

**BIOGAS AT THE SERVICE OF FARMS&SMEs PRODUCING SCRAP BIOMASSES&WASTEWATERS**

# MINI-COGENERATION FROM BIOGAS

an added value for waste and scrap biomass producers

**CUSTOMIZED TURN-KEY ABR ANAEROBIC DIGESTION PLANTS  
 FOR SMALL-MEDIUM FARMS AND INDUSTRIES**

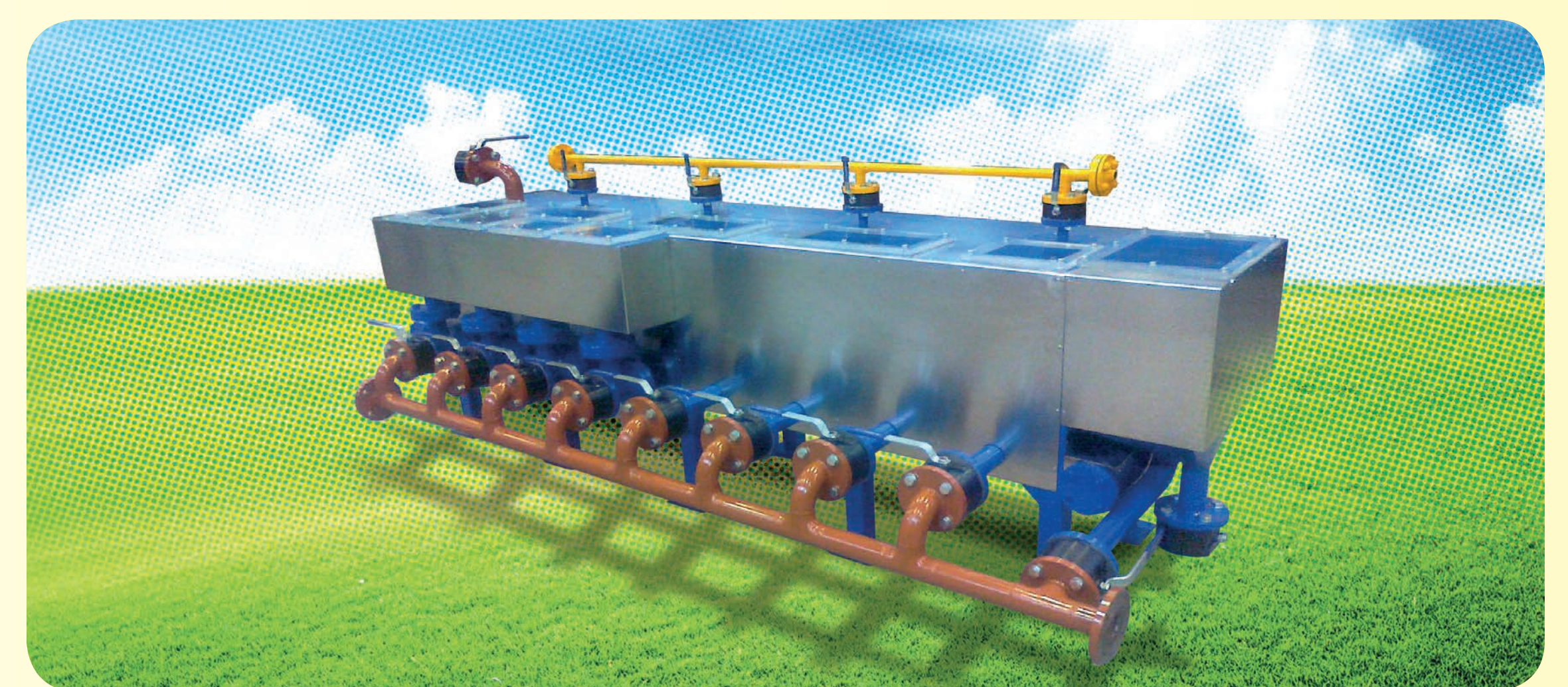
The biogas cogeneration represents an added value to the modern farm and a remarkable agricultural income.

Currently, technological solutions suitable for mini-CHP (<150 kWel) are not available on the market. Moreover, the classical circular reactor (CSTR) is affected by high realization costs and low energy yields.

From the research laboratories of Sereco Biotest and through the contribution of highly-specialized researchers, an innovative MADE IN ITALY solution was developed and patented based on the ABR technology (Anaerobic Buffled Reactor), suitably modified in order to increase the yields of biogas of the process and, at the same time, to reduce the production costs.



In other countries (such as Germany) the incentives to the production of "green energy" from biomass is moving towards the awarding of small power plants fed with by-products such as animal manure, poultry manure, waste from the agro-food industry (dairy, whey, pomace, grape pomace, vegetable water), waste from slaughterhouses and so on.



As a consequence of the reluctance to technological innovation, the big biogas market players, mostly foreign companies not aware of the italian agro-business context and then exclusively focused on big plants, have failed to come up with truly innovative and technologically compelling solutions.

## ADVANTAGES

- Fully works-made
- Direct portability from works premises to site of use (with ordinary transport)
- Works of construction extremely limited and restrained
- Possibility of series production with high cost abatement with respect to the traditional CSTR
- Low landscape and environmental impact
- Reduced obstruction and overall dimensions
- Low energy consumption
- Monophase reactor but with full and spontaneous separation of microbial consortia aimed at the implementation of each single biochemical conversion process of organic substrate into biogas (hydrolysis, acidogenesis, acetogenesis, methanogenesis)



- Increase in biogas and methane yield with respect to traditional CSTR
- Capital expenditure lower than CSTR
- Reduced LOI (3-5 years)
- Extremely reduced and easy ordinary and extraordinary maintenance procedures
- Novel control sensing
- Modular system expendable for higher powers
- Adaptable to every kind of substrate

## THE FARMER IS AGAIN A KEY PLAYER

The adaptability to any type of substrate and the possibility of using even small biomass supplies, allows the ABR plant to be integrated with the environmental and the agricultural context typical of italian and, more in general, mediterranean regions, allowing the farmer to be no longer a "passive" supplier of biomass converted into energy by others, but a leading actor on the fronts of food production, agriculture and energy in the name of a modern, multi-functional agriculture, capable of generating alternative and diversified sources of income.