

Launching an Energy-Efficient Future in Alabama

Home to the Marshall Space Flight Center, Alabama develops innovative space transportation systems that are safe, reliable, and energy-efficient. Alabama's commitment to energy efficiency and safety extends beyond transportation systems to include low-income homes. Alabama partners with the U.S. Department of Energy (DOE) to deliver the Weatherization Assistance Program (Weatherization). Weatherization reduces energy costs for low-income households by increasing the energy efficiency of their homes, while ensuring their health and safety.

Low-income households typically spend 14% of their total annual income on energy, compared with 3.5% for other residents. For the 700,000 Alabamians who fall below the poverty line, this burden is compounded when energy prices soar. Low-income families often cut back on other necessities to pay their energy bills.

Alabama's Weatherization Program prioritizes services to the elderly, people with disabilities, and families with children. These low-income households are often on fixed incomes or rely on income assistance programs and are most vulnerable to volatile changes in energy markets. Weatherization measures provide long-term relief for low-income families and protect them from future fluctuations in energy prices and supply.

TECHNICAL THRUST

Alabama workers constructed the first rocket that carried an astronaut into space. They also built the Saturn rocket that boosted man to the moon. Alabama continues to advance space technology through innovation and dedication. The state also demonstrates its commitment to technology and efficiency through the Weatherization Program. Weatherization integrates advanced technologies and techniques to achieve greater energy savings in low-income homes. Alabama's Division of Community and Economic Development administers the program and a network of 19 local agencies delivers energy efficiency services to every county.

NATIONAL WEATHERIZATION PROGRAM

Homes weatherized in 1999	68,000
DOE allocations in 1999	\$135 million
Average annual energy cost savings per household	\$300
Average space heating savings	25-30%
Energy benefits returned for every \$1 invested	\$2.10
Jobs supported	7,000

ALABAMA

Homes weatherized in 1999 (with DOE \$)	816
DOE funding in 1999	\$1.4 million
Clients served in 1999	1,867
Elderly	23%
People with disabilities	20%
Families with children	57%

Weatherization crews use computerized energy audits and advanced diagnostic equipment, such as the blower door, to determine the most cost-effective energy efficiency measures appropriate for each home. Weatherization crews also test heating units and appliances for high carbon monoxide levels. Typical weatherization services include installing insulation; sealing ducts; and mitigating heating loss through windows, doors, and other infiltration points. Clients are also educated on the proper use and maintenance of the measures installed.

FOCUS ON SAFETY

Weatherization crews safeguard the health and safety of the low-income families they serve. A common hazard Alabama crews diagnose is carbon monoxide poisoning. Dangerous levels of carbon monoxide can occur when gas furnaces and appliances operate poorly. Crews can quickly test for carbon monoxide and mitigate this health hazard for the household. Some of the other dangers averted are less obvious.

Evelyn Long*, an elderly homeowner from Renlap, was thrilled with the weatherization work completed on her home. "The men who did the work on my house were very efficient," she said. Evelyn recognized the true value of the measures several

weeks later. She put a pot on the stove to cook and was distracted by a phone call. Lacking a sense of smell, she did not notice when the pot boiled down and started to burn. Luckily, the smoke detectors installed by the weatherization crew alerted Evelyn to the danger. She remarked, "...the [food] burned, but it could have been much worse."

EXTRA BOOST FOR EVERYONE

While the Marshall Space Flight Center focuses on space travel, the center's research has benefited everyone. The aerodynamic designs used for rockets have been incorporated into many passenger vehicles, including the mini-van, making them more reliable and energy-efficient. Similarly, weatherization measures create an array of benefits for low-income households and Alabama communities. Weatherization reduces energy costs for low-income households and safeguards their health and safety. These measures help families to become more self-sufficient.

In low-income communities, up to 80% of the money spent on energy is immediately exported out of the area. By reducing energy costs for low-income families, Weatherization keeps more money in the community, which boosts the local economy. Every \$1 retained in the community produces an estimated \$3 in multiplier benefits.



Alabama crews use the blower door to identify and mitigate air infiltration in low-income homes.

Reducing residential energy demand decreases electricity generation and associated power plant emissions, a significant source of air pollution. Helping low-income families lower their energy consumption improves local air quality and reduces adverse health effects, particularly asthma. Reducing energy demand also mitigates emissions of carbon dioxide, a leading greenhouse gas.

Weatherization reduces annual residential carbon dioxide emissions by nearly one metric ton per weatherized house.

WEATHERIZATION WORKS!

Weatherization produces an impressive range of benefits for low-income households and communities. Nationally, for every \$1 invested in the program, Weatherization returns \$2.10 in energy-related benefits. Weatherization creates 52 direct jobs for every \$1 million of funding; additional jobs are created for subcontractors and material suppliers. Weatherization measures curb national energy consumption by the equivalent of 15 million barrels of oil per year. This reduces demand for imported oil and contributes to our national security. Weatherization works for Alabama and America!

**Names have been changed to protect the privacy of the subjects.*

TO LEARN MORE ABOUT THE WEATHERIZATION ASSISTANCE PROGRAM, CONTACT:

Weatherization Assistance Program • U.S. Department of Energy, EE-42
1000 Independence Avenue, SW • Washington, DC 20585-0121 • (202) 586-4074

Visit the Weatherization Web site at: www.eren.doe.gov/buildings/weatherization_assistance
or call the Energy Efficiency and Renewable Energy Clearinghouse at: 1-800-DOE-3732

