BTS

Corporate Brochure

bts-biogas.com

SYNERGY & ENERGY

We look towards the future and we do not do it alone.

BIOENERGY DEVCO

BTS

BTS Biogas, an Italian company with 25 years' experience in the field of anaerobic digestion, provides reliable high-performance technological solutions for the biogas and biomethane market.

BTS Biogas, a pioneer in the anaerobic digestion industry, with **over 250 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 locations
IT - FR - UK - US

25+
Years of experience

250+
Plants in the world

150+
Assisted plants

25.000 smq
Warehouse and Logistics hub Laboratory

METANlab
200 smq
Laboratory

170.000+
Analyses carried out per year

Anaerobic digestion plants exploit **livestock waste**, **waste** and **by-products of the agri-food industry** (dairies, slaughterhouses, oil mills, industrial ovens, etc.) and **OFMSW** (Organic Fraction of Municipal Solid Waste) to produce **biogas**, from which **biomethane**, electricity and thermal energy are obtained. The outflow from the process is **digestate**, an excellent biological fertilizer, which closes the circle of the **circular economy**.

BTS Biogas' strategy is embodied in the following activities:

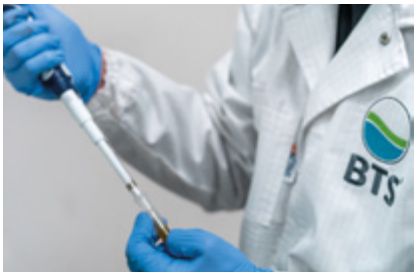
DEVELOPMENT OF PROJECTS

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**.



SERVICE

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.

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

OUR ASSETS

SPARE PARTS WAREHOUSE AND LOGISTICS CENTER

The headquarters in Affi (VR) is equipped with a **laboratory specialised in biogas** and a vast **logistics centre**, with a spare parts warehouse, fundamental assets to better assist its customers.

METANlab

THE FIRST BIOGAS LABORATORY IN ITALY

200 square metres of laboratory equipped with cutting-edge technologies to carry out all types of **analyses** necessary to govern anaerobic **digestion processes** and maximize yields through the study of optimal 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.

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

Agriculture

Organic Waste

Industrial Byproducts

Plants

BTS Biogas Offices and Service

RÉFÉRENCES PRINCIPALES

Agricultural plant | Organic waste plant | Industrial plant

AGROENERGY (Agresti Group)

2020 | **Andria (BT)**

Plant size: 500 kWel

FUEL SUPPLY

100% with olive pomace

DESCRIPTION

A company in the Agresti Group, involved in the production of olive oil. The uniqueness of the system lies in being one of the **first in Europe supplied 100% with the organic waste material from the milling of the olives** and therefore the ability to manage the pomace anaerobic fermentation process. Efficiency and system functionality is ensured by constant checks and innovative solutions made to allow optimal “digestion” of residues from olive oil production.

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

SOCIETÀ AGRICOLA CRIOENERGIE

2021 | **Marcon (VE)**

Plant size: 670 Sm³/h biomethane

FUEL SUPPLY

Animal waste, agricultural by-products and products from the agri-food industry

DESCRIPTION

First plant in Veneto for the production of liquid biomethane from by-products (about 50.000 tons per year) and the **recovery of CO_2**, certified for agri-food use. Thanks to a pasteurization system, the plant is also able to valorise agro-industry by-products such as whey, waste from meat processing and egg pasta scraps.

BIOGAS USE

Liquid biomethane production (about 500 kg/h)

VALORISATION OF THERMAL ENERGY

The upgrading system generates thermal energy used in the heating of fermenters and in the pasteurization process

DIGESTATE USE

Used as an organic fertilizer

AMIU BARI

2022 | **Bari**

Plant size: 1.200 kWel

FUEL SUPPLY

100% OFMSW (Organic Fractionation of Urban Solid Waste)

