

Weatherization—A Test Case

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“We’re creating jobs immediately by ... weatherizing 2 million American’s homes, as was called for in the package. So that right there creates economic stimulus.... In the case of homeowners, they will see more money in their pockets, and we’re reducing our dependence on foreign oil in the Middle East.

Why wouldn’t we want to make that kind of investment?”

President Barack Obama, Press Conference, February 9, 2009

“... if you look at the over \$500 billion worth of spending ... —and \$6 billion to community action programs to do weatherization programs. It’s just more of the same kind of wasteful spending that we have seen in the past. I was really—I was shocked.”

House Minority Leader John Boehner, PBS NewsHour, January 15, 2009

Summary

The Department of Energy’s Weatherization program, a 30-year-old program that improves the energy efficiency of the homes of low-income families, is receiving more than a 20-fold increase in funding in the economic stimulus plan. Can this money be spent effectively or is this throwing money at a feel-good program?

The initial answer depends on an accelerated delivery of the expanded program—training the energy retrofit technicians, marketing the program to an enlarged number of recipients, and streamlining its federal–state–local administration. In parallel, the program must expand the participation of its current public and private partners, particularly in southern states. The long-term success depends on constructing links with a broader movement for building energy efficiency, on playing a key role in revitalizing local communities, and on dramatizing the connection between building energy efficiency and climate change. In the end, success will depend on how success is defined—how we balance the urgent need to infuse spending and create jobs with our sustainable future energy, societal, and environmental goals.

President Barack Obama and House Minority Leader John Boehner singled out Weatherization in their opposing views of the economic stimulus plan that the president signed into law on February 17. Though the broad nature of the stimulus plan is daunting, a focused look at Weatherization can help reveal the challenges and opportunities bundled together in this record spending legislation.

Overview

The U.S. Department of Energy's Weatherization program is an obscure, 30-year-old program that installs energy-saving measures in the homes of modest-income families, reaching about 100,000 households in recent years and leveraging funds for an additional 40,000 energy retrofits. Weatherization received \$227 million in DOE funds last year. Like other selected programs it is receiving financial steroids in the stimulus plan; in this case, providing \$5 billion in new funding.

Will it be possible to ramp up funding for Weatherization and use the funds effectively, or will this just be throwing taxpayer money at a problem, with much of it being wasted?

The answer will depend on the ability to successfully complete three tasks:

- 1. Accelerate the administration of the program**, including bringing together a federal, state, local, and private sector implementation structure with transparent monitoring and verification of the results.
- 2. Secure the support and participation of stakeholders** with an interest in the success of the program, not only because their support is essential, particularly in the southern states, but also to build confidence in the direction of the stimulus package.
- 3. Translate the federal stimulus investment into a self-sustaining, ongoing activity** that relies on other funding sources and is recognized as vital in meeting long-term national goals.

Weatherization Assistance Program

Weatherization is a logical program for addressing the mix of U.S. objectives sought in the stimulus legislation. Initiated in the wake of the 1973–1974 OPEC oil embargo, the Department of Energy (DOE) program:

- Helps homeowners. For the families helped, the results are immediate—averaging a 31 percent reduction in heating bills and an overall annual reduction of \$358 in energy bills, depending on fuel prices. The savings help homeowners pay their mortgages, avoiding foreclosure, and help renters pay their rents, avoiding eviction.

- Reaches those who need it the most. The targeted households spend 14 percent of their income for energy, compared with 3.5 percent by other American households.
- Multiplies the benefits. The money saved by moderate-income families will be spent quickly in their neighborhoods. By contrast, economists estimate that 80 percent of their energy expenditures go elsewhere.
- Creates jobs. Weatherization is delivered through a federal, state¹, and local network, including more than 900 local Weatherization agencies, providing jobs to crews of building retrofit technicians and others providing supporting services.
- Attracts co-funding. Weatherization encourages partnerships and investments by others. In a recent study, every dollar DOE invested in these projects attracted \$3.39 in additional federal, state, and private sector funding.

These timely features have generated rapid, successive increases in funding for Weatherization as part of the economic stimulus actions. After President Bush proposed zeroing out DOE's Weatherization program, Congress advanced chunk after chunk of funding for the program. Understanding the potential of this largesse requires a closer look at the three tasks mentioned above:

Task 1: Accelerate the Delivery of Weatherization

To benefit the economy as quickly as possible—thus fulfilling the goal of the stimulus plan—the delivery process must be accelerated. The most important actions are to: 1) Expand the human resources and training at the local Weatherization centers; 2) Market aggressively the availability of Weatherization to potential recipients; and 3) Streamline the development and approval of Weatherization state plans. As with other programs, while these steps appear straightforward, the details get devilish.

