

CASE STUDY

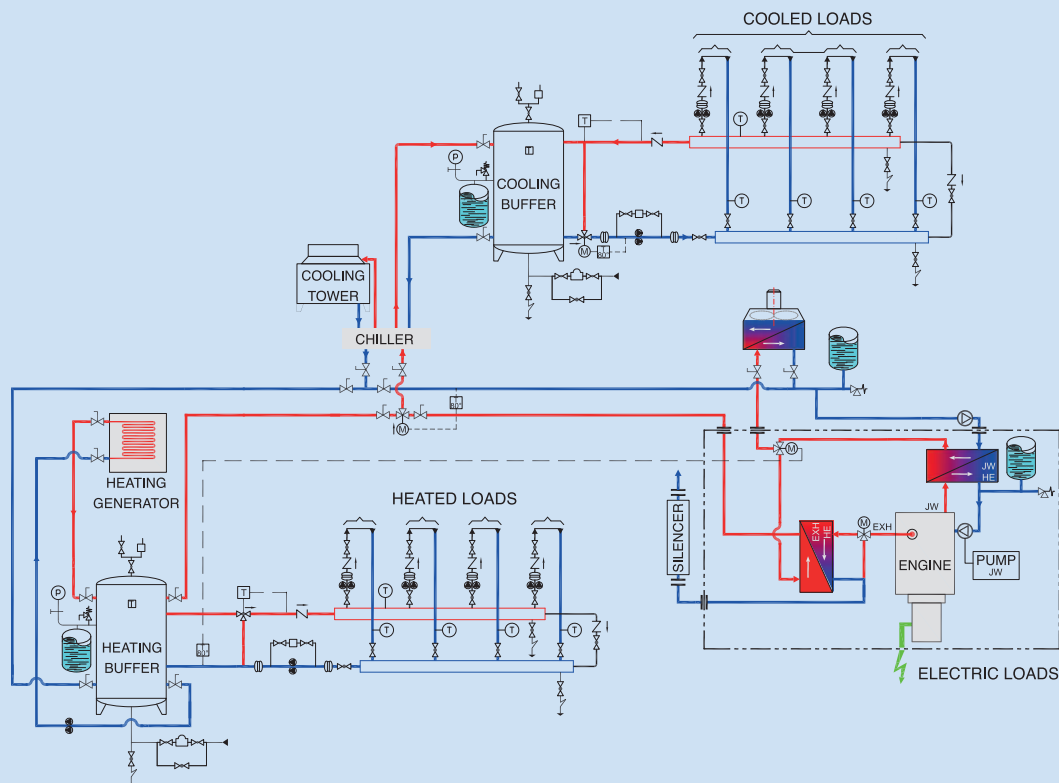
Cogeneration, also known as Combined Heat and Power (CHP), merges the production of usable heat and electricity into a single process that can substantially reduce carbon emissions and energy costs.

A major Telecommunication Operator in Italy required to increase the efficiency and to reduce the costs of the main energy vectors (electric and cooling) for their network station.

After an accurate Energy Analysis and Audit based on the project requirements, Ausonia proposed a CCHP solution powered by a 140 kW_e MAN gas engine.

The proposed solution has been designed to recover 208 kW of thermal power and 140 kW_e of electric power in COP operation mode (24/7). The recovered 208 kW thermal power is used as input to the Absorption Chiller, whose output of 145 kW is used to cool the telecommunication equipment installed on site. The Ausonia CCHP solution permitted to reduce by 35% the entire energy costs of the network station and allowed to increase by 40% its global efficiency.

The Payback time of this CCHP solution has been calculated to be 3,5 years only.



MAIN BENEFITS AND ADVANTAGES:

Higher Efficiency

- Modular Parallel configuration
- Increased Energy Bill efficiency
- Increased fuel efficiency

Reliability

- IP54 container for full protection of internal items
- Enhanced continuity and availability of energy supply

Footprint

- PLUG & PLAY connection of Generators + Switchgear
- Easy installation without special tools for handling

Monitoring

- User friendly interface
- Supervision, monitoring and internet access
- Remote command and control integrated in Switchgear room
- Event Log history for the whole system operation

Operation & Maintenance

- Easier recovery and intervention on site
- Reduced Gas consumption and OPEX
- Reduced CO₂/NO_x emission up to 50%
- Reduced dependency from not-renewable fossil fuels



Soundproof elements



Total management



Overall controller for plant



Plug & Play CHP module

