



# Cogeneration/ Trigeneration Combined Heat & Power

## What is it?

One of the most efficient and ecologically beneficial methods of generating power.

**Cogeneration** or Combined Heat & Power (CHP) is the simultaneous production of useful electricity and heat from one fuel source.

**Trigeneration** or Combined Cooling, Heat & Power (CCHP) takes CHP a step further by linking an absorption chiller to use some of the heat produced by the cogeneration plant to generate chilled water for air conditioning or refrigeration.

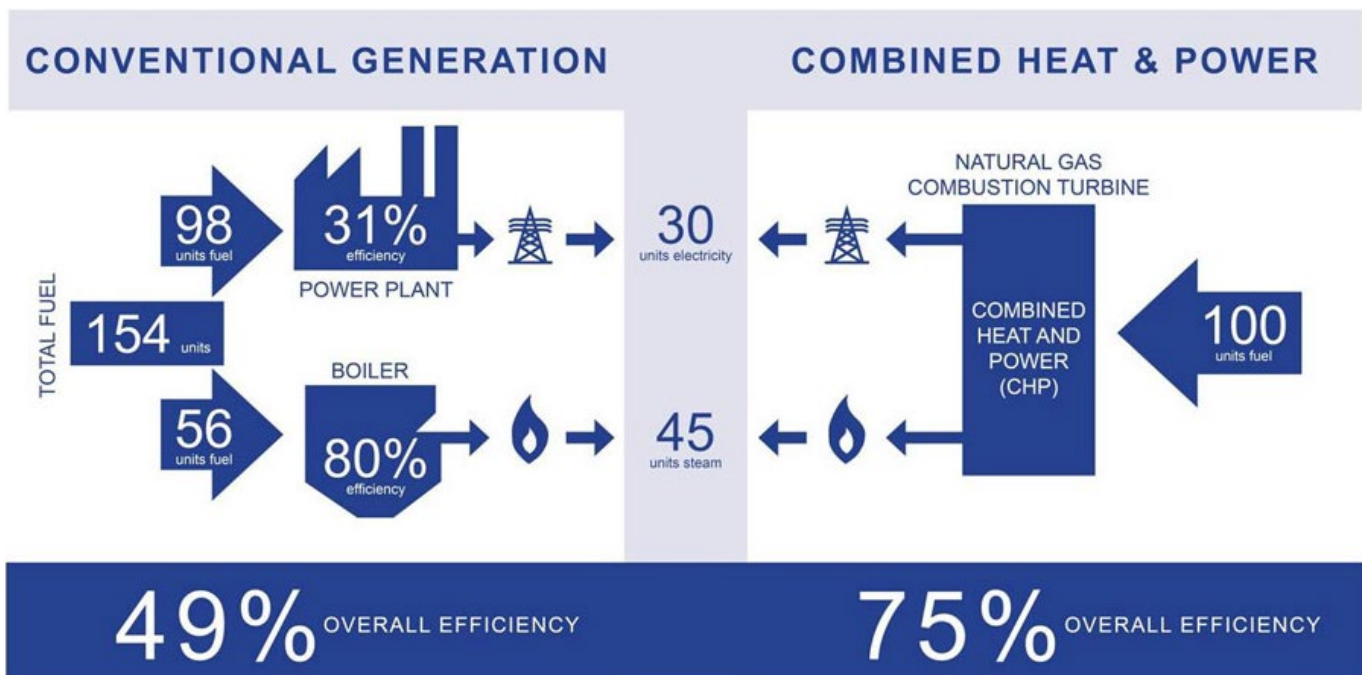
## What does it do?

It basically recycles energy - capturing and using the heat that's created during the process of generating electric power.

Harnessing what would normally be “wasted heat” greatly reduces overall fuel consumption and CO2 production/greenhouse gas emissions resulting in significant energy cost savings.

## Who Can Benefit?

- Hospitals - Critical care during emergencies & disasters; simultaneous need for electric, heating & cooling; reliability & redundancy
- Government & Education - Reduced emissions & energy related costs
- Industrial - Increased process efficiency
- Data Centers - Reliability & redundancy; already utilize back-up generation





# What Sets Us Apart

## Cogeneration/Trigeneration

### Why Systecon?

Quality, experience and proven success. Cogeneration is not a new technology, yet many contractors and manufacturers don't understand the process and have little experience building these systems. Systecon's engineers understand the process and have worked with numerous customers to design integrated systems to meet their specific project needs.

Systems are assembled in our factory by highly trained and experienced professionals following Systecon's industry-leading construction standards. Factory performance testing guarantees the performance and quality of each system.

### Proven Success

#### Combined Cooling, Heating & Power Plant

Mechanical - Chillers, pumps, pipe, air separators, expansion tanks, adjacent cooling tower & structure

Electrical - Drives, motors, panel boards

Controls - Full central plant controller

Two natural gas engines

- Electric power
- Engine exhaust gas
- Engine jacket heat

Two absorption chillers for cooling & heating

- Receive heat from engine via exhaust & jacket
- Optional direct natural gas burner

Pumping Systems

- Chilled water
- Hot water
- Domestic hot water (kitchen & bathrooms)
- Engine jacket heat recovery

All pumping systems performance tested  
Plant pre-commissioned at the factory

### Quality

- Detailed custom design
- Factory assembly
- Industry-leading construction standards
- Factory performance testing

### Experience

- Design assist & educate

### Single Source Responsibility

- OEM Relationships
- Single-source warranty

### Modular

- Complete integrated system
- Single point connections
- Simplified field installation and start-up



**Whole Foods Market, Brooklyn, NY**  
Located on an EPA Superfund site  
Designed to reduce greenhouse gas emissions  
with CHP & CO2 refrigeration