Expand the human resources and training at the local Weatherization centers

The greatest challenge to the rapid expansion of Weatherization is supplying the human resources necessary for its success. The 900 local agencies deliver the program with a workforce of trained energy auditors, installers, and inspectors. Over three decades, Weatherization has developed and refined a high performance record, enabling it to survive and leverage the DOE funding. For the story of Weatherization under six Presidents, see Box A.

First, an energy auditor visits the residence, uses a blower door to measure building tightness, identifies any health and safety problems, prioritizes the energy-saving measures, and interviews the client on the home's use, problems, and comfort. The auditor's report is passed to the installers.

Second, installers make an appointment and visit the residence. They review the job plans with the owner or tenant, confirm the information in the audit, complete the energy saving and health/safety measures, confirm the results, and pass the record on to an inspector.

Third, an inspector visits the dwelling, verifies the work of the installers, re-tests appliances, and sees that any problems are corrected. The inspector also interviews the clients, asks if they are satisfied, explains the improvements, and educates them about the energy saving steps they can take. The stimulus act will expand this training requirement.

Weatherization sets a limit on the average amount that can be spent per home. For 2009, this figure is \$3,055. The economic stimulus act raises this to \$6,500, increasing the scope of the energy audit and the measure that can be included in the retrofit package.

With new housing construction in free fall, there's no shortage of unemployed labor in the construction industry. However, someone trained to build houses is not necessarily trained to make them energy efficient. It's not a simple matter of going house to house and replacing old windows with energy-efficient windows. The training of energy auditors, installers, and inspectors is not a huge or time-consuming task, but it is absolutely critical to preserve the quality and cost-effectiveness of the Weatherization program.

The training will be needed at state and local levels, in urban and rural urban areas across the country. Ten existing Weatherization training centers can provide a core expertise on which to build. Technical schools and community colleges are also an important resource. Building this technical capability is the highest immediate priority. Recognizing the immediate need to train a larger workforce, the stimulus plan raises the share of the appropriation that can be used for training to technical assistance from 10 percent to up to 20 percent. Considering the size of the stimulus funding, this percentage increase may not be needed.

Market Weatherization aggressively to its potential recipients

The numbers tell the story. DOE estimated that 28 million households met the past income requirement, which was 150 percent or less of the poverty guidelines set by the Department of Health and Human Services. The stimulus act increases the number qualified to 200 percent of the poverty guidelines, significantly raising the number of qualified households. (For the income limits see Box B.)

Not all the households that meet the income requirement live in housing that meet other Weatherization requirements. Low-income housing often is unqualified because it needs major renovations beyond the scope of the energy-saving measures. Many low-income households rent from landlords who do not agree to the program requirement that rents remain at their current levels after the Weatherization improvements.

Still, the number of potential participants is huge when compared with the 6.2 million homes that have been Weatherized in the last 30 years. Since the qualified households greatly exceed the available funds, states and local centers have made little effort to publicize the program. Even so, many waiting lists run for three years or longer.

States and local agencies will need to launch a major outreach effort to attract all those who will be eligible for the expanded program. This will be especially important to reach those who now qualify up to the 200 percent of the poverty level. An effective outreach needs to include other stakeholders, including those who can be reached through neighborhood organizations, churches, and local businesses. Besides being a practical necessity, the outreach will send the message that the stimulus package is expanding assistance to those who need it most.

Streamline the processing of Weatherization state plans

In normal times, streamlining is a simple, good government process. After the Weatherization appropriation is approved each year, DOE issues a Program Notice to guide the states in preparing their Weatherization plans; states prepare plans, hold hearings on them, make changes as necessary; and submit their plans to DOE, who reviews and approves the plans and sends the states their Weatherization allocations.

But this is not a normal year. Congress has yet to approve a regular Weatherization appropriation for FY 2009. However, the September 30 supplemental appropriation provided \$250 million for Weatherization. The resulting DOE Program Notice gave states two options. In the absence of a regular FY 2009 appropriation, they could prepare amendments to last year's plans but would then need to submit another state plan for the regular appropriation. Or they could wait for the regular appropriation and include both amounts in their state plans. And now, the huge stimulus tranche eclipses past appropriations.

