

## Pender Office Building Energy Upgrades

### THE CHALLENGE

The Pender Office Building is a key facility owned by the Fairfax County Redevelopment and Housing Authority (FCRHA) and operated by the Fairfax County Housing and Community Development (HCD), and specifically serves as the headquarters for the (FCRHA) that specifically serves as the headquarters for the Fairfax County Redevelopment and Housing Authority (FCRHA). The building underwent an energy upgrades project through a performance contract with CMTA. The Pender Office Building's energy upgrade faced the challenge of an aging roof that was unsuitable for a solar PV array due to its ballasted membrane. The project team worked closely with Fairfax County to replace the roof with a solar-compatible white membrane "cool roof," which improved solar panel efficiency and enhanced insulation. This solution also addressed deferred roof maintenance, ensuring both energy savings and long-term building performance.

*The work completed at the Pender Office Building and the projected 41% savings has energized the county and their ability to meet energy efficiency goals.*

### THE RESULTS

The energy upgrades, including new solar panels, LED lighting retrofits, HVAC improvements, and enhanced building envelope insulation, led to a 41% reduction in energy consumption, saving 545,981 kWh annually. The project also reduced greenhouse gas emissions by 326 metric tons of CO<sub>2</sub>e in its first year. Energy-efficient measures, such as low-E window film and high-performance HVAC systems, improved occupant comfort and thermal efficiency. Additionally, the building qualifies for a new utility rate that is projected to save Fairfax County an extra \$26,000 per year in electric bills. This project not only supports the county's climate goals but also serves as a model for future energy upgrades at other county facilities, demonstrating both environmental and financial benefits.

The **Virginia Energy Efficiency Council**, a member-based 501c3, launched the Energizing Efficiency Campaign in 2023 to further the mission of advancing EE across the state by showcasing incredible work being done in our communities and inspiring others to act. Learn more at [VAEEC.org/Energizing-Efficiency-Campaign](https://www.vaeec.org/Energizing-Efficiency-Campaign).

