

## Weatherization Works!

The U.S. Department of Energy's (DOE) Weatherization Assistance Program reduces energy costs for low-income households by increasing the energy efficiency of their homes, while ensuring their health and safety. The Program supports 8,500 jobs and provides weatherization services to approximately 35,000 homes every year using DOE funds. Through the weatherization improvements and upgrades, these households save on average \$283 or more every year (*National Evaluation*).

## Weatherization In Action

Locally-based and professionally trained weatherization crews use computerized energy assessments and advanced diagnostic equipment, such as blower doors, manometers, and infrared cameras, to create a comprehensive analysis of the home to determine the most cost effective measures appropriate and to identify any health and safety concerns. Weatherization providers also thoroughly inspect households to ensure the occupant's safety, checking indoor air quality, combustion safety, carbon monoxide, and identifying mold infestations — which are all indications of energy waste.

The auditor creates a customized work order and trained crews install the identified energy efficient and health and safety measures. A certified Quality Control Inspector ensures all work is completed correctly and that the home is safe for the occupants.

## Impact on Low-Income Americans

Low-income households carry a larger burden for energy costs, typically spending **16.3%** of their total annual income versus **3.5%** for other households (*2014 ORNL study*). Often, they must cut back on healthcare, medicine, groceries, and childcare to pay their energy bills.

Weatherization helps alleviate this heavy energy burden through cost-effective building shell improvements such as insulation and air sealing, heating, ventilation, and air conditioning systems, lighting, and appliances.

### The Benefits of a Weatherized Home



ENERGY COSTS SAVINGS



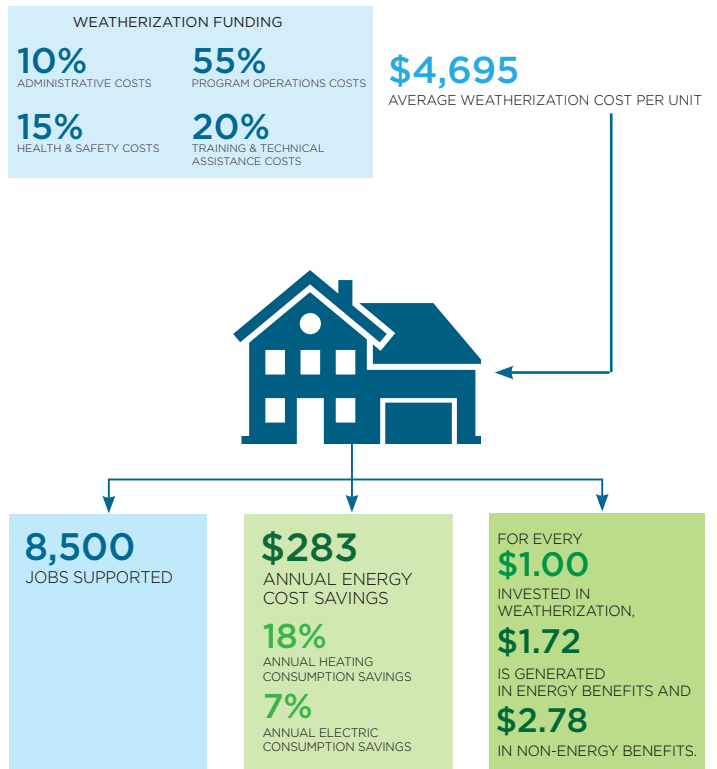
WATER COST SAVINGS



LESS OUT-OF-POCKET  
HEALTH COSTS



LOWER LOAN INTEREST  
PAYMENTS



Weatherizing a home as multiple benefits. In addition to the main goal of creating a more energy efficient dwelling, an investment in weatherization also has a positive impact on local employment and energy costs and generates energy and non-energy benefits for the community.

The program improves health and safety by eliminating any energy-related hazards. Once installed, energy-efficient Weatherization measures continue to save money and energy year after year and increase household incomes so funds can go towards key living expenses.

## Funding & Leveraging

DOE provides core program funding to all 50 states, the District of Columbia, Native American Tribes, and the five U.S. territories - American Samoa, Guam, Northern Mariana Islands, Puerto Rico, and the Virgin Islands through formula grants.

Once DOE awards the grants, states contract with nearly 800 local agencies nationwide. Community action agencies, other non-profits, and local governments use in-house employees and private contractors to deliver services to the low-income families.

In 2017, utilities and states supplemented DOE funding by providing an additional **\$678 million or \$3.04 for every dollar invested by DOE** (*NASCSP Funding Survey 2017*).

## Impact on Communities

Weatherization not only helps households, it also helps revitalize communities by spurring economic growth and reducing environmental impact. Weatherization returns **\$2.78** in non-energy benefits for every \$1.00 invested in the Program (*National Evaluation*).

Non-energy benefits represent tremendous benefits for families whose homes receive weatherization services. After weatherization, families have homes that are more livable, resulting in fewer missed days of work (i.e. sick days, doctor visits), and decreased out-of-pocket medical expenses by an average of **\$514**. The total health and household-related benefits for each unit is **\$14,148** (*National Evaluation*).

## Typical Weatherization Measures

### **MECHANICAL MEASURES**

- Clean, tune, repair, or replace heating and/or cooling systems.
- Install duct and heating pipe insulation.
- Repair leaks in heating/cooling ducts.
- Install programmable thermostats.
- Repair/replace water heaters.
- Install water heater tank insulation.
- Insulate water heating pipes.
- Install solar hot water heating system.

### **BUILDING SHELL MEASURES**

- Install insulation where needed.
- Perform air sealing.
- Repair/replace windows/doors.
- Install window film, awnings and solar screens.
- Repair minor roof and wall leaks prior to attic or wall insulation.

### **HEALTH & SAFETY MEASURES**

- Perform heating system safety testing.
- Perform combustion appliance safety testing.
- Repair/replace vent systems to ensure combustion gas draft safely outside.
- Install mechanical ventilation to ensure adequate indoor air quality.
- Install smoke and carbon monoxide alarms when needed.
- Evaluate mold/moisture hazards.
- Perform incidental safety repairs when needed.

## Leading the Industry

Weatherization is always critical to introducing and deploying technology and facilitating greater industry adoption. An entire industry – the home performance industry – is based on the skills perfected by weatherization. Over the past five years, the weatherization network and the private sector have established the **Guidelines for Home Energy Professionals** including **Standard Work Specifications for Home Energy Upgrades (SWS)**, and **Home Energy Professional certifications** along with accreditation of energy-efficiency training programs.

Weatherization agencies also create a market for American manufacturing, using products and equipment from local sources, benefitting the business community in the regions they serve.

The Weatherization Assistance Program has created an industry, producing new jobs and technologies, all while helping the most vulnerable families in America. ■



### **ELECTRIC & WATER MEASURES**

- Install efficient light sources.
- Install low-flow showerheads.
- Replace inefficient refrigerators with energy-efficient models.

### **CLIENT EDUCATION ACTIVITIES**

- Educate on potential household hazards such as carbon monoxide, mold & moisture, fire, indoor air pollutants, lead paint and radon.
- Demonstrate the key functions of any new mechanical equipment or appliances.
- Discuss the benefits of using energy-efficient products.

U.S. DEPARTMENT OF **ENERGY** Office of **ENERGY EFFICIENCY & RENEWABLE ENERGY**

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