



# Deploying Energy Efficiency in Low Income Communities

Wednesday, May 11<sup>th</sup>



# "Developing Energy Efficiency in Low Income Communities"

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# Background: Who/What is AEA?

- A nonprofit 501c3 organization whose mission is to promote “energy affordability through energy efficiency” in residential properties in low-income communities
- An implementer of WAP, NYSERDA, and utility residential and multifamily building energy efficiency programs for the past 23 years in NY and the last 6 years in California.
- A national DOE-recognized Weatherization Training Center, government funded technical services provider to weatherization programs, and a government and utility funded implementer of energy efficiency programs targeting affordable housing.
- A BPI Test Center that provides training preparing industry professionals for all current BPI certifications (both small homes and MF) and proctors BPI written and field tests.
- An IREC accredited training program with accredited courses in all job classifications supported by the US Department of Energy’s Weatherization Assistance Program
- An energy efficiency policy advocate active in Federal, State and City policy arenas representing community-based, low-income and multifamily perspectives



# Options for Defining Low (and Moderate) Income Customers (LMI)

- WAP and LIHEAP: Households under 60% of State-Wide Median or 200% of poverty (or lower at a State's discretion)
- HUD: various levels of Area Median (e.g., 60% or 80% of AMI)
- Utility Programs: may select either AMI or SMI as applicable at household or building level , whichever is higher in the specific jurisdiction



# Defining the Low-Income Community

## Multifamily Building level:

WAP: 66% (or 50%) of households are income eligible, eg. <60% of SMI

## NYSERDA/Utility programs:

“Publicly assisted” or government regulated, built or maintained as “affordable” housing

## Geographically defined:

Census tracts (e.g. with over 25% of households < 60 or 80% of AMI)



# Extending WAP benefits by Leveraging or Implementing Utility Efficiency Programs

- In States such as Massachusetts, Ohio and New York, the WAP local and regional training, program management and field delivery infrastructure has effectively worked also with utility programs.
- AEA in New York: Continuous leveraging of utility and or NYSEERDA systems benefit charge funds in coordination with WAP from 1993 to the present – every year, but with multiple programs with changing rules over time.
- **The Program Model:** Using a state administered program delivered locally by nonprofit community-based organizations that hire a local work force – often including small businesses, local contractors and equipment and materials suppliers to spearhead the efforts of utility programs to engage and serve their hard to reach customers in predominantly low income communities.
- **Result:** A viable national weatherization program provides a critical foundation for utility energy efficiency programs, assisting states to achieve their carbon reduction goals in low income communities.



# Leveraging WAP and Utility/NYSERDA

- **1993-95:** Utility Low Income Energy Efficiency Program (ULIEEP – Con Edison – Gas and Electric)
- **1996-1998:** Low Income Refrigerator Replacement Program (LIRRP - Con Edison –electric)
- **NYSERDA:**
  - **1998-2001:** Electric Direct Install in Coordination with WAP
  - **2001-2004** Assisted Multifamily Program -statewide
  - **2004-2007** Weatherization Network Initiative - statewide
- **2007- 2008:** – Low-Income Gas Efficiency Program (Keyspan/National Grid in NYC and Long Island)
- **2009-2016:** Con Ed Multifamily EEP – (gas & electric)
- **2012-2016:** National Grid MF Direct Install (gas)– NYC and LI
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# Program Design Variations

- Need to respect each program's policies and rules
- Design to maximize leveraging consistent with policies of each program
- Key role of WAP network and DOE rules as bedrock policy driver enabling coordination and leveraging
- NY REV focus on LMI (Low and Moderate Income) opens up new opportunities in NY
- Challenge: Divergent definitions of LI and LMI





# DOE Multifamily Training, Standards and Workforce Guidelines

- DOE has provided extraordinary leadership in ensuring that ARRA dollars were well spent making self-conscious investments of its training fund to develop workforce guidelines, training tools and standards development to develop and strengthen the industry and make the job growth achievements of WAP agencies under ARRA sustainable past the end of the ARRA funding period.
  - Funding the growth and expanded capacity of **Weatherization Training Centers, including AEA**
  - Developing **Standard Work Specifications** to provide a more uniform basis for the performance of weatherization work
  - **Job Task Analyses** that provide the basis for Accredited Training of individuals in four key job categories



# Work Quality = Sustainability

- Workforce guidelines must be extended to all roles in the MF energy upgrade project development and implementation process
- Standard Work Specifications
  - Key for all areas of work completed in MF upgrades
- Successful implementation assumes
  - High quality energy audit, design specifications and quality control process



