

WOOD GASIFIER IN A SAWMILL

Cogeneration system covers high heat demand

WOOD – A TRADITIONAL NATURAL PRODUCT

Wolfgang Kolb runs his sawmill as a family business in Ruppertshofen, at the edge of the Swabian Alb region. At present, they cut approx. 50,000 m³ of wood per year, about 90% of which is already dried in the six drying kilns, which the sawmill now operates. This trend has caused the sawmill's heat demand to increase steadily in recent years. On the search for an additional heat source, the idea of using a cogeneration system was soon born. Due to a lack of available technologies in the required output range, Burkhardt was able to help with its products. With the simultaneous generation of heat and power, Kolb hopes to be independent of the electricity grid in the future.

THE BURKHARDT SOLUTION

Wood comes first when it comes to energy generation: to back up the overloaded 980 kW wood-fired boiler, a wood gasifier with CHP was commissioned in February 2017. A CHP powered by vegetable oil, also made by Burkhardt, provides additional heat and power. Both of the CHP units

are accommodated in space-saving and soundproofed concrete cells beside the new wood gasifier building. The Burkhardt systems supply the sawmill with 360 kW of electricity and 430 kW of thermal energy. A 30 m³ buffer is used to cover load peaks, as can occur when the drying kilns start up.

HOMOGENEOUS FUEL

The fuel used for the wood gasifier is rather unusual for a sawmill: it only uses standardised wood pellets. Only with this fuel is it possible to ensure steady and stable gasification but Wolfgang Kolb has found a simple solution for this problem. To supply the new system, he makes the most of his long-standing business relationship with a pellet manufacturer that has bought his wood shavings and sawdust to date. After delivering the raw material, the lorry, loaded with pellets, can set off on its journey back to the sawmill straight away. Not only is this beneficial from an economic point of view. Every journey saved ultimately benefits the environment.

FACTS AND FIGURES

Location: Kolb sawmill, Ruppertshofen, Baden-Württemberg, Germany

Burkhardt plant information:

Burkhardt V 3.90 wood gasifier, 1x Burkhardt ECO 180HG CHP, 1x Burkhardt ECO 180PÖL CHP

with a total output of:
360 kWel and 430 kWth

Commissioned:

2017

