

Schwank Case Study:

CO₂-neutral heating with biological gas-infrared radiators



„For over a decade our biological gas heaters guarantee a smooth production process. An ecological and efficient solution from Schwank.”

Gottfried Drobesh,
Facility Engineer
ENTSORGA Nfg Ges.m.b.H.



The Facility

The ENTSORGA waste management plant in Tainach, Austria has operated since 1987 in partnership with the regional Waste Management Association, a landfill, and the Recycling Centre for the Völkermarkt municipality. ENTSORGA is a subsidiary of the “Abfall Service AG”, the largest waste management company in Austria.

The landfill is equipped with a leachate water treatment and biogas capture systems. The equipment requires frost protection and the adjoining workstations need to be heated.

Leachate water results when precipitation falls on the landfill. Due to the nature and make-up of landfill leachate it is critical that the water treatment process is never interrupted.

The integrated landfill gas plant produces biogas through biochemical degradation processes.

The Issue

The landfill in Tainach was modernised in 1997 and equipped with state-of-the-art technology. The company was looking for a heating solution provider that offers both open-air as well as office heating. One of the requirements was to use only the biogas produced by the landfill.

The water treatment plant required frost protection and the offices needed zone heating.

The attached gas-analysis device ensures the constant quality of the biogas. The methane and oxygen content as well as the necessary gas consistency had to be guaranteed.



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Storage tanks for biogas



The Implementation

Radiant tube heaters from Schwank were installed at the site. Due to their high surface temperature of 950°C and high efficiency, they are particularly well suited for exterior use and zone heating. A compressor is used to supply the infrared luminous heaters with a constant gas pressure.

The entire heating system is controlled electronically, providing the desired temperatures and frost protection of the water treatment plant. The workstations can be additionally heated as needed.

All luminous heaters are entirely powered by biogas [landfill gas]. The Schwank research centre carried out long-term tests prior to installation. The ideal device settings for the specific consistency of the biogas had to be found. They ensure a continuous clean combustion of the biogas.

The Result

CO₂ neutral industrial heating is attained using the biogas-fired infrared heaters from Schwank. In the process, the advantages offered by Schwank infrared heaters and the natural fuel have ideally complemented one another. The result was the first Schwank infrared heating system powered only by biogas.

The high quality standards of the products as well as the regular maintenance have resulted in the impeccable operation of the heating system. For ENTSORGA the heating system has already more than paid for itself.

Gottfried Drobesch, the person responsible for facility management is highly satisfied with the solution: «For over a decade the biological gas heaters from Schwank guarantee a smooth production process and ensure the crucial frost protection of our water treatment plant. An ecological and efficient solution from Schwank.»



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