

Retrofit Opportunities through the Weatherization Program

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Background on AEA

1. A not-for-profit membership organization of weatherization CBOs in NY
2. A DOE-recognized Weatherization Training Center and DHCR funded technical services provider of energy audits, specifications and other technical services to the WAP network
3. A BPI Affiliate and CEEBS Learning Center providing training for all BPI certifications and proctoring of BPI written and field tests.
4. An energy efficiency policy advocate active in Federal, State and City policy arenas representing community-based, low-income and multifamily perspectives
5. An implementer of WAP, NYSERDA, and utility energy efficiency programs over the past 16 years in NY.

Department of Energy's Weatherization Program

1. Federal program first authorized in 1976,
2. Governed by federal statute and regulations of the US Department of Energy (10 CFR 440)
3. Annual appropriations to States by formula.
4. State administrative agency varies by State
5. Preference given to Community Action Agencies as local program delivery operators
6. Up to 15% of Federal LIHEAP funds (or to 25% with a waiver request) may be designated by States for weatherization
7. \$5 billion allocated to weatherization in ARRA.

State Administration and Local CAA/CBO Program Delivery

1. Annual State Plan to DOE and State Policies and Procedures govern program
2. State's monitoring staff oversee program locally
3. Local agencies use own staff to manage and own crews or subcontractors to deliver program.

What Housing is eligible for WAP?

1. Small Homes (1-4 units) & Multifamily Building (5+ units)
2. At least 50% of households must be income eligible, i.e, below 60% of State Median Income (by household size).
3. Once MF building eligibility is established, cost effective weatherization measures can be completed in **all units** and common areas.
4. Privately owned and publicly assisted, government regulated properties eligible if meet income requirements.

Key Program Elements: Measures

- ◆ WAP investment in measures is energy audit driven,
 - All building-wide energy efficiency and health and safety materials and measures eligible under DOE regulations (heating, domestic hot water and electric usage reduction)
 - Scope of Work includes only measures with a Savings to Investment Ratio (SIR) > 1.0
 - Listed in SIR order, with full interactivity, from higher to lower SIR,
- ◆ SIR > 1.0 requirement to “pay for itself in the life of the measure”

WAP Subgrantee Annual Production Requirements

- ◆ Each WAP subgrantee is responsible for Quality control in program
- ◆ WAP contract management is critically important
- ◆ With large increase in Federal weatherization funds, more states likely to target multifamily properties.

NY Example: Building Owner Obligations in WAP

With the Building Application, provide:

- ◆ Proof of Ownership and Permission to Enter premises form (for income documentation, energy audit, construction management and post inspection); and
- ◆ Fuel information release forms (for all energy use in the building) that provide access to all building energy usage information for up to five years pre and post weatherization
- ◆ WAP Deposit

NY MF WAP Owner Agreement

1. Outlines obligations of each party and is executed with signature of an authorized official from Building Owner/Management Company.
2. Must be accompanied by the initial Owner Investment check (or regulatory approval if access to reserves/funds requires such 3rd party signoff).
3. Lists types of measures to be installed with estimated costs and owner's share, WAP share and leveraged funds committed.
4. Includes benefits such as eligibility for J-51 tax abatements in NYC
5. Provides tenant protections prohibiting MCI rent increases for weatherization improvements and provision that apartments be rented to income eligible households for a specified period of time

Owner Investment in the Project

1. Owner Investment funds are obtained up-front before work begins.
2. These funds are held in an escrow account managed by the subgrantee agency to pay subcontractors for owner's share of the work.
3. Apartment Building Work Scope (ABWS) is signed off by owner upon completion of work scope with any balance in Owner Investment account returned to owner.

Tenant Protection Tools Supporting WAP in Low-Income Communities

1. Tenant Synopsis of Owner Agreement– written notice informing tenants of their rights as third party beneficiaries, and recourse if landlord violates tenant protections in Owner’s Agreement.
2. “No Major Capital Improvement (MCI)” rent increase provision is key policy to low-income housing advocates in WAP.

Challenges for Program Expansion

1. Highly regulated, monitored and technical nature of work is well understood by most leaders of existing network of experienced local WAP provider CBOs – but not by others eager to enter under ARRA.
2. Ramp-up challenges to states, local agencies and training centers
3. DOE cost-effectiveness standards and climate change goals means screening buildings to identify high energy users is key to achieving energy savings goals
4. Need for “best practices” and “certification” of auditors and installers (e.g., through BPI) due to expansion of new players.

