

**MULTI - FAMILY
RESIDENTIAL**

Company Name

Birchwood Towers - The Kyoto

Location

Queens, NY

Installation Date

September 2014

Data Collection

Beginning April 2015

Generating Capacity

75 kW

CHP Equipment

One Aegis AEGEN-TP-75LE

Engine Generator

Heat Recovery Application

Domestic Hot Water & Heating

Type of Fuel

Natural Gas

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“CHP will help reduce air pollution in the state’s most densely-populated areas, and will also help conserve our limited fossil fuel resources and increase the nation’s energy self-sufficiency.”

- Francis J. Murray Jr.
President and CEO
NYSERDA

Combined Heat and Power System Saves Apartment Complex Money

BACKGROUND

The Kyoto is one of three high rise apartment buildings in the Birchwood Towers complex located in the Forest Hills neighborhood in Queens.

A combined heat and power (CHP) cogeneration system was installed to provide reduced energy costs for domestic hot water (DHW) and space heating loads.



Aerial View of Birchwood Towers

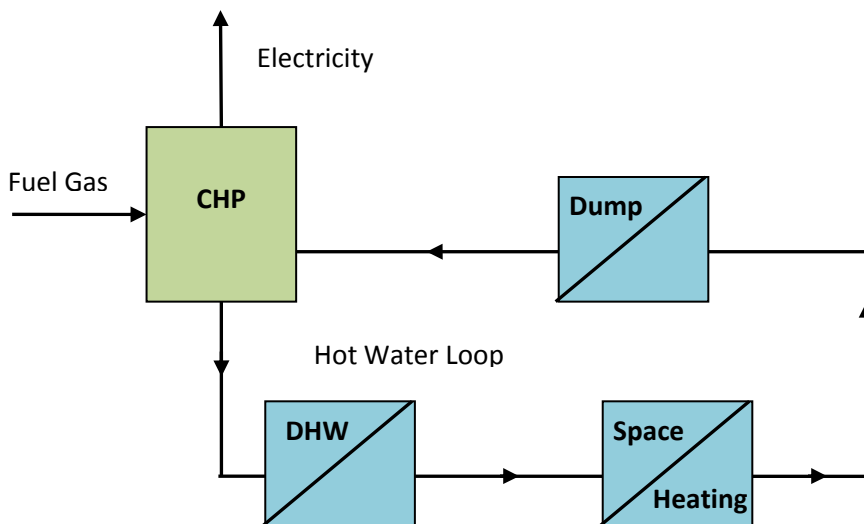
THE APPLICATION

One Aegis Energy Services 75 kW AEGEN-TP-75LE generator was installed to reduce reliance on electric suppliers and reduce costs. The generator provides on-site electrical generation and can provide 75 kW of continuous power and 523 MBtu/h of thermal output as hot water. Heat recovered from the production of electricity is used for domestic hot water (DHW) and space heating. There is a duplicate cogeneration plant in The Toledo building, as well. The projected cost savings for both Birchwood Towers installations is over \$120,000 annually.

CHP SYSTEM AND EQUIPMENT

The CHP system consists of a natural gas fired reciprocating engine, a 480 VAC induction generator, and a jacket water and exhaust heat recovery system all housed in a sound attenuating enclosure. The system includes a dump radiator. The system delivers two forms of energy, heat and electricity, from a single fuel source (natural gas).

Combined Heat and Power for a Multi-Family Residence



ECONOMICS AND ENVIRONMENTAL BENEFITS

CHP efficiency is usually twice that of conventional utility power. The installation of the cogeneration system and resultant energy savings will help to maintain the affordability of this apartment complex. The high efficiency CHP system significantly reduces energy costs and harmful emissions. In addition, the system continues to provide energy and heat during a grid power failure. Monitored data are being collected from the site and are available in an hourly format on NYSERDA's DG/CHP website from April 2015.

SUMMARY OF BENEFITS

- Reduced cost for energy needs
- Affordability of apartments for tenants
- Lower reliance upon the energy grid
- Reduced carbon footprint

ADDITIONAL RESOURCES

- Developer/Engineer: <http://www.aegisenergyservices.com>
- Equipment Manufacturer: <http://www.aegisenergyservices.com>
- DG/CHP Resources: chp.nyseda.ny.gov



Aegon CHP Unit at The Kyoto