





# Vice-Chancellor's introduction

This is the University's second Environmental Sustainability Report, compiled by the University's Sustainability Team. The report covers the University's performance in carbon emissions, business travel, water consumption, sustainable buildings, material

resources, biodiversity and sustainable purchasing. It also highlights the diverse sustainability initiatives across the estate and future projects planned for 2013 onwards.

We hope this report will help to communicate the environmental sustainability message across the University

We hope this report will help to communicate the environmental sustainability message across the University to staff, students, visitors and stakeholders. We all need to do our bit to help the University continually improve its environmental performance. Many of the sustainability initiatives in the report also have social and economic benefits, for example, the University's in-house

virtual Swap Shop, which saves the University thousands of pounds a year through not having to buy new furniture and stationery. Also, departmental carbon and water reduction initiatives have reduced energy and water bills by thousands of pounds.

Thank you to everyone who contributed to sustainability initiatives last year – we hope you can continue to help us create an even more sustainable University in 2013.

**Professor Andrew Hamilton FRS**



"As Chair of the Sustainability Steering Group, I have seen a significant shift in staff and students' expectations of environmental sustainability over the past year. Energy efficiency and carbon reduction are now considered 'business as usual' and an increasing number of staff want to reuse unwanted office items rather than throw them away. The University is under increasing pressure to demonstrate sustainability performance – for example the Higher Education Statistics Agency (HESA) greenhouse gas reporting requirements and the Green League table, which ranks universities' sustainability performance each year. In 2013 the University will continue its work to improve its environmental performance, by investing in energy and water efficiency and also by providing staff and students with the tools to reduce their environmental impacts."

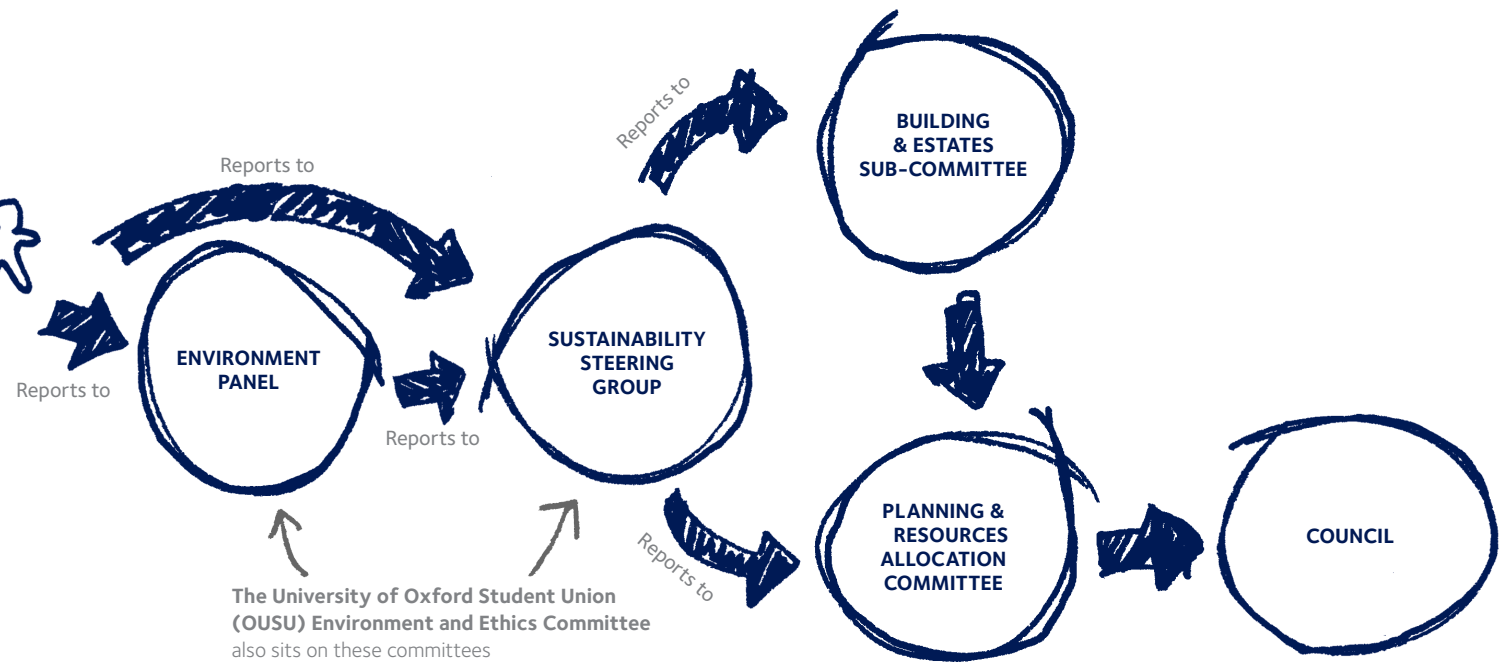
**Professor William James, Chair,  
Sustainability Steering Group**

