



Storic find outside of the thermal-electric power station



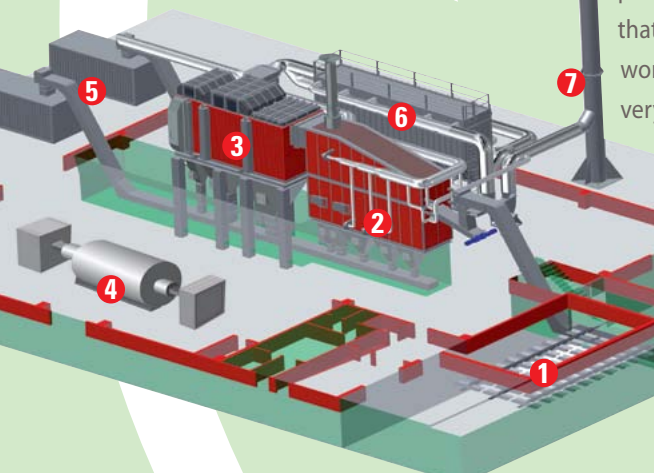
The boiler inside the thermal-electric power station



PRODUCTION OF **THERMAL** ENERGY



PRODUCTION OF **ELECTRIC** ENERGY



AN INDUSTRIAL LAUNDRY POWERED BY ...WOOD

COGENERATION An industrial laundry wanted to cut the soaring energy costs and to exploit nearby agricultural land that were uncultivable. For these two different requirements was given only one answer: a biomass boiler working with solid biomass obtained from cutting solid poplar short life cycle to produces the heat necessary for the industrial and electrical process. This is what happened in Montenero di Bisaccia (CB) where an industrial laundry, which consumed one million cubic meters of methane a year, has managed to heave the energy costs thanks to a boiler designed and installed by Uniconfort.

NOT ONLY HEAT The boiler has a heating capacity of 5.2 MWt and thanks to an ORC cycle's (organic rankine cycle) turbine, is able to produce 1,000 kWh electricity. The electricity is used within the company, while the excess goes in the Net and is sold to the Energy Services. Cogeneration (the generation in the same installation of thermal and electrical energy) is a process which allows to optimize the use of the fuel but also improve economic performance.

FUEL: WOOD, PRUNING AND AGRICULTURAL WASTE

The whole plant is powered by wood from 180 hectares converted into fast-growing poplar. But this is not all. Inside, the boiler can also burn different pruning and agricultural waste. Uniconfort is currently the only company able to provide boilers that burn different materials even outside standard fuel. This help us to satisfy particular needs of the customer, both purchased material and waste of its activity. These are plants able to burn without problems and high-yield, materials that other boilers are not able to work. For example, waste with a very high moisture (Up to M55)

1. SILO - WALKING FLOOR SYSTEM
2. COMBUSTION CHAMBER
3. HEAT EXCHANGER
4. ORC
5. ASHES EXTRACTION
6. FILTERS
7. CHIMNEY

biomassenergyevolution

and with the ash residues that are five times higher than the classical wood chips: apple cores, olive cake, mushroom litters, pruning of grapevine and grape marc. In this way processing waste instead to generate a disposal cost, become resource.

BENEFITS FOR ALL

- For holders of industrial laundry, which have achieved fuel savings and gain from the sale of excess energy to the Energy Services Manager;
- for owners of agricultural land, that have made of uncultivable land, a source of profit and employment;
- for environment. Thanks to the combustion of wood materials, tons of CO₂ emissions are saved.

These elements have led the European Commission to award in 2009 the project with SEE Award, which is awarded to the projects and initiatives that respect the objectives of European energy policy.

THE PLANT'S NUMBERS

Thermal power	5,2 MWt
Electric power	1.000 KWh



Up: biomass discharged in silo. Down: biomass stocking on the external square



Plant of 1MWt in section

