

Pig Farm Uses Synergies to Generate Energy

Croatian Biogas Plant of WELTEC BIOPOWER Goes Live

In summer 2016, a biogas plant of the German plant manufacturer WELTEC BIOPOWER went live in Varazdin, northern Croatia. The 250-kW plant of the pig farmer Dalibor Vrčec perfectly suits the farm's cycle of food production, liquid manure utilisation and energy production in the form of power, heat and fertiliser. The slurry from a newly erected pigsty with 130 sows and 2800 porkers forms the basis for the energy production.

Even before joining the EU in 2013, Croatia had committed itself to the EU climate protection goals in order to establish the preconditions for obtaining subsidies for decentralised energy projects in rural areas. With these grants and fixed feed-in tariffs for green power, the Croatian government intends to increase the share of renewable energy by about 30 percent by 2030. The framework conditions for this are excellent, as Croatia has a generous supply of biomass. Biomass is one of the country's most important renewable energy sources. Thus, biogas plants can effectively contribute, not only to the utilisation of agricultural products, but also to the digestion of leftovers and waste from the food industry. Pig breeder Dalibor Vrčec's family-managed farm also had ideal conditions for establishing a synergy of animal husbandry and biogas generation. In addition to the subsidy for the construction, the operator was able to base his investment decision on a fixed feed-in tariff of € 0.19 per kilowatt-hour of power fed in over the next 14 years. This income forms a solid basis for diversifying his business. "We expect a feed-in of two million kilowatt-hours a year. Thus, we have created a third solid pillar besides agriculture and feed production as well as pig fattening and direct marketing", says Vrčec, commenting on the further economic and ecological development of his farm, which had been founded back in 1990. The farm's infrastructure is highly suitable for the new business field. Before the pig slurry is pumped into the 1,716-m³ stainless-steel digester, it can be stored in an existing upstream slurry store. In view of the liquid manure share, a small 35-m³ input system is sufficient for transferring the solid substances, such as maize silage. The entire digestate is used as fertiliser on the farm's fields, which amount to more than 300 ha. The smart heat utilisation of the 250-kW CHP unit serves as an additional source of income, thereby contributing to the efficiency of the plant operation. Tihomir Pajtak, who supervises the project on site as WELTEC BIOPOWER's sales partner, considers the development of the family operation as a trend-setting concept in Croatia, as the focus on biogas for heat and power production is on the rise throughout the country. "Currently, about 20 biomass and biogas plants with a total capacity of more than 21 MW are online – two figures that are bound to grow. Additional plants with a planned capacity of 67 MW have already been approved. The plant capacity is to be doubled within four years", explains Pajtak. Using reliable

plant technology such as the solutions offered by WELTEC BIOPOWER, the southeast European country will easily reach the EU climate protection goals.