



# Rebuilt biogas plant with zero disturbing odor emissions

**The combination of ozonation  
and selective adsorption  
removes all gas pollutants**

**MELLIFIQ**

# VSS Biovoima, Säkyli, Finland

VSS Biovoima OY is a bioenergy company founded in 2016, active in the Säkyli industrial area – one of Finland's most important food production areas. The company produces biogas and biodiesel from a combined plant for treatment of organic residues from food industry. Their key industrial stages are a continuous dry anaerobic digestion process and a supercritical esterification process. The treatment capacity is about 20,000 tons per year of residues, producing 200 m<sup>3</sup>/h of raw biogas.

## Facts

Name:	VSS Biovoima OY
Location:	Säkyli, Finland
Industry:	Biogas and biodiesel production plant
Air flow:	13,000 m <sup>3</sup> /hr
Purpose:	H <sub>2</sub> S with odor removal

## Solution:

### Nodora ADS

Units:	1
Dimensions (HxWxD):	2,070 x 760 x 1,160 mm

### Ozonetech RENA Pro B-series

Units:	1
Dimensions (HxWxD):	1,800 x 600 x 800 mm
Input power:	1.7 kW
Noise level:	55 dB

## The problem

Since the company was recently founded, parts of the industrial site required significant rebuilding to be adapted to the new process requirements. H<sub>2</sub>S is a gaseous pollutant always present in biogas plants, either in the

air of the ventilation system or in the biogas after the anaerobic digestion stage. VSS Biovoima OY decided to adopt a proactive approach, installing a treatment system for preventing any H<sub>2</sub>S and odor emissions.

## The solution

Mellifiq was commissioned to design and install the whole treatment stage. We choose our most advanced Ozonotech system for air treatment – the RENA Pro B-series – combined with the Nodora ADS active filter, for a final air polishing. These two systems are designed to work in synergy, maximizing the range of pollutants removal. In addition, the Nodora filter ensures low pressure drops, a very important feature when designing ventilation systems.

## Evaluation

Once more our combined system proved to keep up with the expectations. Immediately after injection, ozone started to decompose the pollutants, due to its fast reactivity. Thanks to the combination with Nodora, the final H<sub>2</sub>S removal had an average value of 95%, ensuring no odor problems for the surroundings. Due to expected changes in the process conditions, mild variations ( $\pm 2\%$ ) of H<sub>2</sub>S removal were observed, confirming the effectivity of our system even in the most problematic situation.



*Biogas plant VVS Biovoima OY in Finland.*

# About Mellifiq

Mellifiq is a multi-awarded environmental service company group, that has since the early nineties evolved into a world leading system and solution provider with multiple groundbreaking applications for industrial, municipal, and real estate clients. We supply cutting-edge technologies to manage the most sophisticated air, water, and energy challenges.

Mellifiq offers a complete range of air and water treatment technologies and solutions across multiple industries such as processing industry, energy sector, food and beverage, pharmaceutical, wastewater treatment and commercial real estate.

Mellifiq offers strong and renowned brands, such as Ozonotech, Nodora and Water Maid, and world-class engineering services combined an excellent track record of more than 40 years of innovation. We help our clients achieve the most efficient and sustainable solutions while creating the maximum value for their businesses.

With several business units across Europe, Mellifiq is headquartered in Stockholm where research and development, production, QA and certification all take place. Our unique technology and our extensive expertise have made us the Center of Excellence for the world's most complex projects, and a global player with installations on all six continents.

Everyday millions of people rely on our solutions for ventilation, disinfection, sanitation, and odor control. We are committed to raising the bar for the concept of clean and the industry standard for engineering, technical services and general contracting.

For additional information, visit our website at [www.mellifiq.com](http://www.mellifiq.com)

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