperatures because their small size makes it difficult for them to maintain body heat.[34] Small children in households that are struggling to afford energy are more likely to be in poor health, have a history of hospitalizations, be at risk for developmental problems, and be food insecure.[35] Compared with families receiving energy assistance, families who were eligible for such benefits but not receiving them are more likely to have underweight babies and 32 percent more likely to have their children admitted to the hospital on a given day.[36]

Safety risks

Unaffordable home energy prices also can compromise the safety of low-income households. For example, the inability to pay for a utility could lead to the use of risky alternatives. In a survey of energy assistance recipients, 8 percent of respondents indicated that at some point in the previous year they were unable to use a main heating source such as heating oil or propane because they couldn't pay for the delivery.[37] Six percent indicated that a utility company had shut off their main heating sources of natural gas or electricity during the previous year due to nonpayment.[38]

When households are cut off from their main heating source, or are trying to save money by reducing use of a main heating source, they most commonly turn to heating alternatives such as electric space heaters. According to the National Fire Protection Agency, these devices are associated with a great risk of fire, injury, and death. In 2005, space heaters accounted for 32 percent of home heating fires, totaling 19,904 fires and 73 percent of home heating fire deaths, which killed 489 people.[39] Researchers at the Johns Hopkins School of Medicine also noted this problem in a 2005 study in which they found that power terminations were associated with a significant subset of fires involving children—15 percent of fires that brought patients to their hospital were rooted in shut-offs.[40]

Housing instability

Families and individuals who cannot afford home energy are at risk of housing instability. They may seek to move to locations with lower utility costs, or shut-offs can make homes uninhabitable, forcing household members into homelessness or alternative forms of shelter. Often, unaffordable housing compounds this problem as families experiencing difficulty paying mortgages or rent are placed further in the hole by energy bills that represent a higher-than-normal percentage of their income. This factor is particularly relevant during the current subprime mortgage crisis, which has translated into excessively high mortgage payments for some families.

The connections between unmanageable home energy costs and homelessness have been documented. A recent Colorado study found that 16 percent of homeless people in the

state cited their inability to pay utility bills as one of the causes of their homelessness.[41] A nationwide survey of individuals receiving energy assistance produced further evidence of this phenomenon. Twenty-five percent reported that within the previous five years, they had failed to make a full rent or mortgage payment due to their energy bills.[42] Difficulties with paying utilities resulted in other negative outcomes such as evictions (2 percent of respondents), moving in with friends or family members (4 percent of respondents), and moving into a shelter or homelessness (2 percent).[43]

Housing instability disrupts lives, especially if individuals are forced to move between several different locations before regaining permanent housing. Household members may find themselves at a greater distance from work and/or school and face transportation challenges. They can also be disconnected from familiar communities, neighbors, family members, and friends. For children, the outcomes can be devastating, with homelessness being associated with increased risk of physical illness, hunger, emotional and behavioral problems, developmental delays, negative educational outcomes, and exposure to violence.[44]

Low-income families are doing everything they can to manage costs, but additional assistance is necessary

Low-income households have been proactive in trying to address their own energy burdens. The Energy Programs Consortium survey revealed that low-income consumers (defined as those living at 150 percent of poverty or below) have been trying to conserve energy. Their efforts include:

- Keeping heat at a lower temperature (79 percent)
- Turning down heat before going to bed (82 percent)
- Sealing air leaks (66 percent)
- Tuning up furnaces (48 percent)
- Sealing windows (50 percent)
- Using fans and open windows (74 percent)
- Using compact fluorescent light bulbs (67 percent)
- Washing clothes in cold water (70 percent)[45]

These families and individuals do what they can to help manage their own costs. Yet for many, these efforts are simply not enough and energy can still be impossibly unaffordable. Therefore, strong national policy solutions must be supported and maintained in a manner that consistently aids households that struggle to afford energy and allows for expansions of services during energy price spikes such as the one that occurred earlier this year for heating oil and propane users.

Federal policy recommendations: A new goal and the role of existing programs

Concerns related to health, safety, housing stability, and other factors warrant the creation of a national goal to make home energy affordable for all low-income households. In order to effectively reach that target, existing tools for serving low-income families and individuals, including the Weatherization Assistance Program, or WAP, and the Low Income Home Energy Assistance Program, or LIHEAP, must be strengthened and properly supported.

Setting a national goal

> **Recommendation:** *Establish a national goal to make home energy affordable to all low-income households via the mobilization of multiple resources*

America must effectively address the issue of energy affordability for its most vulnerable citizens. In doing so, it is important to set a goal that evidences a commitment to the issue and serves as a benchmark against which progress can be measured. The goal must define what it means to be "affordable." It would be appropriate for that definition to be connected to the already existing concept of energy burden, or the percentage of household income spent on home energy. In order to determine if families and individuals are spending an inordinate share of their incomes on home energy, it is useful to compare them to the typical household.

The best reflection of what is "typical" is the median home energy burden across all income levels and regions of the country—the median discounts those households at the extremes, meaning those that pay an unusually large or an usually small percentage of their income on home energy. Relying on a single national standard creates a simple, easy-to-follow benchmark that allows for equal treatment across all households, regions of the country, and fuel types.

In establishing and implementing an energy affordability goal that relies on this standard, households with the highest energy burdens should be prioritized for assistance and states/localities should draw on multiple public and private resources, including energy efficiency and income supplement programs.

