



Proposed Collaboration with
USEPA Region 6
City of Dallas



Weatherization (WX) Program for Low-income Neighborhoods



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Collaboration Between City of Dallas, USEPA, Rebuilding Together & Others

- **City of Dallas**
 - **Office of Environmental Quality**
 - **Housing Department**
- **U.S. Environmental Protection Agency Region 6**
 - **Dallas Sustainable Skyline Initiative (DSSI)**
- **Rebuilding Together Greater Dallas**
 - **Non-profit organization**
- **Other private and public-sector partners**

Focus for the WX Program: Low-income Residents

- Facts from a recent study in 2008 of energy consumption along low-income households:
 - **Energy arrearages and shut-offs**
 - 15.6 million households in arrears on their energy bills
 - 14.8% of all households were at least 30 days delinquent
 - **Cutbacks on necessities and other items**
 - Spending less on food
 - **Health risks**
 - Inside temperatures are too low or high
 - **Safety risks**
 - Space heaters – 2nd leading cause of home fires
 - **Housing Instability**
 - Moving and indifference to community surroundings

Source – American Progress: The Detrimental Effects of High-energy Costs on Low-income Families

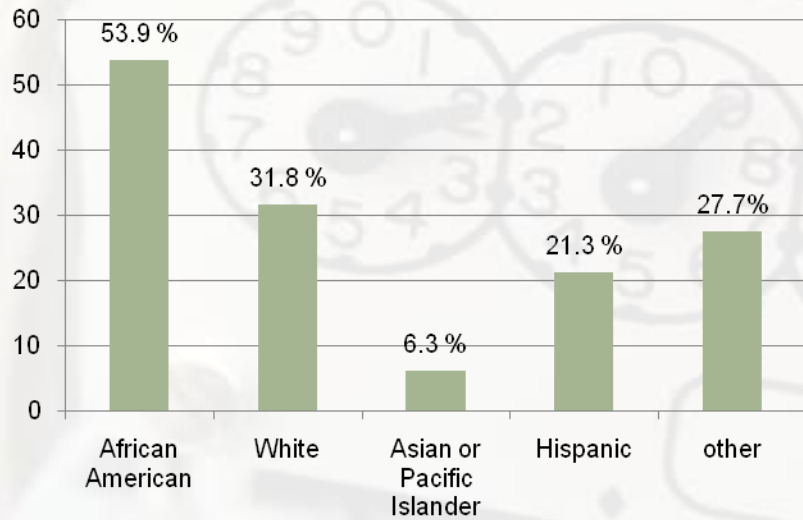
Cutback on Necessities & Other Items

| Actions Taken | All Respondents | < 150% of Poverty (\$10,400 to \$35,600) | 151% - 250% of Poverty |
|---|-----------------|--|---------------------------|
| Reduced Purchases of Food | 43% | 70% | 51% |
| Reduced Purchases of Medicine | 18% | 31% | 23% |
| Changes to Plans for Children's Education | 11% | 19% | 18% |
| Behind on Credit Card Bills | 11% | 18% | 15% |
| Reduced Amount of Money Put in Savings | 55% | 58% | 59% |

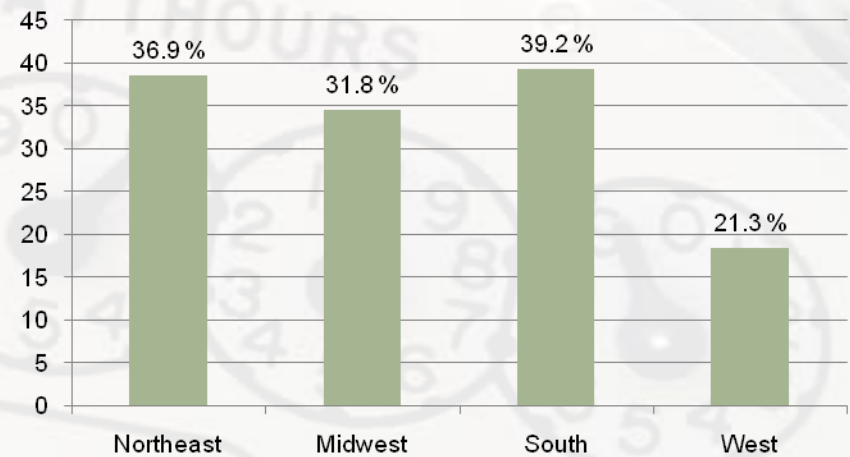
Source – American Progress: The Detrimental Effects of High-energy Costs on Low-income Families, 2008

