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Sainsbury's delivers food with lorry running on rubbish

* Fuel from waste reduces CO₂ emissions by up to 60% *

* Lorry to make daily deliveries to Sainsbury's new environmental store *

Today, Sainsbury's will be the first supermarket to make its daily food deliveries to its new environmental store using a lorry which is powered by fuel produced from waste.

The lorry will run on methane gas, which is produced from rotting rubbish in landfill. The gas is captured from landfill and purified, and the bio-methane produced is then used to power the truck.

Using bio-methane from landfill can save up to 60% in CO₂ emissions compared with diesel fuel. The lorry uses a Dual-Fuel™ system which enables diesel engines to operate on a combination of bio-methane and diesel, with a shot of diesel acting as a liquid spark plug.

Methane gas results from organic or biodegradable material such as waste food, garden waste, paper and newspapers which rots in the absence of air in landfill sites. Some landfill sites burn the gas off, but the energy locked up in the gas is wasted. Instead, by capturing the gas, cleaning it and compressing it, it can now be used to power heavy goods vehicles.

Equally as important, is that the use of bio-methane means Sainsbury's is avoiding use of fossil fuels, used to create conventional fuel. Instead, energy is created from biodegradable and plant waste. Other vehicles operate on compressed or liquefied gas, but this is still based on fossil fuel, which contributes to global warming.

Hitting the road for the first time today, the Sainsbury's lorry will make a daily 500km round trip from the Sainsbury's depot in Bristol to the supermarket's new environmental store in Dartmouth.

The environmental store has been built with consideration for the use of energy, water, waste, timber and land, and is aiming to be one of the first supermarkets to achieve a BREEAM 'Excellent' rating for its commitment to sustainable construction.

The pioneering store will save 40% of its overall CO₂ emissions. This will be achieved by using cutting edge technology such as a 'biomass boiler' which will heat the building and water, and means energy currently taken from the national grid will be slashed by 50% and replaced by renewable energy.

The new Sainsbury's store has been designed to leak less draughts, and other measures such as 'quiet revolution wind turbines'TM will now power the checkouts, and contribute to cutting electricity usage (kWh) by a third.

Rainwater will be collected, and used to flush customer and colleague toilets, and to irrigate plants. The store will save over one million litres of mains water every year, and uses 60% less water overall.

Lower lighting levels, dimmers and more natural light will also make carbon savings, and cool air will be collected from chillers to keep the store cool during warmer months. Plus all the warehouse lights turn off if no-one's there.

The store's construction is also environmentally responsible, and where possible recycled or recyclable materials have been used, or FSC-approved timber. As 200 trees have been used for the frame of the store, Sainsbury's has since re-planted 400 trees in the local community.

The new bio-methane lorry ensures that the transportation of food matches the sustainable aims of the store.

Alison Austin, environmental affairs manager, Sainsbury's, says: "This is a real first for how food is delivered in the UK, although the technology used is already used in Lille, France where city buses and refuse lorries run on bio-methane. Our aim is to now roll this out to our entire fleet so that we can make this technology work for all food deliveries across the UK, it makes complete environmental sense, and given escalating fuel costs, economic sense too.

The beauty of it is it doesn't use any fossil fuel like conventional fuel. This means the methane from rotting rubbish, which is damaging to our climate is put to positive use. We're extremely proud to be the first UK supermarket to deliver food using these technologies in partnership with Clean Air Power, Gasrec and BOC."

Richard Lilleystone, CEO of Gasrec, says: "The use of liquid biomethane as a vehicle fuel in a fleet such as that of Sainsbury's is the perfect example of the virtuous circle which allows food waste to be converted into a direct resource for those businesses which produce, transport and sell food. We are delighted by the commitment shown by Sainsbury's to help make this a reality and hope that this will provide the catalyst for other industry sectors to go this route."

John Pettitt, Chief Executive of Clean Air Power, who designed the truck's technology, said: "I am delighted that we have been able to support the Sainsbury's initiative to become the first supermarket to use trucks that are converted to run on waste gas, bio-methane, generated from rubbish in landfills. We will continue to work with Sainsbury's in support of its environmental initiatives. Bio-methane is a cleaner and cheaper fuel than diesel and with Clean Air Power's patented Dual-Fuel™ system, can deliver significant and practical fuel-cost savings to the operator."

Sainsbury's is aiming to reduce the like-for-like distance its fleet and suppliers travel by 5 million km by 2010. It is also working to convert 20% of its online delivery vehicles to electric vans.

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Photo/ filming opportunities are available at Dartmouth from 9am on Monday 18th August. Please call Hannah Chance on 07914 398 289 for information.

Editor's Notes:

About Clean Air Power:

Clean Air Power has pioneered the move towards using natural gas to power vehicles by developing Dual-Fuel™ technologies that guarantee diesel engine performance, with significant cost savings and low carbon emissions.

An immediate solution to reducing carbon emissions produced by HGVs and CVs, Clean Air Power's patented Dual-Fuel™ system enables heavy duty diesel engines to operate primarily on natural gas, with diesel fuel acting as a 'liquid spark plug'.

The system is proven having been installed on over 1,600 vehicles worldwide. Minimal changes are required to the existing diesel engine and by burning up to 90% natural gas, customers benefit from a combination of low emissions and high efficiency.

About Gasrec:

Gasrec is a producer of liquid methane fuel utilising gas generated by the decomposition of biomass. It obtains its gas supply from existing landfill sites or from controlled digestion of the biomass by-products of food manufacture, retail and other industries. In creating and selling the fuel product, Gasrec recovers the latent energy stored in material discarded by society to power vehicles, especially those operating in the urban environment, or to generate electricity or CHP (Combined Heat and Power).

The generation of power from landfill sites in the UK is tried and tested, with over 300 UK landfill sites generating approximately 1,700 MW/h each year. However, a proportion of sites continue to flare unused gas as hitherto their development was not economically viable, thereby wasting the energy potential of the gas.

Gasrec has identified a clean, efficient use for this gas in the production of LBM (Liquid Bio Methane), a commercially competitive and environmentally sound fuel that can be directly substituted for both CNG (compressed natural gas) and LNG (liquefied natural gas) for use in gas-powered or dual-fuel vehicles, or to generate electricity or CHP (Combined Heat and Power).

About BOC:

BOC, a member of The Linde Group, provides plant operation and maintenance services – as well as risk management and engineering expertise – on the landfill site where the Liquid BioMethane (LBM) is produced using the Gasrec process. The technology to liquefy the gas at this site is provided under an exclusive UK agreement with BOC's parent, The Linde Group.

For more information contact Simon Napper in BOC Communications
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