



Columbia University – Morningside Heights Campus

New York City

Under NYSERDA's Technical Assistance Program, industrial and commercial facilities, State and local governments, not-for-profit and private institutions, agribusinesses, colleges, universities, public and private K-12 schools and multifamily facilities may apply for technical assistance services tailored to answer customer-specific energy questions. The program provides cost-shared technical assistance, which may include energy feasibility studies, process improvements, rate analysis and aggregation and engineering in support of project-financing proposals.

Background

Keeping classrooms, labs and dorms on Columbia University's Morningside Heights campus running takes more than 100 million KW of electricity and 800,000 MMBtu of fuel each year. With 24 hour a day demands and a multi-fueled physical plant, finding ways to increase energy efficiency requires careful planning and custom-tailored strategies.

Columbia University worked with Luthin Associates, Inc. through NYSERDA's Technical Assistance Program to propose an energy management plan that would help Columbia University better understand and control its use of electricity and fuel. Base case costs were analyzed, Columbia's internal risk profile was determined, strategies for peak-load reduction evaluated, and a process built to compare competitive purchase proposals.

Luthin Associates assisted Columbia in determining the best fuel management strategy. A comparison was conducted to determine the cost effectiveness of removing the existing 40 year old fuel storage tanks and purchasing firm gas, as opposed to replacing the tanks and pursuing a dual fuel strategy.

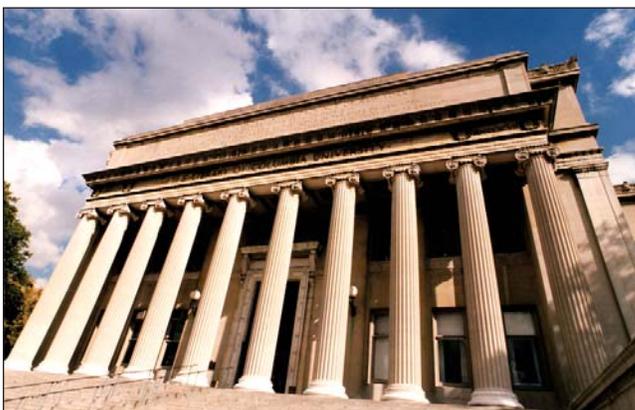
Recommendations

The study showed that Columbia could benefit from a competitively-sourced purchase contract for electricity. The study also indicated that a gas account aggregation plan would be beneficial. The replacement of the existing fuel storage tanks and a continued dual-fuel operation of the central plant was also recommended, to allow for the flexible purchase of natural gas at a reduced cost.

Results

The annual electricity cost savings is approximately \$536,000 compared to projected costs using the full service tariff. It is estimated that the dual-fuel strategy will yield an annual energy cost savings of approximately \$1.9 million, providing a payback of 2 years on the estimated implementation cost of \$4 million.

Columbia University has taken advantage of many NYSERDA programs and has incorporated them into its Energy Master Planning programs.



"NYSERDA funds have been instrumental in helping to maintain the leadership Columbia University has developed through the years in its innovative and common sense approach to keeping energy use and cost as low as possible, while at the same time meeting the heating and cooling comfort needs of its student, faculty and program constituents."

– Joseph Ienuso
Executive Vice President
Columbia University Facilities

NYSERDA

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