

## CASE STORY



**THE CUSTOMER**  
VERDEMOBIL BIOGAZ, a pioneering French company that specializes in the valorization of renewable gases, including  $\text{BioCH}_4$ ,  $\text{BioCO}_2$ , and  $\text{BioH}_2$ .

**THE CHALLENGE**  
Develop a system that uses cryogenic distillation to cool and purify lean biogas, while consuming minimal energy.

**THE SOLUTION**  
SWEP designed and sized brazed plate heat exchangers, which are key to the process of purifying  $\text{CO}_2$ , specifically for VERDEMOBIL BIOGAZ.

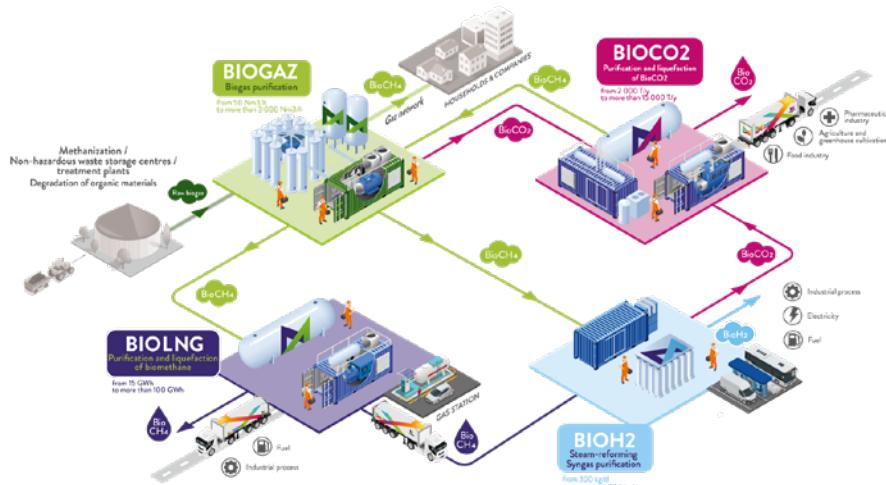
**THE HEAT EXCHANGERS**  
For VERDEMOBIL BIOGAZ, SWEP has installed countless different types and sizes of BPHEs, with different flow rates, across 6 different system designs.

**THE RESULTS**  
Pure, liquid  $\text{CO}_2$ .

## VERDEMOBIL BIOGAZ and SWEP – creating pure $\text{CH}_4$ , $\text{CO}_2$ , and $\text{H}_2$ from lean biogas

## Purifying biogas

The purification of biogas into biomethane generates two primary streams: Biomethane and lean gas, also called "off gas," which is primarily composed of carbon dioxide. At their installations, VERDEMOBIL BIOGAZ captures, purifies, liquefies, and distills this gas, allowing for the valorization of 100% of the biogas, with zero discharge of CH<sub>4</sub> or CO<sub>2</sub> into the atmosphere.



VERDE MOBIL modules.

## The role of SWEP BPHEs

SWEP brazed plate heat exchangers play a crucial role at many stages of VERDEMOBIL BIOGAZ's innovative cryogenic systems, including:

- Pre-cooling
- Liquefaction
- Heat recovery
- Vaporization
- Condensing process and auxiliary fluids

## Why choose SWEP?

Kevin PREAU, Engineering Manager at VERDEMOBIL BIOGAZ, expresses satisfaction with the long-term relationship between SWEP and VERDEMOBIL BIOGAZ.

"The choice of SWEP brazed plate heat exchangers stems from their wide range of products, offering a compact design for space optimization and system customization. Regarding cost, service and team responsiveness to deadlines, SWEP receives an A+ rating from VERDEMOBIL BIOGAZ."

## More About VERDEMOBIL BIOGAZ

Based in Montaigu-Vendée, France, VERDEMOBIL BIOGAZ specializes in the design, manufacture, maintenance, and operation of renewable gas recovery units. The company is made up of a dynamic team of more than 50 people and is growing continuously to support BioCH<sub>4</sub>, BioCO<sub>2</sub>, and BioH<sub>2</sub> projects in France and internationally.

## 15 years of experience and expertise

VERDEMOBIL BIOGAZ developed its first unit in 2010. Since 2018, the company has continuously expanded its range of biogas valorization solutions to meet a wide range of uses and needs. VERDEMOBIL BIOGAZ also offers reliable solutions for purifying biogas into Biomethane through Pressure Swing Adsorption (PSA) and membrane filtration, which are suitable for projects of all sizes in biogas production.

## Global perspective, global operations

VERDEMOBIL BIOGAZ currently operates 52 renewable gas recovery facilities in five countries. These facilities recover 1,138 GWh of biomethane and 41,675 tons of BioCO<sub>2</sub> every year.



SWEP brazed plate heat exchangers.