For an example of the goal in action, we can examine a hypothetical low-income family called the Andersons. The Anderson family lives in Vermont and spends 15 percent of its income on home energy—this number represents the family's energy burden. The nationwide median home energy burden is 4.1 percent. Thus, the Andersons would be a family targeted for assistance pursuant to the national home energy affordability goal. State or local officials would try to gather enough tools to reduce the Andersons' energy burden from 15 percent to 4.1 percent. The family's large energy bills may reflect a problem with efficiency, so the state would provide weatherization services as well as educational materials focused on energy conservation methods. If this fails to reduce the family's bills to 4.1 percent, officials would advise the family about a low-income assistance program offered through its utility company.

Although state and local resources can, and must, be used to advance this national goal, two federal programs will be essential—the Weatherization Assistance Program and the Low Income Home Energy Assistance Program.

The role of the Weatherization Assistance Program

The federal Weatherization Assistance Program, or WAP, is one avenue for achieving the goal of reducing the home energy burdens of low-income households. Administered by the U.S. Department of Energy, the program has the mission of reducing "energy costs for low-income families, particularly for the elderly, people with disabilities, and children, by improving the energy efficiency of their homes while ensuring their health and safety."[46]

The program was initiated during the 1973 oil embargo as a means of ensuring that low-income families had access to energy efficiency measures at a time when home energy price increases were moving the rest of the nation in the direction of greater conservation.[47] Initially, WAP focused on reducing heating and cooling costs. However, during the Clinton administration, the department developed a more expansive view of the services to be provided. Working with state and local interests, the department developed "Weatherization Plus: Opportunities for the 21st Century," a strategy to evolve the program into one that increases energy efficiency in the entire home.[48]

Families are eligible to participate in the Weatherization Assistance Program if they fit within one of the following categories:

- Have an income at or below 125 percent of poverty
- Receive Temporary Assistance for Needy Families (TANF), or Social Security Income (SSI) benefits
- If the state so chooses, those who are eligible for the Low Income Home Energy Assistance Program, or LIHEAP (that is, at or below 150 percent of poverty or 60 percent of the state's median income)[49]

Weatherization assessment technology

Two common tools for home energy audits, which measure efficiency, are blower doors and infrared cameras.

Blower doors. Blower doors measure house air leakages that can increase heating and cooling costs by more than 30 percent. The technology helps to reduce drafts and ensure that indoor air quality is free of contamination.

The equipment consists of a powerful fan and a flexible panel that is placed in a doorway, a pressure gauge to measure the pressure differences inside and outside the home, and an airflow manometer and hoses for measuring airflow.

Infrared cameras. Infrared cameras detect the radiation of heat from the surface of an object, convert the information into temperatures, and then present those temperatures as colors that can be viewed by the human eye.

The cameras can be used to detect sources of heat loss. They help to evaluate the effectiveness of insulation—when used on roofs and walls, missing insulation can be found quickly. They also detect leaks in door seals. Finally, infrared cameras can locate electrical problems such as loose wiring, overloaded circuits, and grounding problems. These home characteristics waste energy, but also are safety concerns.

Worker training. In order to use this equipment and understand the results they produce, weatherization crews receive advance training and develop new skills.

Source: U.S. Department of Energy, Weatherization Assistance Program Briefing Book (August 2008).

Program activities

WAP "weatherizes," or improves the energy efficiency of, more than 100,000 homes per year.[50] Weatherization services involve dispatching professionally trained weatherization crews, equipped with technologically advanced assessment tools, to perform energy audits on homes. The audits determine how much energy a home consumes and how it can become more energy efficient. Crews examine such housig characteristics as:

- The location of air leakages, which increase home heating and cooling costs by allowing cold outside air into a house during winter and hot outside air into a house during summer
- The efficiency of heating and cooling systems
- Health and safety hazards related to heating units and appliances (such as carbon monoxide and gas leaks) [51]

Once the assessments are complete, crews work to weatherize homes by providing such services as:

- Caulking and weather-stripping around windows and doors
- Sealing air leaks and ducts
- Installing insulation
- Tuning, repairing, or replacing heating and cooling systems
- Repairing or replacing water heaters
- Replacing refrigerators with more energy-efficient models
- Providing compact fluorescent light bulbs
- Installing smoke and carbon monoxide detectors[52]

Program effectiveness

The last comprehensive evaluation of WAP was published in 1994, and the program is overdue for a thorough investigation of its effectiveness and its ability to achieve program goals. The U.S. Department of Energy, under the Bush administration, announced that it would undertake such an evaluation in 2005, but this effort has yet to produce any results. However, a 2008 DOE report revealed the following positive indicators associated with the most recent year of the program:

- WAP reduces average annual energy costs by $413, saving households about 21 percent on their home energy costs and approximately 32 percent on gas heating costs
- For every $1 invested in the program, weatherization returns $1.65 in energy-related benefits
- On average, nearly $1.9 billion dollars is saved each winter across all low-income households served
- Home energy savings begin in the year a home is serviced and continue throughout subsequent years[53]

Importantly, the program is associated with additional benefits beyond its core goals of targeting needy households and reducing their home energy costs. Oak Ridge National Laboratory estimated that including some of these additional benefits would alter the above cost/benefit analysis such that every $1 invested in WAP results in $3.70 in benefits.[54] Its estimate incorporated such items as:

- Avoided rate subsidies
- Fewer shut-offs and reconnections for delinquency
- Reduced collection costs
- Improvements in property value
- Reduced housing moves
- Fewer fires
- Fewer illnesses
- Less air pollution (that is, a reduction in the use of fossil fuels)
- Job creation and avoided unemployment insurance benefits[55]

A couple of these areas are worthy of further mention. The first is the environmental impact of weatherization. Each house that benefits from WAP reduces its carbon dioxide emissions by 1.79 tons per year.[56] Nationwide, energy consumption is decreased by the equivalent of 18 million barrels of oil annually, thus reducing demand for imported crude oil.[57]

Finally, WAP creates green jobs—an important benefit given that the U.S. economy lost nearly 2 million jobs in 2008. According to the DOE, each $1 million of program funding creates 52 direct jobs along with additional indirect jobs for subcontractors and material suppliers.[58] Currently, the program supports 8,000 direct jobs plus thousands of other indirect jobs.[59]

Recommendation: *Increase the funding resources available to the Weatherization Assistance Program*

The effectiveness of the Weatherization Assistance Program along with its associated benefits suggests a goal of appropriate investments designed to reasonably assist the nation's low-income households. Resources should allow 1 million households to be served each year. Unfortunately, the program has been consistently underfunded and would greatly benefit from an increased appropriation in FY2009 and beyond.

