

# Environment Report 2007/8



The University of  
Nottingham



## Welcome to our new look Environment Report

Environmental Issues, whether it be climate change, traffic congestion or the rising price of energy are never out of the headlines. The impact of our actions are significant and will be felt by future generations. As a community of more than 30,000 the University is doing all it can to minimise its environmental impact, whether it be through environmental conscious building design, energy reduction, reducing landfill or encouraging the use of sustainable transport. At the same time it is expanding its portfolio of research interests and course provision in the Environment field, both in the UK and at overseas campuses.

Over the last 12 months we have seen an improvement in our environmental performance and are committed to making year on year improvements. We have increased our staffing levels within the Environment team, are developing a top level formal Environmental Strategy and have secured funding to invest in environmental improvements, all of which will contribute to year on year improvements.

This brief report gives an overview of our 2007/08 performance, if you would like to find out more about what we are doing or how you can get involved please don't hesitate to contact us.

## The Environment Team.

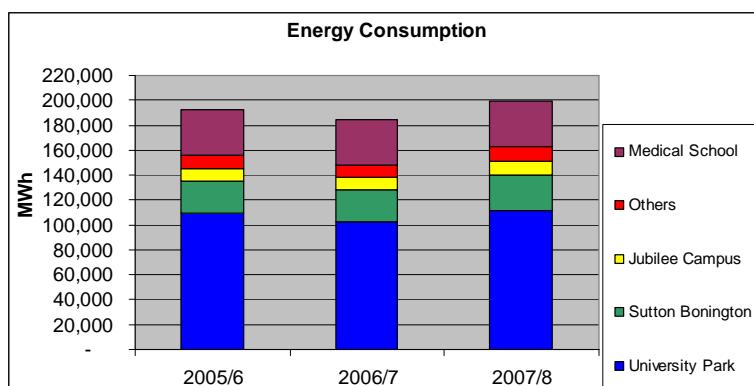
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### **A few ways to support the University's environmental policy...**

- ★ Use the free hopper buses to travel between campuses
- ★ Make the most of the recycling facilities - you'll find them in halls, offices, snack bars and outside on campus
- ★ Find out who the Environmental Champion is for your school or department (see p6 for further details)
- ★ Report any heating faults to the Estate Office helpdesk on x16666
- ★ Activate the energy saving features on photocopiers, computers and other office equipment
- ★ If you need to print documents, use recycled paper

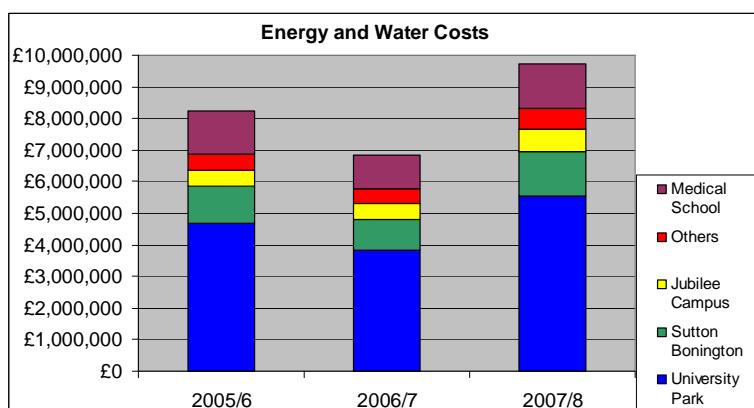
## Total energy consumption



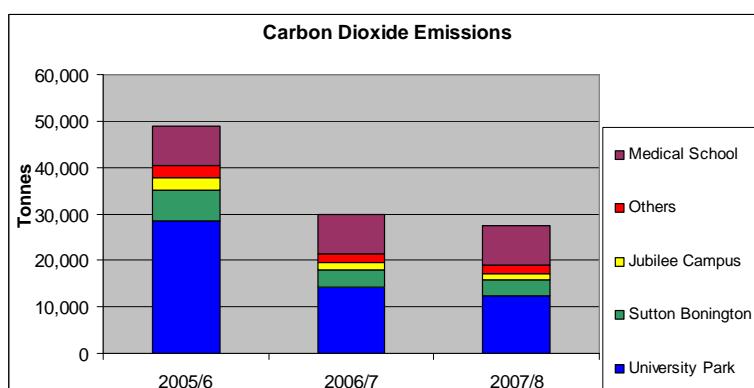
Overall energy consumption increased by 8% in 2007/8, the first rise for three years. This is mainly due to ongoing development within the University. For example, building developments increased the total floor area by 1%; longer opening hours were introduced in many buildings, particularly libraries.