Incidence of High Energy Burden within Low-income Subpopulations

Race



Region



Source – American Progress: *The Detrimental Effects of High-energy Costs on Low-income Families, 2008*

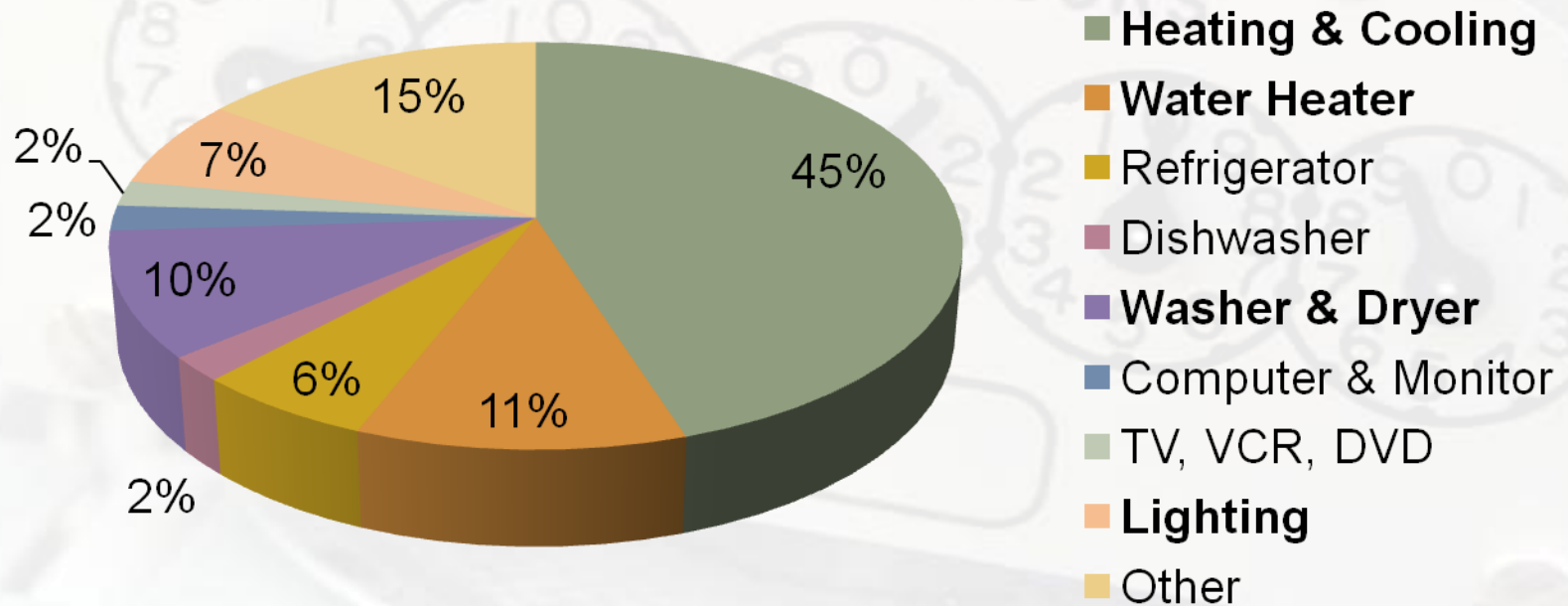
Energy Use in U.S.

- Household energy use – 22% of total energy consumption in the U.S.
- Americans spend \$160 billion each year on home energy:
 - **Low-income households typically spend 21% of their annual income**
 - **Median-income households only 7%**
 - **Average expenditure in low-income households is nearly \$1,673 annually**

Source - U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy

Energy Use in Typical Household

Percent Energy Use



Source - Austin Energy

Why Weatherization of Low-income Households?