# Multifamily Job Task Analyses

- Knowledge, Skills and Abilities (KSAs) that provide basis for IREC Accredited Training
  - Multifamily Energy Auditor
  - Multifamily Building Operator
  - Multifamily Retrofit Project Manager
  - Multifamily Quality Control Inspector



# Quality Control of Results

- Understanding the SOW and work specifications
- Independent third party relationship to the installers
- Being able to distinguish between success and failure, and problem solve to ensure success
- Standardization of high quality results
- Realization rates in achieving the projected savings for the delivered scope of work
- Creating “believers” banks and investors



# AEA Support for Multifamily WAP

- A DOE funded Weatherization Training Center
  - Developed a Distance Learning Network of Weatherization Training Centers using AEA's real-time Connected Classroom platform.
- Publication of a “Multifamily Weatherization Resource Guide” (2012)
- Worked with DOE, NREL and Advanced Energy to develop the Standard Work Specifications for Multifamily buildings.
- Organizer of the Multifamily Buildings Conference series on energy efficiency in multifamily buildings, including *Multifamily Buildings 2015: Building Bridges to Net Zero* in October in Brooklyn.
- Leveraged utility program dollars in support of WAP, e.g., as the Implementation Contractor for Con Edison's Multifamily Energy Efficiency Program since 2010.



# Split Incentive Issues in MF Buildings

- Largest barrier to effective program design and implementation.
- Issue: Who pays for the energy use determines who directly benefits from the installation of any measure that reduces the costs associated with that use
- Neither tenants nor landlords tend to be interested in paying for measures that benefit the other party rather than themselves.
- Incentivizing all parties is an on-going challenge of program design and implementation.
- Program coordination of WAP and utilities can address this.



# Implementation of work: Models/Options

- Multifamily WAP in NYC – WAP subgrantee develops scope of work and implements work, mostly through subcontractors selected through government approved procurement process and overseen by subgrantee
- MPP – Technical services firm (NYSERDA-approved “partner” (as of this week, a “Solutions Partner”) with BPI certified MF Building Analysts on staff) assesses the energy efficiency potential of the building, develops an energy audit, oversees the process from selection of subcontractors through completion of all work by owner-selected contractors.
- Utility programs – Incentives for prescriptive or custom measures after installation completed by a participating contractor, with incentives better for Affordable Housing.



# Reforming the Energy Vision (REV)

- Energy efficiency identified as a Distributed Energy Resource (DER) but renewables are often the focus
- LMI (Low and Moderate Income customers) mentioned regularly but policy impact still uncertain
- Changing Roles of utilities and NYSEERDA in the future
- Animated markets to replace Programs and Incentives
- Linking demand management and energy efficiency becomes important in targeted neighborhoods (e.g., Con Edison Brooklyn Queens Demand Management - BQDM –A Neighborhood Program)





# Questions? Follow-up? To contact me:

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**Association for Energy Affordability, Inc.**

New York | California



# Combo Combo: How to Integrate WAP, Utility Programs, Repair Programs, & other Social Services

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# Goals

- Demonstrate how one state's low income weatherization programs have evolved to provide comprehensive services to clients.
- Show how to utilize leveraging funding from WAP or LIHEAP to provide leadership in program coordination.
- Offer strategies to work through the regulatory, legislative, utility, and executive branch barriers to combining multiple funding sources.
- Explore other services which can provide additional diversification of funding resources.

# What is Ohio Partners for Affordable Energy?

- OPAE was created by community action agencies, other nonprofits, state agencies, and utilities in 1995-6.
- Motivation was deregulation of the natural gas and electric utilities.
  - Retail Choice.
  - Alternative Regulation.
- Corporate Purpose – Advocate for affordable energy policies for low and moderate income Ohioans.
- Mission – Assist member agencies in providing essential energy services including bill payment assistance, weatherization, energy services, and housing rehab service by managing deployment programs, education, and providing advocacy services.

# Ohio's Weatherization Network

- 42 agencies covering all 88 counties.
- Multiple providers in several counties.
- Mixture of crew- and contractor-based agencies.
- Ohio Weatherization Training Center – operated by the Corporation for Ohio Appalachian Development.