Authorizations and appropriations

Although Congress was authorized to spend $750 million on the program during FY2008, it only appropriated a little less than a third of that sum ($227.2 million).[60] Funding cuts in 1996 decreased annual appropriations by nearly 50 percent. Since that time, the program has benefited from some funding gains, beginning in 2002, but spending has never come close to the program's authorized levels (See Table 5).

Congress has yet to make a final appropriation for FY2009, but it already has provided a $250 million emergency supplemental for the year.[61] A potential exists for great improvements in the program's dedicated resources.

Table 5. Funding for the Weatherization Assistance Program, FY2000 to FY2009

Spending on the program consistently falls short of authorized levels

Fiscal year	Authorized	Appropriated (Constant dollars, in millions)	Appropriated (Inflation-adjusted 2007 dollars, in millions)	Number of homes weatherized with DOE funds*
2000	Such sums as necessary	$135	$163	74,316
2001	Such sums as necessary	$153	$179	77,697
2002	Such sums as necessary	$230	$265	104,683
2003	Such sums as necessary	$223.5	$252	100,202
2004	Unauthorized	$227.2	$249	99,756
2005	Unauthorized	$228.2	$242	97,582
2006	$500	$242.6	$249	104,149
2007	$600	$204.6	$204	82,409 (est.)
2008	$750	$227.2	$217	N/A
2009	$900	$250**	---	N/A

Sources: U.S. Department of Energy website, available at http://www.eere.energy.gov/weatherization); United States Code; Weatherization Assistance Program PY 2007 Funding Survey.

*The data on the number of homes weatherized are based on the program year of the states (beginning in April for some and July for others) rather than the fiscal year schedule of federal funding allocations. As a result, an imperfect connection exists between the amount appropriated by Congress during the fiscal year and the exact number of homes those funds were used to weatherize.

**Funds thus far appropriated for FY2009 have been designated as emergency supplemental funding. The final appropriation for FY2009 has yet to occur.

Leveraged resources

Further, evidence of the need for greater WAP funding is reflected in the program's overwhelming reliance on non-dedicated dollars—68 percent of its funds derive from outside sources. In general, it is a definite plus and a sign of successful implementation if a federal program is able to leverage a significant amount of additional dollars from private entities and state and local governments. However, the primary contributor to WAP is another federal program—the Low Income Home Energy Assistance Program. States have the option of dedicating up to 15 percent of their LIHEAP dollars to weatherization services. In practice, 44 states and the District of Columbia exercise the option, while on average setting aside 10 percent of their LIHEAP grants for this purpose.[62] LIHEAP contributions are typically more than the federal appropriations for the WAP program itself. In program year 2006, LIHEAP contributed $324.8 million.[63] The FY2006 appropriation for WAP was $242.6 million. Consequently, WAP recently operated in an environment where "supplemental" funds donated from another program far surpassed its own dedicated funding. The breakdown of monetary contributions to the program is as follows:

Department of Energy (WAP appropriated dollars)	32.11%
The Low Income Home Energy Assistance Program	43.80%
Petroleum Violation Escrow Cases	0.26%
Other (e.g., utility companies, state revenues, property owner contributions)[64]	23.83%

Relying on state administrators of LIHEAP to set aside the most significant source of funding for WAP presents a couple of significant problems for the program. First, the fates of the two programs are linked—inadequate LIHEAP appropriations will likely equate to inadequate WAP funding. When LIHEAP has fewer resources, it has fewer resources to offer to WAP. Additionally, LIHEAP administrators always have the option of decreasing their investments in weatherization services in order to make up for monetary shortfalls for the program's main goal of providing income supplements to low-income home energy consumers. The intertwined fate of LIHEAP and WAP was evidenced by Program Year 2007 (a period affected by a budget cut one year and flat funding the next) for which LIHEAP contributions were expected to drop by $68.8 million, or 5 percent less than the previous year.

A second problem is that some states may choose consistently to provide low to no contribution to weatherization services, which means that WAP program implementation could greatly vary from state to state. Those states that chose to invest considerable LIHEAP dollars would have significantly better programs than those that did not choose to make such investments.

A serious commitment to weatherization services will require sizeable increases in the amount of dedicated dollars for the program. State LIHEAP dollars are valuable, important, and should continue to be used to the program. However, these funds should truly be supplemental rather than the primary sources of WAP revenue.

Evidence of funding inadequacy and a call for increased funding

WAP has been consistently underfunded and is heavily reliant on the resources provided by another federal program. As a result, WAP is unable to serve a significant portion of the

households in need. DOE estimates that more than 38 million homes are income-eligible and that 15 million of those are good candidates for weatherization services.[65] However, the program has a recent history of servicing approximately 100,000 homes per year with DOE funds[66], which is a mere 0.7 percent of the good candidate homes. At this rate, it would take 150 years for the program to reach every household that could currently benefit from its services.

