Project Profile
Energy Efficiency Retrofits for Low-Income Households

For cities to achieve their renewable energy goals, a critical factor is reducing overall energy demand, including shrinking energy usage in the residential sector.

Residents can reduce their energy needs through a multitude of energy efficiency upgrades, which range from replacing lighting fixtures and lightbulbs, to upgrading major home appliances (ex: fridge, washer, dryer), to performing major heating and cooling equipment retrofits (ex: hot water heaters, furnaces), as well as weatherization upgrades (ex: replacing windows, increasing insulation).

Residential energy demand is particularly difficult to reduce, as many urban residents are renters, lower-income, and/or tenants in multi-family buildings. These three groups face additional barriers to investing in energy efficiency.

- **Renters** often don't have the authority to implement retrofits, or the incentive to make long-term property investments. At the same time, landlords lack the motivation to retrofit their units when cost savings from reduced energy consumption accrue to tenants. This is referred to as a "split-incentive."
- **Lower-income residents** often face high financial barriers to implementation, given the high upfront costs of many efficiency retrofits.
- **Multi-family** housing tenants face additional challenges, such as multi-party collective decision making.
- About 15% of households nationwide are unable to perform efficiency upgrades due to structural and health issues such as leaks and mold, and other deficiencies highly correlated with low-cost housing.

Cities play a pivotal role helping their residents overcome these barriers by funding programs that can better promote and incentivize investing in energy efficiency.

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Case Study

Boston Clean and Efficient Affordable Housing Hospital Partnership

PROJECT LEAD: Codman Square Neighborhood Development Center

CAPITAL TYPE: Impact Fees on Hospital Development + Tax Credits

FUNDER: Boston Medical Center

AMOUNT: $800,000 USD

SCOPE: Rehabilitating 35 units of affordable housing

The Boston Medical Center (BMC) committed $800,000 to a local nonprofit—the Codman Square Neighborhood Development Corporation (Codman Square NDC)—to upgrade 35 units in the Waldeck complex, which provide permanent, supportive housing for individuals with mental health and/or disability issues.[1]

BMC's investment was motivated by their local housing crisis: 25% of BMC's admitted patients are homeless, and a third of families are "housing insecure."[2] The 1-bedroom tenant population of Waldeck is primarily men of color "struggling with tri-morbidities related to chronic health conditions, substance abuse and mental health issues."[3]

The Waldeck complex was built in the late 1800s and the 1960s, and includes six masonry structures across two sites.[4] Due to disrepair and capital needs, only 23 of the complex's 69 total units were in use prior to the renovations.[5] Codman NDC staff report that before they took ownership of the complex, "tenants had more than $3 million in claims" against the previous owner for negligence.[6]

Project upgrades include new plumbing, new electrical systems, kitchen and bath improvements, fire protections, and adding and improving laundry facilities and mechanical rooms.[7] Current residents worked with the architect and health professionals in a series of interactive charrettes to communicate their needs and desired design features for improved health.[8] These upgrades impact sound and air quality, security and psychological wellbeing, natural lighting, access to nature and exercise, and other benefits.[9]

BMC's investment was spurred by a state "determination of need" requirement, which stipulated that 5% of the cost of BMC's recent campus renovation must be spent on a community health initiative.[10] The Waldeck retrofit project is a small part of the Boston Medical Center's total investment of $6.5 million dollars supporting affordable housing over five years.[11] Additionally, any money that BMC will earn from deploying its multi-million dollar investment—e.g. loan repayments, equity fund returns, and community investment tax credits[12]—will be reinvested into BMC's affordable housing partnerships.[13] In this way, BMC is using Massachusetts's 50%[14] Community Investment Tax Credit as a tool to leverage its required spending for further impact.[15]

While this project was primarily funded by BMC, additional funding came from Enterprise Community Partners (ECP). ECP granted funds to the project's architect to conduct extensive stakeholder engagement over two years to ensure that the retrofits centered residents' needs and desires.[16]

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[1] https://www.bhchp.org/news/bmc-launches-community-investment
[2] https://www.bmc.org/news/press-releases/2017/12/07/boston-medical-center-invest-65-million-affordable-housing-improve
[3] https://www.mass.gov/doc/codmansquarecip/download
[4] https://www.sorensenpartners.com/affordable-housing-rehabilitation-for-csndc/
[5] https://www.bmc.org/news/press-releases/2017/12/07/boston-medical-center-invest-65-million-affordable-housing-improve
[6] https://cedac.org/category/cedac/page/11/
[7] https://www.sorensenpartners.com/affordable-housing-rehabilitation-for-csndc/
[8] https://www.sorensenpartners.com/affordable-housing-rehabilitation-for-csndc/
[9] https://www.sorensenpartners.com/affordable-housing-rehabilitation-for-csndc/
[10] https://cedac.org/category/cedac/page/11/
[11] https://www.bmc.org/news/press-releases/2017/12/07/boston-medical-center-invest-65-million-affordable-housing-improve
[12] https://www.macdc.org/sites/default/files/documents/MACDC%20Letter%20to%20Boston%20CHNA%20Collaborative%2006.25.19.pdf
[13] https://www.bmc.org/news/press-releases/2017/12/07/boston-medical-center-invest-65-million-affordable-housing-improve
[14] https://www.csndc.com/citc.php
[15] https://www.csndc.com/pdfs/annualreport.pdf
[16] https://www.sorensenpartners.com/affordable-housing-rehabilitation-for-csndc/

Taking Action

Guide to Low-Income Energy Efficiency Partnership Programs

Is your city interested in developing an energy efficiency retrofit program that is
(a) accessible and tailored to lower-income residents and renters; and
(b) is funded through a local hospital or another community-serving institution?

YES!

Brainstorm with your city's economic development staff to determine:

(a) **which local institutions** have a stake in community health, affordability, and climate action

b) **if your local county or state has any regulations** requiring institutions to allocate a % of major capital projects or operational funds into a community serving fund, or similar set of initiatives?

Reach out to prospective institutions in coordination with economic development staff to (a) discuss the institution's planned investments in community partnerships and projects; (b) listen for their organizational priorities; and (c) highlight areas of shared need and focus between the institution and the city—and particularly its equitable Climate Action Plan

If institutions are NOT required to invest in community benefit projects, explore creating new regulations with the appropriate city agencies and staff

If there are significant shared priorities [and using the Boston example as a starting point], (a) propose dedicating upcoming community investment dollars to energy efficiency upgrades or healthy affordable housing for low-income citizens, and (b) inquire about allocating any tax credits the institution might receive (through their giving to affordable housing partners and projects, or investing in clean energy or efficiency) into low-income energy efficiency programs.

Work with local community-based organizations to determine the areas of highest need and co-generate efficiency solutions with residents, service providers, and the local utility. Solutions should overcome split incentives for renters, and should present low-income households with zero upfront costs. See the Australian or European Union reports for leading examples.

NO

If there is INSUFFICIENT city interest in, or opportunity for partnership with a local institution, explore funding efficiency retrofits with (a) federal weatherization grants; (b) utility-led on-bill financing; or (c) local green banks