

Carrington Way Apartments

Location: Newark, DE • Size: 15 Buildings comprised of 165 units •
Owner: The Capital Realty Group

PROJECT BACKGROUND

Carrington Way is an affordable, 165-unit multifamily apartment complex located in Newark, Delaware. By 2020, the nearly 50 year-old development was showing its age and in desperate need of some energy efficient upgrades. The owner, Capital Realty Group, enrolled the complex in the Energize Delaware Affordable Multifamily Housing Program, an initiative of the Delaware Sustainable Energy Utility (DESEU). Their goal was to identify cost-effective energy and water efficiency upgrades and evaluate feasible renewable and clean energy systems, while reducing maintenance requirements.

ESTIMATED SAVINGS

- Electricity penalty: (387,862) kWh per year
- Natural gas savings: 83,031 therms per year
- Water savings: 2,904,421 gallons per year

TOTAL SITEWIDE SAVINGS

- 52% energy
- 32% water
- 19% utility costs



As the administrator of the program, New Ecology, Inc. (NEI) conducted an ASHRAE level II energy audit to identify upgrade and savings opportunities, which were then implemented through the Program. Throughout the process, NEI provided project management, which included: project scoping and bidding management, contractor submittal, technical assistance, construction support and oversight, and post-construction on-site staff training.

Thanks to the Energize Delaware program, the entire cost of upgrading multiple energy and water consuming systems in the apartment complex was subsidized by 40%, earning a \$495,000 rebate for the owners. The upgrade and rebate assistance through DESEU were a major factor in enabling their ability to extend the affordability status of the units, as they recently submitted a twenty-year extension to their Housing Assistance Payments Contract (HAP) contract with the US Department of Housing and Urban Development (HUD).

The subsidies for energy and water efficiency upgrades, which greatly lowered operating costs, fostered the ability to extend affordability and retain HUD status for another 20 years.

Solutions and Features

- End-of-life gas-fired central boilers with DHW (domestic hot water) coils were removed, and replaced with new high-efficiency air source heat pumps which distribute ducted heating and cooling via EC fan motors. The variable speed split systems achieve up to 19 SEER and 11 HSPF.
- New high-efficiency gas-fired condensing storage hot water heaters and thermostatic mixing valves were installed to serve each building with domestic hot water, and existing piping was insulated.
- Attic air sealing and insulating, along with in-unit air sealing, were performed to reduce drafts, and new bathroom exhaust fans, ducting and dampers were installed to promote improved indoor air quality.
- New LED lighting was installed in each unit, and occupancy controls were installed in common areas which already utilized LED fixtures.
- New ultra low-flow toilets and water-conserving aerators and showerheads were installed throughout the residential buildings.

BEFORE



AFTER



BEFORE AND AFTER: Aging condensing units were replaced with exterior, wall-mounted heat pumps. The abandoned wall penetrations were fully insulated and finished with brick.

