



Rebuild America Success Stories highlight partnerships working to improve communities by practicing energy awareness and investing in energy-saving measures.

- New Building Design
- Existing Building Improvement
- Operation and Maintenance
- Renewable Energy Technologies
- Financing Building Improvements
- Energy Education

Newark Housing Authority

Improving Lighting and Saving Money

The Newark Housing Authority owns and manages 7,600 low-income housing units, including high-rise senior citizen buildings, low-rise family buildings and townhouses. This Rebuild America partnership is saving energy through a comprehensive lighting retrofit. Energy-efficient compact fluorescent lights (CFL) were installed at no cost to the housing authority, dramatically reducing electricity costs.

The Challenge

The Newark Housing Authority spends \$18,000,000 per year on utility costs, of which \$4,000,000 is for electricity. To stay within the budget recommended by Harold Lucas Esq., the housing authority's executive director, it was necessary to keep energy consumption in check, particularly the amount used by lighting.

Energy-wasting incandescent light fixtures were prevalent throughout the housing authority's properties and needed to be replaced. Some light fixtures were installed as far back as the 1940's. In the past, the housing authority considered the use of energy performance contracts to fund many capital improvements, financed through future utility savings. In this case, however, a financing period of between 12 years and 14 years was too long because some properties could be renovated or replaced before a contract expires. In that situation, the housing authority could be responsible for paying an energy service company for improvements long after a property and its energy savings are gone.

The Solution

To solve this problem, the housing authority turned to the New Jersey SmartStart Building® program. The program - administered by the New Jersey Board of Public Utilities - is managed by a partnership of seven utility companies that provides technical assistance, financial incentives and other resources for energy-efficiency improvements for new or existing buildings in the state. The Newark Housing Authority applied for, and received, a \$40 per fixture rebate for commercial rate customers to replace inefficient incandescent light fixtures with efficient fluorescent lights. The local utility, Public Service Electric and Gas, managed the funds.

Before proceeding with the retrofit, the housing authority installed CFLs in several apartments to test the lighting levels emitted by the new energy-efficient fixtures. After the tests demonstrated that the fixtures would produce adequate levels of light using about two-thirds less energy, Utility Refunds Inc., an energy services company,

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Partnership Facts:

Name of Partnership:

Newark Housing Authority

Targeted Buildings

Low-income public housing for families, senior citizens and persons with disabilities

Space Completed or Improved:

4,500,000 square feet

Annual Energy Savings

\$474,000

Amount Invested in Energy-Saving Project or Initiative:

* \$932,770

*No cost to Newark Housing Authority; all costs paid for by the New Jersey SmartStart Building program.

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For more information about energy-saving technologies, visit the Business Partners section of the Rebuild America Web site: www.rebuild.gov or contact Rebuild America at: 252-459-4664.

installed the new lights. The rebate covered the entire cost of the project, including engineering, material and installation. It was a win-win situation for all parties involved, according to Dr. Sukumar, of Utility Refunds.

Over a period of seven months, more than 23,000 fixtures were replaced in 6,000 apartment units in 20 residential complexes. The new lights are projected to save \$474,000 in annual electricity costs. Additionally, the multi-spectrum light bulbs produce a warmer color of light than traditional fluorescent fixtures. The residents are pleased with the results, notes Jose Martinez, chief of planning for the Newark Housing Authority.

Larry Goldberg, R.A., assistant director of modernization, offers some advice for other housing authorities interested in lighting retrofits:

- Start by doing some research
- Make sure a product is easy to replace or repair
- Do not use a product that will only accept replacement light bulbs from one manufacturer.

And because CFLs can last years longer than incandescent light bulbs, Goldberg suggests coordinating with the purchasing department to ensure that light bulbs are not bought in the same quantity or frequency as before a retrofit.

“Tap into state grants that may be available for energy-efficiency programs,” adds Martinez. He also notes that Rebuild America is a good source of information for an energy project. “It’s a good thing to have Rebuild America be a partner with us in energy conservation efforts,” says Martinez. He also suggests contacting the local HUD office to encourage their involvement.

Key Technologies

- Compact fluorescent lights

What the Future Holds

Newark Housing Authority may expand its lighting retrofit to include common areas in senior and mixed high-rise housing. The proposal calls for T12 fluorescent lamps and magnetic ballasts to be replaced with more efficient T8 lights and electronic ballasts. The housing authority is also looking beyond lighting retrofits to future energy-saving projects. Possible projects include winterizing townhouses, installing water conservation devices and replacing inefficient boilers, burners and control systems - some of which are 50 to 60 years old.

To learn more visit: www.eere.energy.gov.

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Rebuild America is a U.S. Department of Energy program that focuses on improving communities through energy-saving solutions.



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