- Average energy savings of \$413 per year*
- Continues to save money & energy every year
- Improves health & safety by eliminating energy-related hazards
- Avoided \$1.9 billion in energy costs during Winter 2008 for all households weatherized*



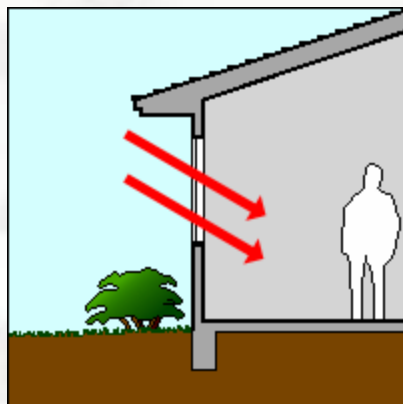
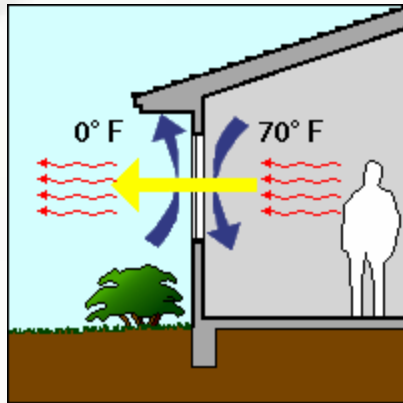
Source - U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy

Proposed Weatherization Improvements

- Insulate attics
- Caulking around plumbing penetrations
- Weather-stripping doors
- Sealing and/or repairing duct work
- Installing solar screens & caulking around windows
- Carbon monoxide & smoke detectors
- Install CFL's (10)
- Minor energy related repairs



Why Windows Matter?



- About 2.5% of U.S. energy use is due to residential windows
- Heating
 - U.S. Average: about 15% of home heating energy use is due to cold windows and leaks
- Cooling
 - U.S. Average: about 30% of home cooling energy use is due to solar heat gain through windows and leaks

Duct System & Insulation



- Air Duct System
 - Average home has **27% duct leakage**
- Attic Insulation
 - **30% of home heat gain comes from attic**
- Solar Shading
 - **Reduce size of A/C unit by ½ ton**

Weatherization Implementation

- Resident applies for services, eligibility determined
- Energy audit conducted
- List of effective measures developed
- Energy efficiency measures installed
- Client awareness
- Post work inspection



Impact of Weatherization

- Reduces carbon dioxide emissions by one (1) metric ton per weatherized home (or 1/3 the average emission of an automobile)
- Decreases national energy consumption by the equivalent of 18 million barrels of oil annually
- Returns to \$1.65 to \$3.70 in energy related benefits for every \$1 invested, less obvious include:
 - **Improvements in property value**
 - **Reducing housing moves**
 - **Fewer fires**
 - **Fewer illnesses**
 - **Less pollution**
 - **Job creation**
- “Green” Collar Program for paid staff and volunteer training

Recognizing Challenges

- Resources, resources, resources!
 - **Creating “vested” partnerships**
- Varied and complex issues may require a variety of solutions – not “one size fits all”
- Identify key stakeholders that share vision of program
 - **Local “voices” for program**
- Establishing framework for a long-term sustainable project
- Identify area for pilot program to “piggyback” on existing programs and efforts

Next Step in Collaboration



Funding & Support

- City of Dallas (COD)
*Office of Environmental Quality
Housing Department*
- U.S. EPA
- Rebuilding Together Greater Dallas
*Nation-wide Non-profit Organization with
Weatherization Experience*



Partnerships (Tools & Support)

- Camp Dresser & McKee Inc.
*COD Sanitation Services - Pride in Your
Neighborhood Program*
- DWU - Grease Abatement Program*
- Atmos Energy
*Energy Efficiency Program & EcoKit
(Partnership with Dallas County)*
- Neighborhood Associations
- Non-profit Organizations
- Private & Public Stakeholders



Community Outreach & Implementation

- Recruitment of Community Stakeholders
- Workshops/Training of Stakeholders & Volunteers/Paid Contractors ("**Green Collar**" Jobs)
- Assessments of Households
- Weatherization Activities
- Information Awareness
- Follow-up

WX Program