AB's solutions for biomethane

ABetter Way

AB is the one-stop shop that guarantees all the benefits of biomethane to your company.

With AB, you create a complete and sustainable energy system that combines biogas upgrading, biomethane and CO_2 liquefaction, cogeneration, photovoltaics, and BESS (Battery Energy Storage System), supported by a full range of services–from feasibility studies to maintenance.

THE CORE OF THE SYSTEM IS **BIOCH4NGE®**, THE SOLUTION FOR BIOGAS-TO-BIOMETHANE UPGRADING WITH MEMBRANE SYSTEM.

BIOCH4NGE® purifies biogas from the anaerobic digester. The filtered and dehumidified gas is compressed, cooled and purified from pollutants through a bed of activated carbons. Pre-treated and purified biogas undergoes upgrading, i.e. the separation of methane from carbon dioxide. The plant is complemented by a series of options: biogas pretreatments (such as the desulphurization system), necessary in the case of matrices particularly laden with undesirable compounds, biomethane post-treatments required for feeding into the grid (such as the booster compressor to increase the pressure) and other ancillary accessories (such as RTO-regenerative thermal oxidizers for post-treatment of waste gas).

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THE **CH4LNG** LIQUEFIER PRODUCES AN LNG SUITABLE FOR ROAD-BASED TRANSPORT.

CH4LNG is the AB solution for biomethane liquefaction, designed to be installed downstream of a BIOCH4NGE® system. It is based on an integrated cryogenic process, divided into three phases: treatment, liquefaction and storage. In the first part of the process, the TSA (Temperature Swing Adsorption) lowers the moisture and CO_2 content to the purity required for liquefaction. The biomethane is liquefied over several stages of cooling by progressively decreasing the temperature and is then conveyed to a transfer tank, in which the desired pressure and temperature conditions of the final product are reached.

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THE RANGE OF BIOCH4NGE® SOLUTIONS

BIOCH4NGE® is available in standardized sizes covering a wide range of incoming biogas flow rates, from 50 to 5,000 Nm^3/h, and can be integrated with dedicated modules for biomethane liquefaction and CO_2 valorization.
Custom configurations can also be developed to meet specific plant requirements and operational needs.

Visit Biomethane Channel, the only video portal dedicated to the world of biomethane

→ **biomethanerngchannel.com**

ECOMAX® COGENERATION SOLUTIONS POWER THE ENTIRE SYSTEM, ALSO INTEGRATED WITH **PHOTOVOLTAICS** AND **BESS.**

ECOMAX® generates both electricity and heat from a single fuel source (biogas or natural gas) to efficiently and sustainably supply the entire plant. ECOMAX® solutions can be paired with photovoltaic systems and battery storage. Thanks to AB's production and consumption optimization system (ABtimizer), the renewable energy produced and used by the biomethane plant can be fully valorized, creating a seamless integration with BIOCH4NGE®, CH4LNG, and DISCO$_2$VERY.

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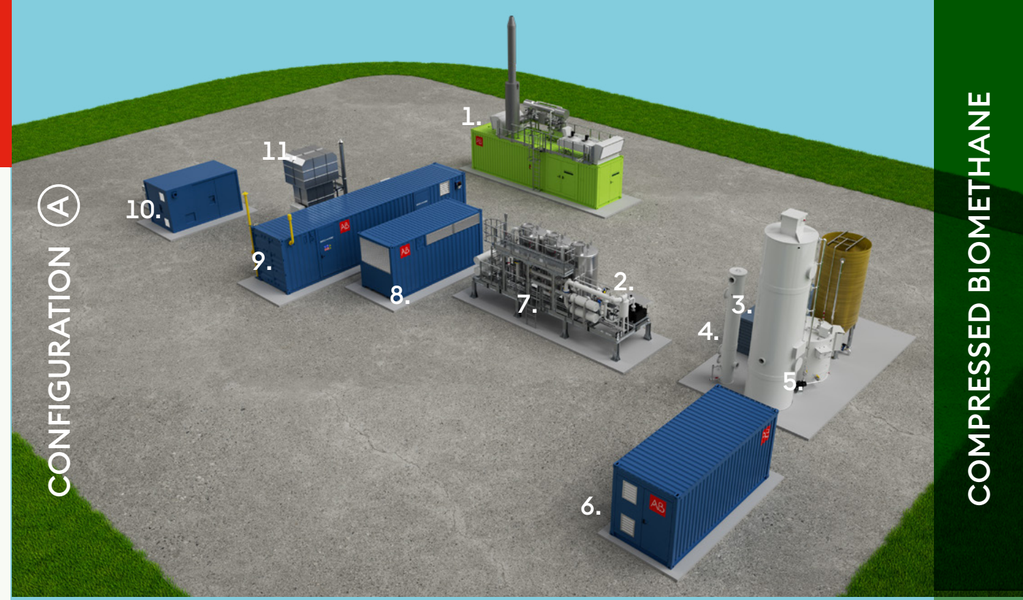
THE CO_2 LIQUEFIER, **DISCO$_2$VERY**

The DISCO$_2$VERY system converts the CO_2 produced by BIOCH4NGE® into a pure, ready-to-use gas by removing impurities such as H_2S, VOCs, and moisture through adsorption on activated carbon.
The gas is then compressed and dried before undergoing cryogenic distillation, where the CO_2 is liquefied and separated from dissolved gases (CH_4, N_2, O_2).
The liquid CO_2 is stored in tanks, ready for industrial use or for safe underground storage. The separated gases can be recycled, converted into energy, or treated in an RTO system to reduce emissions. This versatile liquid is used in a wide range of industrial sectors, with a particular focus on the food and beverage industry.

