

## PROJECT PROFILE

Market: Residential  
Type: Condominium  
Location: Verona, NJ



## CLARIDGE HOUSE II: SMART MONITORING AND CONTROL

PROJECT SCOPE & SPECS	
<b>Developer / Owner:</b>	The Claridge Realty Group
<b>Engineer:</b>	Falcon Energy Consultants
<b>Building Size:</b>	15 stories; 568,000 Sq. Ft.
<b>Incentive Programs:</b>	NJ Clean Energy Pay for Performance Program
<b>Primary Energy Conservation Measures:</b>	Central Plant Controls; Metering Upgrades



In 2013, The Falcon Group and Sentient Buildings were challenged with significantly reducing energy consumption at Claridge House II, a luxury multifamily condominium with over 400 units. Funding from NJ Clean Energy Pay for Performance Program (P4P) helped to cover the cost of a building-wide window replacement, lighting upgrade, new boiler plant controls with monitoring capabilities, and in-unit monitoring and control for a sampling of apartments. The in-unit additions included digital wall thermostats with sensors to communicate with the central plant, wireless remote control of the fan coil units, and monitoring of fan speed.

The building's previous boiler control system operated based on outdoor temperature alone, a system which was prone to overheating. The new system responds to indoor temperature feedback from the in-unit thermostats, operating the boiler based on the number of units calling for heat. The retrofit led to approximately 20% of heating energy savings.

In addition to these improvements, an innovative new metering system helps to monitor performance. Sentient and Falcon engineers developed a system to monitor the gas meter and the electric meter serving the chiller plant and its associated pumps. The system forecasts energy consumption based on historical data and compares to real-time usage, giving the building a baseline performance metric.

This new metering system helps operators understand when the building is using more energy than it should. These alerts give operators access to the information they need to keep the overall system running optimally, leading to comfort improvements and heating energy savings.