

## Energy Audit – Government Offices NYPA / NYC Division of Citywide Administrative Services PlaNYC New York, New York

### Program

NYPA Comprehensive Energy Audit

### Scope of Services

- Analyze Utility Data
- Review Facility Documentation
- Facility Surveys
- Perform Infrared Imaging
- Develop DOE 2.1E Computer Model
- Identify Energy Conservation Projects
- Quantify Carbon Mitigation Benefits
- Prepare Comprehensive Audit Report

### Facility Size

Up to 1,000,000+ sq. ft.

### Facility Type

Offices, public assembly, parking, data centers

### Typical Project Results

- Install Digital Addressable Lighting Interface (DALI) lighting system
- Upgrade lighting fixtures in selected areas
- Replace Incan. & HID lighting with CFL
- Rebuild main AHUs including efficient motors & VFDs
- Install BMS, replace return fan and install new dampers
- Install variable air volume terminal system
- Install efficient motors
- Install VFD on primary cooling tower
- Install water side economizer
- Upgrade snow melting system
- Install condensate heat recovery for DHW



The program selected a sample of municipal facilities in this pilot effort to audit that ranged from recently renovated buildings to those that had not undergone major capital improvements in over 20 years. We found that even in the recently renovated facilities there were opportunities for savings while the older buildings presented significant savings through infrastructure investments. Projected savings ranged from 6% to 41% annual energy savings based on investments that yielded simple economic paybacks between 5 and 15 years. We found that in the buildings that had not been upgraded, many of the systems that would benefit from energy saving technologies were actually at the end of their expected service life and needed replacement in the near term regardless of energy savings. When considering only the incremental cost between replacement in-kind and high efficiency upgrades, the incremental payback was only a few years.

Facility	Energy Savings	Cost Savings	CO <sup>2</sup> (M Tons)	Implementation Cost (\$)	Payback (yrs)
Queens Precinct House	6%	\$3,339	14.25	\$21,700	6.5
Staten Island Precinct House	6%	\$12,320	51.42	\$118,750	9.6
Brooklyn Community College	15%	\$18,889	77.4	\$150,740	8.0
Brooklyn Community College	19%	\$17,456	71.71	\$131,137	7.5
Brooklyn Library	30%	\$9,348	36.28	\$139,500	14.9
Manhattan Senior Center	23%	\$16,280	55.58	\$86,700	5.3
Manhattan High School	41%	\$432,668	1,178.00	\$3,275,000	7.6
Staten Island Elementary School	8%	\$15,045	55.11	\$157,889	10.5
Queens Community College	30%	\$207,305	834	\$1,142,160	5.5
Queens Municipal Office Building	16%	\$115,089	352.52	\$819,000	7.1
Bronx Recreation Center	23%	\$269,612	1180.3	\$1,511,650	5.6
Brooklyn Library	7%	\$3,083	11.72	\$12,800	4.2