Fossil fuel consumption (almost exclusively gas) rose by 11% in 2007/8. This was actually a good performance in light of the much colder weather experienced during the period compared to previous years; taking weather into account, increased consumption of 13% would have been expected.

Energy and water costs (excluding taxes) reached a record high of £9.7 million in 2007/8, up 42% on the 2006/7 figure. The University continued to purchase energy on 'flexible' month-ahead contracts, but was not immune to world energy prices, where raw energy prices virtually tripled.



## Carbon dioxide emissions down 8%

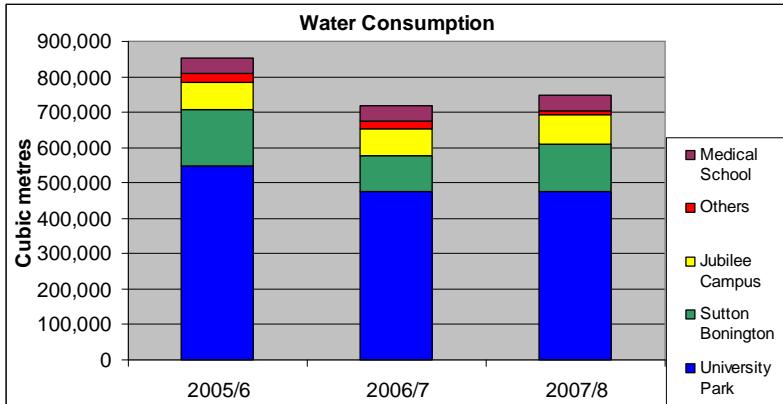


Overall emissions of carbon dioxide were down by 8% in 2007/8, on top of last year's reduction of 39%. This is principally due to purchasing a full year's worth of 'green' electricity from renewable sources rather than ten months' worth in 2006/7. Electricity is approximately 39% of the University's overall energy consumption.

### Top tips for getting energy-smart

- ★ Make the most of natural light – open blinds and declutter window ledges
- ★ Switch off lights when there is sufficient daylight
- ★ Keep windows closed if the heating is on
- ★ Remove any obstructions in front of heaters or radiators
- ★ Turn off your monitor if you're going out to lunch or to a meeting
- ★ Switch off appliances when leaving work for the day
- ★ Unplug chargers once an item is charged
- ★ Report any heating problems to the Estate Office helpdesk on 16666

## Water consumption increases 4%



Water consumption increased by 4% in 2007/8, due primarily to increases at Sutton Bonington. The Sutton Bonington increase is thought to be mostly down to the first full year of operation of the Veterinary School. However, it is possible that there have been more leaks on the mains, so leakage detection work will be undertaken in 2009 to ensure that this is controlled.

Severn Trent increased their prices for water supply and sewerage by around

7.5% in April 2007, on top of the previous year's rise of 16%. This meant that although overall consumption was up by only 4%, the cost increase in 2007/8 worked out much higher.

## Green computers

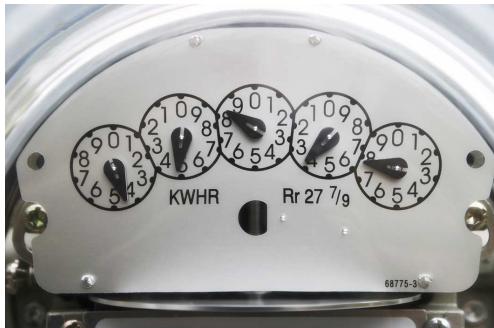


The Estate Office has been working with Information Services to reduce the energy consumption of the University's computer rooms. A 'scheduled task' has been applied to PCs in large student computer rooms (such as Cripps Computer Centre and Djanogly Learning Resource Centre) so that each computer shuts down after sitting idle for 30 minutes, if no one is logged on. This has been particularly effective in reducing computer rooms' evening energy usage; estimates suggest that it could save around £30 to £40 a year per PC.