Although it is an administrative headache, updating state plans should not be complicated. After 30 years, these plans are 95 percent or more "boilerplate" repetitions of the prior year's plans with changes to reflect new legislative or policy requirements. The major obstacles now are a dwindling DOE Weatherization staff as well as shrinking staffs in many financially stressed state offices.

This needs to be addressed immediately and effectively. The problem is not a shortage of funds; the Weatherization law allows the spending of up to 10 percent of the appropriation for the state and local centers' administrative expenses. With the huge funding increase, that's more than enough. DOE needs to scramble to take the lead. This will send the message that this Weatherization opportunity is urgent and real.

While new workers are hired and trained, the expanded program is marketed to thousands of qualified households, and DOE and the states clear the administrative speed bumps, the success of the stimulus will also depend on a parallel effort to attract support from the larger community that will benefit from an expanded Weatherization program, as described below.

Task 2: Secure the Support and Participation of Public and Private Stakeholders

The benefits of an expanded Weatherization program will extend to DOE's funding partners and the companies that provide the insulation, energy-efficient furnaces and air conditioners, improved windows, blower doors, energy auditing and inspection tools, and other supporting products and services. The expansion plan will also need to give special attention to southern states that through a historic quirk will get a generous share of the expanded funds.

Capture the support of Weatherization allies

DOE's funding partners—attracted by the quality of the program described above—now surpass DOE in the money invested in Weatherization. The major funding partners are the U.S. Department of Health and Human Services (DHHS) through its Low Income Home Energy Assistance Program (LIHEAP) and what's called "Other"—a growing number of utility companies, state programs, property owner contributors, and rehabilitation grants.

DOE funding represented only 30.8 percent of the total of \$662.5 million available for Weatherization in the 2007 program year, according to a survey of the state programs by the National Association for State Community Service Programs (NASCS).² LIHEAP provided 38.6 percent of the funding; the "Other" funds, 30.2 percent.

LIHEAP is a block grant program that passes funds to states to be help pay the energy bills of low-income households—bills that may reach 30 percent or more of their income. States may choose to use up to 15 percent of their block grants to fund Weatherization, which makes sense since the retrofits lower the future payments to these recipients. Historically, states have spent about 10 percent of their LIHEAP funds on Weatherization, with the percentage varying widely among the states.

The September 30 supplemental appropriation bill that funded Weatherization also provided the highest level of funding for LIHEAP in the program's history. The FY 2009 LIHEAP funding is \$5.1 billion, almost double last year's funding of \$2.6 billion. The increase was approved at a time when energy costs were soaring—particularly the cost of home heating oil in the northeast. If 10 percent of this near doubling of LIHEAP funds is spent on Weatherization, this will infuse still additional funding into the retrofit program.

Utility companies are the primary source of the “Other” funds. These funds have increased steadily in recent years, reaching \$200.2 million in 2007—a fifteen-year highpoint. The increases have been achieved by state and local Weatherization agencies, energy and environmental groups, and experts who have participated in electric and gas rate cases and restructuring legislation. The hearings often have led to the creation of system benefit programs that include Weatherization-related assistance to low-income households. In some states, the implementation of landlord participation retrofits has opened a promising strategy with great potential in many urban areas.

The ability to leverage these funds comes from the insight of those who designed the program 30 years ago. By recognizing the need to fund the research, technical assistance, training, and administrative support for the new program, they created a nationwide federal–state–and–local Weatherization network. This support has funded new energy audit improvements and the introduction of advanced technologies. The DOE funding continues to be the primary source of funding for the supporting infrastructure, not only the training and technical assistance and administrative costs mentioned above, but also health and safety protocols and quality controls. With DOE covering these costs, LIHEAP and the “Others” were assured a big bang for their bucks.

The existence of this partnership will help make the stimulus expansion more doable. The \$5 billion in the stimulus package will be building on a program of more than \$650 million, not just the \$227 million of DOE funding. To sustain this collaboration, DOE will need to work closely with its partners not only to meet the near-term challenge, but also for a future expanded, sustainable program.

Build alliances with private-sector partners

Members of the private sector are also stakeholders in an expanded Weatherization program. While 8,000 persons are employed by the local Weatherization agencies, the number grows to an estimated 21,000 when you include the companies and services that provide the products and services to the program.