Steps in the WAP Process: A NY Example

1. Complete and submit **Building Application**
 - One boiler/heating plant typically defines the “building” from the energy audit perspective
 - Attach account numbers and copies of central, common area energy **usage** information for past 24 months for all fuels used in the building (natural gas, oil, electricity); [usage and cost]
 - Include other financial information requested in application
2. Include initial deposit – incorporated into owner’s investment if building is weatherized that year.

Step 3: Agency collects **client applications** and income documentation for households to confirm building eligibility

- ✦ On-site process, door to door, or at management office (e.g., if publicly assisted property that maintains income information, updated annually, on file)
- ✦ Must follow regulatory body's notification and privacy procedures and be signed off by a representative of the subgrantee.
- ✦ Categorical eligibility documentation for some households may be obtainable from social services office serving the area.
- ✦ More that 50% of households < 60% of S.M.I.
- ✦ In some states >66% must be <200% of poverty

Example: NYS WAP Income Eligibility by Household Size: Oct 2008

Listed below are the new guidelines as of October 1, 2008:

Household Size	(2008-2009) Monthly	(2008-2009) Annual
1	\$ 1,963	\$23,556
2	\$ 2,567	\$30,804
3	\$3,172	\$38,064
4	\$ 3,776	\$45,312
5	\$4,380	\$52,560
6	\$4,984	\$59,808
7	\$5,097	\$61,164
8	\$5,210	\$62,520
9	\$5,324	\$63,888
10	\$5,437	\$65,244
11	\$5,800	\$69,600
11+	+450	

4. AEA's Energy Audit Process

- ✦ Pre-audit collection and recording of basic data describing existing conditions in the building, by WAP field technicians.
- ✦ Field assessment by one or more energy engineers accompanied by the local agency weatherization director, the property manager or other representative of the building owner, and the building superintendent, to interview key persons, observe operations and conduct diagnostic tests, including combustion safety tests, and to identify operations and maintenance issues as well as energy efficiency upgrade opportunities and health & safety issues to be addressed.
- ✦ Energy engineer enters building data into EA-QUIP (or other DOE approved energy audit tool), imports energy usage information and weather data for the same time period, and models the building to obtain a good “fit” between building description and energy usage.

5. Developing the WAP Workscope

- ✦ Using EA-QUIP, energy auditor runs the calculation engine on the modeled building to produce a series of reports that identify the Saving to Investment Ratios (SIRs) of each measure, listed in rank order from the highest to lower SIR measures.
- ✦ Recommended Scope of Work (with cost estimates) and Audit Report are completed and shared with Owner
- ✦ Agency completes “owner negotiations” to confirm the measures to be included and the relative share of the estimated costs to be paid by WAP, owner, and other leveraged funds

WAP Measures in MFBs

- ◆ Electric base load reduction
 - In-unit CFL & energy efficient HW fixtures
 - Energy Star* replacement refrigerators
 - Common area EE lighting and controls
- ◆ Envelope & ventilation upgrades
 - Roof insulation; air sealing; window replacement (Low-E, argon filled); ventilation system upgrades
- ◆ Heating & system upgrade or replacement
 - Including controls & building EMS
 - Pipe insulation in basement
- ◆ Advanced measures (Solar PV and Solar Thermal)

6. Executing the WAP Owners Agreement and Scope of Work

1. Scope of Work must meet DOE and DHCR requirements, i.e., cannot skip over a more cost-effective measure to include one with a lower S.I.R. without adequate justification
2. DOE funding for EACH measure must meet SIR of 1.0 standard (Owner can reduce the cost to WAP of an expensive measure such as a high efficiency, condensing boiler, thus bringing it up to a 1.0 SIR for the DOE funds.)
3. Development of an estimated ABWS (Apartment Building Work Scope Summary) [form attached] specifies by measure the relative cost to the owner, WAP and this estimate is attached or summarized as part of the Owners Agreement
4. Owner signs Owners Agreement and provides a check for the owner investment share confirming commitment to proceed.

