

# **Clean Energy in Multifamily Buildings: A Low-Income, Affordable Housing Perspective**

*Low-Income Forum on Energy (LIFE)*

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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



# Changing Policy Context for Energy Efficiency in Multifamily Buildings in New York

- This week you have heard descriptions of **Reforming the Energy Vision (REV)**, the **Clean Energy Fund** and other State initiatives.
- As low-income advocates, how do you think these new policies will affect you and the people you serve? Particularly those in living in rental apartments in multi-unit buildings?
- NY's Weatherization Assistance Program provides important lessons and faces both challenges and opportunities in this changing environment.



# Overlapping, complicated regulatory processes driving change

- REV and CEF provide an overall framework for a series of separate and distinct proceedings and regulatory processes that need to be monitored
- Understanding the issues at stake and the arenas for possible input continue to be key
- Interested parties who see potential economic benefit are, and will continue to be, directly involved
- “Animating the market” can be expected to generate both positive and negative consequences for low-income energy consumers and affordable housing



# Reforming the Energy Vision (REV)

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



# Animating Market Opportunities

- Identify and encourage prerequisites such as advanced metering technology
- Promote customer engagement and consumer/investor confidence
- Consider time variant pricing, community/shared renewables, community choice aggregation, and micro grids



# With Many issues on the table, where to focus as advocates?

- REV and CEF provide overall framework
  - Energy efficiency as a Distributed Energy Resource (DER)
- Changing Roles of utilities and NYSERDA in the future
- Animated markets replacing Programs and Incentives
- Linking demand management and energy efficiency becomes more important in targeted neighborhoods (e.g., Con Edison Brooklyn Queens Demand Management Neighborhood Program)
- Rooftop solar and battery storage options
- Comment processes/regulatory actions regarding
  - community net metering, microgrids
  - utility demonstration projects, and
  - utility low income programs (arrearage, discounts),
- Oversight of DER providers and ESCOs
- Time Variant Pricing and advanced metering options
- Relative impact of rate design changes (e.g., fixed Charges)
- Community choice aggregation models ,
- Distributed generation emissions rules (EJ issue),
- Benefit cost analysis (including non-energy benefits)



# Uncertainty Regarding the Future

- What will references to serving LMI population mean with respect to current programs, such as WAP and LIHEAP, whose definitions of low-income are lower?
- How can the WAP network of subgrantee non-profits and their local subcontractors be integrated into a broader statewide strategy to address up to 80% of Area Median Income?



# Defining the Low-Income Community

- **Geographic** – e.g. low-income census tracts (e.g. with over 25% of households < 60 or 80% of SMI or AMI)
- **Building or project** – e.g., built or maintained as “affordable” housing, i.e., “Publicly assisted” or government regulated, or WAP eligible or utility program eligible based upon its criteria.



# Options for Defining Low (and Moderate) Income Households (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



# Opportunity: Increased collaboration

- Encouraging signs of increased collaboration between NYSERDA, Utilities, and NYS HCR
- Green Bank products for various sectors – multifamily, commercial, industrial
- Focus on community engagement (which should involve local WAP subgrantees)



# Why do we weatherize multi-unit properties?

- Many low income households, particularly in urban areas, live in such buildings and are hard hit by energy costs, directly or indirectly, even though they don't own their own homes.
- In New York City, most low-income households live in rental apartments in multi-unit buildings in older neighborhoods.
- Many of these buildings are concentrated in traditional areas of high poverty that are now “gentrifying,” with new construction pushing up the average rents and threatening availability of housing that is affordable to current residents of these communities.
- WAP serves buildings in these neighborhoods that are program eligible (due to rent levels or regulatory agreements, over 50% of the households in the buildings are under 60% of the State Median Income (SMI). These communities are where NYC Weatherization agencies are located.



# Energy Efficiency Work in WAP

- Buildings with low income households in proportions that meet the eligibility requirements for Weatherization often have older, inefficient heating systems near the end of their useful lives. They may burn oil or gas. Many lack mechanical ventilation systems.
- Many were also built as “supportive housing”, housing special needs populations and offering on-site support services to residents.
- WAP has traditionally has installed energy efficiency upgrade measures that reduce upward pressure on rents, by reducing the operating costs of the building that are tied to energy.
- This reduction in building operating costs also frees up funds for on-site, support services provided by non-profit managers of supportive housing



# Keeping rents affordable

- Operating and maintaining a building with low rent rolls in the City is challenging. But from the outset we have structured the WAP program in NYC to do work in buildings where owners are meeting their responsibilities to maintain their properties and willing to invest in them.
- In NY, we have long required owner investment to share in the cost of WAP energy upgrades.
- Weatherization agreements specifically prohibit owners from applying for rent increases based on the capital improvements made as part of Weatherization.

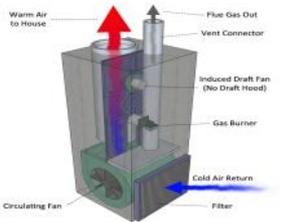


# What's different about apartment buildings?

- In New York City, usually the cost of heat and hot water is built into the tenant's rent in apartment buildings.
- The building owner pays the bill for these central systems, but **everyone who lives in the building** is absorbing its high energy costs in their rents.
- When buildings are under-heated, tenants may use space heaters or even their stoves to keep warm. In addition to safety risks, they bear the costs of these stop-gap solutions on their own utility bills.



