









## **SYNERGY & ENERGY**



BTS

**BTS Biogas** 

BTS DevCo



BTS Biogas, a pioneer in the anaerobic digestion industry, with **over 270 plants created worldwide**, has established itself at a **global scale** in the **development**, **planning**, **construction**, and **maintenance of biogas and biomethane plants**.

In 2019, the company was acquired by **Bioenergy Devco LLC**, a **US company specialised in the development of anaerobic digestion facilities**, with an important portfolio of projects in a market that is rapidly expanding.

The union of the two companies has a strategic value since it amplifies market presence, favours the development of new projects and consolidates the value and know-how of the Group.

Today, BTS Biogas employs in Europe over 100 people, distributed between the headquarters in Affi (Verona), the office in Bruneck (Bolzano), and its companies in France, the UK. In 2021 the company has established a new branch in the USA.



**5** offices

25+



270+



150+

IT - FR - UK - US

Years of experience

Plants in the world

Assisted plants



25.000 smg

**METAN**lab

200 smq 170.

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170.000+

Warehouse and Logistics hub Laboratory Laboratory

Analyses carried out per year

Anaerobic digestion plants valorise livestock effluents, energy crops, agro-industrial by products, and OFMSW (Organic Fraction of Municipal Solid Waste) to produce biogas, from which biomethane, as well as electrical and thermal energy, are obtained. The output of the process is digestate, a high-quality organic fertiliser that closes the loop in the circular economy.

## **EPC PROJECT**

The core business of BTS Biogas is providing EPC plants (Engineering, Procurement, and Construction), customised to meet client specifications, from project development through to construction.

## **DEVELOPMENT OF PROJECTS**

Thanks to its multidisciplinary team of specialists (biologists, agronomists, engineers, experts on regulations and legal aspects) BTS Biogas is able to develop plants starting from the research and enhancement of biomass, from the engineering of plants to obtaining permits.

## **ENGINEERING AND CONSTRUCTION**

Characterised by high degrees of **efficiency** and **innovation**, BTS Biogas plants are designed according to **specific project needs**. The type of biomass to be used together with the need for **flexibility** and **reliability** of the plants guide the work of our engineers.

Thanks to a wide range of **cutting-edge technologies** for the pre and post treatment of biomass, the valorisation of biogas and the use of digestate, **BTS Biogas is able to provide tailor-made technical solutions**, which maximize production and consequently **plant profitability**.







## AFTER SALES ACTIVITIES



The 24 h - 7/7 assistance services cover all operational areas of the plant

With BTS Biogas, customers can rely on a single qualified interlocutor to manage all aspects of the maintenance of their plants: BIOLOGY, TECHNOLOGY and AUTOMATION.

BTS Biogas provides complete support to plant operations that includes performance monitoring as well as innovative solutions to improve yields, intervening both on plants of its own construction and other technologies.

The daily goal of the company is to ensure a **high level of plant reliability**, minimize the idle time and ensure maximum return on investment.

# Flexible and customised maintenance contracts, based on customer requirements, from single interventions to full 0&M (Operations & Maintenance) management.



## BIOLOGICAL SUPPORT

BTS Biogas offers a complete biological assistance service, supporting clients in the monitoring and management of the anaerobic digestion process.

To maximise plant efficiency our biologist and agronomist provide expert and innovative solutions to optimise feedstock, stabilise fermentation processes, and prevent any potential inhibitions.



## ELECTROMECHANICAL SUPPORT

**Experienced technicians**, with many years in the biogas sector, and a wide range of spare parts in stock, guarantee prompt intervention to resolve any **electromechanical issues** in plants, whether they use **BTS Biogas technology** or systems from other manufactures.



## **AUTOMATION SUPPORT**

BTS Biogas has an in-house automation department that offers rempte support and management for all plant components, from individual technologies to overall process control.

Our **control centre** is linked to plants both in Italy and abroad, enabling realtime monitoring, alarm resolution, and prompt response to any anomalies reported by the operator.

## **KEY POINTS**

## **INNOVATIVE TECHNOLOGIES AND PATENTS**

The combination of technical and biological expertise, together with extensive experience in plant management, has **enabled BTS Biogas to develop specialised technical solutions**, some of which are patented and have become part of our plant standards. The most significant include:

- Service Box: a technology for mixer maintenance without emptying the tank or gas release
- Plug&Produce: a fully tested plant control centre housed in a container, ready for immediate installation
- PhenolTech: a pre-treatment for facilities running 100% on olive pomace (patent pending).

# SPARE PARTS WAREHOUSE AND LOGISTICS CENTRE

The operational headquarters in Affi (VR) includes a 25,000 sqm logistics centre, equipped with a vast spare parts warehouse, key assets for delivering the best possible support to our clients.

# METAN Lab THE FIRST BIOGAS LABORATORY IN ITALY

**200 sqm of laboratory space**, equipped with state-of-the-art technology to conduct all necessary analyses for managing anaerobic digestion and maximising yields. This includes the development of optimal feedstock recipes and the use of **micronutrients**: this is **METANlab**.

Our laboratory also provides fundamental scientific support in the design of plants, simulating and in continuous research into biogas production of new substrates, of which there are no available literature data, or complex recipes, determining possible inhibitions and/or synergistic effects in the microbiological process.









# BTS DevCo: OUR PLANTS FOR BIOMETHANE PRODUCTION

In December 2022, **BTS DevCo** joined BTS Biogas. As a group company, it focuses on the development and direct management of its own plants.

