

4-Floor-Dryer at Dietz Automation successfully produces bio-fuels



The Dietz Automation GmbH has been a service provider for automation and network technology since 1997. It operates subsidiaries in Neukirchen and Hannover. Facing the problem of the world-wide shortage of energy, the company develops alternative energy concepts for the economy. The Wildungen project is subsidized by the German Federal Ministry for Economy and Technology.

Successful start into the dry-decade

New life awoke in the former sewage treatment plant in the Hessian town of Bad Wildungen. The Dietz Automation GmbH as a service provider for automation and network technology in the environmental field installed a state-of-the-art DORSET plant for

thermal energy in average. The basic material is conveyed from a receiving tank on a pendant which loads the 4-floor-drying band consistently. The biomass is dried at a temperature of more than 60 degrees Centigrade. The heat which is required for the drying process comes from a 540 kW-biomass oven that is fired using residual wood from forestry. The dried saw dust is stored after it has gone through the four floors of drying. From this interim storage, the dried saw dust is transported to the pelleting device by a screw conveyor.



Pelleting

At the technology plant in Bad Wildungen, more than 1,000 kgs of saw dust with a humidity of 50% are dried to a humidity of seven up to 13 per cent depending on the further application. This increases the calorific value of this saw dust by 30% compared to the wet product. The calorific value of the dried saw dust amounts to 3,260 kWh heat energy which is made available by applying a heat energy of only 540 kWh and 6 kWh of electrical energy. This is enough for heating a detached house for one month during the winter season. Dietz says: "The drying performance is excellent. The throughput goes beyond all our expectations and we can be absolutely satisfied by the low consumption of thermal energy."

drying biomass.

The plant fits excellently to the innovative utilization concept of regenerative energies of the company: Also solar power plants and a biomass oven are located on the premises. For operating the DORSET-belt dryer, the managing director Norbert Dietz only uses sustainable energy sources such as solar energy and wood. The company invested one million Euros into the plant which was commissioned in February 2010.

Drying Saw Dust

At the moment, the system is used for drying saw dust which is pelleted and sold as wood pellets afterwards. The managing director Norbert Dietz explains: "Heating with regenerative energy sources opens an interesting and promising new business field. We can also imagine to dry other materials than saw dust, for example sewage sludge, in the future."

Heat from Biomass and Combustion

The DORSET-belt dryer that is laid out for 500 kWh has been operated since February 2010. The saw dust cannot be used as a fuel for burning when it is wet. However, if it is dried and pelleted, it represents a sustainable energy source. "We increase the energy content by 60% by drying", says the managing director Norbert Dietz. The drying process in the ultra-modern plant can be optimally adapted to the different materials and the amount of input material. Therefore, the energy consumption is low, 6 kW electrical energy and 500 kW



Test container in practice :
See YouTube http://www.youtube.com/watch?v=ncdhu74NAMI&feature=youtube_gdata_player