

# Coppergate House

*East Orange, New Jersey*



## Background

**B**uilt in the 1970's, Coppergate House is a 150-unit apartment building, located in central New Jersey, where energy costs have nearly doubled over the last few years. Those rising energy costs took an increasing bite out of Coppergate's annual operating budget.

Coppergate's winter heating and year-round domestic hot water was produced from an aging boiler system. Due to its age, the boiler had lost substantial efficiency and its maintenance costs had risen considerably. This combination along with the rising energy costs was creating an ever-increasing cost spiral.

Since Coppergate is home to seniors and owned by a private, non-profit organization, rising costs of any kind have a significant impact. "I was seeking an effective strategy to both lower my energy costs and replace my older boiler system," stated Ray Marzulli, Property Manager of Coppergate House.

## Solution

**W**orking with Coppergate, American DG Energy began by conducting an energy audit to determine the feasibility of the cogeneration project. The audit involved evaluating the historical energy use patterns, assessing the installation and system modification costs and estimating annual savings.

From the audit, American DG Energy determined that providing the facility with its On-Site Utility would enable Coppergate to realize significant energy cost savings at no cost and without the burden of maintaining the equipment. An On-Site Utility offers customers the energy savings benefits of cogeneration without any capital costs or operating responsibilities. Coppergate management agreed to go forward with the project. "We have significant experience with cogeneration. Once we had evaluated our options, selecting an On-Site Utility was an easy decision to make," stated Mr. Marzulli.

American DG Energy installed a CM75 cogeneration module on the premises at Coppergate. As part of that installation, it was necessary to also make significant piping and control changes to the heating and domestic hot water architecture.

The single most important modification made was to eliminate off heating season use, specifically the production of domestic hot water, of the older and more inefficient boilers. Instead of generating hot water using a boiler, whose efficiency had been de-rated to significantly below 65%, the CM75 module utilizes its thermal output to generate domestic hot water at a significant level of savings.

Another alteration, essential to ensure maximum efficiency and cost savings, involved adding new meters and controls that work in a coordinated partnership to reduce the energy formally demanded by the older, less efficient boiler system. The old boiler system now acts as the backup instead of the primary heating system for Coppergate.

Coppergate's value is not limited to the boiler solution. The CM75 module has delivered significant savings on electricity. It helps Coppergate keep summer peak electrical costs in check by providing a guaranteed method of producing electricity, cheaper than what they would otherwise pay to the local utility.

The project has been very successful. Coppergate now has an efficient, reliable energy source for all its electricity, heat and domestic hot water needs. At the same time, they have also realized significant energy cost savings. Mr. Marzulli explained, "With American DG Energy's On-Site Utility, we're saving 15% on our electricity costs. It adds up to thousands of dollars in savings annually."



## Project Highlights:

American DG Energy achieved the following goals at Coppergate House:

- Installed a CM75 cogeneration module
- Modified piping and controls for the heating and domestic hot water architecture
- Eliminated use of the old boilers during the non-heating season
- Utilized CM75 module thermal output to generate domestic hot water
- Installed additional metering
- Reduced year-round demand on the old boiler system

**No Cost | No Responsibility | No Risk**  
*Just Savings*

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