SHOWCASE PROJECT: CSNDC TARGETS WASHINGTON COLUMBIA #1 AND #2 FOR ENERGY-EFFICIENT UPGRADES

SOLUTION OVERVIEW
Washington Columbia (WC) #1 and #2 are adjacent sister properties constructed in 1920 to house low-income families with Section 8 vouchers. The 3-story walk-up multifamily buildings offer 1-, 2-, and 3-bedroom apartments. WC #1 includes 150 units in five buildings and WC #2 includes 175 units in seven buildings. Codman Square Neighborhood Development Corporation (CSNDC) targeted the properties for energy-efficient upgrades because the buildings were outdated, featuring old T-12 fluorescent fixtures, poorly-performing atmospheric boilers near the end of their useful life, and a roof well-suited for solar photovoltaics (PV).

Before beginning physical building upgrades of WC #1 and #2, CSNDC met internally to ensure goal alignment among its various departments. CSNDC had already committed to the Better Buildings Challenge and had contracted with WegoWise to track its portfolio-wide energy and water consumption.

SECTOR TYPE
Multifamily

LOCATION
Dorchester, Massachusetts

PROJECT SIZE
360,000 Square Feet

FINANCIAL OVERVIEW
$1,740,000

SOLUTIONS
CSNDC implemented energy efficiency and renewable energy upgrades for WC #1 and WC #2 over several years, beginning in 2015 and continuing through 2017. Some of the improvements included:

- Replaced all common area and in-unit T-12 fluorescent fixtures with LED fixtures;
- Installed Energy Star® appliances in all units;
- Replaced atmospheric heat and hot water boilers with high-efficiency condensing boilers;
- Implemented boiler equipment monitoring and optimization;
- Installed white roofing, pipe and roof insulation, weather-stripping, and energy-efficient

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windows; and
• Installed solar PV for community shared solar.

The lighting upgrades extended to the on-site computer learning center, which offers computer classes, employment training, and youth and adult enrichment classes. In addition to the energy-efficient building upgrades, CSNDC also installed low-flow showerheads, toilets, and faucets and replaced the washers with more efficient models.

OTHER BENEFITS
The renovation of WC #1 and #2 followed CSNDC’s Green & Healthy Building Guide standards, such as installing recycled vinyl composition tile flooring, providing exercise programs and bicycle storage, and offering on-site recycling. Maintenance staff use green cleaning products and Low Volatile Organic Compound (VOC) paint when preparing units for resident turnover. The properties are smoke-free, reducing maintenance costs and improving indoor air quality and resident health.
### Annual Energy Use
(Source EUI)

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<tr>
<td>Annual Energy Use</td>
<td>140 kBtu/sq.ft.</td>
<td>113 kBtu/sq.ft.</td>
<td>19%</td>
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### Annual Energy Cost

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<td>Annual Energy Cost</td>
<td>$497,000</td>
<td>$392,000</td>
<td>$105,000</td>
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**Washington Columbia's Solar PV**

**Washington Columbia's Playground**

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CSNDC Targets Washington Columbia #1 and #2 for Energy-Efficient Upgrades - Better Buildings Solution Center

Washington Columbia’s New Boilers

Washington Columbia’s LED Lighting

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