Development of a green ICT strategy is also underway. Led by Information Services, the strategy hopes to look more widely at environmental issues. It is likely to cover not only minimising the environmental impact of the University's IS activities and procurement,

but also using ICT to help reduce the environmental impact of the University's operations (for example, by reducing the need to print documents or travel to meetings).

## More electricity data - every 30 minutes

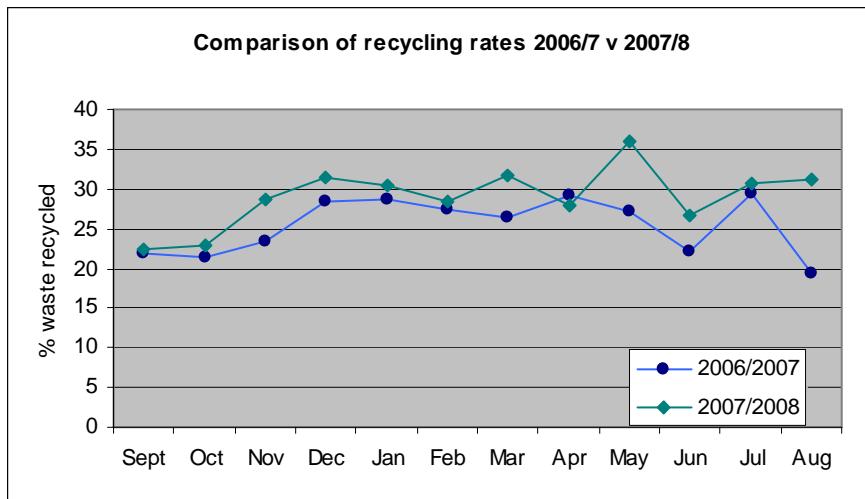


The Estate Office has installed a third phase of electricity sub-metering at University Park, Sutton Bonington and Nottingham Medical School, bringing the total number of meters to 250. The meters are linked to an Elcomponent Meter-Ring computer system that automatically records electricity consumption every half-hour and allows data to be displayed in real time.

The data is being used to identify anomalies in electricity consumption, monitor the impact of specific initiatives and raise staff awareness of electricity consumption.

## Recycling continues to increase

Recycling facilities, both within buildings and on street, have continued to be enhanced over the last year. This has led to an increase in recycling - over 120 tonnes more material was recycled in 2007/8 than in 2006/7, even though there was a small reduction in the total waste produced in 2007/8.



The target recycling rate for 2007/8 was a monthly average of 30%, however we fell slightly short of this with a monthly average of 29%. Nonetheless, recycling diverted over 1,000 tonnes of materials from landfill, generating a saving in the region of £32,000.

The target recycling rate for 2008/9 is a monthly average of 35%, which we hope to meet through additional provision of mixed recycling facilities and working with Environmental Champions on awareness campaigns.

## What happens to your old electrical equipment?

The University now has a legal obligation to ensure that waste electrical and electronic equipment (WEEE) is treated and disposed of responsibly. In most cases you can return the WEEE free of charge – either to the manufacturer of the equipment (if it was sold after 13 August 2005) or to the manufacturer of your new equipment (if you’re replacing WEEE produced before 13 August 2005 with a new equivalent product). If you have computer equipment that you no longer require please contact your department’s PC Disposal Coordinator to arrange collection.

## Rolling out mixed recycling bins



Internal mixed recycling bins are now available on Jubilee, King's Meadow, Sutton Bonington and parts of University Park campuses. The Environment team are continuing to roll out the bins to science areas on University Park and other smaller sites.

These internal bins are complemented by an ever-

increasing range of on street recycling bins on Jubilee, Sutton Bonington and University Park campuses. To find out where your nearest on street facility is, use the interactive map at: [www.nottingham.ac.uk/estate/environment/recyclingmap.html](http://www.nottingham.ac.uk/estate/environment/recyclingmap.html)

### Not sure what you can recycle on campus?

- ✓ Cans
- ✓ Card
- ✓ Clothes and shoes
- ✓ Computers
- ✓ Glass bottles
- ✓ Ink cartridges
- ✓ Mobile phones
- ✓ Paper
- ✓ Plastic bottles

See [www.nottingham.ac.uk/estate/environment/recycling.htm](http://www.nottingham.ac.uk/estate/environment/recycling.htm) for more details

## Staff saving with Cyclescheme



The Cyclescheme, which enables staff to buy a tax-free bicycle and accessories, has proved to be very popular in 2007/8 - over 100 staff have taken advantage of the scheme.