These “green” industries are stakeholders in an expanded Weatherization program. A public education campaign on these energy and environmental benefits will achieve multiple benefits. The expanded program will broaden the public awareness of the benefits of energy efficiency for all homeowners, further increasing the sale of energy-saving products nationally. The expansion of “green” companies creates additional jobs. Additional energy savings will lead to still additional consumer spending.

Recognize the special opportunities in southern states

While the stimulus plan will benefit all regions, the South could be a big winner. A sixteen-year effort to bring an improved regional balance to the allocation of Weatherization funds will be realized, belatedly, in 2009.

The initial focus of Weatherization was on reducing heating costs for low-income families, dramatized in the Northeast where many homeowners rely on heating oil and faced skyrocketing prices following the OPEC embargo. Over time, there was growing evidence of the health and safety impact of extended heat waves, particularly in the South, where many of the elderly could not afford the cost of air conditioning.

The warm-climate states argued throughout the 1980s and into the 1990s that they were shortchanged by the state allocation formula. Acting on a recommendation from state representatives, DOE revised the allocation in 1995. At the time, funding for Weatherization was rising and was expected to continue to increase. To avoid a loss by any state, the new formula was applied to any funding over \$233.1 million—the funding anticipated that year.

But for the next thirteen years, the trigger amount was never reached—not until the supplemental appropriation of \$250 million in September.

The new allocation is based on three factors generally favoring warm-climate states:

1. The heating and cooling degree days for each state, dealing proportionately with the energy needed to ensure human comfort.
2. The number of low-income households in each state, expressed as a percentage of the total for the country.
3. The estimated financial burden that energy use places on low-income households in each state.

The implications are far reaching in the South. Largely because of the old funding formula, Weatherization activities in most southern states have been modest compared with their northern counterparts. The leveraged funds are much lower in the South. The new infusion of Weatherization funds will be both a challenge and an opportunity. Staffing up undoubtedly will be more demanding. Energy audits and retrofit options will need to give more attention to cost-effective, energy-saving technologies in warm states; and likewise, some health and safety issues will need more attention, such as avoiding mold and mildew while tightening drafty housing. The recent inclusion of renewable energy measures and the higher allowable investments per household may be particularly applicable in the South.

The increased benefits for southern states might also help foster a bipartisan appreciation for this piece of the stimulus package. Many of the favored states are politically “red.”

DOE can sustain its broad support for Weatherization by partnering with its co-funders, by working with private sector stakeholders, and by giving special attention to the needs of the South. These are not only essential steps immediately, but also critical elements in a sustainability strategy designed to

meet energy, environmental and social goals long after the burst of the stimulus funding is a memory.

Task 3: Translate the Federal Stimulus Into a Self-sustaining Activity

A bold expansion of Weatherization is not a new idea, suddenly triggered by the economic crisis. The huge gap between those qualified to receive housing energy upgrades and the available Federal funds has attracted attention for more than a decade. Congressional authorizations have far exceeded appropriations. In 2000, former President George W. Bush ran on a campaign of expanded Weatherization funding.

Far more relevant, candidate Barack Obama, on August 4, 2008, in Lansing, Michigan, presented his “New Energy for America” plan, which includes a national commitment to weatherize at least one million homes each year for the next decade. (see Box C)

Sustainability will require attention from the outset of the stimulus ramp up. Success will depend on tapping the broader energy efficiency and renewable energy opportunities in the building sector, embracing Weatherization’s role in the communities it serves, and capitalizing on its unique niche in the growing Climate Change movement.

Construct links with other energy saving and renewable energy advances
Weatherization delivers a specific set of energy-saving measures in a specific portion of the housing market. The target is large enough to require the entire Weatherization stimulus package funding in the foreseeable future.

At the same time, Weatherization has critical connections with broader activities in the building sector. This works both ways. The audit-install-inspection discipline in Weatherization can ensure good results for households with higher incomes. Some of these measures—insulation, replacement windows, water heaters, and certain high efficiency heating and cooling equipment—may qualify for the home improvement tax credits which have been reinstated for 2009.

Some Weatherization centers offer both subsidized and cost-based retrofit services. The economies of scale should lower the price of cost-based retrofits. Many audits find houses that are in such poor condition they do not qualify for Weatherization. They are candidates for renovation, creating jobs and improving local neighborhoods.

