

Harnessing Energy Savings in Tennessee

In 1933, the federal government created the Tennessee Valley Authority (TVA) to harness the power of the Tennessee River to produce electricity for the surrounding community. The cheap electricity provided by TVA spurred economic development in a region once considered chronically depressed. While many Tennesseans thrive from the benefits of TVA today, some low-income families still struggle to pay their energy bills. Low-income families typically spend 14% of their total annual income on energy costs, compared with 3.5% for other households. To alleviate this burden, Tennessee 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.

Since a substantial portion of their income is spent on energy, low-income families often have to cut back on other necessities. This burden becomes even more unmanageable when energy prices soar or temperatures drop. Weatherization measures reduce home energy consumption, which provides a permanent boost to the household's budget.

Tennessee's Department of Human Services (DHS) administers the state's program and a network of 19 local agencies delivers energy efficiency services to eligible residents throughout the state. Weatherization 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 the energy markets. Weatherization measures offer long-term relief for low-income families and provide a buffer against future fluctuations in energy prices and supplies.

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

TENNESSEE

Homes weatherized in 1999 (with DOE \$)	1,201
DOE funding in 1999	\$2.4 million

USING TECHNOLOGY TO IMPROVE LIVES

Innovative technology and advanced equipment were required to build the complex network of dams and control the Tennessee River. Similarly, the Weatherization Program relies on innovative technology and advanced equipment to weatherize homes. Technicians use energy audits and diagnostic equipment, such as the blower door, to determine the most cost-effective measures appropriate for each home. Weatherization inspectors and auditors also test heating units and appliances for carbon monoxide and gas leaks. Typical weatherization services include installing insulation; sealing ducts; and mitigating heat loss through windows, doors, and other infiltration points.

Tennessee prides itself on the professionalism and courtesy of its workforce. Weatherization crews receive technical training at national conferences, regional training centers, and in the field. These skilled technicians provide comprehensive energy efficiency solutions for low-income families and serve as a resource to the community. Local agencies can bridge the service delivery gap between federal, state, and community programs and agencies.

CONSOLIDATING AT THE SOURCE

TVA was a consolidated effort by various government agencies, which created a synergy of benefits. Weatherization also consolidates its resources through creative partnerships that enhance program capabilities. In one example, Weatherization joined with Knoxville Housing Development Corporation (KHDC) and the Knoxville Housing Partnership (KHP) to revitalize two inner-city neighborhoods in Knoxville-Knox County.

KHDC agreed to rehabilitate 146 single-family homes that were being rented to low-income families. KHP provided low-interest financial loans to enable the low-income tenants to purchase the home. Weatherization installed energy efficiency measures into the homes, including insulation in the attics and floors. By improving the energy efficiency of the homes, the new low-income owners experienced annual savings of \$600 on their energy bills. This initiative improved the long-term affordability of the housing stock for the low-income households.

A FLOOD OF BENEFITS

In addition to providing a dependable energy supply, TVA improved the standard of living through multiple benefits, including navigable waters, eradication of floods, and land-restoration practices. The Weatherization Program continues TVA's tradition through a wide array of economic and environmental benefits.



Weatherization reduces a home's energy use and provides a boost to the household budget.

Weatherization reduces energy costs for low-income families and helps them become more self-sufficient. This benefits the community by keeping dollars in the local economy that would typically be exported out to pay for energy. Every \$1 retained in the community produces an estimated \$3 in multiplier benefits. Weatherization also creates jobs for energy professionals and materials suppliers.

Reducing residential energy demand decreases electricity generation and avoids emissions of nitrogen oxides, sulphur dioxide, and other pollutants. This improves local air quality and reduces adverse health effects, particularly asthma. Weatherization measures also mitigate residential and power plant emissions of greenhouse gases. Weatherization reduces annual carbon dioxide emissions by an average of one metric ton per weatherized home.

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 measures reduce national energy consumption and curb demand for imported oil. Weatherization works for Tennessee and America!



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

