

AD plant set to inject first green gas into grid by end of summer

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(Source: <http://www.greenwisebusiness.co.uk/news/ad-plant-set-to-inject-first-green-gas-into-grid-by-end-of-summer-1637.aspx>)

14th July 2010

The first anaerobic digestion (AD) plant to inject renewable gas into the National Grid is set to start operating later this summer, it has been confirmed.

Construction has just completed on the Adnams Bio Energy plant in Norfolk. The plant, which is a joint venture between Southwold-based independent brewery Adnams and renewable energy company Bio Group, will be the first in the UK to use organic waste to produce renewable gas for injection into the grid as well as providing green fuel for use as in vehicles.

The £2.7 million facility will be sited on land owned by Adnams and will recycle its brewery waste as well as food waste sourced from other local businesses, such as hotels, restaurants and retailers.

Through a partnership with British Gas and the National Grid, the facility will start injecting renewable gas into the gas grid within the next two months, Adnams Bio Energy said today.

It will have the capacity to break down up to 12,000 tonnes of organic waste a year into biogas and will generate up to 4.8 million kilowatt-hours per year – enough to heat 235 family homes for a year or run an average family car for four million miles. It is expected to save 50,000 tonnes of CO₂ compared to landfill and up to 2,400 tonnes a year from fuel use.

Mini energy park

The facility will also act as a "mini energy park", according to Adnams Bio Energy, following an agreement with Centrica – the parent company of British Gas – to deploy solar thermal and cutting edge photovoltaic cells. The deal will mean the entire site, including the Adnams Distribution Centre, will be using renewable energy generated on-site with some surplus energy available for export.

In the future, it is expected the facility will produce enough renewable gas to power the Adnams brewery and run its fleet of lorries. This will still leave up to 60 per cent of the output for injection into the National Grid.

"Adnams has been investing in ways to reduce our impact on the environment. The reality of being able to convert our own brewing waste and local food waste to power Adnams' brewery and vehicles, as well as the wider community is very exciting," said Andy Wood, chief executive of Adnams.

"The industrial ecology cycle is completed when the fertiliser produced from the anaerobic digestion process can be used on farmland to grow barley for Adnams beer."

AD is a technology that produces energy from organic material such as food waste and manure. It produces a nutrient-rich digestate, which can be used as fertiliser, and keeps organic waste out of landfill, cutting greenhouse gas emissions.

Although still in its infancy, the practice of feeding biogas – which can also be derived from drier wastes and energy crops via technology called gasification – into the National Grid is expected to become an important and secure supply for UK green energy in the future. According to a study by National Grid, it could account for at least 15 per cent of domestic gas consumption by 2020.

Nothing wasted

The Adnams Bio Energy plant consists of three digesters – sealed vessels in which naturally-occurring bacteria act without oxygen to break down organic waste to produce biomethane as well as a liquid organic fertiliser.

"This facility has been designed using our groundbreaking technology as the first stage of a national roll out of AD plants. We use innovative, low carbon building techniques to produce energy through a completely organic and natural process; nothing is wasted," said Steve Sharratt, group chief executive of Bio Group.

"This facility will have a major impact on the reduction of carbon emissions in the region and the production of renewable energy. The food waste would otherwise be destined for landfill, but processing it through the digester will save an estimated 50,000 tonnes of CO₂ equivalents from landfill," added Wood.

The plant has backing from the European Regional Development Fund (ERDF), East of England Development Agency (EEDA) and the Department of Energy and Climate Change.