The process is easy and after twelve monthly instalments, minus income tax and national insurance and a final payment the bike is yours.

See [www.nottingham.ac.uk/estate/environment/cyclescheme.html](http://www.nottingham.ac.uk/estate/environment/cyclescheme.html) for more details.

We have over this last year invested in our cycling infrastructure across our campuses, which has included additional shower facilities, cycle hoops and improvements to enclosed cycle sheds. For details on the location of cycle parking take a look at:

<http://www.nottingham.ac.uk/estate/environment/cyclefacilities.html>

## Joined Up Thinking—Uni-linking



The University has continued to work with Nottingham City Transport to improve bus services on to campus. The UniLink 34 service now runs every 10 minutes direct from the city centre to University Park campus, and an out-of-term 20 minute service will be trialled during the Christmas vacation.

New for 2008/9 is a UniLink 31 service that runs direct from the city centre to Jubilee campus every 20 minutes during term time.

See [www.nottingham.ac.uk/estate/transport.htm](http://www.nottingham.ac.uk/estate/transport.htm) for timetables of UniLink services and free hopper buses.

## New biodiesel fleet

The Estate Office has recently taken delivery of over 30 biodiesel vehicles. Replacing the previous lease vehicles, the new fleet of Peugeot vans are B30-compatible so can run on a blend of 30% biofuel and 70% diesel. Biodiesel will be supplied by Harvest Energy (working in association with Morrisons supermarkets) as it meets all the requirements of the vehicle manufacturer. Compared to conventional diesel, Harvest Energy's biodiesel gives a 15-18% saving on CO<sub>2</sub> emissions and up to 90% reduction in sulphur emissions.

Whilst biofuels can reduce damaging greenhouse gas emissions, there has been a lot of media coverage about their potential negative impacts on food prices and biodiversity. Consequently, the Estate Office was keen to try and ensure that any biofuel used minimised these concerns. The rapeseed element of Harvest Energy's fuel is only grown where UK farmers have been allowed to grow energy crops on former set aside land, and the crop is reported under the Assured Combinable Crops Scheme farm assurance scheme. Recycled cooking oil is also part of the blend - this is collected from large industrial uses.

## Eco-Action Weeks

The Environment Team joined forces with the Student Union's Environmental and Social Justice committee to launch the University's first Eco-Action Week. Running from 19<sup>th</sup> November to 23<sup>rd</sup> November 2007, each day focused on a different environmental issue with a range of information stalls, interactive exhibits and presentations to raise awareness.

Building on the success of the first week, Eco-Action Week returned in April 2008 with an environmental awareness roadshow that travelled between Jubilee, King's Meadow, Sutton Bonington and University Park campuses.

Other events held during the April Eco-Action Week offered opportunities for both staff and students to get creative, get active and engage in debate. Highlights include:

- East Midlands Food Market – a chance to support local businesses and reduce food miles by buying local
- tour of the University's eco houses, including the new development of Creative Energy Dwellings
- cycle ride along sections of the waterside Big Track route
- screenings of *A Crude Awakening – The Oil Crash*
- free cycle rickshaw around campus
- plastic bag fashion show – a competition to design an item of clothing or accessory from plastic bags
- photo competition on the theme of 'good use to bad waste'
- Dr Bike – free bike 'health check', advice on cycling, information on the University's Cyclescheme
- guided geological walk around University Park
- Big Switch Off - a concerted effort to switch off all electrical items before leaving campus at end of the day



## Working with the Students' Union

The Environment team have been working more and more closely with the Students' Union. The SU have made some great progress over the last year and have made protecting the environment a top priority. They have passed a number of motions at Union Council that mean they now have environmental training for staff, an 'eco-action week' and more. The Union has become affiliated to the NUS Sound Environmental Impact Awards and is 'working towards' a bronze award.

### Did you know...

There are 3,250 cycle parking spaces across campus. Have a look at [www.nottingham.ac.uk/estate/environment/cyclefacilities.html](http://www.nottingham.ac.uk/estate/environment/cyclefacilities.html) to find your closest cycle parking and shower facilities.