While Weatherization services extend to multi-family and rental housing, these subsectors of housing have received only a small portion of the limited funds available in the past. Multi-family housing poses a special retrofit problem. Retrofitting one condo or apartment is rarely cost-effective. The large savings come from improvements in the heating, cooling and water

heating systems of apartment buildings. Many buildings have a mix of qualified and not qualified owners or renters, making it difficult to qualify for Weatherization. Apartment building owners often refuse to agree to keep rent at the previous level after the Weatherization improvements. Finding ways to work through these problems will expand energy savings and healthier homes to a significant number of low- and moderate-income families.

Despite the current downturn in oil prices, the mid- and long-term projections are for steadily rising housing energy costs. With a major increase in funding, Weatherization can play a more important role in this larger national movement toward an energy- and cost-efficient building infrastructure. Historically, many of the technicians trained by DOE who begin their work in the Weatherization centers move on to other jobs in the building energy efficiency field.

Serve the larger community: WeatherizationPlus

The national network that delivers Weatherization has long envisioned playing a larger role beyond housing retrofits. In 1998, the network formed a Millennium Committee, which set forth this vision the following year in *WeatherizationPlus: Opportunities for the 21st Century*.

The Committee supported this vision with a series of white papers covering advanced technologies, partnerships for advanced housing, Climate Change, solar roofs, community sustainability, and electric industry restructuring. The movement simmered for several years but is now springing back to life, particularly in urban neighborhoods. The stimulus funding, broader housing retrofit activity, jobs creation, reduced energy costs, and new spending can contribute to the larger movement toward sustainable neighborhoods.

Weatherization's unique niche in Climate Change³

The scientific community is in general agreement that the fastest, cheapest, most certain way to reduce greenhouse gas (GHG) emissions is through increased energy efficiency in the building sector. The Intergovernmental Panel on Climate Change, which is leading global Climate Change efforts, found the building sector has the greatest potential to reduce GHG emissions rapidly, reliably, and economically.⁴ The McKinsey Report confirmed this finding, identifying building retrofit measures as the cheapest measures for reducing carbon emissions, many rapidly paying for themselves.⁵

The problem is how to achieve these building sector savings.

The answer is important, but it's not easy.

Leaders in the United States and abroad speak of climate action plans and cap-and-trade plans almost synonymously. But they are not the same thing. Cap-and-trade systems usually include only major GHG emitters, such as power plants and industrial plants, where GHG emissions are large enough to justify the cost of monitoring and verifying (M&V) the emissions.

Cap and trade schemes rarely attempt to include buildings, where the emissions are so dispersed, even among large buildings, that the cost of M&V for individual buildings is deemed impractical.

One approach is to find ways to include the building sector, or parts of it, in cap-and-trade schemes.

Weatherization offers a possibility because it aggregates the energy savings from many buildings. The post-Weatherization inspections and additional spot checks and evaluations of the program provide a verification of the program's energy savings. Local centers and the states make quarterly and annual reports on the number of households Weatherized and their energy savings.

The Weatherization energy savings could be converted into reductions in GHG emissions. The emission reductions from electricity savings will vary among utility service areas, depending upon the fuel and renewable mix of the areas' electricity generation plants, but this can be calculated by existing modeling programs. As carbon is monetized, this could provide an additional funding source for Weatherization.

A variation of this approach is to allow utilities to obtain carbon credits from the energy-saving programs they deliver their customers. Some cap-and-trade plans are exploring this option. It can get complicated. A building's operations may change, affecting its energy requirements. Electricity utilities tend to focus only on saving electricity, not savings of natural gas or fuel oil. Utilities' earnings usually are based on their capital investments in new plants and transmission and distribution networks, which are slowed by energy efficiency, creating conflicting incentives. Utilities' historic corporate culture hasn't embraced reduced sales. Despite these qualifications, this approach merits continued exploration. As noted above, utilities are the largest source of the "Other" funding for Weatherization and the addition of carbon credits could expand this resource.

Approaches outside cap-and-trade schemes should also be considered.

The European Union has the leading international program for reducing GHG emissions.

The EU cap-and-trade plan, the Emissions Trading Scheme (ETS), includes only the largest utility and manufacturing plants. In parallel, the EU program of policies and measures is designed to use mandatory standards and financial incentives to achieve similar savings for those outside the ETS—notably the building sector. However, the EU countries have had a mixed performance on policies and measures, contributing to doubts that the EU will meet its Climate Change goals. In the United States, the reliance on similar policies and measures at the state level would likely result in an even more widely mixed performance.