Congress can and should fund WAP at the authorized level of $900 million for FY2009 and continue to increase funding so as to allow the program to complete 1 million homes per year, reaching all good candidate homes within the more reasonable time frame of 15 years. These actions would assist low-income households with their current energy bills while also providing some protection from the dramatic consequences that could be caused by future price surges.

Further, such investments advance another national imperative of aiding the recovery of an economy that is currently in recession. As noted above, WAP has the ability to create jobs and would allow families to help the economy by using their energy savings to buy other goods and services. For more information on stimulating the economy through WAP and other environment friendly policies, please refer to the Center for American Progress Action Fund's "A Strategy for Green Recovery" and "How to Spend $350 Billion in a First Year of Stimulus and Recovery."

Recommendation: *Better integrate the aim of boosting clean energy investments into the operation of the WAP program*

The Weatherization Assistance Program should develop an increased focus on bettering the environment via greater clean energy investments. This shift need not interfere with the currently existing aims of the program.

WAP's primary goal is, and should continue to be, reducing the energy costs of low-income households. In doing so, it has historically focused on reducing energy consumption, which has a recognized positive environmental effect. However, this framework does not include the notion of lowering costs and reducing fossil fuel use in ways other than reducing consumption. For example, it is possible for investments in renewable energy sources to reduce costs and greenhouse gas emissions even when levels of consumption remain unchanged before and after their installation. The Weatherization Assistance Program is well positioned to increase its already existing role in reducing the nation's carbon footprint. However, doing so will require expanding the mission of the program to include the aim of reducing carbon emissions.

The impact of the program's current approach is evidenced in its policies related to cost-effectiveness. With the exception of materials designed to eliminate health and safety hazards, weatherization services must be "cost-effective." This means that they must result

in energy cost savings over the lifetime of the measure(s) that equal or exceed the cost of the services (e.g., materials, installation, and on-site supervisory personnel).[67] In adhering to this requirement, local agencies employ a system that ranks retrofit options based on their savings-to-investment ratios.[68] The rankings are then used to determine which options will be employed. As a result, certain measures that are cost-effective, but not the *most* cost-effective, may not be implemented. This approach could prevent the use of certain solutions that may cost a little bit more initially but would do a better job of reducing greenhouse gas emissions while also saving families money. WAP should maintain its cost-effectiveness standard while allowing for, and encouraging, the use of methods that are more effective in reducing greenhouse gas emissions.

Goals related to fossil fuel use and carbon emissions reductions should be thoroughly incorporated within the Weatherization Assistance Program. One way of achieving this end would be to include estimated emissions reductions as a factor to be considered, in addition to cost-effectiveness, when ranking retrofit options. Another way would be to include the degree to which greenhouse gas emissions are reduced as a factor in federal evaluations of the program's success.[69]

Further, Congress must put effort into properly implementing a 2007 legislative change that allows 2 percent of WAP funds to be used for renewable technologies that are not currently approved by the program, provided that appropriations levels surpass $275 million.[70] This change was certainly a move in the right direction and adds another argument for increasing the program's funding levels. However, Congress has yet to appropriate a sum that would allow for the 2 percent set-aside, when it does so, the local agencies should have an available menu of possibilities for incorporation into their work.

Finally, the next administration can move beyond a focus on the 2 percent experimental funds and take an even more significant role in advancing the use of renewable energy technology within WAP. These sources not only help reduce emissions, but also can produce two additional benefits: lowering the costs of other energy sources by reducing demand for them, and creating training and career opportunities for workers. Currently, the program allows only for solar water heating, but it could be expanded to encompass additional measures.

The 2 percent set-aside funds will be granted to a limited number of agencies desiring to experiment with renewables that are not currently approved for use within the program. However, for certain measures, an experimentation phase may not be necessary if they already have a proven track record of reducing energy consumption and greenhouse gas emissions when deployed at houses outside of WAP. In the case of such renewable measures, the new secretary of the Department of Energy has the option of immediately approving their use, ensuring that the measures could be implemented throughout the country.

Recommendation: *Provide local agencies with greater flexibility in deciding what services to provide*

Local agencies administering the Weatherization Assistance Program operate under certain restrictions when providing services to low-income households. In addition to the cost-effectiveness requirement, limits are placed on the amount that can be spent on each home. For PY2008, that limit was $2,966 for conventional efficiency measures and $3,149 for renewable measures.[71] Spending limits annually increase by the lesser of either the consumer price index or 3 percent.[72]

These spending caps should be lifted, providing states and localities with the discretion to decide how much they should spend on each home in order to meet the individual needs of the communities and households they serve. This approach would be preferable to continuing with the use of a spending cap policy that tries to apply a one-size-fits-all approach to multiple types of housing stock, climate conditions, regions of the country, and levels of weatherization need. The continued requirement for cost-effectiveness, the potential added requirement of reducing greenhouse gas emissions, and DOE oversight (via review and approval of state program plans and monitoring) would ensure that the program continues to run effectively and efficiently. However, localities could choose to provide more comprehensive (while still cost-effective) services to individual homes that may require greater investments. Such a shift should continue to be accompanied by a strong encouragement to leverage additional funding from other federal, state, local, and private sources—a task for which the program has a previous history of success.

This policy change could also lead to an increased use of renewable resources. Working within the established spending cap may create an incentive for agencies to use the least costly options for servicing a home so as not to surpass the designated dollar amount—especially within those homes with multiple energy-efficiency needs. This approach may exclude the use of renewables. Suspending the use of caps, on the other hand, would allow for the use of the best possible options, rather than the least expensive ones.

