THE PORTFOLIO APPROACH TO GREEN RETROFITS

Enterprise’s Multifamily Weatherization Program in New York
THE PORTFOLIO APPROACH TO GREEN RETROFITS:
THE CASE OF ENTERPRISE’S
MULTIFAMILY WEATHERIZATION PROGRAM IN NEW YORK


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The American Reinvestment and Recovery Act of 2009 brought an infusion of funds to the national Weatherization Assistance Program, which provides energy efficient building upgrades to hundreds of thousands of low- and moderate-income households each year.

Over $394.6 million was allocated to the New York State program to expand weatherization assistance to more than 45,000 households.

The New York State Weatherization Assistance Program (WAP), which is the largest residential energy retrofit program in the country, has been at the forefront of implementing energy conservation for multifamily buildings. Nationally, weatherization efforts have chiefly been designed for single-family homes, although on average, low-income renter families pay a higher percentage of their income on energy costs. The historic investment of stimulus dollars in WAP created a unique opportunity for New York affordable housing organizations to lead the country in testing and implementing new models of efficient multifamily weatherization assistance.

Although New York has been a leader in multifamily weatherization, efforts have historically focused on an ad hoc, building-by-building approach, missing opportunities to make scaled investments in the subsidized housing sector. Based on a 30-year track record in affordable multifamily housing, Enterprise Community Partners, Inc., envisioned an innovative strategy that would deliver weatherization assistance at a portfolio-wide scale, with a heightened focus on long-term stewardship, post-construction energy monitoring, and resident engagement.
Enterprise and the Local Initiatives Support Corporation (LISC) were jointly awarded $15 million in New York State capital and up to $3 million in matching New York City capital to weatherize aging affordable multifamily housing stock in New York City. Between 2010 and 2011, Enterprise and LISC installed energy conservation measures in 96 buildings, reducing energy costs and improving the quality of life for low-income families in 2,227 apartments. Preliminary data collected during the construction period indicate that total energy usage dropped 7 percent between 2010 and 2011, resulting in a 5 percent reduction in total energy spending. These results suggest that the weatherized portfolio is on track to meet the program goal of 24 percent reduction in energy consumption.

Based on a 30-year track record in affordable multifamily housing, Enterprise Community Partners, Inc., envisioned an innovative strategy that would deliver weatherization assistance at a portfolio-wide scale.

By concentrating on a select set of portfolios owned by community-based organizations, Enterprise and LISC were able to deliver investment at a scale that helped prioritize energy efficiency for large property owners. Multifamily weatherization at this unprecedented scale required new approaches to targeting and qualifying buildings, layered financing, tenant outreach, and data collection.

This report describes the context, implementation and results of the Enterprise Weatherization program, including background on the need for energy efficiency improvements in the multifamily affordable housing sector; program outcomes and preliminary energy savings; innovations in the Enterprise WAP model; and, policy recommendations for the field.
Energy efficiency upgrades are a cost effective approach to stabilizing and preserving affordable housing, while also reducing carbon emissions and providing important economic and health benefits to low income families.

One national study estimates that the multifamily housing stock could reasonably become 28.6 percent more energy efficient by 2020, saving almost $9 billion annually. Yet these potential savings have largely gone unrealized, with the burden of high energy costs falling disproportionately on low-income renters. These vulnerable households tend to live in the nation’s oldest and least energy-efficient housing stock. With rising energy costs, they have seen an increasing share of their income go to utilities – creating additional financial strain and instability.

A portion of high energy costs are also borne by property owners, and rising operating costs can threaten the long-term viability of affordable buildings. Increased spending on energy costs can divert funds that would have gone to operations and maintenance, leading to delayed repairs or property neglect.

Multifamily property improvements are cost-effective by taking advantage of economies of scale. A single improvement (such as a boiler replacement) can improve energy efficiency and produce cost savings for every household in the building.
In addition to making financial sense, energy efficiency improvements make sense for improving the health and wellbeing of families. There is new evidence suggesting that green renovations, such as improved ventilation, can produce immediate health benefits for low-income families in affordable housing. For example, a recent health study in Minnesota found that green retrofits in affordable housing led to significant improvements in general health, chronic bronchitis, hay fever, sinusitis and asthma. iv

The goal of the program was to improve the energy performance of the building systems, reducing energy consumption by 24 percent and carbon emissions by 23 percent.