The U.S. Climate Change policies and programs are now taking shape and their provisions for the building sector are yet to be decided. One important input to these decisions is Weatherization's past and potential future contributions to GHG emission reductions and the related energy, social, and financial impacts. This record dramatizes the importance of giving the building sector—the fastest, cheapest, and more reliable sector for reducing GHG emissions—a leading role in the emerging U.S. Climate Change policies.

Conclusion

The question raised by the quotations from President Obama and House Minority Leader Boehner was: Will the more than 20-fold increase in funding for Weatherization work to stimulate the U.S. economy? The path above describes the best way to get value from the funds by applying implementation efficiency, building on public and private partnerships, and transitioning into a sustainable public program.

But it does not answer the question.

In large part, this is due to a lack of consensus now—or likely in the future—on how to define “what works.” Some potential criteria:

How quickly will the money be spent?

How many jobs will be created?

How much leverage will be attracted by the federal dollars?

How much new spending will be generated?

What will be left after the stimulus funds are spent?

Will we look back in the future on gross examples of wasted dollars?

All these yardsticks have merit. The challenge to Weatherization's federal-state-and local network and its current and future public and private partners will be to balance this mix of motives to serve both the immediate and long-term public good.

The specific challenges above apply only to the Weatherization program. Other pieces of the stimulus plan will face their own unique problems. Many will be similar: focused implementation, the recruitment of partners, and a sustainability strategy.

A U.S. program that improves the energy efficiency of housing can serve as a useful model in several other countries. This is particularly true in countries that provide large energy price subsidies. In such countries, a move to market rate prices is extremely difficult because many households, particularly those with low and moderate incomes, would not be able to pay their energy bills. A

combination of Weatherization housing improvements and LIHEAP subsidies for those hardest hit by rising prices would ease these harsh impacts and make market-based energy prices more acceptable, particularly with staggered implementation over time. Such a targeted program would be significantly less expensive than a government subsidy for all energy purchases. The market-based prices would also provide an incentive for energy efficiency and GHG emission reductions. This will be the subject of future Carnegie Endowment research.

Notes

1 In addition to states, DOE works directly with the District of Columbia and Native American Tribal governments.

2 “Weatherization Assistance Program; PY [Program Year] 2007 Funding Survey,” NASCSP.

3 The author was the coordinating lead author of the Residential, Commercial, and Institutional Buildings Sector chapter of the IPCC’s Special Report on Methodological and Technological Issues in Technology Transfer.

4 “Mitigation of Climate Change,” IPCC Working Group III contribution to the Fourth Assessment Report, UNFCCC, Bonn, May 12, 2007.

5 McKinsey Report 2007, <http://www.mckinseyquarterly.com>.

Box A

Weatherization Under Six Presidents

Weatherization was launched by President Gerald Ford in 1976 in response to the OPEC embargo, which sent gasoline prices “soaring” from 38.5 cents to 55.1 cents a gallon. Daylight savings time was enacted to reduce night-time energy use. The impact on low-income households was particularly harsh. The initial appropriation was \$26 million spent on emergency, temporary measures, such as caulking and weather-stripping windows and doors.

The emergency fix evolved into a sophisticated national program under the next five Presidents. The popularity of the program grew during the energy crisis years of President Jimmy Carter, reaching \$175 million and expanding to an integrated federal, state and local delivery system with a focus on the most cost-effective measures. President Reagan initially proposed eliminating the program, along with DOE, but both quickly recovered and Weatherization was expanded, aided by a large increase in non-DOE funding. The President George H. W. Bush years provided stable funding and improved performance, gained from a mega-evaluation by DOE’s Oak Ridge National Laboratory. Under President Bill Clinton the program gave more attention to health and safety measures and improved the retrofit of multi-family housing and mobile homes. The popularity of the program in 2000 led candidate George W. Bush to promise to increase its funding by \$1.2 billion over ten years if elected.

Bush kept this promise during his first term, but Weatherization became a victim of an internal DOE conflict during his second term. Weatherization is located in DOE’s Office of Energy Efficiency and Renewable Energy. (EERE). The bulk of EERE’s funding is for research and development. For researchers, Weatherization’s large appropriation is an attractive target. They won this competition when President Bush zeroed out the program in his FY 2009 budget request. This was a replay of President Clinton’s sharp reductions in his Weatherization requests during his second term. The conflict is understandable. R&D on energy efficiency and renewable energy has been underfunded. From a larger perspective, it’s the connection between R&D and Weatherization that is leading to the introduction of new technologies, advanced building audits, and cost-effective results in Weatherization.*

*For additional information on the Weatherization Assistance Program see: *The “Longest Running and Perhaps Most Successful” U.S. Energy Efficiency Program* on the Federation of American Scientists website at: www.fas.org/programs/energy/btech/policy/Weatherization%20Article.pdf.