Recommendation: *Ensure the ability of low-income households to convert to cheaper, cleaner sources of home heating*

As noted above (see Table 1), consumers of heating oil recently experienced the most significant growth in inflation-adjusted prices for home energy—an astounding 64 percent increase during the period between 2000 and 2007. Further, last summer's heating oil and propane price surges, which were connected to the price of crude oil, are recent and memorable examples of how events and circumstances in the nation and world can quickly and significantly affect the ability of low- and middle-income heating oil and propane users to maintain safe temperatures in their homes during the winter. These households require some assistance in managing current costs, but they also would benefit from efforts to insulate them from future fluctuations in the price of crude oil.

What's more, the recent energy bills of heating oil and propane consumers outstrip the ability of the currently existing programs to serve families effectively. This is evidenced by the below examples of the Smiths and the Browns, who have energy bills that reflect the national average for LIHEAP recipient households who were using heating oil and propane in FY2006, the last year for which complete data is available. Assuming that the two families actually were able to receive benefits from two programs (Weatherization Assistance and LIHEAP) that drastically underserve their target population, they would still have substantial home energy bills. In fact, even after benefiting from both programs, both families would still have energy bills that are higher than those who heat their homes with electricity and who are eligible to receive LIHEAP.[73]

These numbers point to another problem. As currently configured, the WAP program definitely will provide some needed relief by reducing the home energy bills of heating oil and propane families. However, that payment reduction is simply not enough, since a family receiving WAP assistance may still need LIHEAP relief. Further, even with a combination of WAP and LIHEAP assistance, low-income households may still have energy bills that are unaffordable. Under such circumstances, government assistance is definitely helping families, but it is not helping enough to ensure that basic energy needs are met and the health and safety of households is secured.

Moreover, this problem has only worsened since FY2006. Although the U.S. Energy Information Administration is projecting a drop in heating oil and propane prices for the winter of 2008, nominal prices still will be higher than in the period covered by FY2006 (the winters of 2005-06 and 2006-07).[74]

The Smiths and the Browns

Two examples of families with energy bills that reflect the national average for assistance program households using heating oil and propane

The Smiths (average consumers who are heating oil users and LIHEAP recipients in FY2006)	**The Browns** (average consumers who are propane users and LIHEAP recipients in FY2006)
Average annual bill $2,804	Average annual bill $2,070
Subtracting average WAP benefit (21 percent reduction in home energy costs) $588.84*	Subtracting average WAP benefit (21 percent reduction in home energy costs) $434.70*
Subtracting average LIHEAP heating benefit $385	Subtracting average LIHEAP benefit $385
Final total bill $1,830.16	Final total bill $1,250.30
Average bill for low-income users of electricity (no assistance) $1,231	Average bill for low-income users of electricity (no assistance) $1,231

* Depending on the previous condition of the home and the services provided, WAP could have a greater-than-average impact on household bills.

Finding a solution

One way to solve this problem would be to increase LIHEAP benefits as the prices of heating oil and propane fluctuate. However, making increased assistance payments to these families year after year would waste economic resources if other options are available to actually reduce the energy bills of low-income families. When conservation and income supplements do not solve the problem, it is time to think about conversions to less expensive energy sources that are preferably cleaner and more environmentally friendly (i.e., renewables or natural gas). Although no federal program is currently focused on the need to convert heating oil and propane users to cheaper fuels, the nation definitely should move in that direction and the WAP program can certainly play a role.

The benefits of conversions for low- income households

- A concerted effort to convert low-income households that use heating oil and propane to heat their homes has several advantages:

- It is an action plan that puts a renewed focus on those families that experienced the highest price increases since the beginning of the decade

- The population target represents only a limited slice of low-income households. Only about 8 percent of low-income (or LIHEAP-eligible) households use heating oil and approximately 5 percent use propane.[75] This equates to approximately 5 million households

- This is another method of reducing the nation's reliance on foreign oil. Low-income (LIHEAP-eligible households) annually consume approximately 1.3 billion gallons of fuel oil and 1.25 billion gallons of propane[76]

- Burning less fuel oil and propane would help to advance the goal of reducing greenhouse gas emissions, a benefit that could be multiplied through the use of more renewables and simultaneous reductions in the use of coal and other fossil fuels in the production of heating sources such as electricity and natural gas

- It would be a method of continuing in the original spirit of the Weatherization Assistance Program, which was created to give low-income people access to conservation measures that higher-income people were implementing during a time of increased energy prices. Today, price pressures may drive higher-income consumers toward conversions to cheaper fuels. Low-income households should have that same option, and as in yesteryear, the WAP program can help create that access.

Turning drawbacks into opportunities

Converting large numbers of households to other fuel sources will affect the heating oil and propane industries. However, if done appropriately such action could replace lost jobs with new opportunities focused on conversions to cheaper energy sources and energy efficiency.

The role of LIHEAP

LIHEAP is the other primary federal avenue for reducing the home energy burdens of low-income households. It is a federal block grant administered by the U.S. Department of Health and Human Services, or HHS. The agency annually awards grants to states so that they can operate home energy assistance programs for low-income households. States are allowed significant discretion in shaping their programs, but are under the oversight of the federal government.

Funds are used to assist with heating and cooling costs. Other energy usages such as lights and appliances are not covered. Payments can be made directly to consumers or to home energy suppliers.