Given these benefits, state and federal policymakers have begun to recognize the multifamily housing sector as an ideal platform to deliver energy-efficiency improvements. In 2010, the U.S. Department of Energy issued WAP program guidelines that identified multifamily upgrades as a cost-effective approach to lowering operating expenses, maintaining affordability for low income households, and creating healthier, more comfortable living environments for low income families.
In 2009, Enterprise Community Partners and Local Initiatives Support Corporation (LISC), two of the largest community development intermediaries in the nation, jointly applied to the New York State Homes and Community Renewal (HCR) to weatherize over 2,000 multifamily residential units in New York City.

Enterprise and LISC formed a subsidiary, called Community Weatherization Partners LLC (CWP), and were awarded $15 million in ARRA weatherization funds. Together with the New York City Department of Housing Preservation and Development (HPD), CWP identified privately-owned, subsidized multifamily portfolios that contained buildings created or preserved through direct city, state, and federal subsidy. The targeted portfolios included 96 buildings located in Manhattan, Brooklyn, Queens, and the Bronx, and contained a broad range of construction types, including historic structures. The portfolios also represented a key affordable housing resource for low-income families, senior citizens, and disabled individuals. Most of the properties were in need of rehabilitation and reinvestment to ensure long term financial health and physical viability. The goal of the program was to improve the energy performance of the building systems, reducing energy consumption by 24 percent and carbon emissions by 23 percent.

CWP worked closely with HPD to identify eligible properties and leverage other funding streams to augment the WAP investment. HPD put $2 million in capital contributions to help property owners meet the match required by federal WAP program guidelines. HPD also allowed properties that had reached the end of their Low Income Housing Tax Credit affordability period (“Year 15”) to access reserve funds for the owner’s match via a streamlined review process.

After identifying the target properties, CWP worked with HPD and HCR, as well as property owners, to move the portfolios through the WAP eligibility process and complete the retrofit measures in each building.
Accomplishing this included:

- Managing the property intake and verifying tenant income eligibility at each property;
- Conducting a feasibility and financial analysis, and securing capital contribution from project reserves or the property owner;
- Overseeing production of energy audits to measure pre-retrofit usage and costs;
- Developing a work scope that delivers the highest energy efficiency improvements;
- Procuring contractors compliant with Davis-Bacon Act labor standards;
- Managing construction and quality assurance;
- Educating operations and maintenance on energy efficiency and systems maintenance;
- Conducting post-retrofit audits (“commissioning”);
- On-going collection of energy performance data to verify savings post-weatherization.

The typical upgrade measures included installation of energy efficient boilers and hot water heaters; new heating and hot water controls; water conserving plumbing fixtures; efficient light fixtures and lighting controls; EnergyStar refrigerators; mechanical ventilation repair and balancing for improved indoor air quality and energy savings; roof insulation; window repairs or replacements; weather-stripping of windows and doors; and cleaning and tune-up of boiler systems.

Enterprise also hired and trained four temporary employees to conduct a door-to-door tenant outreach campaign to optimize building performance after weatherization. The field staff educated residents about energy and water conservation, healthy living, and waste reduction and recycling. Through this outreach effort, Enterprise successfully reached tenants in 1,017 units out of a total 1,192 Enterprise WAP units. Since the same field staff visited the buildings to do initial income certifications, they were able to build relationships with residents over time and increase opportunities to engage in conversations around energy conservation.
Over the course of two years, Enterprise and LISC deployed $15 million to weatherize 2,227 units – reaching 84 homes (4 percent) more than the original contract goal. The total direct investment of $15 million leveraged another $4.8 million in city and private funds, creating 193 construction jobs.

<table>
<thead>
<tr>
<th>TOTAL CWP PIPELINE</th>
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<tbody>
<tr>
<td>96 properties weatherized</td>
</tr>
<tr>
<td>2,227 units improved</td>
</tr>
<tr>
<td>4% (84 units) more than original contract goal with no additional funding</td>
</tr>
<tr>
<td>$15,000,000 ARRA funds deployed</td>
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<tr>
<td>$4,800,000 city and private funds leveraged</td>
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<tr>
<td>193 construction jobs created</td>
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<table>
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<tr>
<th>ENTERPRISE PIPELINE</th>
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<tr>
<td>35 properties weatherized</td>
</tr>
<tr>
<td>1,192 homes improved</td>
</tr>
<tr>
<td>11% (120 units) more than original contract goal with no additional funding</td>
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<tr>
<td>77% of apartments received improvements to indoor ventilation</td>
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<td>4 green jobs training program graduates hired</td>
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Based on preliminary energy reports, the CWP weatherized portfolio is on track to meet the program goals of 24 percent reduction in energy consumption and 23 percent reduction in carbon emissions. Early data during the construction period indicate that total portfolio energy usage dropped 7 percent between 2010 and 2011, resulting in a 5 percent reduction in total energy spending. CWP will calculate and verify final program outcomes in early 2013, one year after the last retrofit was completed.
In addition to reducing carbon emissions and delivering cost savings, the program trained operations and maintenance staff on how to manage energy-efficient buildings, thereby increasing the capacity of community-based housing organizations. This training helped ensure that the CWP weatherization program will optimize energy efficiency and sustain savings over the long term.

