Case Study: Meeting Building Energy Performance Standards at The Westory

BETTER BUILDINGS ALLIANCE

PROJECT OVERVIEW

The Westory is an 11-story, 273,111-square-foot office building situated in the East End of downtown Washington, D.C., at 607 14th Street NW and is owned by New York Life Real Estate Partners. The original Westory building was constructed in 1906, with redevelopments and expansions completed in 1990 that maintained the original historic façade, which resulted in a new, enlarged building footprint. Cushman & Wakefield's Energy & Sustainability Services (ESS) team was engaged by ownership to complete an initial ASHRAE Level I Energy Audit in March 2020 and develop a short-and long-term energy plan. This plan led to an ongoing energy performance consulting routine to ensure the building will continue to meet the targets outlined in Washington, D.C.'s Building Energy Performance Standard (BEPS).

THE CHALLENGE

The Westory's overall energy performance for calendar year 2019 recorded an ENERGY STAR® score of 53 and a calculated annual site energy use intensity (EUI) of 69.1 kBtu per square foot. With the cost of electricity in the Washington, D.C. market, the building's total annual utility cost was $2.85 per square foot for the twelve-month period ending in December 2019.

Washington, D.C.'s BEPS ordinance requires enhanced building performance for commercial buildings 50,000 square feet or larger. Covered buildings are evaluated based on their 2019 benchmarking data and are compared against the D.C. median ENERGY STAR® score by property type, which for office buildings is a score of 71. Since The Westory's 2019 ENERGY STAR® score was 53, the building was required to select a pathway to meet compliance by 2026:

- **Performance Pathway:** Reduce energy usage by 20%
- **Prescriptive Pathway:** Implement cost-effective energy efficiency measures
- **Standard Target Pathway:** Reach or exceed the D.C. median ENERGY STAR score of 71 for office buildings

THE SOLUTION

The Westory's building owner chose to pursue the Performance Pathway to reach BEPS compliance by 2026. After Cushman & Wakefield completed an ASHRAE Level I Energy Audit and immediate implementation of no- and low-cost energy conservation measures (ECMs) for the owner, the building's ENERGY STAR® score increased by 7 points to a score of 60 in the following months. The combination of an energy audit and ongoing energy performance consulting resulted in the following identified ECMs:

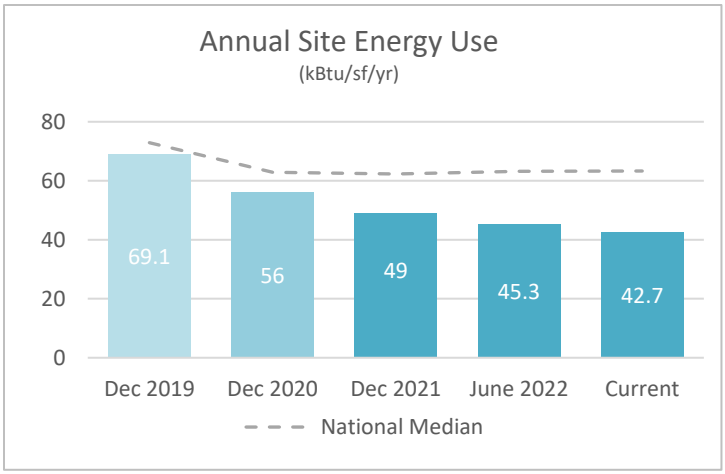
- No and low-cost ECMs implemented included:
  - Calibrating existing reset programs
  - Installing lock-out programs on the building automation system
  - Adjusting equipment schedules
  - Completing off-hour operational reviews of the facility

- Capital measures implemented include:
  - Upgrading the building automation system
  - Retrofitting pneumatically controlled variable air volume (VAV) boxes to direct digital control
  - Optimizing mechanical plant operations with additional modulation control programming

Given the positive results from the initial energy audit and the rollout of Washington, D.C.'s BEPS, ownership then chose to enroll in an ongoing energy performance consulting routine. Cushman & Wakefield's performance consulting routine instated monthly meetings to review energy data from utility bills and real-time energy meters, analyze energy conservation measure implementation, and incorporate strategy discussions about embracing energy efficiency culture in the operations of the building. Other ongoing services provided as part of the performance consulting services included:

- Updating the ENERGY STAR® and utility model with actual bill data to track performance and results
- Tracking real-time energy data to identify operational opportunities limiting energy consumption and managing peak load demand

RESULTS ACHIEVED



- **ENERGY STAR® Certification**

  The Westory earned an ENERGY STAR® certification in November 2022 based on their July 2022 score of 75. As of energy data from October 2022, the building has an ENERGY STAR® score of 77, a gain of 24 points since initial engagement in March 2020. This was the building's first certification since 2018 when the baseline performance requirements were updated by the Environmental Protection Agency (EPA).

- **Year-over-Year Cost and Consumption Reductions**

  The implementation of ECMs enabled The Westory to achieve high energy savings during periods of low occupancy from 2020 to 2021. During that time, The Westory experienced a 17% reduction in energy consumption and 9% reduction in energy expenditures. An additional reduction of 9% in energy consumption has been achieved for the most recent 12 months of data recorded, as of December 2022

- **Improvement beyond D.C. BEPS requirements**

  The Westory is currently trending at a 29% energy consumption reduction rate compared to the 2019 baseline and has an ENERGY STAR® score of 77 for October 2022, exceeding the Washington, D.C. BEPS requirements of a 20% reduction for the performance path or a 71 score for the standard target path respectively. These results put the building on target to meet the requirements outlined in Washington, D.C.'s BEPS.

- **Continued LEED O+M Gold Certification**

  The Westory received LEED v2009 O+M Gold certification in August 2017 with 61 points. In November 2022, The Westory was able to maintain LEED v4.1 O+M Gold certification with 62 points due to the overall increase in energy performance in recent years. The onsite team has been assisting the building consume less energy, optimize building solutions, and improve their ENERGY STAR® score, in turn, supporting the LEED efforts at the building.

KEYS TO SUCCESS

- **Ownership-Driven Goals to Enhance ESG and Sustainable Practices**

  New York Life Real Estate Partners tasked Cushman & Wakefield's ESS team with multiple energy and sustainability projects to promote environmental, social and governance (ESG) best practices for The Westory. Projects of note include LEED v4.1 Operations + Maintenance Gold Certification completed in November 2022, an ASHRAE Level I Energy Audit, and ongoing Energy Performance Consulting to meet D.C. BEPS requirements while lowering their carbon footprint.

- **Key Stakeholder Engagement**

  Coordination between ownership, the onsite management team, the building controls vendor, and Cushman & Wakefield's ESS team played a vital role in the results accomplished at The Westory. All parties understood the cornerstone to obtaining successful results and optimizing energy performance is working together towards a common goal.

- **Investment in Upgrading Building Systems Paired with Energy Focused Operational Improvements**

  The best energy performance optimization results come from a holistic approach to the process. The first step is analyzing the existing equipment and building operations to identify no- and low-cost energy conservation measures that can be implemented immediately for instant results. The next step is working with the building management team and ownership to identify thoughtful deployment of capital strategies with the goal of upgrading equipment and optimizing energy performance of the building's main mechanical systems.

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