Shaving That Utility Bill

One Owner's Path Shows the Benefits of Energy Retrofits

608 West 191st Street, New York City
Photo by Northern Manhattan Improvement Corp. staff

Manhattan property owner Aaron Steinberg was in a pickle like many other landlords. The boiler in his 24-unit apartment building at 608 West 191st Street in the Washington Heights neighborhood was on its last legs.

"The boiler was old, inefficient, and was going to need to be replaced pretty soon," recalls Steinberg, a self-described small owner.

Steinberg wanted to install a new, more energy-efficient but expensive boiler. But how to pay for the new boiler – and some other energy-efficiency improvements needed at the property, whose occupants are mostly of limited income.

For Steinberg, the solution was federal assistance under the Weatherization Assistance Program, run by the U.S. Department of Energy (DOE).

Growing Trend and Activity

Steinberg's case is emblematic of growing trends: (1) more owners retrofitting their affordable multifamily rental properties to enhance energy and water efficiency to cut utility bills, and (2) more funding sources available to help pay for these jobs. Retrofits are both to existing properties by current owners, as well developers making energy and water improvements as part of acquisition/rehab projects.

The federal Weatherization Assistance Program is one valuable financial resource. Under it, federal grant dollars are annually channeled to states for distribution to approved sub-grantees – nonprofit "weatherizing agencies" – to help pay for eligible weatherization improvements (e.g., energy, water efficiency upgrades) made to housing units occupied by low-income persons. Sub-grantees typically spend the monies to weatherize owner-occupied homes. But they can also be used to help pay for weatherization improvements to common areas and all apartments in multifamily buildings in which at least half the tenants are low income.

In New York, federal weatherization dollars are distributed by the New York State Division of Housing and Community Renewal (DHCR), which also allocates low-income housing tax credits. DHCR Commissioner Brian Lawlor says the state agency's longstanding weatherization program has seen the heavy use of federal weatherization dollars by sub-grantees to upgrade affordable multifamily rental properties, mostly in New York City and other cities but also in rural communities. The state

Brian Lawlor

Photo by Borrego Solar

Richard Raeke

Photo by Katy Rieber

Daniel Rieber

has a big portfolio of rural federal Section 515 projects.

"We had a large spurt of development in the '60s and '70s of large multifamily developments that are aging now, some gracefully and some not so gracefully," says Lawlor. "But all are in need of capital improvements. With the challenges that we and everybody nationwide has faced over the last few years, of rising energy costs, the opportunity to get a handle on operating expenses by bringing in energy efficiency measures in multifamily properties is a complete upside for everybody. [This provides] the opportunity to keep rents low and get a handle on cash flow and income to support additional debt to preserve [buildings] and do major capital improvements."

Lawlor says the weatherization program "increases energy efficiency, which results in making apartments and homes more affordable for low-income people, while also providing an enormous amount of jobs."

DHCR official Daniel Bayer says traditionally about 62 percent of New York's annual weatherization funds are spent for multifamily rental buildings. The state agency combines annual allocations it receives of federal weatherization funds and federal Low-Income Housing Assistance Program dollars. In, 2009, DHCR received just over $100 million in weatherization funds for its regular annual allocation, and an additional $394 million under the American Recovery and Reinvestment Act (ARRA). This year DHCR issued a special NOFA and selected 12 sub-grantees to receive $60 million in weatherization funds dedicated strictly for multifamily buildings.

ARRA provided an extra $5 billion in weatherization funds for use nationwide – much higher than the program's normal annual federal appropriation – that weatherizing agencies are still trying to use. These ARRA funds must be spent by Mrach 31, 2012.

The Manhattan Story

One of DHCR's 66 regular sub-grantees is the

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The Sensible Approach to Retrofits


Heather Clark

Energy- and water-efficiency improvements to affordable multifamily rental properties, whether funded by weatherization dollars or other resources, make economic sense. But they should be approached by owners and developers in a sensible fashion with a specific plan, says Boston expert Heather Clark of consulting firm Biome Studio. Clark works with client multifamily owners and developers, including WinnDevelopment, where she oversaw energy- and water-efficiency upgrades – and solar power installations – at numerous Winn properties.

Clark's advice to multifamily owners includes:

- **First gather the property's past utility bills, detailing monthly usage and costs**. This forms a baseline.
- **Retain a firm to conduct a comprehensive energy audit of the property.** This company, after reviewing the past utility bills, will identify the areas in the building of greatest heat loss (in cold weather) or heat gain (in summer) and identify the most cost-effective improvements that could be made. The firm can also identify water-saving opportunities. Look for a firm with personnel certified by the Building Performance Institute.
- **Start with the "low-hanging fruit," simple upgrades with very short payback periods.** Examples are changing to water-conserving showerheads and faucet aerators; replacing leaky flappers in toilets; and "air sealing" openings or cracks in walls, ceilings, and attics. "There's pretty basic improvements that can be made that have very large cost savings," says Clark. A "blower door test" can show where air filtration is occurring, which causes about 40 percent of heat loss.
- **Next, figure out how to reduce the building's electric "load."** "Simple things like lighting tend to have a really great payback," says Clark. Replace all incandescent lights with compact fluorescent lamps (CFLs), or LED lighting. Upgrade any T-12 fluorescent light fixtures to T-8. Make improvements to the buildings envelope (e.g., air sealing, better insulation), to improve the efficiency of heating and cooling systems.
- **Before upgrading to a new boiler or heating/cooling system, make improvements to the building envelope.** This will reduce the size of new boiler or heating/cooling system needed; don't oversize. "You want to be talking to your [mechanical] engineers about correctly sizing the equipment, trying to find the most efficient equipment, but also asking will this equipment work with the current distribution system in my building."
- **Plan and coordinate improvements with the building's replacement reserve schedule.** Replacement reserve funds can be a possible funding source for upgrades.
- **Finally, establish a system for monitoring monthly utility usage and costs after the improvements are made.** This will help determine if they are performing as expected or if adjustments are needed. TCA