Part-year savings results: 7% energy savings and 5% cost savings

*Comparison of baseline year (2010) and partial completed year (2011)*
The influx of ARRA funds in New York WAP created a unique opportunity to test new models of delivering multifamily weatherization assistance.

CWP used this opportunity to pilot an innovative approach that targeted substantial weatherization assistance to a limited number of property owners that have large portfolios of tax credit and publicly subsidized multi-family buildings. By concentrating on a select set of portfolios, CWP was able to improve its programmatic efficiency, bring a focus on building stewardship, and deliver investment at a scale that mattered to large property owners. CWP also improved on the standard approach to tenant income qualification, Year 15 building retrofits, resident engagement, and post-completion energy commissioning.

By concentrating on a select set of portfolios, CWP was able to improve its programmatic efficiency, bring a focus on building stewardship, and deliver investment at a scale that mattered to large property owners.

PORTFOLIO TARGETING

Historically, the national Weatherization Assistance Program was designed for home-by-home assistance, primarily targeting individual owners of single-family homes. New York State has expanded its program into the multifamily sector on a building-by-building basis; however, investments have continued to be scattered across various ownership portfolios.

Demonstrating a new approach, CWP and HPD identified owners of large portfolios of aging tax credit financed or publicly subsidized properties. CWP then worked with these owners to guide multiple buildings in their portfolios through the program qualification and retrofit process. This targeted approach allowed CWP to direct substantial investment to of the participating organizations, while making a substantial impact on New York City’s affordable housing sector.
By focusing on a limited number of owners, CWP reduced the logistical challenges of multifamily building weatherization. For example, instead of providing trainings at all 96 properties, CWP was able to provide fewer, targeted intake and operations trainings with staff at each of the ownership organizations, while still reaching all of the organizations’ building operators. Training the on-site staff to understand mechanical systems performance and maintenance helped CWP build capacity across those organizations. These efforts will also help ensure that the program produces long-term, high-quality outcomes, even in buildings that did not receive weatherization.

*CWP sought opportunities to coordinate with agencies such as the New York Human Resources Administration to income-certify tenants who already qualified for other public assistance programs.*

**TENANT INCOME QUALIFICATION**

The current weatherization program qualification guidelines require property owners to certify and document 50 percent of tenant households as low income.¹ This requirement is labor-intensive and costly in large multifamily properties. It is also duplicative in tax credit financed or publicly subsidized buildings that already have tenant income level requirements. To address this challenge, CWP sought opportunities to coordinate with agencies such as the New York Human Resources Administration to income-certify tenants who already qualified for other public assistance programs. These experiences demonstrated that opportunities exist to accelerate the qualification process, reduce the paperwork burden on tenants, and lower administrative costs for the WAP agencies.

¹. Federal program regulations required that eligible buildings be occupied by tenants with incomes at or below 60 percent of the State Median Income, equivalent to an annual household income of $49,524 for a family of four.
BRAIDING WAP FUNDS INTO YEAR 15 PROCESS

As buildings with Low Income Housing Tax Credit financing reach the end of their tax credit compliance period ("Year 15"), many are in need of a significant capital infusion to maintain their physical and financial viability and preserve their affordable rents. Because there is limited capital funding available for Year 15 properties, Enterprise saw an opportunity to leverage Year 15 capital from HPD with weatherization funds. Although CWP delivered weatherization funds to 24 Year 15 buildings in the Enterprise WAP portfolio, creating a replicable braided finance model proved challenging. Because the WAP funds allocated through ARRA were subject to Davis-Bacon wage regulations, combining Year 15 capital would trigger federal labor requirements for the entire project, driving up construction costs. Nevertheless, this effort demonstrated that coordinated funding between an energy program (WAP) and a housing program (Year 15 capital), could deliver the dual benefit of increased capital improvement funds with an integrated focus on energy and water efficiency.

Resident cooperation and commitment are crucial to achieving and maintaining benefits from green systems upgrades.

RESIDENT ENGAGEMENT

Resident cooperation and commitment are crucial to achieving and maintaining benefits from green systems upgrades. For example, even the best new water conservation system can appear ineffective if residents choose to leave faucets or showerheads running. Changing tenant behavior is essential to help to support healthy living, lower utility and maintenance costs, and maximize the environmental benefits of green affordable housing.

