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## **Sainsbury's opens the UK's greenest store**

**\* Store to run on renewable energy saving 40% CO<sub>2</sub> emissions\***

**\* Food deliveries made by lorry running on rubbish \***

Sainsbury's will open its new flagship green store today in Dartmouth, Devon, built with consideration for the use of energy, water, waste, timber and land.

The store is aiming to be one of the first supermarkets to achieve a BREEAM 'Excellent' rating for its commitment to sustainable construction, and has been specifically designed to reduce the amount of CO<sub>2</sub> emitted into the atmosphere.

The pioneering store will **save 40% of its overall CO<sub>2</sub> emissions**. This will be achieved by using cutting edge technology such as a 'biomass boiler' which will heat the building and water, and uses locally sourced wood which would otherwise be wasted. Using no gas whatsoever at the store, this system uses renewable energy and means **energy currently taken from the national grid will now be slashed by 50%**.

The new Sainsbury's store has been designed to leak less draughts, and other measures, such as 'quiet revolution wind turbines'<sup>™</sup> 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, the use of daylight and dimming light also make carbon savings, and cool air will be collected from chillers to keep the store cool during warmer months. Plus the lights at the back area of the store 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 will also re-plant 400 trees in the local community.

### **Dartmouth's food deliveries will also run on rubbish:**

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 bio-methane produced from rotting rubbish. The gas is captured from landfill and purified, and the bio-methane produced is then used to power the truck. Using bio-methane can save up to 60% in CO<sub>2</sub> emissions compared with diesel fuel. The lorry uses a Dual-Fuel™ system which enables heavy duty diesel engines to operate on a combination of bio-methane and diesel, with a shot of diesel acting as a liquid spark plug.

Sainsbury's now plans to replicate many of the sustainable features in the Dartmouth store across the UK, and pledges to open a minimum of two green supermarket-sized stores every year, plus a greener Sainsbury's Local, as well as extend existing stores with a range of environmental measures.

**Neil Sachdev, Commercial Director, Sainsbury's, says:** "We are really proud of our new flagship environmental store in Dartmouth. It is a leader in sustainable construction, it's sensitive to its local environment, and is extremely low in energy usage. We've been keen to experiment with a number of energy saving measures here, from sun pipes™ which provide amazing natural light, to using a timber frame rather than steel, which consumes less energy in its production, but looks good too. We now want to apply all these benefits to the rest of our stores.

The carbon reduction at this store is significant, but many of the steps are small, yet collectively they can have a huge impact. Some ideas are automated, such as automatic switching off lights at the end of the day, but most of what we've done has come from what our customers and colleagues tell us. Dartmouth is a successful culmination of all these ideas."

The new flagship environmental store in Dartmouth opens its doors as Sainsbury's also celebrates nearly ten years of the UK's very first green store in Greenwich, London.

Ahead of its time in 1999, Sainsbury's environmentally responsible store in Greenwich has acted as a test-bed for many of the technologies now installed at Dartmouth, and

continues to be an environmental leader. The Greenwich store has recently been updated with a whole host of environmental systems to ensure it can lead sustainable supermarkets for another decade.

Sainsbury's has an overall target to reduce CO<sub>2</sub> emissions per square metre by 25% by 2012 in its stores and is seriously committed to reducing its carbon footprint.

**-ENDS-**

**Editor's Notes:**

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

Sainsbury's in Dartmouth was built by Kier Western. Kier Western provides a full range of construction and related services throughout the South West of England and South Wales, from strategically located offices in Bristol, Newport, Truro, Exeter and Plymouth.

Sainsbury's was also the first major retailer to install a biomass boiler at its Alnwick store.

**Dartmouth Environmental Store:**

The new Dartmouth environmental store is the culmination of a number of years of work and trials of technologies which all started with the launch of Greenwich back in 1999. This has been achieved by reducing 'operational carbon', the Co<sub>2</sub> emissions from the energy used at the store i.e. electricity and gas, and 'embodied carbon' which relates to how the store has been built and the energy used in its construction.

**1. Onsite Renewable Energy Generation – Operational Carbon**

(Definition of renewable energy: is energy generated by using a fuel source that is able to be sustained or renewed indefinitely)

Initiative	What does it do
<b>Quiet Revolution™ wind Turbines</b>	<ul style="list-style-type: none"> <li>• These use wind to generate electricity</li> <li>• Forecast to generate energy per annum equivalent to the energy usage of the stores checkouts.</li> <li>• These are a new design of turbine that spin vertically rather than horizontally (like an airplane propeller) and are almost silent.</li> <li>• This is the second installation of these turbines on a food retail store in the UK, the first was at our Greenwich store .</li> </ul>
<b>Biomass boiler</b>	<ul style="list-style-type: none"> <li>• Burns wood pellets to generate heat that is used to heat the store and hot water</li> <li>• Removes the need for GAS and virtually avoids and Carbon Dioxide emissions.</li> <li>• This is the second known installation of a Biomass Boiler on a food retail store in the UK. The first was at our store in Alnwick.</li> </ul>

**2. Refrigeration – Operational Carbon**

Initiative	What does it do
<b>Night blinds on sales floor</b>	<ul style="list-style-type: none"> <li>• When the store is closed these blinds should be pulled down to stop the cold air escaping from the fridges on the sales floor.</li> </ul>