DESCRIPTION

Owned by **AMIU**, the Municipalized Urban Hygiene Company that manages the waste collection, treatment and disposal activities for the city of **Bari**, the plant built by BTS Biogas in 2020 has an installed power of **1.200 kWel**. The site, powered by organic waste mixed with other compostable fractionation waste such as grass clippings from pruning, is able to produce electrical and thermal energy and soil improvers. It is **one of the few plants built for the treatment of organic waste in a metropolitan city**, created to valorise organic waste and make a virtuous and sustainable waste disposal system available to citizens. The project involves AMIU collecting and transporting waste in the areas from which the plant is supplied, in which the biomass quality is assessed and cleaned through an innovative pre-treatment provided by BTS Biogas (see photo): what is not suitable is discarded. The plant is capable of producing electricity or thermal energy, intended for self-consumption **and the surplus put into the grid**.

BIOGAS USE

Production of electrical and thermal energy

DIGESTATE USE

Compost production

SOLDATI HOLSTEIN

2023 | **Casaloldo (MN)**

Plant size: 300 kWel

FUEL SUPPLY

20.000 tons of manure and agricultural by-products per year

DESCRIPTION

This plant is a **virtuous example of the circular economy** perfectly integrated into the **Soldati Holstein** farm: a modern farm of about 1,200 animals, attentive to animal welfare and agronomic regeneration of the 230 hectares of land it cultivates. A responsible investment that integrates the company's economic activity without distorting it and at the same time **generates green energy**.

This is a typical **300 kWel agricultural biogas** project with energy supplied to the grid, heat used to heat fermenters and digestate spread on the soil.

It has an innovative **pre-treatment system of solid biomass entering the plant with automatic expulsion of aggregates/undesirables**, which, by optimising the solid/liquid mixing of by-products and avoiding the entry of aggregates into the fermentation tanks, allows the improvement of the anaerobic digestion process to the benefit of the plant's operation.

DIGESTATE USE

Spreading in fields as an organic fertilizer

VALORISATION OF THERMAL ENERGY

Heating of tanks

BIOGAS USE

Electricity and heat production

AGATOS

2023 | **Marcallo con Casone (MI)**

Plant size: 400 Sm³/h biomethane

FUEL SUPPLY

100% OFMSW (Organic Fractionation of Urban Solid Waste)

DESCRIPTION

The Marcallo con Casone (MI) biomethane plant will produce biomethane from the recovery of 35.000 tonnes per year of OFMSW originating mainly from the province. The plant has one special **pre-treatment** which has the function of separating organic material from plastic recovered from recycled plastic material. The digestate is instead transformed into a **soil conditioner and sanitized agricultural fertilizer** thanks to a process of **pasteurization**.

BIOGAS USE

Putting it into the grid

DIGESTATE USE

Valorised as an organic soil conditioner

CAPVERT AOSTE

2023 | **Aoste (38)**

Plant size: 245 Sm³/h biomethane

FUEL SUPPLY

Over 18,000 tons of organic matter per year

DESCRIPTION

CVE Aoste is the **methanization unit of the municipality of Aoste en Isère** and allows the valorisations of the organic matter produced within a radius of 60 km of the plant.

The plant produces **245 Sm³/h of biomethane**, **which is** supplied to **the natural gas network**, **as well as 16,000 m³ of digestate per year** that is used in local agriculture.

The plant treats up to 18,000 tons per year of **agricultural** by-products, agri-food companies (including supermarkets, school canteens, catering) and the **treatment of municipal organic waste**.

The plant's production is equivalent to the annual gas consumption of **3,300 households**.

BIOGAS USE

Production of biomethane to supply the grid

VALORISATION OF THERMAL ENERGY

Heating of tanks and pasteurization systems

DIGESTATE USE

Spreading in fields as an organic fertilizer

MÉTHA-GAROTERIE

2023 | **Chalandry - Elaire (08)**

Plant size: 190 Sm³/h

FUEL SUPPLY

Manure, silage, cuttings, organic waste

DESCRIPTION

Métha-Garoterie is a project that brings together several partners united in the common goal of realising a plant to make the best use of effluent, agricultural by-products and organic waste from the territory, at the same time generating green energy.