Families or individuals are eligible for LIHEAP if their incomes are less than 150 percent of the poverty level for their state or 60 percent of their state's median income.[77] States must apply the standard that results in the higher income ceiling for the program. Households also are considered eligible if at least one individual is receiving benefits under the Temporary Assistance for Needy Families program, or TANF, Social Security Income, or SSI, food stamps, or the Veterans' and Survivors' Pension Improvement Act. States are not allowed to exclude families that are not receiving any other public benefits.[78]

A national survey of LIHEAP recipients indicates that they have the following characteristics

- 45 percent are one-person households
- 49 percent have an elderly member (age 60 or older)
- 47 percent have a disabled member
- 38 percent have at least one child under the age of 18 while 12 percent have a child under the age of 12
- 23 percent are single-parent homes (defined as one adult living with one or more children)
- 52 percent are married or widowed while 28 percent are divorced or separated, 19 percent were never married, and 2 percent fall into the "other" category
- 50 percent own their homes
- 44 percent have an annual income of $10,000 and under, while 68 percent have an annual income of $15,000 and under
- 30 percent had income from wages or self-employment, while 43 percent had retirement income, 34 percent received public assistance, and 53 percent received non-cash benefits

Source: 2005 National Energy Assistance Survey (NEADA, September 2005)

The program is not an entitlement, which means states are not required to provide all eligible households with assistance. Further, the program is not funded at a level that would allow for full participation. As a result, the LIHEAP statute indicates that funds should be particularly targeted toward "those with the lowest income, that pay a high proportion of household income for home energy, primarily in meeting their immediate home energy needs" (in other words, those with highest energy burdens).[79] States may prioritize vulnerable households, including those with:

- Very young children
- Individuals with disabilities
- Frail, older individuals[80]

LIHEAP has demonstrated success in two crucial areas: reducing the energy bills of low-income households and targeting resources toward the desired populations.

Reducing energy bills and burdens

By providing income supplements to low-income households for their home energy needs, LIHEAP reduces the amount that families must pay for their utilities. Although the program would be more effective if it provided higher benefit amounts, FY2005 data from HHS indicates that on average, LIHEAP does reduce energy bills by 17.5 percent and heating costs by 40.2 percent.[81] The highest percent reductions are by those in the West, who have the lowest energy bills and therefore the greatest realized benefits from a reduction in their payments.

Targeting resources

Given LIHEAP's resource limitations, it is critical that services be appropriately targeted to those families and individuals who could most benefit from the program. The legislation places an emphasis on vulnerable populations including very young children, individuals with disabilities, and frail, older individuals.[82]

A LIHEAP study based on FY2001 indicates that the program largely has been successful in reaching anoher one of its goals—90 percent of benefits were targeted to vulnerable households, while the remaining 10 percent went to income-eligible households that did not have a household member fitting into one of the vulnerable categories.[83] Of the estimated 4.4 million LIHEAP recipient households, at least 2.9 million (or 66 percent) had vulnerable household members and about 2.7 million (or 61 percent) had high home energy burdens.[84] At least 1.8 million (or 41 percent) beneficiary households had both a high energy burden and a vulnerable household member.[85]

Conclusions

Given LIHEAP's success in addressing its primary objectives, it is apparent that the program has the ability to be an effective tool in reaching a national goal of making home energy affordable to all low-income households. However, certain alterations should be made during the appropriations and reauthorization processes to help the program better address current circumstances.

Recommendation: *Consistently provide adequate funding to LIHEAP*

Despite its successes in serving low-income populations, LIHEAP has a history of being underfunded by Congress (see Table 6).

Authorizations and appropriations

Beginning with FY2005, the amount that Congress was authorized to spend on LIHEAP was more than doubled from $2 billion to $5.1 billion per year.[86] However, the amount that was actually appropriated, or funded, was slow to increase. Funding for the regular grant program during fiscal years 2007 and 2008 remained flat at $1.98 billion.[87] It was not until FY 2009 that the regular grant was funded at $4.5 billion, with the total LIHEAP appropriation reaching $5.1 billion.

Table 6. LIHEAP funding: FY2000 to FY2008

Dollars in thousands

Fiscal year	Regular Funds		Emergency Funds		Total distributed
	Authorized	Appropriated	Authorized	Appropriated	
2000	Such sums as necessary	1,100,00	900,000	744,350	1,844,350
2001	Such sums as necessary	1,400,000	600,000	455,650	1,855,650
2002	2,000,000	1,700,000	300,000	100,000	1,800,000
2003	2,000,000	1,788,300	0	200,000	1,988,300
2004	2,000,000	1,789,380	99,410	99,410	1,888,790
2005	5,100,000	1,884,799	297,600	277,250	2,162,050
2006	5,100,000	2,480,000	681,000	679,960	3,160,000
2007	5,100,000	1,980,000	181,000	181,000	2,161,000
2008	Unauthorized	1,980,000	590,328	610,678*	2,590,678
2009	Unauthorized	4,509,672	590,328	0	4,509,672

Sources: Congressional Research Service, "The Low-Income Home Energy Assistance Program (LIHEAP): Program and Funding" (CRS Report for Congress, January 17, 2008); U.S. Department of Health and Human Services, *IM-2008-9 (LIHEAP Allocations from the FY2008 Energy Emergency.*

In addition to the main funding stream, the LIHEAP legislation includes a separate pot of emergency contingency funds that can be released following a formal budget request by the president.[88] For the purposes of LIHEAP, emergencies include such events as a natural disaster, a significant home energy supply shortage or disruption, a significant increase in the cost of home energy, a significant increase in home energy disconnections, a significant increase in participation in a public benefit program, or a significant increase in unemployment.[89] Emergency funds were distributed in 16 out of the 18 years since 1991, raising the question of whether the country experiences yearly emergencies or relies on this mechanism because appropriations under LIHEAP's main funding stream are inadequate.[90]

Leveraged resources

In an effort to expand the reach of the program, the LIHEAP legislation authorizes the secretary of health and human services to provide incentive grants to those states that are able to leverage federal resources by securing funding from additional sources. The majority of additional resources come from state and local governments and utility companies.[91] Other sources include landlords, churches, charities, and communities. According to the most recent data for FY2006, 38 states benefited from the LIHEAP leveraging incentive program, adding $2.7 billion to program coffers.[92]

Evidence of a recent history of funding inadequacy: Number of households served

Prior to FY2009, noteworthy declines were seen in the percentage of LIHEAP-eligible households that were actually being served by the program (see Table 7). This is true despite slight increases in the total number of households receiving benefits. HHS data from FY2006 indicate that there were 5.5 million recipients, which represented only 16 percent of the population that is income-eligible to receive LIHEAP.[93] This is less than half of the early 1980s rate of 36 percent.