### Did you know...

Britons waste the equivalent of around two power stations' worth of electricity each year by leaving TV sets and other gadgets on standby.

Source: [www.bbc.co.uk/bloom](http://www.bbc.co.uk/bloom)

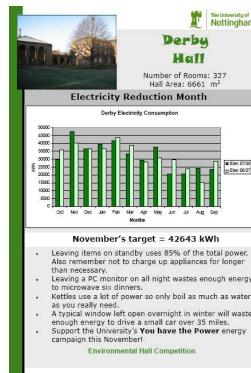
## Environmental Champions Network

The University's Environmental Champions Network was launched in February 2008 with an introductory workshop. The Network brings together staff to exchange ideas and act as champions within their own work areas in order to improve the environmental performance of the University. Environmental Champions will help to raise awareness of and assist in implementing new initiatives on issues such as waste minimisation, energy and water conservation, sustainable travel, sustainable purchasing and biodiversity.

With over 50 members from a broad spectrum of schools and central support services, Environmental Champions are already enthusiastically engaging their colleagues on environmental issues and identifying ways to reduce the day-to-day environmental impact of their school or department, from encouraging use of the hopper buses for travelling between campuses to increasing recycling rates.

Find out who the Environmental Champion for your school or department is at:  
**[www.nottingham.ac.uk/estate/environment/championlist.html](http://www.nottingham.ac.uk/estate/environment/championlist.html)**

## Inter-hall environmental competition



The Estate Office challenged students living in halls to cut back on their energy consumption over three months in a competition to reduce the carbon footprint of student accommodation on University Park and Jubilee campuses. Each month focused on a different output: electricity in February, landfilled waste in March and water in April. Halls received historical data each month (a 'CO<sub>2</sub> snapshot') together with tips on how to reduce their consumption. At the end of each month the halls' performance was analysed and, using bed space data, the results were ranked.

Through the competition's three-month period Derby Hall had the biggest overall reduction, with Southwell and Newark Halls taking second and third place respectively. The winning halls' JCR committees received a cash prize to spend on something that would benefit everyone in the hall. Compared to the same period in 2007, over £5,000 was saved in water and electricity consumption and reduced waste disposal charges during the competition.

## New and prospective students

The Environment Team has been active in promoting the University's green credentials at all four Undergraduate Open Days.

The Team also had a presence at Freshers Fayre, speaking with students, giving out information and gaining contact details for the distribution of event and awareness information.

Within the latest postgraduate prospectus there is a dedicated section looking at the overall environmental credentials of the University.

### Top tips for reducing your environmental impact when shopping

- ★ Consider whether you need a brand new item - could you buy secondhand, get an old one repaired or swap online?
- ★ Choose items with less packaging
- ★ Buy fewer clothes, but of better quality
- ★ Look out for products containing recycled materials
- ★ Buy foods that are in season, see [www.eattheseasons.co.uk](http://www.eattheseasons.co.uk)
- ★ Take a reusable shopping bag with you
- ★ Support local businesses - see [www.foodfig.org.uk](http://www.foodfig.org.uk) for details of local farmers' markets

## Bloomin' marvellous



The University's exceptionally high standards when it comes to landscaping have helped the city clinch the top title in the national Britain in Bloom competition - winning the accolade of Champion of Champions. Recently-retired Grounds manager Ian Cooke was instrumental in the achievement, not only by bowling over judges with the "fabulous quality" of displays on University Park but also in his wider role as Chair of the Nottingham in Bloom Design Group.

The University picked up a national award of its own for Britain's Best Flowerbed in the schools/universities category, thanks to the stunning North Entrance bedding display. It was also singled out for a separate regional award - the GreenSpace East Midlands Award for Horticultural Excellence in Parks.

These awards add to an ever-increasing array of honours that include six Civic Trust Green Flags (Nottingham is the only university to have achieved Green Flag status), the Britain in Bloom Public Park Award 2005, and British Association of Landscape Industries award for University Park's Millennium Garden.

Grounds manager Ian Cooke retired this summer after 14 years at the University, during which time he transformed the campus landscapes. When he started in 1994, Ian's priority was to create new areas of interest and impact, full of colour.

The newly appointed Grounds manager Desmond O'Grady joined the University during the summer - he brings with him a wealth of experience and has his own take on horticulture. Desmond has a particular interest in trees and the relationship between people and the landscape.



