

LOW CARBON FOOTPRINT BELL PEPPER CULTURE AT HOOGWEG

THE COMPANY

Situated in Luttelgeest (the Netherlands), the company HOOGWEG cultivates red, yellow, green and orange sweet (bell) peppers and sells them across Europe via trading firms.

Hoogweg's acreage spans 120 hectares and the company has a history of innovating and pioneering new technologies to sustainably increase their efficiency.

Latest such investments include a geothermal heat extraction system and two biomass boilers to complement that heat while reducing their carbon footprint at the same time.



THE AMBITION

In order to meet their growth and their social responsibility objectives, Hoogweg investigated how they could tap into natural geothermal resources to heat up their greenhouses.

Initial findings confirmed geothermal heat could provide a constant energy base throughout the year. Biomass boilers would be required to address the peak load in the cold seasons and to keep the company on their eco-friendly path.



VYNCKE was selected in the early summer of 2019 as key partner for green energy production. After carefully examining the customer's unique situation, the engineering team at Vyncke concluded that two biomass boilers would be required, as explained next.

THE SOLUTION

Vyncke determined the ideal scope would be two hot water boilers of 15 MW each, burning wood chips, shredded tree roots and tree stumps. This redundant design is the most economic solution as it is a plug and play system that allows for economies of scale while offering more flexibility in terms of energy delivery. Each boiler comes with two flue gas condensers



and a heat pump in between to reduce exhaust gas temperature to 20 °C, thus recovering an additional 5 MW from the latent heat and thereby increasing the overall plant efficiency to above 110 %. The biomass boilers receive the geothermal water at around 78 °C and upgrade that heat to 98 °C.

THE OUTCOME

Hoogweg wanted to get rid of fossil fuels when producing CO₂-neutral peppers and Vyncke has helped them achieve that: all the heating needs are ensured by net-zero energy which do not increase the carbon footprint of the company.

Vyncke designs and builds industrial energy plants that convert biomass waste and sorted industrial waste into green and clean energy – namely thermal energy (steam, hot water, thermal oil, hot gas from 1 – 100 MWth) or electrical power (1 – 20 MWe), or any combination of these energy media.

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