The funding increases for FY2009 should help to expand the number of program beneficiaries. Resulting progress toward serving a greater share of the eligible population

Percentage of LIHEAP households served over time

The percentage of eligible households receiving benefits has declined since 1981

	1981	1987	1993	1997	2001	2006
Recipients (in millions)	7.1	6.8	5.6	4.3	4.8	5.5
Eligibles (in millions)	19.7	24.1	28.4	29	30.4	34.4
Rate (%)	36%	28%	20%	15%	16%	16%

Source: LIHEAP Home Energy Notebook for Fiscal Year 2006 (U.S. Department of Health and Human Services 2008).

should be monitored. Maintaining, and eventually expanding, the number of recipients beyond FY2009 will require a core amount of funding—i.e., the elevated appropriation for 2009 should form the floor for future years and not a high-water mark.

Evidence of a recent history of funding inadequacy: Benefit levels and energy burden reductions

In commenting on the time period between 1981 and 2006, HHS noted that "after adjusting for inflation, the mean value of benefits has fallen substantially."[94] In 1981, each household received an average of $213 for its heating costs.[95] By 2006, the benefit had plummeted to $171 in inflation-adjusted 1981 dollars. This data means LIHEAP benefits generally are covering a much smaller percentage of low-income heating bills. In the early 1980s, the program covered 23 percent of the heating costs of *eligible* households, but by 2006, that number had fallen to 10 percent.[96]

The net effect of this declining coverage is that LIHEAP does not go nearly as far as it should in reducing the drain of home energy prices on household budgets. Although the benefits reduce the energy burdens of low-income families, recipients still have higher energy burdens than the average household. In FY2006, LIHEAP reduced the recipient group home *heating* burden from 6.8 percent to 4 percent.[97] However, in spending 4 percent of their own income on home heating costs, LIHEAP recipients were still disadvantaged when compared to other American households, which as a group only spent an average of 1.1 percent of their incomes on home *heating* costs. Further, the ability of the program to reduce the gap between LIHEAP recipients and the average household has declined over the years—in 2001, the gap between the two groups reached an all-time low of 0.9 points, but in 2006, the gap between the net group burden of LIHEAP recipients and the average household was 2.9 points.[98]

Importantly, the data offered by HHS mask larger disparities. By examining only heating burdens, the agency tells a limited part of the story. Once the burdens imposed by cooling, lights, and appliances also are figured in to the equation, the disparities become much more significant. Although their data are slightly more dated, researchers at the Applied Public Policy Research Institute for Study and Evaluation, or APPRISE, conducted an analysis of burden reduction that included all home energy sources (not just heating). They were able to conclude that LIHEAP was successful in reducing the mean and median home energy burdens of recipients, and that LIHEAP benefits greatly reduced the percentage of low-income households experiencing high energy burden (defined as spending 10.9 percent or more of household income on home energy) (see Table 8).[99] However, 27.3 percent of recipients (or 1.2 million households) still had high energy burdens even after receiving cash assistance.[100]

Gross and net home energy burdens for LIHEAP and LIHEAP-eligible households, FY2001

LIHEAP proves successful in reducing mean and median home energy burdens, but a significant number of households still have high energy burdens even after receiving assistance

	Number of Households	Mean home energy burden	Median home energy burden	% of households with high energy burdens
LIHEAP recipients (gross burden)	4,373,000	8%	5.6%	62.2%
LIHEAP recipients (net burden)	4,373,000	3.8%	1.9%	27.3%
Eligible nonrecipients (gross burden)	29,703,000	4.9%	3%	33.9%

Source: LIHEAP Energy Burden Evaluation Study (APPRISE).

The bottom line

The LIHEAP program has experienced a recent history of neglect evidenced by an inability to serve a significant percentage of the eligible population and provide benefit levels that sufficiently close the energy burden gap between LIHEAP recipients and average households. Increased appropriations for FY2009 should begin to address these issues. However, there is reason to believe that these new funds may not be enough to address the current need. During FY2006, which provides the most recently available data, LIHEAP covered only 10 percent of the heating bills of the eligible population (a similar figure for cooling bills is unavailable) and served only 16 percent of the eligible population. Although home energy prices have fluctuated and the value of the regular grant in 2009 is almost twice the value of that grant in 2006, it is likely that much more is needed to make improvements to these currently existing low levels of service and advance the goal of reducing the energy burdens of low-income households.

It also is unclear whether need will increase in future years. Fluctuations in the prices of home energy will have a significant impact on that question. Another concern is a potential increase in the eligible population due to a souring economy. Notably, these factors may be partially alleviated by lowering the energy bills of low-income households through increased investments in the Weatherization Assistance Program, which could come through economic stimulus/recovery efforts or other means.

Currently, the unmet needs of the eligible population, fluctuations in energy prices, and potential increases in the number of households designated as "low income" warrant greater investments in LIHEAP that are best served through:

- Increasing the authorized level of the program.
- Increasing the FY2009 Appropriation for the program to $7.6 billion
- Maintaining or increasing funding levels in future budget years

Such investments should increase the percentages of eligible people served, and energy bills covered, by the program.

