

WOOD GAS CHP IN FAR EAST

First Burkhardt wood gasifier in use outside of Europe

Ueno Village is a small town with 1.300 inhabitants located 170 km northwest of Tokyo. It is in the middle of an area covered by forest to a 96 % that resembles a low mountain range. In addition to its breathtaking scenery, the region also shines with its signature product: the villagers have been cultivating and selling shiitake, the most popular mushroom in Asia, on a large scale since 2000. Each year, the local mushroom farm produces 500 tonnes of this delicacy – an undertaking that is quite energy-intensive and laborious. The ambient temperature and humidity in the greenhouses has to stay constant. The mycelium grows on a culture medium consisting of sawdust, pressed wood chips and water. In nature, shiitake mushrooms only grow on trees.

REVIVING THE REGION

Like many rural areas, Ueno Village is facing the problem of an exodus. Comprehensive development measures were taken in 2013 to strengthen the region, including the expansion of the shiitake farm. With the call for a sustainable, CO2-neutral production method and the ambition of covering the energy costs with internal resources, wood pellet cogeneration was the best choice.

The reason for this is obvious: only two kilometres away, there is a pellet plant that produces the required fuel from locally available wood. Soon, Burkhardt GmbH from Germany turned out to be the perfect partner for this project. A delegation of representatives of Ueno Village and Sanyo Trading (now Burkhardt partners) visited several German locations to get an impression of the quality of Burkhardt's plants.

WOOD GASIFIER MADE IN GERMANY

The decision in favour of the first wood gasifier V 3.90 in Japan in combination with an ECO 180 HG CHP was made towards the end of 2014. Despite the logistical challenge, the plant was already commissioned in spring of 2015. Since then, the cogeneration plant has been ensuring that the temperature in the greenhouses is just right. It heats in the winter and cools in the summer. In spite of fluctuations in the pellet quality, the plant achieves a high level of availability, as up to a thousand visitors can see for themselves each year. Meanwhile, after successfully commissioning this first plant, the people of Ueno Village are now considering a second one.



The shiitake farm with the greenhouses. The wood gas energy power house can be seen on the left side

FACTS AND FIGURES

Location:

Ueno Village (Japan), main customer: Shiitake mushroom farm Burkhardt

Information Burkhardt plants:

1x Burkhardt wood gasifier V 3.90
1x Burkhardt CHP ECO 180HG
with a total output of
180 kWel and 270 kWth

Comissioning:

2015



Sanyo Trading's service professionals performing maintenance work



Impressive plant building with visible flare