



UNIVERSITÀ  
DEGLI STUDI  
DI PADOVA



[800 years, 1222 – 2022, University of Padua]

Padova-Affi, 6 December 2021

***PARTNERSHIP BETWEEN THE UNIVERSITY OF PADUA AND BTS BIOGAS TO  
DEVELOP THE PIÙ-BIOGAS APP***

**The research project aims to increase the yield and production of biogas plants by at least 10%.**

**The aim of the project is to create a plant management tool that BTS Biogas will make available to companies, allowing them to manage incoming biomass, environmental parameters and the microbiome of anaerobic digestion**

**BTS Biogas**, a technological leader in the development and construction of biogas and biomethane plants, has partnered with the **University of Padua** to develop a research project which aims to increase biogas yield by at least 10%.

Achieving the sustainable disposal and valorization of organic waste are two of the biggest challenges facing the world. Biogas is a renewable energy produced using organic waste which reconciles these two needs, however the seasonal nature of many of the by-products of the agricultural and livestock sectors which feed biogas plants can lead to significant fluctuations in production, with negative repercussions on the economic viability of the plants. In the current production process, there are no efficient methods for real-time monitoring of the microbial component, which is the key driver of anaerobic digestion. Close monitoring of the production process, the organic material feeding the plant and the development of predictive models are therefore essential to optimize production and maximize the yield of the biogas plants.

The two-year research project Più-Biogas App, supported by BTS Biogas and carried out by two researchers from the Department of Agronomy, Animals, Food, Natural Resources and Environment and the Department of Biology of the University of Padua, was created to meet these needs. The initiative, as one of its many objectives, aims to implement an innovative, rapid, and efficient method of analysis for the study of microbial population dynamics which allows the fermentation of organic matter to be monitored through a dedicated app.

This is the **first research project to investigate the microbiological activity which takes place every day in the digester**. The goal is to obtain a database to catalogue microorganisms and environmental and process information and develop an algorithm to compare the results of the systems and techniques used to increase the energy yield of biogas. The aim is to develop software which will help maximize biogas production while reducing operating costs. The results and the

technology developed will then be shared with other companies interested in maximizing the yield of their biogas plants.

**S&C Best**, a company specializing in the development of solutions to increase the efficiency and economic yield of biogas plants through additives such as latest-generation enzymes, is also involved in the project which has obtained funding from the **Cariverona** Foundation under Objective 2 "Enhancement of Human Capital and Promotion of Opportunities for Young People".

The *Più-Biogas App* project is an important example of valuing the Human Capital which the University of Padua helps train every year," stated **Lorenzo Favaro, Professor of Agricultural Microbiology at the University of Padua and the scientific lead of the project**. "Thanks to the support of the Cariverona Foundation and BTS Biogas, two young researchers will be able to work alongside professors from the University of Padua and leading companies in the field of anaerobic digestion to accelerate the process of technology transfer between the university and the national economy. Biotechnological and bioinformatic approaches, developed together with colleagues Laura Treu and Stefano Campanaro, will help provide an innovative solution to optimize the biogas yields of numerous plants which are widespread in the Veneto region and in many other Italian regions".

"The pursuit of sustainability and the production of renewable energy also involves maximizing the yield of biogas plants," explained **Franco Lusuriello, CEO of BTS Biogas**. "The Più-Biogas App project, thanks to an innovative technology developed in collaboration with the University of Padua, aims to provide companies with a valuable tool for managing incoming biomass by providing data which can improve the efficiency of biogas production, thereby contributing to the green transition, which is fundamental for the future of our country. This initiative is a concrete example of how a productive dialogue between the worlds of research and business can lead to innovative solutions.

#### ***BTS Biogas***

*BTS Biogas is a technology leader with over 25 years global experience in the field of anaerobic digestion. The company is involved in the development, engineering, construction and maintenance of more than 250 biogas plants in Europe, North America and East Asia. By retrieving organic waste from local authorities, food and agricultural companies, BTS Biogas plants are designed to generate a steady stream of renewable energy, biogas and biomethane, as well as soil amendment and fertilizers. Thanks to its industry-leading aerobic digestion technology, BTS Biogas is contributing to the reduction of greenhouse gas emissions worldwide and assisting local communities in the effective energy transition to a circular economy.*

*More information can be found at: [www.bts-biogas.com](http://www.bts-biogas.com)*

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