

Green Waste turns into Energy and Fertiliser

Xergi to deliver a state-of-the-art anaerobic digestion plant to Staples Vegetables.

It will soon be possible for one of the UK's leading vegetable producers, Staples Vegetables, to benefit from their surplus waste by building an anaerobic digestion plant, which will turn waste into energy and fertiliser using state of the art technologies.

This modern anaerobic digestion (AD) plant is delivered by turnkey supplier Xergi Ltd., an international company specialising in the field.

- We chose Xergi to be our supplier as the company has more than 20 years experience in the design, build and operation of anaerobic digestion plants. Xergi delivers turnkey solutions based on the latest technologies - for example feeding of biomass into the digesters, as well as computerised supervision and control of the processes in the plant, explains Vernon Read, managing director of Staples Vegetables.

The requirement for using innovative technologies and processes was a precondition for WRAP (Waste & Resources Action Programme) to support the project through Defra's AD Demonstration programme, part of the International Environmental Transformation Fund (run by the Department for Energy and Climate Change (DECC)).

Worthless waste becomes valuable

Staples Vegetables, situated in Wrangle near Boston, Lincolnshire, produces vegetables for the retail industry. Every year the company produces a large amount of surplus organic waste; however, this will now be used as a resource feedstock for the AD plant due to be operational in Autumn 2010.

The plant makes it possible to extract gas from the waste, and then exploit the gas for renewable energy production in the form of electricity, heat and cooling. In total the amount of feedstock to be treated in the plant will be approximately 50,000 tons per year.

The plant will have a capacity of 1.4 MW, and is expected to produce 11 million kilowatt hours of electricity per year.

Staples Vegetables will harness a large part of the electricity production themselves, with any surplus being delivered as green electricity to the National Grid, the equivalent of the yearly consumption of approximately 1,500 households. Some of the surplus heat from the electricity production will be used for heating up the company offices during winter. The majority of the heat will be used for cooling the company's warehouses by using an absorption chiller, which converts the energy of the hot water into cooling air.

The digested biomass is turned into a valuable fertiliser, rich in nitrogen. In this way the digested vegetables will be replacing the artificial fertiliser used on Staples Vegetables' fields.

Good co-operation

- Throughout the entire initiation of the project we have had positive co-operation with Staples Vegetables, as well as their consultant and WRAP. This close co-operation between the parties bodes well for the project, says Jørgen Ballermann, CEO of Xergi.

- The order from Staples Vegetables is a very important step for Xergi's strategy of entering the British market for anaerobic digestion plants. We look forward to the co-operation, and to this project which will also be a milestone in the realisation of the British government's strategy within anaerobic digestion and renewable energy, he adds.

Xergi is already well established in the British market as the company has built and operates CHP plants in both Woking and Milton Keynes. Internationally the company has delivered more than 100 energy plants in Europe and the USA.

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Facts about Xergi

- Xergi A/S has more than 20 years of experience as supplier and operator of more than 100 turnkey energy and environment plants, including more than 40 biogas plants in Europe and the USA.
- The business concept of Xergi A/S is based on energy production utilizing power/heat/cooling solutions and the use of nutrients in organic waste by the application of biogas and separation plants.
- Xergi A/S is equally owned by Schouw & Co. and DDH.
Xergi Ltd. is a 100 % owned subsidiary of Xergi A/S.