



66 South Portland St., Brooklyn, NY

2 Units, 4 Story, Attached Brownstone



This home at 66 South Portland Street, Brooklyn is a four-story, 2,800 square foot attached brownstone, built in the 1850s. The two-unit building houses the owner and two children in one unit, with one adult tenant renting the second unit. Located in the Fort Greene Historic District, the home is subject to Landmark Preservation Commission requirements that the building maintain the historic look and features specific to the time it was built.

The owner came to the Association for Energy Affordability seeking Home Performance with ENERGY STAR® services to help reduce very high energy bills and increase comfort in the home, and was especially interested in purchasing new ENERGY STAR windows.

Using a whole-house approach, AEA conducted a Comprehensive Home Energy Assessment and identified numerous opportunities for cost-savings. The existing windows were drafty and poorly fitted, making them very hard to open and close. However, the new windows would have to meet the standards of the Landmarks Preservation Commission, and were much larger than most modern windows, requiring unique replacements. AEA worked with a contractor that specializes in custom-made, historic ENERGY STAR windows to give the building owner efficient windows that meet the Landmarks Preservation Commission standards.



Project Summary:

Energy-efficiency measures installed:

- ◇ Replace 10 front windows with custom ENERGY STAR®, low-E, .35 U-value krypton windows
- ◇ Upgrade existing boiler to a 171,000 Btu/hour boiler with efficiency of 80%
- ◇ Insulate roof cavity – upgrade 700 square feet of existing roof insulation to R-24

Savings Summary:

Total cost: \$23,330

Estimated Annual Savings:

- ◇ Cost Savings: \$1,357
- ◇ Gas Energy Savings: 75.8 MMBtu
- ◇ Saving to Investment Ratio: 1.1
- ◇ CO₂ Lifetime Reduction: 84 Tons
- ◇ NO_x Lifetime Reduction: 228 lbs.
- ◇ SO₂ Lifetime Reduction: 1 lb.



A new 85% AFUE-rated hot water natural gas boiler replaced the existing boiler which had an efficiency of only 60%. The heating efficiency of the house was further improved by increasing the attic insulation from an R-value of 8 to R24, the house was air-sealed and two skylights repaired. Based on before and after blower-door tests, the energy efficient measures installed reduced air-leakage by 30%.

Total project cost was \$23,330, with projected savings of \$1,357 per year. The owner reports that since the work was performed the bills are lower and the house is much more comfortable.

“I just want to let you know what a great job your people did here. Both the tenant and I are thrilled with the quality of work, and how nice they’re to work with. We’ve had warmer and cheaper winters!” — Building Owner, 66 South Portland St.

What is Home Performance with ENERGY STAR®?

Home Performance with ENERGY STAR is a New York State Energy and Research Development Authority-administered program offering free or reduced-cost Comprehensive Home Energy Assessments, also referred to as energy audits, conducted by a participating BPI Accredited Home Performance Contractor such as AEA. In addition, the program offers low-cost financing to help cover the cost of the approved energy efficiency upgrades. Visit AEA’s website or contact Robert Gardella to find out more:

aea.us.org/HPES

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