WATCH THE VIDEO ►



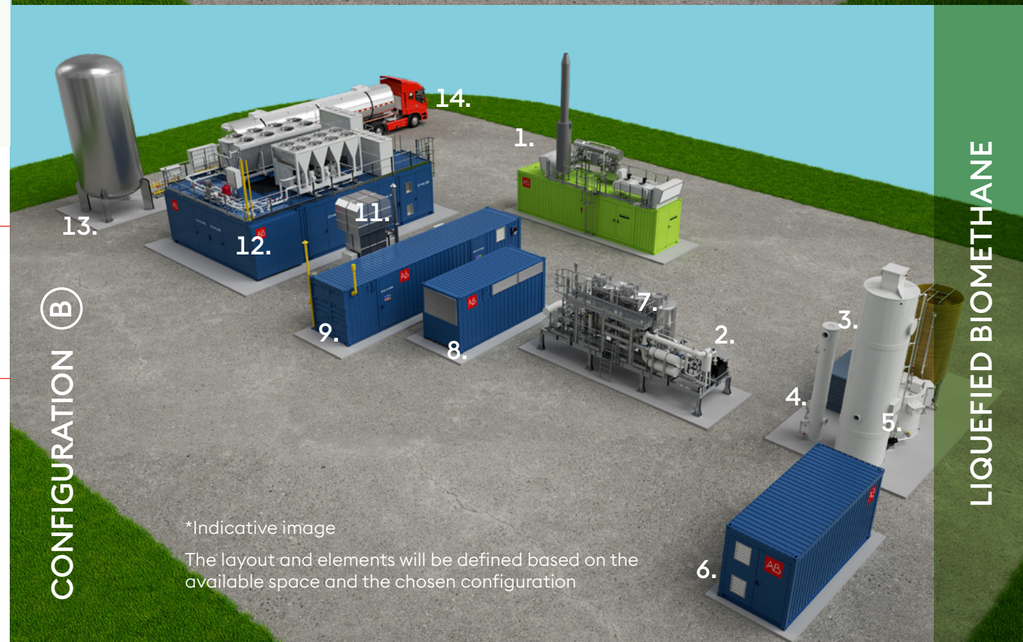
LEGEND

1. COGENERATOR ECOMAX® Ⓐ Ⓑ
2. BIOGAS TREATMENT SKID FOR UPGRADING Ⓐ Ⓑ
3. REAGENT STORAGE Ⓐ Ⓑ
4. NH_3 TREATMENT TOWER Ⓐ Ⓑ
5. DESULPHURIZATION SYSTEM Ⓐ Ⓑ
6. OXYGEN GENERATOR ENCLOSURE Ⓐ Ⓑ
7. ACTIVE CARBON FILTERS Ⓐ Ⓑ
8. COMPRESSION SYSTEM Ⓐ Ⓑ
9. BIOCH4NGE® MEMBRANES UPGRADING ENCLOSURE Ⓐ Ⓑ
10. BOOSTER COMPRESSOR Ⓐ Ⓑ
11. RTO Ⓐ Ⓑ
12. CH4LNG LIQUEFACTION SYSTEM Ⓐ Ⓑ
13. CRYOGENIC TANK Ⓐ Ⓑ
14. TRUCK LOADING SYSTEM Ⓐ Ⓑ

Compressed or liquid biomethane?

→ In CONFIGURATION Ⓐ the final product is compressed biomethane (Bio-CNG), intended for grid injection, use as vehicle fuel, or as industrial fuel.

→ In CONFIGURATION Ⓑ thanks to the addition of CH4LNG®, liquefied biomethane is obtained, which has a density three times higher than that of compressed natural gas, which ensures greater ease of transportation and a greater efficiency when used as fuel.



*Indicative image

The layout and elements will be defined based on the available space and the chosen configuration

Every company in the agricultural and livestock sector has its own needs, which AB knows how to interpret.

It provides each one with tailor-made services that guarantee a long life to the investment and optimal performance over time. The assistance and maintenance of our plants is provided by AB Service: over 300 specialists operating all over the world, ready to intervene 24 hours a day, 365 days a year. The operational availability approaches 100%, with only a few hours of downtime required for maintenance cycles.

- Feasibility study and choice of the best solution
- Expert advice on legislation and incentives
- Assistance in the authorization phase
- Plant design and production
- Installation and system start-up
- 24/7 maintenance and assistance service
- Spare parts always on-hand
- Financing

Some of our references









Rely on AB's ONE STOP SHOP to obtain biomethane in a single solution, the best!

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gruppoab.com