

# Energy from Biogas for Biomethane

**COGENERATION POWERS THE UPGRADING PROCESS AND SUPPORTS ANAEROBIC DIGESTION**



The Speranza Agricultural Cooperative was founded in 1974 through the union of several families in the Turin area engaged in cattle raising. Today, it brings together seven farms and eleven households dedicated to the production of milk and meat, with a particular focus on animal welfare and product quality. Over time, the Cooperative has complemented its

livestock activities with a comprehensive program to enhance the use of agricultural resources. In 2008 it began construction of two biogas plants fueled by manure and liquid manure from its members' barns and from several neighboring farms. The electricity produced is fed into the grid, while part of the heat is

supplied to the IRCCS in Candiolo via a district heating network.

The gradual phase-out of the previous incentive program for electricity generation from biogas and the new opportunities associated with biomethane led the Cooperative to reorganize the use of the gas already available. The goal was to directly produce the energy needed to operate the upgrading plant, thereby keeping operating costs down. To meet this need, an agenitor 408 was selected, installed in a container and powered by biogas. The cogenerator has a capacity of 360 kW of electricity and 367 kW of thermal power: the electricity is used to power the upgrader, while the recovered heat supports the anaerobic digestion process.

This solution thus makes it possible to use the biogas produced on-site to cover part of the energy consumption associated with biomethane production. The gas is converted into electricity and heat directly at the production site, reducing the operating costs of the upgrading plant and strengthening the integration between agricultural activities and energy production. According to estimates developed during the project phase, biomethane production under an all-

inclusive tariff will allow the investment to be recouped in just a few years. The plant is also covered by the Premium 2G service contract, which includes scheduled maintenance and the technical support necessary to ensure the long-term operational continuity and performance of the cogenerator.



#### **Cooperativa Agricola Speranza**

agenitor 408  
Biogas  
360 kW electric  
367 kW thermal