The incoming material is treated using a **Bioaccelerator** to homogenize the ration and increasing the surface area of degradation of the fibres; this pre-treatment allows an increase in productivity. For the separation of the organic part from waste substrates (packaging, aggregates, boxes, trays, yogurt pots, etc.) a technology called **Bioseparator** is used. The pasteurization unit ensures the sanitary quality of the biomass that enters the plant thanks to heating for 1 hour at 70°C.

The separation between the liquid and solid fractions allows the use of finer digestate as a **soil conditioner** and **fertilizer** and to recirculate the liquid fraction while eliminating odours from the spreading. The number of farms participating in the operation, in exchange for their contribution in terms of input supply, will benefit from a return to them of digestate.

BIOGAS USE

Production of biomethane to supply the grid

VALORISATION OF THERMAL ENERGY

Tank heating and pasteurization

DIGESTATE USE

Spreading in fields as an organic fertilizer

OUDON BIOGAZ

2023 | **Livré-la-Touche (53)**

Plant size: 635 Sm³/h biomethane

FUEL SUPPLY

By-products from agricultural activities such as manure and straw

DESCRIPTION

Oudon Biogaz's goal is to recover, in a sustainable manner, more than **140.000 tons of effluent produced in its 72 farms**, 85% of which are composed of agricultural by-products such as slurry, manure and straw, to generate 55 GWh of biomethane per year, equivalent to the **consumption of 9.000 families in the Craon** area. Scraps of the cereals and local agri-industry by-products to feed the plant. The biogas produced **will be put into the national grid** and will avoid the emission into the atmosphere of about 14.000 tons of CO_2, equivalent to the greenhouse gas emissions generated by 5.500 cars (with an average mileage of 20.000 km/year). The **digestate** will, on the other hand, be **used in the 7.700 hectares of the fields of Oudon Biogaz farms**, giving the opportunity to reduce the use of chemical fertilizers. The Oudon Biogaz plant will not only contribute 25% of biogas production in the Mayenne Department **but will also create 10 jobs**.

BIOGAS USE

Putting it into the grid

DIGESTATE USE

Valorisation as an organic fertilizer

WALVERT METTET

Under construction | **Mettet (Vallona)**

Plant size: 600 kWel/h

FUEL SUPPLY

Animal manure and dedicated crops

DESCRIPTION

The Mettet plant, currently under construction, is the first that BTS Biogas has built in Belgium. It will be supplied with livestock manure, local crops, clippings and leaves and other agri-food by-products and will have a power of **600 KWel** (equivalent to the consumption of 4-5,000 inhabitants).

With the aim of stabilizing energy prices and participating in the energy transition, the operation was **financed by small farmers, local SMEs** and, thanks to a **crowdfunding** project, by 400 citizens in the area, who raised over 1 million Euros to create the world of tomorrow. Ultra-fast charging stations for electric cars will also be installed at the plant

BIOGAS USE

Electricity production

VALORISATION OF THERMAL ENERGY

Heating of tanks, material drying (wood chips, hay, etc.) supplying the local district heating network

DIGESTATE USE

Spreading in fields as an organic fertilizer

SOUTH MILFORD

2016 | **South Milford, Leeds**

Plant size: 500 kWel + 500 Sm³/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_2 emissions to a minimum.

BIOGAS USE

Electricity production

Upgrading and production of biomethane for direct supply to the 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

RIDGE ROAD

2016 | **Micklefield, Leeds**

Plant size: 360 kWel + 600 Sm³/h biomethane

FUEL SUPPLY

Chicken manure, ryegrass and dedicated crops, beetroot

DESCRIPTION

The plant is designed to produce electricity and biomethane using manure, waste and by-products.

BIOGAS USE

Electricity production

Biomethane: put into the National grid

VALORISATION OF THERMAL ENERGY

Fermenters

Upgrading

DIGESTATE USE

Valorisation in fields as a liquid fertilizer

MARYLAND BIOENERGY CENTER

2021 | **Jessup, MD**

Plant size: 1.100 kWel + 1.105 Sm³/h biomethane

FUEL SUPPLY

125.000 t/y of food waste, FOG and other organic waste

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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