Box B

Weatherization Income Limits

Income Levels

Size of Family Unit	Poverty Level ^{1,2}	200% ³
1	\$10,830	
	\$21,660	
2	14,570	29,140
3	18,310	36,620
4	20,050	40,100
5	25,790	51,580
6	29,530	59,060
7	33,270	66,540
8	37,010	74,020
For each additional member add:	3,740	7,480

1. The 2009 poverty guidelines were published by the Department of Health and Human Services in the Federal Register on January 23, 2009.

2. The DHHS poverty guidelines are somewhat higher in Alaska and Hawaii. These numbers are available at <http://aspe.hhs.gov/poverty/09poverty.shtml> .

3. The stimulus act sets qualification for Weatherization at 200% of the poverty guideline

Box C

“New Energy for America”

By candidates Barack Obama and Joe Biden
(Presented on August 4, 2008, in Lansing, Michigan)

Reference to Weatherization:

Weatherize One Million Homes Annually. In the struggle with higher energy prices low income families are suffering the most and receiving the least attention. Across the nation, poor families this winter will increasingly face the choice between heating and eating as prices for natural gas, heating oil, propane and electricity skyrocket. To address the immediate challenge this winter, we must fully fund LIHEAP and ensure that everyone who needs it has access to heating assistance. Over the longer-term, a significant part of the answer for low income families is home weatherization. By upgrading a home’s furnace, sealing leaky ducts, fixing windows, and adding insulation, we can cut energy bills by 20-40 percent and the substantial savings accrue with summer air-conditioning as well as winter heating. And by adding energy efficient appliances and lighting the savings are even greater. While the nation has weatherized about 5.5 million low-income homes since 1976, more than 28 million remain eligible. Barack Obama and Joe Biden will make a national commitment to weatherize at least one million low-income homes each year for the next decade, which can reduce energy usage across the economy and help moderate energy prices for all.

Box D

Weatherization Sources

A rich body of information on the Weatherization program is available at the national, state and local level:

National Sources

<http://apps1.eere.energy.gov/weatherization/> The home page of the Weatherization Assistance Program on the Department of Energy's web site. The site describes the program, guidelines, state activities and contacts, information and training centers. By clicking on state activities and contacts you can get information on the state agencies and service centers that deliver Weatherization.

<http://www.waptac.org/> The home page of the Weatherization Assistance Program Technical Assistance Center (WAPTAC). The center provides information and support for the state and local Weatherization practitioners including technical tools, training, regulations, tools and public information. By clicking on RAMP UP, you can get information and material supporting the rapid expansion of the Weatherization program.

<http://weatherization.ornl.gov/> The website of the Oak Ridge National Laboratory's Weatherization support program. ORNL has provided scientific and technical support for the program from its outset. The Weatherization Library has a searchable database of over 500 reports and assessments.

<http://www.nascsp.org/> The website of the National Association for State Community Service Programs. NASCSP members are the state administrators of the Weatherization and LIHEAP programs. By clicking on Weatherization Works and publications, you can gain an insight into the delivery of the Weatherization service. The monthly Newsletters are a good source of current information.

<http://www.ncaf.org/> The National Community Action Foundation (NCAF) is the Washington advocate for the nation's community action agencies.

John Millhone is a visiting scholar in the Carnegie Energy and Climate Program. He currently is evaluating and commenting on U.S. energy policies and focusing on clean energy and economic stimulus initiatives. He is also providing analysis to the U.S.–China provincial and municipal energy efficiency management program.

Previously, he was program manager of the U.S. Department of Energy’s Weatherization and Intergovernmental programs, Climate Change programs (Country Studies and Joint Implementation), and buildings research and regulatory programs.

His energy experience reaches from the state level, as former director of the Iowa and Minnesota state energy agencies, to the international level, as former chairman of the International Energy Agency’s End-Use Working Party. His earlier career was in journalism as a reporter and editorial writer for the *Detroit Free Press* and *Des Moines Register and Tribune*.

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