

Oregon Blazes the Trail to Energy Efficiency

The Oregon Trail led thousands of early settlers to the West. Many were unprepared to handle Oregon's unusual climate, a mixture of bitter cold and damp air. Today, Oregon residents battle this chill with sophisticated heating systems; however, some low-income households still suffer from the harsh elements and are burdened with high energy bills. To provide relief to these families, Oregon partners with the U.S. Department of Energy (DOE) to implement the Weatherization Assistance Program (Weatherization). Weatherization reduces energy costs for low-income households by improving 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 households. Rising energy prices compound this burden. Low-income families often cut back on other necessities to pay their energy bills. Weatherization reduces home energy consumption, which provides a permanent boost to the household's budget.

Reducing residential energy demand decreases electricity generation and mitigates emissions of nitrogen oxides, sulphur dioxide, and other pollutants. This improves local air quality and reduces adverse health effects, particularly asthma. Weatherization measures also reduce power plant emissions of carbon dioxide, a leading greenhouse gas.

GUIDED BY EXPERIENCE AND INNOVATION

Many families followed the Oregon Trail because it was a practical, well-traveled route that ensured safety. The Weatherization Program, built on 25 years of experience and innovation, has developed a sophisticated, effective approach to weatherizing homes. The Oregon Housing and Community Services Department administers the program and a network of 18 local agencies delivers weatherization services to eligible residents throughout the state.

NATIONAL WEATHERIZATION PROGRAM

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| 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 |

OREGON

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| Homes weatherized in 1999 (with DOE \$) | 849 |
| DOE funding in 1999 | \$1.6 million |
| Clients served in 1999 | 1,024 |
| Elderly | 37% |
| People with disabilities | 34% |
| Families with children | 24% |

Weatherization crews use a computerized energy audit to determine the most cost-effective measures for each home. Diagnostic tools, like the blower door, manometer, and infrared camera, are used to detect and mitigate air infiltration, duct leakage, and pressure imbalances. Crews test appliances and furnaces for carbon monoxide, an odorless, colorless gas that can be deadly in large quantities. Typical weatherization measures include installing insulation in the floor, ceiling, and walls; repairing and tuning furnaces; sealing ducts, doors, and windows; and wrapping water heaters. Clients are also educated on the proper use and maintenance of the measures installed.

PARTNERS ACCELERATE PROGRESS

In the early days of the Oregon territories, the Native Americans helped the travelers by pulling out wagons stuck in mud and rounding up lost cattle. These kind actions grew into mutually-beneficial commercial partnerships. Similarly, Weatherization relies on creative partnerships to enhance program capabilities. Oregon leverages core DOE funding with funds from the state and utilities to weatherize more homes. In 1999, Oregon weatherized 849 homes with DOE funds and 1,176 additional homes with leveraged funds.

Beverly Van Adams* experienced the power of partnerships. Community Services Consortium, a local weatherization agency, partnered with Pacific Power to weatherize her home.

The weatherization crew noted the house lacked insulation and the venting fans were broken. They also found cracked windows and an interior door being used as an exterior door. After conducting the energy audit, the crew installed insulation, redirected the vents, replaced the door and windows, and sealed air leaks.

The crew's professionalism and customer service impressed Beverly. "They were so efficient and knowledgeable. They explained everything they did, including why they were doing it and what problems they hoped to solve," she remarked. After the Van Adams' home was weatherized, the entire family noticed the increased comfort and Beverly saw a big difference on her energy bill. She said, "The energy bill is a big part of my budget. I am thankful for this program."



Weatherization crew blows insulation into the walls of a low-income home.

HEALTHY DIRECTION

Sometimes weatherization crews save more than money, they save lives. Mounting energy bills and health problems threatened Betty Reid's independence. Betty began to suffer from chronic headaches and memory loss. Her medical bills accumulated as she sought a diagnosis for this health problem. When she could no longer pay her soaring energy bills, Betty contacted the local weatherization agency for help.

The weatherization crew conducted an energy audit and tested the furnace for combustion safety and gas leaks. The test revealed that the furnace was leaking dangerous levels of carbon monoxide, causing Betty's health problems. The crew replaced the faulty furnace and installed insulation in the ceiling and floor. Now Betty lives in a

safe, energy-efficient home and remains self-sufficient. In a letter of thanks, she wrote, "I honestly do not know what would have happened if it were not for the help I received. What I do know is that my health is improving."

WEATHERIZATION WORKS!

Weatherization provides an array of benefits for low-income families and communities. Nationally, for every \$1 invested in the program, \$2.10 is returned in energy-related benefits. Weatherization reduces national energy consumption and curbs demand for imported oil. Weatherization works for Oregon and America!

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



TO LEARN MORE ABOUT THE WEATHERIZATION ASSISTANCE PROGRAM, CONTACT:

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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