## How does the University make decisions about sustainability?

### IT STARTS HERE



The **SUSTAINABILITY TEAM** is made up of six officers working specifically in sustainability-related areas

CONTINUED



## How does the University make decisions about sustainability? continued

### POLICY AND TARGETS

The University Environmental Sustainability Policy was approved by the University Council in 2008. See our Policy here: [www.admin.ox.ac.uk/estates/environment](http://www.admin.ox.ac.uk/estates/environment)

Currently the University does not have an overarching Sustainability Strategy that sets out objectives and targets in all policy areas. However, there are strategies and targets for carbon, water, travel and waste. In 2013 we will aim to set targets for all areas in the Environmental Sustainability Policy.

The Policy is driven through various strategies and committees:

- Carbon Management Strategy – [www.admin.ox.ac.uk/estates/environment/energy](http://www.admin.ox.ac.uk/estates/environment/energy) – approved by Council
- Travel Plan – [www.admin.ox.ac.uk/estates/travel](http://www.admin.ox.ac.uk/estates/travel) – approved by the Building and Estates Sub-Committee
- Water Management Strategy – [www.admin.ox.ac.uk/estates/environment/water](http://www.admin.ox.ac.uk/estates/environment/water) – approved by PRAC
- Waste Management Strategy – [www.admin.ox.ac.uk/estates/environment/waste](http://www.admin.ox.ac.uk/estates/environment/waste) – approved by PRAC

### ENVIRONMENTAL SUSTAINABILITY RISK

The University has identified several areas of reputational, financial, legislative and environmental risk. We are developing policies and strategies to minimise risk in these areas:

- Carbon emissions
- Greenhouse Gas (non-carbon) emissions from energy in buildings and from staff and student travel
- Water consumption
- Sustainable buildings (construction, developments, infrastructure and facilities)
- Travel (air, ground and water pollution from University-related travel)
- Waste (air, ground and water pollution and financial impacts of waste disposal)
- Sustainable purchasing (air, ground and water pollution from purchasing goods and services)
- Biodiversity impacts from building, new development and operations

### STAKEHOLDER ENGAGEMENT

The University engages stakeholders in environmental sustainability through the work of the Sustainability Team and the wider University. Sustainability is embedded into the University Strategic Plan 2013-18 and the Estates Strategy 2013-18. The Environment Panel and the Sustainability Steering Group (SSG) bring together cross-departmental representation from students, academic and non-academic staff and colleges. SSG is responsible for reviewing our environmental sustainability targets and objectives. It has the power to influence Divisional and Departmental Heads if required in order to facilitate delivery of the University's environmental sustainability objectives. The Pro-Vice Chancellor for Planning and Resources is Chair of SSG and the Head of Environmental Sustainability is the SSG Secretary.





# Carbon reduction

## HOW DID WE DO IN 2011/12?

### We reduced our carbon emissions

In 2011/12 the University reduced its total carbon emissions by 1.2% due to investment spent on energy efficiency projects and the comparatively mild winter. The graph below shows how much we have decreased our carbon emissions, and how far we have to go to reach our carbon reduction targets.

### Carbon targets – are we on track?

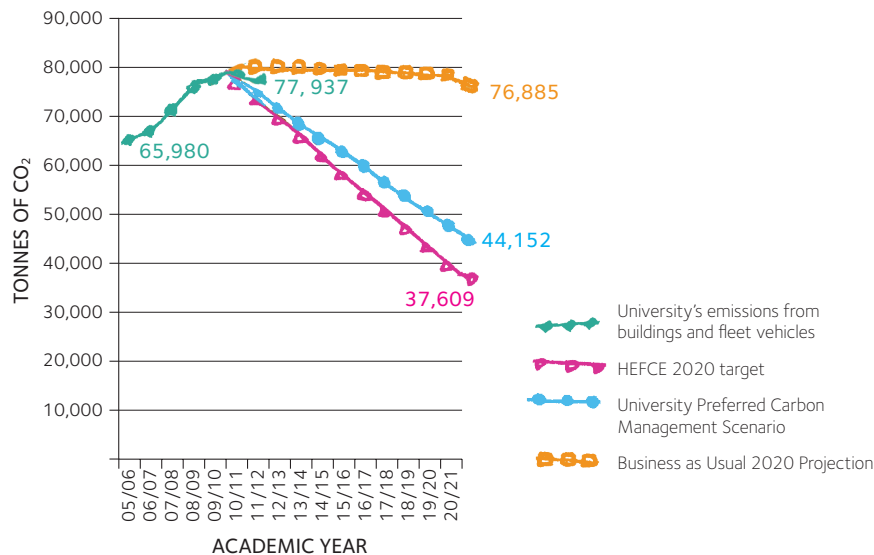
In 2011/12 the University reduced its carbon emissions from 78,267 tCO<sub>2</sub> to 77,349 tCO<sub>2</sub> – a decrease of 918 tCO<sub>2</sub> (1.2%). The reduction was due to investment in new energy efficient systems and significant efforts by all members of the University to use energy more efficiently.

