



# NYCHA Capital Projects Fact Sheet: ENERGY PERFORMANCE CONTRACTS

## 1. Project Overview

- The scope for Energy Performance Contracts (EPCs) varies. Some examples of projects completed in order to improve the energy efficiency of buildings include: LED lighting installation, water fixture upgrades, and Building Management Systems (BMS) to monitor and control a building's energy output.

## 2. Key Terms

- Energy Service Agreement (ESA):** A contract for energy engineering and efficiency services, including a proposed Energy Conservation Measures (ECMs) implementation plan. The ESA is the Energy Performance Contract.
- Guaranteed Energy Savings (GES):** Requirement that the Energy Services Contractor (ESCO) guarantee a minimum level of savings. If the project does not guarantee the GES in any given repayment year, the ESCo is responsible for reimbursing NYCHA the amount of the shortfall necessary to pay for annual project financing and related contractual obligations.
- Investment Grade Energy Audit (IGEA):** An audit is prepared by the ESCo and used to identify where Energy Conservation Measures (ECMs) can produce savings that exceed the cost of installation. This includes baseline utility consumption and cost by utility type, proposed ECMs, estimates of the ECM's specific potential for reducing utility costs, the payback time period over which savings are realized.
- Building Management Systems (BMS):** A system used to monitor and control a building's mechanical and electrical systems, with a specific focus on optimizing energy efficiency and performance.

## 3. Why is this project needed? Why is it important?

- Energy Performance Contracts improve the utility efficiency of NYCHA assets, secure cost savings and achieve energy efficiency and climate goals.

## 4. Scope of Work Details

- The basic steps of an Energy Performance Contract are as follows:
  - Energy Audit: Conduct a thorough audit of the building's current energy usage, identifying areas for improvement and assessing existing energy systems (lighting fixtures, water fixtures, etc.).
  - Planning: Develop a plan to address energy inefficiencies, including system upgrades and energy-saving technology.
  - System Upgrades: Install energy-efficient systems such as more efficient lighting, heating, and cooling. Implement a BMS to monitor and control a building's energy efficiency.

## 5. Construction Trades & Other Roles Involved

Type	Possible Roles
Trade	<ul style="list-style-type: none"><li>Electrician</li><li>Laborer (including Flaggers, Demolition Workers)</li></ul>
Non-Trade	<ul style="list-style-type: none"><li>Supervisor</li></ul>

# NYCHA Capital Projects Fact Sheet: ENERGY PERFORMANCE CONTRACTS

## 6. Typical Project Timeline

- This project scope is typically completed via a Design-Build delivery type, where a single Design-Build contractor is responsible for a combined design and construction phase.



## 7. What to Expect During Construction

- Staging Area: Projects will require a staging area with an onsite trailer throughout construction
- Outages: Service disruptions may be necessary, such as planned heating service outages during the boiler plant/zone valve configuration. These ordinarily last 2-3 hours per building and require 48 hours notice prior to a shutdown.
- Apartment Access: Apartment entry is required for sensor installation and is coordinated with Building Management and REES when necessary. Installation of sensors for BMS is usually conducted in stages.

## 8. Common Stakeholder Concerns

- Temperature: Average apartment temperatures are often reported as lower than usual by residents (particularly in senior developments). Historically, NYCHA residences are heated above the legally required minimum. When a BMS is installed, the average temperatures are much more consistent but will feel much colder to residents who are accustomed to higher temperatures.
- Sensors: Residents have also concerned about sensors providing inaccurate readings for a whole host of reasons. For instance, a sensor near the kitchen might register a higher internal temperature on account of the stove or oven emanating heat, which will skew the reported temperature for that unit. These outliers are addressed by the BMS, which averages temperatures across an entire building.
- Vandalism: Property management often reports concerns around vandalism of apartment sensors, including removal of the sensors from the walls. This can be mitigated by properly communicating with residents

### BUILDING MANAGEMENT SYSTEM (BMS)

Monitoring building temperatures and heating and hot water systems in real time through a Building Management System (BMS) makes residents' apartments more comfortable. This system improves the distribution of heat throughout buildings, reduces overheating and underheating, and promotes energy efficiency. The BMS monitors the performance and safety of heating equipment so that issues are identified as quickly as possible.



*A temperature sensor on the wall inside an apartment allows staff to calibrate the heating system and monitor temperatures in real time, from anywhere.*

NYCHA BUILDING MANAGEMENT SYSTEM



# NYCHA Capital Projects Fact Sheet: ENERGY PERFORMANCE CONTRACTS

about what the sensors are for and the importance of not tampering with them to ensure proper heat deliver to all units, including their own.