



Press release

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MW wood gas project pioneers new sustainability project in Japan

Spanner Re²'s largest biomass power plant with approximately 2 MW of electricity is located in Azumino City, Japan. Located in the purpose-built Azumino Biomass Energy Center, the Japanese corporation Air Water Inc. generates electricity and heat from regional wood with Spanner Re²'s biomass power plants. They also use CO₂ for a special recycling process to promote photosynthesis in tomato cultivation - a so-called "trigeneration" concept that is unique in Japan in this form.

Neufahrn i. NB., Germany / Azumino, JP. Spanner Re² is one of the most successful manufacturers of biomass power plants. The company, based in Neufahrn in Lower Bavaria, initially specialised in the small output range. Spanner Re²'s proven wood gas technology is also one of the leading manufacturers in the MW range. The company's largest project to date, with around 2 MW_e, was realised by Re² in Azumino City, Japan. The Lower Bavarian plant manufacturer installed a total of 40 wood-fired power plants on the premises of the Japanese corporation Air Water Inc., including all peripheries such as the conveyor unit, discharge and fuel dryer. The energy plant from Spanner Re² is based on multiple plants that are connected in a cascade and generate electricity and heat from wood according to the principle of combined heat and power. With the sustainable system, energy is generated around the clock, even when maintenance work is being carried out on individual modules - a major advantage over conventional large-scale single systems that have to be shut down completely for maintenance work. In addition, the energy demand of the Re² biomass power plant can be flexibly adjusted at any time. Only wood from the region is used as an energy source. This is processed into wood chips, which are then fed into the CHP plant as needed in a fully automated process.

Customer receives payment for electricity and supplies their greenhouses with heat

In Japan, there is a state FIT system (Feed-in-Tariff system for renewable energy) for regeneratively generated electricity that is fed into the public grid, which is also used by the Japanese company. Air Water annually produces about 15.6 million kilowatt hours of electricity and about 35 million kilowatt hours of heat with the environmentally friendly energy system from Spanner Re². With the feed-in tariff system, the customer has another fixed source of income. The heat generated is used by the Azumino Biomass Energy Center to supply the group's greenhouses - a particularly environmentally friendly concept, as it saves fossil fuels and at the same time increases regional added value.

Innovative CO₂ recycling for tomato cultivation

Another particularly sustainable aspect is that not only heat and electricity are generated regeneratively, but CO₂ present in exhaust is used in tomato cultivation via a special recycling process that positively influences the photosynthesis processes of the tomato plants. This "trigeneration" concept is unique in Japan. "The project in Azumino is more than exemplary for us as a manufacturer of biomass power plants. It shows how sustainable and at the same time economical innovative energy concepts with a proven technology can be. We would like to express our sincere thanks to our customer for the good and cooperative partnership," says Matthias von Senfft, International Sales Manager at Spanner Re².

Captions: Exterior and interior view of the Azumino Biomass Energy Center. Source: Air Water Inc.