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Northern Manhattan Improvement Corp. (NMIC), the nonprofit weathering agency serving parts of Manhattan that played a key role in Aaron Steinberg's story.

In the case of 608 West 191st Street, Steinberg applied to NMIC for the property to participate in the weatherization program, following the nonprofit's standard procedures for any property. "We do an energy audit of the building to determine the most cost-effective measures to implement, looking primarily at energy efficiency but also at health and safety issues," explains Daniel Rieber, weatherization director at NMIC. "We then show the owner the results of that audit and make up a work scope and explain to the owner what's involved. The owner is required to put up matching dollars…to complete the work scope."

NMIC does the work itself or uses third-party contractors.

NMIC determined that Steinberg's property qualified for weatherization assistance because of the income profile of the tenants. Steinberg signed off on the work plan, contributed about $42,000 of the roughly $133,000 total cost, and agreed not to raise the rents because of the improvements – a program requirement.

"It was a pretty extensive energy re-do," says Steinberg. "Northern Manhattan really helped me out."

The improvements included installation of a new, energy-efficient boiler; a new water-mixing system; new windows; upgrades to all light fixtures; installation of low-consumption fluorescent lights; additional insulation; and lower-flow showerheads and

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faucets. Certain tenants also received new refrigerators.

In addition to having most of the cost of the improvements funded by federal dollars, Steinberg also qualified for local property tax abatement.

NMIC uses software to determine the most cost-effective improvements to do in a building; improvements must meet or exceed a specific savings-to-investment ratio to be eligible for weatherization funding.

NMIC still has weatherization dollars available for multifamily property owners. "They're banging the door down," says Rieber.

Nationally, use of weatherization dollars for multifamily buildings is certain to grow, for several reasons. First is the huge extra dollars from ARRA, which raised the per-unit funding cap to $6,500. Second, DOE and the U.S. Department of Housing and Urban Development (HUD) have taken steps to make it easier for owners to access weatherization funds for affordable multifamily rental housing projects. For instance, federal program guidelines now exempt from the advance tenant income qualification requirement HUD-assisted and LIHTC on a DOE list. Third, with green building and super-efficiency foremost on people's minds, affordable multifamily property owners are looking even harder for ways to cut their utility bills and funding sources to help pay for improvements.

One current "glitch" in the weatherization program, though, impedes it use in combination with the federal LIHTC for new acquisition/rehab or rehab projects. This is DOE's position that weatherization funds cannot be provided as loans instead of grants.

The Solar Way

In some cases, owners or developers may wish to consider the installation of solar (PV) photovoltaic systems (i.e. solar panels), which can supply part a multifamily rental project's electric needs.

Borrego Solar Systems, Inc., based in Berkeley, Calif., installs and finances solar PV systems in multifam-

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ily residential and commercial properties, mostly in California but also in a few other states such as Massachusetts.

The firm has seen some uptick in solar PV installations as part of energy retrofits of affordable multifamily rental properties, says Borrego executive Richard Raeke, "especially in states where there's a decent incentive for doing solar on affordable housing." He said state incentives are particularly attractive in California, with its "MASH" rebate program and companion New Solar Homes Partnership program, and in Massachusetts.

Raeke indicated that typically most or all of the cost of a solar PV installation can be paid for by owners with a combination of federal tax credits (generating equity), state incentives, and utility rebates. Solar PV systems qualify for the 30% federal investment tax credit (ITC). In lieu of this credit, owners can elect instead to get a "Section 1603" cash grant from the U.S. Treasury, for systems installed or that begin installation by year-end.

The federal housing credit can also be claimed on the costs of a solar PV system installed by a developer as part of an LIHTC acquisition/rehab project. In LIHTC projects, such systems generally just provide power just for common areas because of certain tax rules.

According to Raeke, another option for owners and developers, to avoid upfront costs and maintenance, is to contract with a firm that installs, pays for, and owns the solar PV system, and enter into a long-term "power purchase agreement" to buy electricity for the property.

Raeke said multifamily owners considering a solar PV system should first determine what they now pay for electricity, gather past utility bills, and find out which state and utility incentives are available (an excellent resource is http://www.dsireusa.org). Next, find a solar contractor, take them 12 months of electric bills, and ask them to evaluate the site. The contractor will determine if the building, its orientation, and site are suitable for a solar system, and the appropriate size of PV system to install to meet the desired load level. TCA