# It's not just weatherstripping.



# Specifying the Work

- Energy audits identify opportunities for savings and model current and projected energy usage after completing a specific proposed scope of work (SOW)
- Proposed measures in SOW assume sufficient data on installation requirements and projected savings
- Users of the audit report and SOW may or may not have experience in developing the more detailed specifications to provide to installers to guide their work -- but this is a key to success, and part of the traditional NYC WAP provider model.



# U.S. DOE Stewardship

- On the national level, DOE provided extraordinary leadership in ensuring that “Recovery Act” 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 40 Weatherization Training Centers
  - Developing Standard Work Specifications to provide a more uniform basis for the performance of weatherization work
  - Job Task Analyses that give weatherization staff greater job opportunities wherever they go with recognized skill sets and certifications



# Sustainability and Leveraging Resources

- Locally, WAP provides the core infrastructure to which other resources can be added cost-effectively to increase local capacity to deliver energy efficiency and leverage other resources to get the most “bang” for the public buck.
- WAP agencies are local centers of building science knowledge, energy auditing and analytic expertise, and construction management experience, combined with the organizational structure, tools and facilities to harness these resources effectively.



# 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 as the Implementation Contractor for Con Edison's Multifamily Energy Efficiency Program since 2010.



# Total New York State WAP Production during Recovery Act (2009-2011)

| NEW YORK STATE WAP PRODUCTION %<br>Total WAP Production during ARRA | Totals        |                |
|---|---------------|----------------|
|   | Bldgs         | Units          |
| <b>STATE WIDE</b>   |               |                |
| Multifamily (5+ UNITS)  | 2,444         | 82,942         |
| MF as % of Total  | 10%           | 76%            |
| <b>TOTAL</b>  | <b>24,872</b> | <b>109,633</b> |
| <b>NEW YORK CITY REGION (SUBSET)</b>                                |               |                |
| Multifamily (5+ UNITS)  | 1,062         | 52,919         |
| MF as % of Total  | 26%           | 92%            |
| <b>TOTAL</b>  | <b>4,028</b>  | <b>57,480</b>  |



# Program and Policy Options

- In this next section we will look at a range of approaches that have been taken in different energy efficiency programs.
- Each of these approaches may each lead to somewhat different handling of the issue of energy efficiency in low income communities.



# Handling Split Incentive Issues in Multifamily 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.



# Key MFB Policy Options/Issues (1)

- Comprehensive, whole building vs. incentives for specified measures (including both prescriptive and custom measures)
- Engineering estimates of projected savings for specific building begin audited and modeled vs. use of “deemed savings” attributed to measures (as a result of some study or external experience)
- Incentives tied to percent of improvement over existing condition (e.g., using a benchmarking approach as in and reserving a share of the incentives to be paid only upon demonstrated performance a year later, e.g. in NYSERDA’s Multifamily Performance Program).



# Key Policy Options/Issues (2)

- Tiered targeting (e.g, affordable vs. market rate housing; or only 5 to 75 units vs. no cap on building size) or separating in-unit and common area work in different programs vs. requiring both in-unit and common area work to be done.
- “Free audits” regardless of completed work requirement, vs. incentives and audit rebates tied primarily to completed work, sometimes with audits charged at market rate
- Use of an implementation contractor to manage and deliver the program vs. focus on use of “incentives” to building owners through “participating/pre-qualified” contractors
- Separation of quality assurance primarily through a third party firm not directly engaged in program delivery vs requiring it of the IC.



# 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.



# Which designs achieve the greatest savings and provide greatest low-income community benefit?

- As always, it depends...on a variety of factors, e.g,
  - Building owner's perception of savings and ROI
  - Up front cash requirements for owners
  - Availability of low-cost financing of owner investment
  - Timing, certainty and amount of program incentives in absolute terms and as percent of total project cost
- But also...
  - Third-party independence and qualifications of energy audit team's engineering estimates of savings and confidence in quality of the measure installers and their ability to stand behind their work, as well as training and skill of building operators, and
  - Direct impact of rents, health, safety and comfort of tenants.



# Other issues in REV and CEF

- Rooftop solar, CHP and battery storage options
- Comment processes/regulatory actions regarding
  - community net metering, microgrids
  - utility demonstration projects, and
  - utility low income programs (arrearage, discounts),
- Enhanced Oversight of DER providers and ESCOs
- How each of these is handled, and the impact on low-income communities remains to be seen.



- REV holds a great deal of promise as a proposal to meet the challenges of ongoing and unstoppable changes in technology coupled with needed regulatory reform for utilities while promoting environmental stewardship and affordability
- The transition from here to there, however, will take time and a careful transition that must prioritize environmental responsibility and consumer protection, particularly for low-income households and those living on fixed incomes, including those living in multiunit buildings.



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## Questions? Follow-up? To contact me:

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