Recommendation: *Expand LIHEAP services to currently ineligible populations during times of emergency*

Households with incomes just above LIHEAP's current eligibility income caps also may struggle to pay their home energy bills, especially during periods marked by price surges similar to those experienced by heating oil consumers earlier this year. As noted above in the section on detrimental impacts of high-energy costs on low-income families, a 2008 survey revealed that households with incomes at 151 percent to 250 percent of poverty were being negatively affected by home energy prices—40 percent reported that increased home energy prices were having a moderate or large impact on their households.[101] Similar to households with lower earnings, those in the 151 percent to 250 percent of poverty range reported making dire sacrifices in order to compensate for increased energy bills, with 51 percent cutting back on food, 23 percent reducing their medicine purchases, and 24 percent keeping their homes at unsafe temperatures.

Such hardships and their related consequences warrant extensions of assistance to members of this higher-income group during times of "emergency," a term that could include record-high prices or extreme weather conditions. Policymakers should be particularly concerned about vulnerable populations and those with extraordinarily high home energy burdens. Since an increased risk of illness and death exists for the elderly, the disabled, and small children when households cannot afford home energy, the helping hand of LIHEAP should, under emergency conditions, extend a little further to those who fall within the 150 percent to 250 percent of poverty category. Sufficient emergency contingency funds should be appropriated and allotted with that purpose in mind.

This was the approach taken in 2008 when Congress decided to extend LIHEAP eligibility to 75 percent of state median income for FY2009 and only for that year.[102] For the majority of states, this equated to an extension of benefits to households with incomes at 250 percent of poverty or a little above. Implementation of this change should be monitored, noting the benefits and challenges associated with such an extension. Any success with the 75 percent of state median income measure should support the recommendation to amend LIHEAP to allow for extensions of eligibility during times of emergency.

In addition, when program resources are sufficient, an unqualified extension of the program to households in the 150 percent to 250 percent of poverty income range should be considered. The availability of funds is an important factor and is potentially playing a role in limiting current income eligibility levels. Although states have the option of offering services to households with incomes up to 150 percent of poverty or 60 percent of state median income (which for most states is between 150 percent to 200 percent of poverty), they typically set low eligibility limits. According to the most recently available data, the largest share of states cap eligibility at 150 percent of poverty, with only 14 states having a higher cap.

Recommendation: *Explore methods of innovating the administration of LIHEAP*

Policymakers should explore the possibility of simplifying the administration of, and outreach for, LIHEAP by pairing it with another government benefits program(s). As noted above, one source indicates that 34 percent of LIHEAP recipients receive other forms of public assistance while 53 percent receive non-cash benefits. Given these overlaps in services, at least two possibilities exist—either recipients could receive benefits through one unified mechanism or greater effort could be placed into advertising LIHEAP to those applying for other types of government assistance. Evaluations of such possibilities should consider the effect of such changes on effectively targeting LIHEAP's resources toward its primary target populations (i.e., households with children, elderly, or disabled members as well as those with high-energy burdens).

Recommendation: *Build LIHEAP program capacity so energy burden can be measured at the local level*

Many local agencies do not have established mechanisms to measure the energy burdens of the households that apply for LIHEAP benefits.[103] Appropriate federal and state investments should be made to develop these tools, which can serve a dual purpose.

First, they can help the agencies measure, and be consistently mindful, of their progress toward reaching the recommended national goal of reducing the home energy burdens of all low-income households to the level of the national median.

Second, in the interim stages toward reaching this goal, time efficient versions of these tools could provide information that is useful for selecting beneficiaries. Although the program generally is successful in targeting most of its resources toward the vulnerable populations identified by the legislation—children, the elderly, the disabled, and those with a high energy burden—certain remaining challenges were identified in a 2005 report:

Elderly LIHEAP beneficiaries have higher energy burdens when compared with others in the program. However, they are less likely to be targeted for the program

There is limited targeting to households that have both a vulnerable member and a high energy burden. During the focus year, there were 7 million households that fit into this overlapping category, but only 2 million (or 26 percent) were served by LIHEAP [104]

Local agencies could choose to use energy burden assessment tools to help address these disparities. They would have more leeway to select beneficiaries based on their level of energy burden—for example, when choosing among applicants, they could select those with the highest burdens, a designated priority population within the program. Finally, these tools may lead to conclusions that greater outreach is needed to members of the community who may be in greater need of services due to their higher likelihood of having high energy burdens.

Conclusion

It is clear that low-income Americans are the most affected by general increases in the prices of home energy fuels and particularly by temporary price surges. Reinvigorating and reshaping previously successful tools, along with the establishment of a clear goal of reducing the energy burdens of low-income households, is essential. Marshaling a multitude of resources toward achieving such a goal would help to ensure that no American is at risk of losing his or her life or safety due to a lack of basic necessities such as heating or cooling. Importantly, addressing this goal also can help to address other national concerns, such as reducing our reliance on foreign oil and creating jobs in a bad economy. In short, the benefits and the imperative are overwhelming and dictate action on the part of the federal government.

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About the author

Joy Moses is a Policy Analyst with the Poverty & Prosperity program at the Center for American Progress. Prior to joining CAP, she was a Staff Attorney at the National Law Center on Homelessness & Poverty, where the majority of her practice focused on homeless and low income children, youth, and families. She began her career as an Equal Justice Works fellow at the NAACP Legal Defense Fund where she worked on policy and litigation activities related to K-12 education and access to the courts for civil rights plaintiffs. Joy has also sought to be involved in the D.C. legal community, having served as a president of the Washington Council of Lawyers, an organization promoting pro bono and public interest advocacy as a means of ensuring equal justice for low income residents of the District of Columbia. Joy received her J.D. from Georgetown University Law Center and a B.A. from Stanford University.

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