Although the University has reduced its emissions considerably, it needs to cut emissions even more, in order to meet our carbon reduction targets:

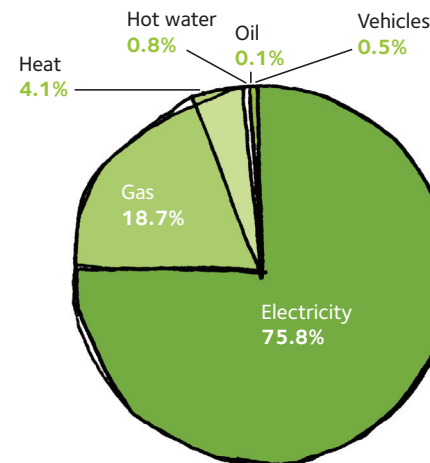
- to reduce carbon emissions by 11% below the 2005/6 baseline by 2015/16 (a cut of 7,257.8 tCO<sub>2</sub>)
- to reduce carbon emissions by 33% below the 2005/6 baseline by 2020/21 (a cut of 21,773.4 tCO<sub>2</sub>)

### DID YOU KNOW?

In 2011/12 the University reduced its carbon emissions by 918tCO<sub>2</sub> – equivalent to emissions from 131 houses in 1 year (based on an average Oxfordshire house producing 7 tCO<sub>2</sub> /year)



### University carbon emissions in 2011/12:





## Carbon reduction continued



### We produced our own energy

- Earth Sciences generated 1,016,800kWh of heating and 477,500kWh of cooling from their Ground Source Heat Pumps
- New Biochemistry building produced 4275 kWh of renewable electricity through photovoltaic (PV) cells on its roof

### We invested in energy efficiency

The University invested over £500,000 in energy efficiency projects, including replacing boilers and replacing energy intensive lighting with LED lighting.

### How much did we pay for our energy?

In 2011/12 the University energy bill was £12,029,000.

## WHAT WILL WE DO IN 2013?

### We'll continue to invest in renewable energy

The University will continue to purchase off-site renewable energy (hydroelectric power) from our energy provider.

### We'll review our Carbon Management Strategy

In 2009/10, Scope 3 emissions made up 68% of total University carbon emissions. HEFCE (Higher Education Funding Council for England) require us to report our Scope 3 emissions (from procurement, travel, waste and water), so we'll review our Carbon Management Strategy to identify how the University can integrate Scope 3 emissions reporting into the strategy.

### We'll become even more energy efficient

- We'll review our Carbon Management Strategy, in liaison with the Carbon Trust
- We'll roll out the Energy Efficiency Monitoring (EEM) project (expected savings of 3,756 tCO<sub>2</sub> year on year)
- We'll roll out the Midnight Oil project in medical research buildings (expected savings of 520 tCO<sub>2</sub> year on year)

### We'll improve energy monitoring

- Automated metering systems will cover more electrical and gas meters
- Estates Services will ensure heating system replacements deliver maximum energy savings
- Lighting systems and controls will deliver excellent quality and energy efficiency
- New buildings and major refurbishments will be monitored for up to 3 years after they've been commissioned, to ensure they are functioning correctly

### ALL ABOUT SCOPE 1, 2 & 3 EMISSIONS

SCOPE 1 = direct carbon emissions from University-owned vehicles, boilers and Combined Heat and Power (CHP) systems

SCOPE 2 = carbon emissions from off-site grid electricity used by the University

SCOPE 3 = embodied carbon emissions from production and transportation of goods purchased by the University, travel, waste and water





