

# Weatherization Assistance Program

U.S. DEPARTMENT OF  
**ENERGY**

Energy Efficiency &  
Renewable Energy



Technical Deep Dive  
November 4, 2009

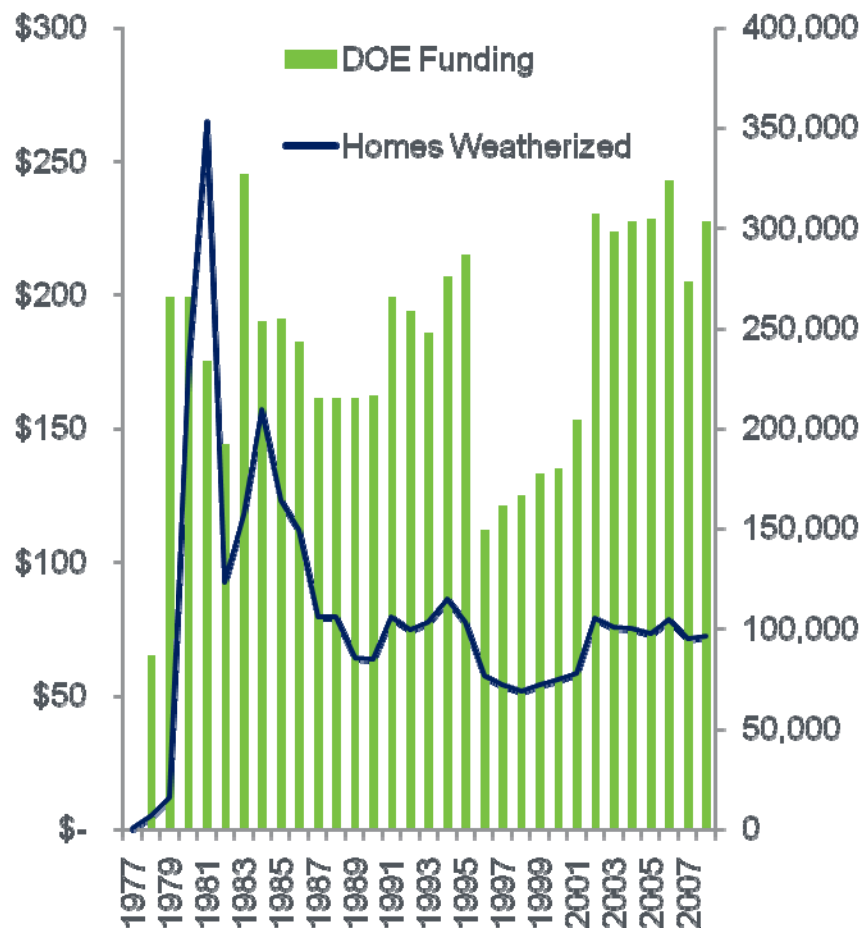
- Weatherization Assistance Program Background
- ARRA's Impact on WAP
- Future Direction of WAP

# Weatherization Works to Reduce Energy Burden and Improve Health & Safety

## WAP Impacts Lives

- Program reduces energy costs for low-income households
  - Lower-income households spend 17% of income on energy vs. 3% average
- ARRA Broadens Reach
  - **Funding increased from \$227.2 Million FY08 to \$5 Billion for ARRA**
  - Income eligibility raised from 150% to 200% of poverty level
  - Statewide Average Assistance per dwelling from \$2,500 per unit to \$6,500

## Weatherized 6 Million Homes During 30-Year Program



# Major Elements of WAP

Major Elements	Details																								
Job Creation	3-4 person crews weatherize ~8 homes a month																								
Data Collection	Traditionally poor, attempting to move from quarterly to monthly, pushing for utility bill disclosure																								
Performance Evaluation	Last major national review in 1993 led to reducing energy 70% w new initiatives, Oakridge currently completing 20,000 home review of 2006-2008 homes																								
Training and Technical Assistance	Mostly local, national training and certification curriculum in development																								
Health and Safety	Moved from “do no harm” to proactively creating healthier and safer living environments																								
Audit technology	Move to comprehensive audits, NEAT+ tool																								
Building Technology	<table border="1"> <thead> <tr> <th>Potential Measures</th> <th colspan="2">Est. Cost Range</th> </tr> </thead> <tbody> <tr> <td>Air infiltration reduction</td> <td>\$100</td> <td>\$450</td> </tr> <tr> <td>Water heater treatment</td> <td>\$40</td> <td>\$175</td> </tr> <tr> <td>Attic Insulation</td> <td>\$900</td> <td>\$4,500</td> </tr> <tr> <td>Side wall insulation</td> <td>\$400</td> <td>\$9,000</td> </tr> <tr> <td>Furnace retrofit or repair</td> <td>\$80</td> <td>\$800</td> </tr> <tr> <td>Furnace replacement</td> <td>\$1,100</td> <td>\$4,000</td> </tr> <tr> <td>Refrigerator replacement</td> <td>\$600</td> <td>\$900</td> </tr> </tbody> </table>	Potential Measures	Est. Cost Range		Air infiltration reduction	\$100	\$450	Water heater treatment	\$40	\$175	Attic Insulation	\$900	\$4,500	Side wall insulation	\$400	\$9,000	Furnace retrofit or repair	\$80	\$800	Furnace replacement	\$1,100	\$4,000	Refrigerator replacement	\$600	\$900
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# Evolution of Weatherization Drives Bigger Impact

Then... (1970's-early 1990's)	...Now (1990's to present)
10-15% energy savings	>25% energy savings thanks to high tech metamorphous
Volunteer Labor	Highly trained workforce
Caulk, plastic window coverings, weather-stripping entire home	Targeted approach to installing most cost effective measures first, including blowing insulation, furnaces, CFLs and more
No diagnostic protocols	Protocols developed utilizing infrared, blower doors, duct blasters, pressure gauges, manometers, draft gauges, monoxers, etc.
Northern states with focus on insulation and heating system work	Whole country coverage broadly focused on heating, electric base load, health and safety



## Traditional Training Approach

- Training classes held in the 16 weatherization training centers
- Workshops and hands-on demonstrations conducted at training conferences
- One-on-one training
- Distance learning and virtual demonstrations provided online or offered on CD or DVD
- Written materials and manuals provided to new staff upon employment

## ARRA - State Programs up to \$850 MM

- Developing and conducting accelerated training through boot camps
- Promoting from within to meet immediate critical needs
- Expanding existing or building new weatherization training centers
- Partnering with community college networks
- Working with apprenticeship/certification programs

## ARRA - DOE T&TA FOA \$141 MM

- Develop and deploy a national platform for weatherization training
- Develop national requirements for weatherization certification and accreditation standards (
- Support WAP grantee-directed pilots that advance the use of state-of-the-art technologies and protocols
- Develop and deploy an advanced online energy audit tool



# Ensuring Weatherization becomes Sustainable Beyond ARRA

