

## PRESS RELEASE

High fermenter with patented roof offers more fermenter volume in a smaller space  
**EnviTec Biogas sets standards in concrete fermenter construction**

**November 07, 2024** – With a diameter of 24 meters, a height of 25 meters, and a fermenter volume of over 10,000 cubic meters, the centrally stirred high fermenter from EnviTec Biogas AG impresses not only with its imposing size, but also with its stable concrete construction. “As one of the world’s leading plant manufacturers, we offer the market a sustainable and flexible concrete fermenter solution on a large industrial scale,” explains Jürgen Tenbrink, CTO of the globally active company.

As a material, concrete is more robust than conventional steel structures and requires considerably less maintenance. “In addition, concrete has a higher structural load capacity,” says the graduate engineer. “Our high fermenters can therefore also be implemented in earthquake regions and can be built – as is currently the case in Glambsbjerg, Denmark – in wind and weather, significantly reducing the construction time.” Another advantage lies in the full utilization of the permitted building height. While steel tanks can only be installed at ground level, an EnviTec concrete fermenter can be sunk into the ground to any depth. “This allows you to achieve a sufficiently high fermenter volume despite height and area restrictions imposed by existing permit requirements,” adds Maurice Markerink, Managing Director of EnviTec Plant Construction. Furthermore, Markerink notes that the use of concrete eliminates issues with the base point that exist with steel container construction.

### **Patented roof construction**

After just 24 weeks of construction, the seven-strong construction team is currently delivering its finale: “After using 90,000 kilograms of steel and 1,000 cubic meters of concrete, the roof structure is now being built. Following this, we will use a crane to install the heart of the high fermenter: the agitator from SUMA,” Markerink continues. Here, too, Germany’s largest biogas producer is focusing on innovation and sustainability: “The self-supporting roof construction from Bio-Dynamics is patented and does not require any supports,” says CTO Tenbrink. In the new concept, the load-bearing capacity is ensured through a subsequent tensioning of the roof. The advantage of a tensioned flat roof over a conventional conical roof is the lower construction

height and the resulting reduced gas storage volume, which complies with the EU-wide Hazardous Incident Ordinance by not storing excessive gas in a single plant. “Process safety comes first in all our plants. This includes the construction of our high fermenters,” adds Tenbrink. “For this reason, we also have flow simulations carried out for each project to better assess the mixing of the fermenter contents in advance.”

EnviTec has more than 18 years of experience and expertise in the planning, construction, and operation of high fermenters. “We built our first high fermenter in the town of Viöl in Schleswig-Holstein, Germany,” says Tenbrink. “Our Danish customer relies precisely on this expertise and is already planning an expansion.” The industrial plant with an attached EnviThan biogas upgrading system currently produces over 800 Nm<sup>3</sup>/h of high purity biomethane and feeds this into the local gas grid. The operators are making their contribution to Denmark’s exemplary climate legislation: By 2030, the country, which has around 2.5 million hectares of agricultural land, aims to reduce its greenhouse gas emissions by 70% compared to the levels of 1990 and become completely climate-neutral by 2050.



*The 25-meter-high concrete fermenter was sunk seven meters deep into the ground. (EnviTec Biogas AG)*



*The industrial plant with attached EnviThan biogas upgrading system produces over 800 Nm<sup>3</sup>/h of high-purity biomethane and feeds it into the local gas grid. (EnviTec Biogas AG)*



## About EnviTec Biogas AG

EnviTec Biogas AG covers the entire value chain for the production of biogas, including the planning and construction of biogas plants and biogas upgrading plants as well as their commissioning. The company takes charge of biological and technical services on demand, and also offers operational management services. EnviTec operates 87 own plants, making it the largest biogas producer in Germany at present. EnviTec's business activities also include the production and marketing of climate-neutral fuels (bio-LNG) for the transport sector as well as food-grade liquid carbon dioxide (bio-LCO<sub>2</sub>). With a presence in 16 countries worldwide, EnviTec Biogas AG is represented by its own companies, sales offices, strategic partners and joint ventures. In 2023, the EnviTec Group generated revenue of EUR 416.8 million and EBT of EUR 88.2 million. The Group currently employs some 690 people. EnviTec Biogas AG has been listed on the Frankfurt Stock Exchange since July 2007.

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