# Providing Comprehensive Services to Families in Need

## **Employment Assistance/Overcoming Employment Barriers\_**

- Job Counseling
- Job Placement
- Job Creation
- Workforce Development
- On-the-Job Training
- Skills Training
- Adult Education
- GED Preparation
- Displaced Worker Assistance
- Small Business Development
- Loan Funds
- Computer Training and Access
- Business Clothing
- Child Care
- Transportation
- Drop Out Prevention
- Summer Youth Employment Programs
- College Counseling and Placement
- Head Start
- After School Enrichment and Tutoring



## **Housing**

- Rental/Mortgage Assistance
- Home Buyer Counseling
- Home Rehab/Repair
- Low-Income Housing Development
- Weatherization Assistance
- Energy and Utility Assistance
- Eviction Prevention
- Transitional Housing
- Homeless Shelters
- Domestic Violence Programs and Shelters



## **Income Management**

- Financial Literacy
- Financial Counseling
- Income Tax Counseling and Assistance
- Individual Development Accounts
- Buy Car Programs
- Community Economic Development Projects



## **Health and Well being**

- Medical and Dental Screenings
- Immunizations
- Medical Transportation
- Medical Centers and Clinics
- Alcohol/Drug Abuse Prevention and Treatment
- Pregnancy-Related Care
- Family Planning Services
- Rural Health Programs
- Well-Baby Clinics
- Women, Infants and Children (WIC)
- In-Home Senior Care, Senior Centers and Day Cares
- Food Pantries
- Supplemental Nutrition Programs
- Summer Lunch Programs
- Meals on Wheels
- Community Gardens
- Congregate Meals
- Clothing Drives
- Family Development
- Parenting Education

# History of Ohio's Low Income Weatherization Programs

- Weatherization Assistance Program (WAP) – 1979.
- Columbia Gas of Ohio – 1984
  - Operation HomeCheck – partnership with community action agencies to provide energy audits – 11,000 annually.
  - Added low-cost weatherization measures in 1986.
  - Launched WarmChoice® in 1987. Program designed to complement WAP.
- Cleveland Electric Illuminating Company (FirstEnergy) – 1986
- The Dayton Power & Light Company -- 1988
- Dominion East Ohio – 1990
- American Electric Power -- 1990
- Cincinnati Gas and Electric (now Duke Energy Ohio) – 1992
- State of Ohio -- Electric Partnership Program (EPP) -- 2002



# Natural Gas Program Design

- Columbia Gas WarmChoice® program design has been adopted by Dominion and Vectren.
  - ACEEE Exemplary Program Awardee.
  - Designed to combo.
  - Fee-for-service.
  - Measures:
    - Shell
    - Duct sealing
    - Furnace Repair/Replacement
    - Hot Water
    - Units of Repair
- Managed by community-based organizations providing WAP.

# Electric Program Design

- Electric Utility Programs – FirstEnergy Community Connections Program (1998) design has been adopted by Ohio Power/AEP and The Dayton Power & Light Company. Similar to state-funded EPP.
  - Designed to combo.
  - Common reporting system across all three electric utilities.
  - Fee-for-service.
    - Price list negotiated with utility.
    - Agencies receive program delivery fee of 15% of direct measures.
    - Program manager receives 5% of direct measures.
  - Measures:
    - Baseload – Lighting and Refrigerators/Freezers
    - Shell measures.
    - Health and Safety with focus on wiring and roofs.
- Managed by OP&E.

# Cross Subsidization of Programs

- WAP is the foundational program.
  - Staffing
  - Training
  - Equipment & Vehicles
  - Inventory
- Fee-for-service – combo
  - Allows agencies to pay a living wage.
  - Health and Safety
  - Equipment & Vehicles
- Fee-for-service – stand-alone
  - Multifamily – primarily baseload.
  - Clients who cannot or will not receive comprehensive services.
- Home Repair Programs
  - Community Development Block Grant
  - Other funding sources.

# Leveraging

- LIHEAP Assurance 16 -- use up to 5 percent of such funds, at its option, to provide services that encourage and enable households to reduce their home energy needs and thereby the need for energy assistance, including needs assessments, counseling, and assistance with energy vendors....
- WAP –
  - 42 USC 6864(b) B) (b) established policies and procedures... (3)for using Federal financial assistance under this part to increase the portion of low-income weatherization assistance that the State obtains from non-Federal sources, including private sources....
  - 42 USC 6861(a)(4) -- States, through Community Action Agencies established under the Economic Opportunity Act of 1964 [42 U.S.C. 2701 et seq.] and units of general purpose local government, should be encouraged, with Federal financial and technical assistance, to develop and support coordinated weatherization programs designed to alleviate the adverse effects of energy costs on such low-income persons, to supplement other Federal programs serving such low-income persons, and to increase energy efficiency. (1990 Amendments – PL 101-440).
- Dues
- Foundation Grants

# Leveraging Activities

- Statewide Association – can be community action association or a stand-alone organization.
- Joint projects among providers with one taking the lead.
- Activities:
  - Develop voluntary partnerships with utilities.
  - Litigation at the public utilities commission.
  - Legislative advocacy.
  - Advocacy in the executive branch.
    - Environmental regulations – Clean Power Plan or Clean Air Act Compliance.
    - Funding through the state budget.
    - LIHEAP transfer.