Initiative	What does it do
refrigerated cabinets	<ul style="list-style-type: none"> <li>We anticipate that if the blinds are closed for 5 hours per day we will save 5% of the refrigeration energy.</li> </ul>
Weir screens on front of sales floor cabinets	<ul style="list-style-type: none"> <li>These help reduce the amount of cold air that is spilt from the open sales floor fridges into the aisle.</li> <li>These are 1 inch screens positioned on the bottom front of each cabinet.</li> <li>Additional benefit of these is that we utilise less heat to keep the aisle warm.</li> </ul>
Light Emitting Diodes (L.E.D.) lights in all Full Height Freezers	<ul style="list-style-type: none"> <li>It's a little known fact that Fluorescent tubes burn dimmer in the cold and brighter in the warm. Where as L.E.D.s burn brighter in the cold and dimmer in the warm.</li> <li>L.E.D.s last circa 10 years rather the fluorescent that lasts maximum 18 months, so less waste.</li> </ul>

### 3. Lighting – Operational Carbon

Initiative	What does it do
Natural lighting with daylight dimming	<ul style="list-style-type: none"> <li>We have installed a system called Sunpipe™ that brings natural light into the store so we can automatically dim or turn off the artificial lights to save energy.</li> <li><b>This store is the first in the UK to use such a system on the sales floor.</b></li> </ul>
Store feature lighting optimised to match fixture layout	<ul style="list-style-type: none"> <li>Lighting layout designed to ensure we are utilising the minimum amount of spot lights to save energy.</li> </ul>
Motion sensors fitted, in conjunction with daylight dimming, in Staff areas and toilets.	<ul style="list-style-type: none"> <li>This system ensures that lights will not stay on if no one is in the room</li> <li>Will also ensure the lights can not be switched on if there is sufficient natural light.</li> </ul>

### 4. Heating and Ventilation – Operational Carbon

Initiative	What does it do
Solar Powered extract fans	<ul style="list-style-type: none"> <li>Extract fans that purely run off daylight to extract air so saving energy.</li> <li>These are within the loading bay area and the plant room.</li> </ul>
Cold air retrieval system from chilled aisles.	<ul style="list-style-type: none"> <li>The cold air that is spilt from the sales floor cabinets is reutilised to cool the checkouts and GM areas.</li> <li>By doing this we do not need to artificially create cold air to cool the areas saving energy.</li> </ul>
Heat Reclamation from refrigeration packs.	<ul style="list-style-type: none"> <li>The equipment that runs the refrigeration in the plant room generates heat as a waste product which would normally be allowed to escape into the air.</li> <li>We are reclaiming this waste heat to supplement the heat we are generating from the Biomass boiler again saving energy.</li> </ul>

### 5. Other Energy Saving – Operational Carbon

Initiative	What does it do
New "Air Force" eco hand dryers	<ul style="list-style-type: none"> <li>Energy efficient hand driers that use less energy than the standard hand drier.</li> <li>Uses a higher pressure of air to dry hands so runs for less time.</li> </ul>
Whole building energy monitoring and control system.	<ul style="list-style-type: none"> <li>This control system that ensures equipment is running to its maximum efficiency and each piece of equipment is only in use when it should be. I.e. lights not on at night when store closed.</li> </ul>

## 6. Building Construction – Embodied Carbon

Initiative	What does it do
<b>Using timber for the frame of the building and the cladding of the building.</b>	<ul style="list-style-type: none"> <li>• Making a timber frame uses less energy than making a steel frame.</li> <li>• This means the embodied carbon of the timber is significantly less than it would be if we had used steel.</li> <li>• The timber has been sourced from a sustainable managed forest, PEFC certified, where for every tree that is used to make the frame a new one is planted.</li> <li>• We are also replanting 420 trees in the Dartmouth area which is the amount of tree's used to build your store.</li> </ul>
<b>Using BRE A rated materials for external walls and roofing.</b>	<ul style="list-style-type: none"> <li>• This means that the materials we have used to construct your store have been assessed and given a rating of how environmentally good or bad they are (similar to the label on your fridge)</li> <li>• This is accredited by the Building Research Establishment.</li> </ul>
<b>BREEAM Retail Excellent rating</b>	<ul style="list-style-type: none"> <li>• This is a method of getting 3<sup>rd</sup> party accreditation of how environmentally friendly the building and site is.</li> <li>• We aim to achieve the Excellent rating which is the highest rating that you can achieve.</li> </ul>

## 7. Water Saving

Initiative	What does it do
<b>Rainwater harvesting included for flushing of toilets and irrigation of surrounding area.</b>	<ul style="list-style-type: none"> <li>• We collect the rain that the roof of the store catches and we store it in a tank underneath the carpark for use later.</li> <li>• By doing this we have removed the need to use mains water for flushing WC's.</li> </ul>
<b>We are using a 4.5ltr flushing system.</b>	<ul style="list-style-type: none"> <li>• We are using this as a dual flush system is open to misuse leading to multiple flushes.</li> <li>• This is the lowest flush we can use and saves 1.5 to 2 litres per flush.</li> </ul>
<b>Waterless Urinals</b>	<ul style="list-style-type: none"> <li>• These urinals are totally water free.</li> </ul>
<b>Percussion taps on hand washing basins</b>	<ul style="list-style-type: none"> <li>• Using these taps avoids them being left on by mistake and saves mains water.</li> </ul>