

Gas Conversion Significantly Reduces Utility Costs and Emissions for Upper West Side Co-op

SITUATION

Danielle Apartment Corporation, a 79-unit cooperative located at 140 West 71st Street in Manhattan, was burning highly-polluting heating oil #4, which New York City has mandated be phased-out by 2030. To comply with the city's order to convert to cleaner fuels, and in an effort to reduce the building's carbon footprint, lower fuel expenses and better control heating distribution, the board reached out to FirstService Residential for guidance on determining if these goals would be achievable by converting their boilers to natural gas.



SOLUTION

FirstService Residential turned to its project management subsidiary, FS Project Management, and to its energy advisory subsidiary, FS Energy, to conduct a feasibility study for the project. They engaged a team of contractors, as well as the local utility, Con Edison, to develop a comprehensive analysis of the costs, timeline, process and potential savings for the board to consider.

The feasibility study showed that by converting the boiler to natural gas, a 27% return on investment would be achieved, equaling an average annual savings of \$50,000. On top of that, the building would circumvent converting to oil #2 to comply with the city's mandate—a cost estimated at \$10,000.



The board voted to proceed and retained FS Project Management to ensure proper oversight and timely completion. As the building's representative, FS Project Management managed all aspects of the project from contract



negotiations, resident communications and contractor oversight to utilities coordination and punch list completion. Due to its industry relationships and negotiating power with contractors,

PROJECT SUMMARY	
Project Cost	\$191,470
NYSERDA Incentive	\$20,000
Cost to Building	\$171,470
2014 Utility Bill Savings (vs 2013 costs)	\$56,630
2015 Utility Bill Savings (vs 2013 costs)	\$100,076
Construction Timeline	8 months
Payback Period	<15 months

COSTS AVOIDED	
Savings from FSPM Contract Negotiations	\$34,000
Avoidance of Oil #4 to #2 Conversion Mandate	\$10,000
TOTAL	\$44,000

	2013	2014	2015
Electric	\$16,688	\$18,095	\$15,461
Natural Gas	\$2,097	\$17,476	\$36,548
Fuel Oil	\$133,300	\$59,884	\$0
TOTAL	\$152,085	\$95,455	\$52,009

FS Project Management negotiated \$34,000 in savings for the building, or 15% of the project costs.

OUTCOME

FS Energy and FS Project Management secured a \$20,000 incentive grant through the New York State Energy Research and Development Authority (NYSERDA) which reduced the total project expense to \$171,470.

In two years, the building's utility bills dropped by 192%, or \$100,076 when compared to their 2013 utility expenses. The building has also saved an estimated 105 metric tons of CO2, the equivalent of 22 passenger vehicles driven for one year.

The building further increased system distribution efficiency by installing 19 indoor air sensors throughout the building. By sending real-time temperature data to the boiler control system, balance and efficiency of the system was increased, saving approximately 5-10% of their fuel expenses annually.

"By converting the building's boiler to natural gas, we were able to save \$50,000 annually on our heating bill. This enabled us to reduce the building expenses and keep maintenance costs in check," says Shlomo Spritzer, board treasurer. "In addition, we now have the option to switch to oil #2 and be in compliance with the city's regulations. And since natural gas is the cleanest-burning fossil fuel available, we can reduce carbon emissions by over 40%."