# The Payoff from Leveraging

Ohio Low Income Weatherization Program Funding					
	2013	2014	2015	2016	Total
AEP	\$ 11,604,000	\$ 12,017,520	\$ 6,700,000	\$ 6,700,000	\$ 37,021,520
COH	\$ 12,434,422	\$ 12,807,454	\$ 13,191,678	\$ 13,587,428	\$ 52,020,982
Base Rates	\$ 7,100,000	\$ 7,100,000	\$ 7,100,000	\$ 7,100,000	
DSM Rider	\$ 5,334,422	\$ 5,707,454	\$ 6,091,678	\$ 6,487,428	
DP&L	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 4,000,000
DEO	\$ 6,500,000	\$ 6,500,000	\$ 6,500,000	\$ 6,500,000	\$ 26,000,000
Base Rates	\$ 5,500,000	\$ 5,500,000	\$ 5,500,000	\$ 5,500,000	
DSM Rider	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	
Duke	\$ 365,000	\$ -	\$ -	\$ -	\$ 365,000
FE	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 20,000,000
VEDO	\$ 2,200,000	\$ 2,200,000	\$ 2,200,000	\$ 2,200,000	\$ 8,800,000
Utility Subtotal	\$ 39,103,422	\$ 39,524,974	\$ 34,591,678	\$ 34,987,428	\$ 148,207,502
HWAP	\$ 32,000,000	\$ 32,000,000	\$ 32,962,379	\$ 33,000,000	\$ 129,962,379
DOE	\$ 10,000,000	\$ 10,000,000	\$ 10,749,501	\$ 11,000,000	
HEAP	\$ 22,000,000	\$ 22,000,000	\$ 22,212,878	\$ 22,000,000	
EPP	\$ 14,000,000	\$ 14,000,000	\$ 14,000,000	\$ 14,000,000	\$ 56,000,000
State Subtotal	\$ 46,000,000	\$ 46,000,000	\$ 46,962,379	\$ 47,000,000	\$ 185,962,379
TOTAL	\$ 85,103,422	\$ 85,524,974	\$ 81,554,057	\$ 81,987,428	\$ 334,169,881
Federal and State program levels are estimated.					

# Making the Combo Work

- Single application: covers LIHEAP, Winter Crisis, WAP, utility programs, some fuel funds.
- Single eligibility standard – 200% of poverty line, and consistent method of determining income (with one exception).
- Consolidated intake/referral.
- Common technical standards and training.
- Service priority
  - WAP – elderly; disabled; children; high energy burden; high energy bills.
  - Gas utilities – No heat calls.
  - Electric utilities – follow WAP and gas; hazardous wiring.
- WAP Program Income – stand-alones
- Running the money through WAP or administering separately.
- Knob and Tube wiring.

# Additional Funding Options

- Healthy Homes
  - County Departments of Health
  - Affordable Care Act
- Water conservation programs.
- Selling efficiency attributes.
- Clean Power Plan/Clean Energy Incentive Program.
- Demand response.
  - Radio-controlled switches.
  - Smart meter enabled.
  - Multiple markets – capacity market, regulation market.
- Market rate weatherization
  - Direct provider.
  - Contractor/installer.



# Why Local Communities Should Join with WAP Providers

- A passionate, experienced workforce and contractor network.
- Training infrastructure.
- Quality control systems.
- Supply chain.
- Knowledge of local communities.
- Client focus – multiple services.
- Experience in working with utilities.
- Experience working with multiple funders:
  - Fiscal accountability.
  - Quality control and oversight.
- Experience in community-based programs:
  - Murray City – 190 households/served 90% -- 60% of customers low income eligible
  - Nelsonville -- 1,969 households – 45% of customers low income
  - Portsmouth – 8,286 households – 45% of customers low income
- Experience in renewable technologies:
  - Solar – PV & Thermal
  - Biomass – Wood Stoves

# Concerns and Social Media

- Many stakeholders unaware of the network and its capabilities/Why reinvent the wheel?
- Financing measures in low income homes:
  - Solar
  - Weatherization services
  - Understanding poverty
- Multifamily – What makes sense?
- Volunteers – limited value.
- Social Media
  - Murray City Video --  
<https://www.youtube.com/watch?v=BHGjY0O1BFo>
  - Filling the Gaps – History of the Weatherization Program  
<http://www.waptac.org/MediaModule/video/469/Filling-the-Gaps-History-of-Weatherization-Program.aspx>