BTS DevCo positions itself in the market as an investor and producer of sustainable energy, contributing to the energy transition with circular economy projects that generate energy from the valorisation of effluents and by-products.

By producing biomethane - a fuel derived from the natural process of anaerobic digestion-BTS DevCo helps reduce greenhouse gas emissions, as it is carbon-neutral.

More specifically, BTS DevCo focuses on:

- developing, designing, constructing, and managing greenfield and brownfield biomethane projects
- acquiring projects for the construction of agricultural and OFMSW (Organic Fraction of Municipal Solid Waste) biomethane plants, either already authorised or in the process of authorisation
- purchasing biogas plants currently configured for cogeneration, with the aim of converting them to biomethane production
- participating in special purpose companies, in collaboration with institutional investors (investment funds, multi-utilities, etc.), for the construction and management of biomethane plants.



# TECHNOLOGIES | BIOMETHANE REVAMPING EPC | GENERAL CONTRACTOR | TURN-KEY PLANTS















## **AGROENERGY (Gruppo Agresti)**

Plant size: 500 kWel









#### **DESCRIPTION**

This plant's uniqueness lies in being one of the first in Europe to be fully powered by the organic residues from olive milling. This highlights its capability to manage the anaerobic fermentation of olive pomace. The plant's efficiency and reliability are guaranteed by PhenolTech, an innovative technology that BTS Biogas is in the process of patenting. This technology effectively neutralises the negative impacts on anaerobic digestion from certain natural substances, such as the polyphenols present in olive pomace.



#### **BIOGAS USE**

Production of electrical and thermal energy



#### **DIGESTATE USE**

It is part of the vegetable cycle of olive production helping to improve quality and quantity

## **OUDON BIOGAZ**

## Plant size: 635 Sm<sup>3</sup>/h biomethane





#### **DESCRIZIONE**

Oudon Biogaz's objective is to sustainably utilise over 140,000 tonnes of effluents produced by its 70 farms, generating 5.5 million Sm3 of biomethane annually, which is equivalent to the energy needs of 9,000 households in the Craon area. The plant can also use cereal waste and by-products from the local agro-industry. The biomethane produced is fed into the national grid, preventing the release of around 14,000 tonnes of CO2, equivalent to the

greenhouse gas emissions from 5,500 cars (driving an average of 20,000 km per year). The digestate is applied to 7,700 hectares of farmland managed by Oudon Biogaz's farms, reducing the need for chemical fertilisers. The Oudon Biogaz plant not only accounts for 25% of biogas production in the Mayenne Department but also creates 10 jobs.



#### **BIOGAS USE**

Putting it into the grid



#### **DIGESTATE USE**

Valorisation as an organic fertilizer



## **SOUTH MILFORD**

#### Plant size: 500 kWel + 500 Sm<sup>3</sup>/h biomethane





#### **DESCRIPTION**

The plant is designed to receive 60.000 tons per year of food waste and clippings. After the pre-treatment modules and the fermenters for anaerobic digestion, a membrane purification system was engineered and developed: the latter allows the transformation of biogas into biomethane and to introduce it directly into the national gas grid. This allows the valorisation of the biogas produced with maximum efficiency and reduces CO<sub>2</sub> emissions to a minimum.



#### **BIOGAS USE**

Electricity production

Upgrading and production of biomethane for direct supply to the  $\operatorname{\sf grid}$ 



#### **VALORISATION OF THERMAL ENERGY**

Heating of fermentation tanks
Upgrading unit and pasteurization system



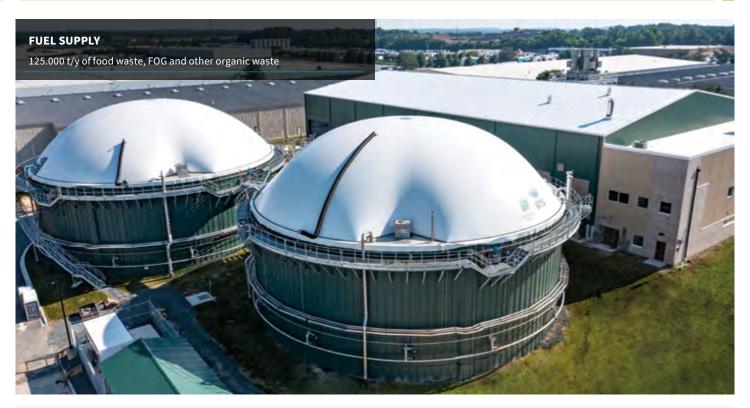
#### **DIGESTATE USE**

Production of 50.000 tonnes per year of pasteurized liquid fertilizer

## **MARYLAND BIOENERGY CENTER**

### Plant size: 1.100 kWel + 1.105 Sm<sup>3</sup>/h biomethane





#### **DESCRIPTION**

The plant is located at the Maryland Food Center, home to one of the largest industrial and logistical areas of the agri-food sector in the region and is able to process up to 125.000 tonnes per year of organic by-products (waste from fruit processing and vegetables, meat, baked goods, oil and fats, etc.) and wastewater from the food industry.

The plant produces a **quantity of biomethane** equivalent to the **needs of 4.800 homes**.



#### **BIOGAS USE**

Production of biomethane for supply to the grid and automotive fuel.



#### **VALORISATION OF THERMAL ENERGY**

The thermal energy produced is used to heat digesters and the surplus sold to third parties



#### **DIGESTATE USE**

Nitrogen recovery and water purification thanks to a semipermeable membrane technology, partial reuse of purified water in industrial processes





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