**Proposed Scope of Work - WAP
Sample**

Proposed Retrofit		Retrofit Cost	Projected 1st Year Monetary Savings	S.I.R.
Health and Safety and Immediately Hazardous Conditions				
1	Install CO and smoke detectors in boiler room and apartments	\$5,400.00	N/A	N/A
2	Repair burner, increase boiler room ventilation, and clean boiler fire tubes to reduce high CO and Smoke readings.	\$3,000.00	N/A	N/A
H&S SUBTOTAL		\$8,400.00	\$0.00	
Most Cost Effective Measures				
3	Install low-flow showerheads and aerators	\$1,350.00	\$901.93	8.0
4	Install 2" fiberglass insulation for heating pipes in basement	\$500.00	\$272.08	6.5
5	Install Boiler Management System to increase efficiency and reduce overheating	\$20,000.00	\$10,207.05	6.1
6	Upgrade and replace common area lighting	\$21,381.00	\$9,138.89	5.1
7	Repair or replace DHW mixing valve	\$4,000.00	\$1,420.28	4.2
8	Replace apartment windows with new double hung double pane Low-E Argon filled windows	\$68,687.40	\$10,567.30	1.8
9	Insulate roof cavity with 12" blown-in loose cellulose	\$18,894.00	\$2,835.53	1.8
10	Replace and upgrade apartment lighting	\$27,358.00	\$5,342.48	1.3
11	Replace inefficient refrigerators with new Energy Star models	\$14,850.00	\$1,124.00	1.1
MCEM SUBTOTAL		\$177,020.40	\$40,905.61	
Operation and Maintenance				
12	Weather-strip the bulkhead door	\$375.00	N/A	N/A
13	Distribution system upgrade. Repair and replace valves and vents as necessary	\$5,400.00	N/A	N/A
14	Vacuum all apartment vent registers and main ventilation trunks	\$2,160.00	N/A	N/A
15	Weather-strip CA windows	\$1,450.00	N/A	N/A
O & M SUBTOTAL		\$9,385.00	\$0.00	
GRAND TOTAL		\$194,805.40	\$40,905.61	

7. Owners investment Account

- ✦ Subgrantee deposits owner investment into the “Owner Investment Account”
- ✦ Owner’s funds are due prior to the commencement of work in the building
- ✦ Subgrantee agency pays subcontractors directly from both the WAP account and the Owner’s account per the terms of the scope of work identified in the owner’s agreement
- ✦ At completion of work, owner signs ABWS and receives balance if any amount not spent on the building (e.g., due to lower costs than estimated in Owners Agreement)

8. Selection of Subcontractors to Complete the Measure installation

- ◆ Subgrantees must follow Federal and State procurement requirements specified in the WAP Policies and Procedures Manual
- ◆ Typically procurement processes for contract year beginning April 1 begin in March of that year.
- ◆ Other job by job bids (e.g., heating system replacement; heating controls or energy management systems).

9. Construction Oversight/ Project Management of WAP Project Work

- ✦ WAP subgrantee is responsible for overseeing the procurement process, developing subcontractor agreements for installation of each measure, and providing construction oversight and post-inspection of all work to meet DHCR “certification” requirements.
 - Subgrantee’s role in project management of WAP work in its WAP contract and budget.
 - Subgrantees may charge 10% of owner investment amount to provide CM of the owner’s work or share of the work scope

Owner Credit for Recent Work

- Weatherization eligible work that is completed by the owner consistent with WAP guidelines and specifications can be credited toward the owner investment.
- Typically such work if completed within the past 6 months prior to the beginning of the WAP project may be considered, if acceptable.
- WAP subgrantee may be authorized to make this determination, subject to approval of State field representative

10. Completion of Work within Contract Year (typically March 31st)

- ✦ WAP subgrantee must post-inspect 100% of the work by subcontractors prior to “certification” of completed work by State field representatives.
- ✦ States monitor completions through on-site inspections, typically on a sampled basis.
- ✦ Each building is then “certified” by the State as weatherized, and its units are reported to DOE.

Other Issues

1. Weatherization Requirements in the Recovery Act/Stimulus Package:
Uncertain Impact of Davis Bacon requirement
2. Legislative and program rule changes being proposed by national advocates:
Alignment with HUD Area Median Income guidelines
3. Coordinating with utility and public benefit programs



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