

# COGENERATION SYSTEM DESIGN IN MIDTOWN, NEW YORK

**NY Building Systems Consultant Inc. (NYBSC)** was hired for designing the 750 kW Cogeneration in this building. Cogeneration is also known as the short form CHP (Combined Heat and Power).

## BUILDING PROFILE

Address: 305 E 24 Street, NY-10010  
Square Foot: 392,100  
Type: Multifamily  
Units: 394  
Year of Built: 1964  
Owner: Intelligen Power System LLC

## NYBSC SERVICES

- New Cogeneration Installation design
- Cogeneration waste heat used for domestic hot water & absorption chiller.

## PROJECT SUMMARY

- Design of new 750 kW Cogeneration system install.
- Four (4) -10 tons VRF AC for cellar
- Proper sizing & routing of pipes and placement of equipment.
- Connection for absorption chiller, domestic hot water and heating heat exchanger.



The building is currently occupied by residential tenants. There are mechanical room in the sub-cellar of the building. NYBSC designed for three (3) Cogeneration Engines (250 kW each) and required essential equipment like pumps, expansion tanks, air separator, heat exchangers etc. in the sub cellar. The big challenge was to remove the heat from Cogen room and bring combustion air to sub-cellar level. The objectives of the new cogeneration system design was to provide the facilities of electricity, heating, cooling and domestic hot water for the tenants and reducing the building energy consumption as well as cost.

## The benefits of using Cogen:

- ✓ Reduce the building's carbon emissions
- ✓ Save energy and cost
- ✓ Power resilience
- ✓ Use the wastage energy for producing domestic hot water, heating and cooling.