Enterprise integrated door-to-door tenant outreach into the weatherization process, accessing 85 percent of tenant households in the Enterprise WAP portfolio. The field staff modeled the resident engagement approach on Enterprise Green Communities “Resident Engagement Training in a Box,” a training toolkit designed to educate residents about energy and water conservation, healthy living, and waste reduction and
The educational material focused on small, achievable behavior changes – such as leaving shoes by the door to minimize indoor air pollution, or turning off power strips to reduce phantom power loads. These educational efforts were a key piece of gaining resident buy-in around energy savings goals, and essential to optimizing the entire building’s performance after weatherization.

**POST-COMPLETION COMMISSIONING**

Ultimately, building performance depends on the ability of property owners to manage their buildings for energy savings. To this end, CWP introduced third-party commissioning (post-implementation performance auditing) to the WAP process to ensure that mechanical systems were working effectively several months after installation. During the commissioning, an energy auditor and program staff returned to the building for a walk-through and instrumented systems testing focused on heating and hot water systems, lighting, and ventilation systems. They then issued a building-specific report to CWP and property owners. The report identified adjustments for warrantee work and additional recommendations for optimizing energy use. For example, the auditors uncovered instances of inaccurate boiler control settings, or failed shut-off sensors on outdoor lights. This commissioning provided critical information to building managers about the systems performance, helped ensure that systems were running optimally, and could be used to inform future capital and maintenance improvements.

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RECOMMENDATIONS FOR THE FUTURE OF AFFORDABLE MULTIFAMILY WEATHERIZATION

The lessons learned from weatherizing multifamily buildings in New York City can help inform future efforts to improve energy efficiency in affordable multifamily housing.

Enterprise is already leveraging its WAP experience to launch a new green business service, called the Partner Portfolio Retrofit Engagement Platform (PartnerPREP). PartnerPREP is a technical support program that uses the portfolio-based approach to help owners of multifamily affordable housing developments retrofit their buildings, implement long-term energy savings plans, and lower operating costs. PartnerPrep will continue to braid available resources and deliver assistance to affordable housing owners at scale.

Through the CWP weatherization program, Enterprise also developed a number of recommendations to share with policymakers and the broader public. These recommendations address strategies to improve programmatic efficiency, maximize energy and financial savings, and leverage existing energy expertise in New York State:

- **States should strengthen the use of WAP by identifying barriers to multifamily affordable housing weatherization.**
  State and federal agencies should also adopt a targeted portfolio model as a way to deliver WAP and other capital funds to pre-identified ownership organizations with significant subsidized housing portfolios. This model has the potential to improve programmatic efficiency and concentrate public investments where they can have the greatest impact for low-income and vulnerable households.

- **State and federal agencies should share information to streamline the program qualification process for buildings with income-certified tenants.**
  By pre-qualifying projects in publicly-subsidized portfolios, WAP administrators can reduce intake time and costs, and maximize funds for energy improvements.
Federal weatherization funds have the potential to leverage other sources of capital to rehab and preserve historic public investments in affordable housing.

Adopting incentives, such as coordinated funding or procedural incentives for leveraging WAP alongside capital improvements, would help New York State braid together scarce capital resources and improve the long-term financial and environmental sustainability of these buildings.

Through the Weatherization Assistance Program, New York State Homes and Community Renewal (HCR) has built its human capital and become a recognized national leader in addressing multifamily energy efficiency.

HCR should leverage that expertise to incorporate an energy efficiency focus throughout the State’s housing capital programs.

HCR should adopt resident engagement as a required program activity for multifamily WAP administrators.

The resident engagement piece should be built into the program soft costs, rather than offered as an optional service.

All multifamily energy efficiency improvement programs should establish performance benchmarks and incorporate post-completion commissioning as a standard practice.

These post-retrofit audits would help protect the significant public investment in new energy systems, provide valuable information to property owners, and help demonstrate future program impacts.
ABOUT ENTERPRISE

Enterprise is a leading provider of the development capital and expertise it takes to create decent, affordable homes and rebuild communities. For more than 30 years, Enterprise has introduced neighborhood solutions through public-private partnerships with financial institutions, governments, community organizations and others that share our vision. Enterprise has raised and invested $11.5 billion in equity, grants and loans to help build or preserve nearly 300,000 affordable rental and for-sale homes to create vital communities.

Visit www.EnterpriseCommunity.org and www.EnterpriseCommunity.com to learn more about Enterprise’s efforts to build communities and opportunity.

ENDNOTES