Desmond O'Grady and Ian Cooke

## AllotSoc grow their own



2007/8 saw the development of an exciting new allotment space in front of Cavendish Hall. The Grounds team fenced off land and prepared the plot in response to a request from students, who have now formed a society dedicated to managing the new allotment.

Former Grounds manager Ian Cooke explored the idea with the students and asked them some tough questions to make sure they knew what they were taking on! The Grounds team also provided compost and mulch, although the allotment now has its own composting area. Initial crops included potatoes, spinach, carrots, lettuce, onions and leeks. "It's early days yet, but there's talk of supplying the halls with some veg, or donating to local homeless shelters," said physics student Daniel Casey.

## Jubilee campus expands along green theme

Building upon the sustainability message of the original phase of Jubilee Campus the recently completed expansion builds upon this. The three new buildings utilize a combination of passive design and innovative technologies to result in a low CO<sub>2</sub> footprint building.

The concrete structures of the buildings are designed to work as large thermal masses to reduce active cooling required. This allows the structure to cool the building during the day by absorbing unwanted heat gain. The stored heat is released during the night keeping the building warm overnight.

Windows have been placed only where required, as reducing the amount of glazing on the facade to below 50% minimises solar gain and heat loss. They are set back within the facades to create shading from high angle summer sun and maximise daylighting from low angle winter sun. All materials have been selected to be durable and hard-wearing with long life spans.

The buildings use geothermal energy for both heating and cooling. The nearby lake provides a source for both cooling and heating. Using heat pumps the system effectively extracts heating or the lake absorbs heat from the buildings and by using electrical energy for the compressor, boost this to a level that can be used to heat (or cool) the buildings. For every one unit of energy you put into the system you get three units out.



Heat pump system gets installed in the lake

This theme will continue with the GRACE building which will house the University's Institute of Engineering Surveying and Space Geodesy. This development incorporates a biomass boiler and a thermodeck floor slab construction in its environmental and services strategy and this building incorporates a 10% renewable on-site energy contribution.

## Two Creative Energy Dwellings complete

The University has been working with a number of private companies to showcase innovative state-of-the-art energy efficient homes of the future. There are plans to build six homes on the University Park, with two of them having been completed this last year.

January of this year saw the completion of the BASF house, the design of and technologies employed in this house result in it being energy efficient and having a 'B' rating. It incorporates a large glazed sun space that is the primary heat source, this is backed up with a biomass boiler. A roof mounted solar water heater system provides 81% of the hot water requirements, with a rainwater harvesting system reducing the demand for water. Low energy LED lighting is used throughout the house, and using state of the art materials in its construction reduces its overall energy demand

At the end of the summer a custom-built 1930s-style semi house was completed. Special planning permission had to be sought before the E:On house could be built as it is at odds with current regulations. The rationale behind this build is to use it to demonstrate how a typical suburban home can be upgraded to meet the carbon neutral status which the Government is seeking for all new homes from 2016.

## Environment Committee members

The University's Environment Committee monitors, reviews and makes recommendations to minimise the environmental impact of the University's operations, policies and procedures.

The committee reports to Management Board and is chaired by the Pro-Vice-Chancellor for Environment.

Current committee members are:

Professor Alan Dodson  
Pro-Vice-Chancellor (Environment) (Chair)

Karen Attwood  
School of Computer Science

Matthew Butcher  
Students' Union Environmental & Social Justice Officer

Rachel Greatrix  
School of Nursing

Professor Roy Haines-Young  
School of Geography

Valerie Housley  
Information Services

Chris Jagger  
Director of Estate Management, Estate Office

Dr Mandy Roshier  
School of Veterinary Science

Tim Rudge  
Energy Manager, Estate Office

Gavin Scott  
Environment Manager, Estate Office

Dr John Sutherland  
Safety Office

Martin Suthers  
Lay Member of University Council



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### Did you know...

you can use your University card as a bus card on Nottingham City Transport services? Top up your card at SU Travel Centre in the Portland Building.

### Did you know...

Leaving a computer on overnight for a year creates enough CO<sub>2</sub> to fill a double-decker bus.

Source: [www.carbontrust.co.uk](http://www.carbontrust.co.uk)