# Water

## HOW DID WE DO IN 2011/12?

### We reduced our water consumption

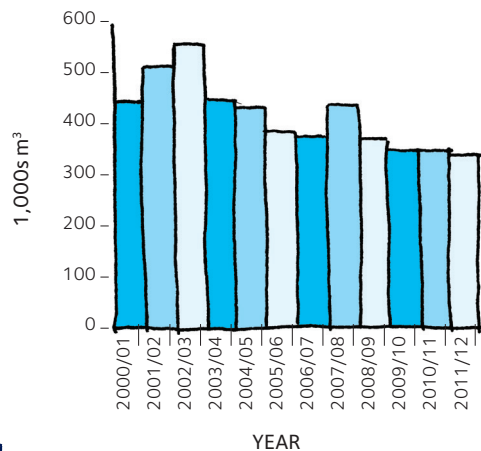
The University reduced water consumption by 3.3% due to investment in water efficiency (from 349,490m<sup>3</sup> in 2010/11 to 337,834m<sup>3</sup> in 2011/12) – a decrease of 11,656m<sup>3</sup>. This saved the equivalent of 11.6 million litre mineral water bottles!

### Water targets – are we on track?

Yes, the University is on track to meet its water target:

- To reduce water consumption by 11% by 2015 compared to 2009/10 levels

University water consumption:



To meet the water target, the University needs to reduce water consumption from 337,834m<sup>3</sup> to 309,154m<sup>3</sup> by 2015 (difference of 28,680m<sup>3</sup>) – equivalent to over 28 million litres bottles of water. The plans for reducing water are in the Water Management Strategy: [www.admin.ox.ac.uk/estates/environment/water](http://www.admin.ox.ac.uk/estates/environment/water)

### We harvested rainwater in our buildings

Four of the University buildings have rainwater harvesting systems used to flush toilets. Total rainwater used in the four buildings increased from 642m<sup>3</sup> (0.19% of total University water use) in 2010/11, to 1,269m<sup>3</sup> rainwater (0.37% of total University water use) – equivalent to saving 1.27 million litre bottles of water.

### CASE STUDY

In 2011/12 Littlegate House cut its water consumption by 770m<sup>3</sup> (35%), from 2,200m<sup>3</sup> to 1,430m<sup>3</sup> by installing push taps and urinal controls in toilets. This is equivalent to saving 770,000 litre bottles of water

### What does water cost us?

The University's annual water bills decreased from £601,173 in 2010/11 to £570,768 in 2011/12, saving £30,387 (5%). The reduction was due to improved water efficiency, especially in laboratories. The cost of water is likely to rise in the future, due to increasing demand for water nationally, water maintenance and treatment, so we need to use water even more efficiently.

### DID YOU KNOW?

1 cubic meter (m<sup>3</sup>) of water = 1,000 litres of water and the average UK household uses 100,000 litres a year (DEFRA)

## WHAT WILL WE DO IN 2013?

We'll reduce our water consumption even more:

- continue to roll out our Water Management Strategy
- prioritise water efficiency in buildings that use lots of water
- fit low flow taps and showers
- calibrate taps and showers for shorter run times
- fit smart meters on water supplies to identify leaks
- improve the efficiency of equipment that produces laboratory grade water







# Travel

## HOW DID WE DO IN 2011/12?

We continued to implement the University Travel Plan ([www.admin.ox.ac.uk/estates/travel](http://www.admin.ox.ac.uk/estates/travel)) and the University Business Travel Plan ([www.admin.ox.ac.uk/estates/travel](http://www.admin.ox.ac.uk/estates/travel)).

### Travel target – are we on track?

The University Travel target is to reduce the % of staff travelling to work by car from 23% to 18% by 2012. Although staff travelling to work by car reduced from 23% to 21%, we didn't hit the 18% mark. Currently, 50% of staff travelling to central Oxford University sites use sustainable transport methods, such as walking or cycling. 90% of students walk or cycle to the University.



### We created more cycling facilities

- Increased cycle parking spaces from 3,000 to 3,300 (10%)
- Provided staff interest-free loans to help buy a bicycle and safety equipment for personal use (the scheme includes discounts with local bike shops)
- Our free mobile bike repair scheme (Mobile Mechanic) repaired around 3,000 staff, student and departmental pooled bikes

### We reduced CO<sub>2</sub> emissions from our fleet vehicles

- Fuel consumption from University-owned fleet vehicles dropped from 220,000 kWh to 215,000 kWh (2.3%)
- Carbon emissions from fleet vehicles reduced from 566 tCO<sub>2</sub> to 555 tCO<sub>2</sub> (1.9%)
- The number of fleet vehicles was reduced from 115 vehicles to 112

### Staff business air travel emissions increased

- Staff business air travel emissions increased from 6,981 tCO<sub>2</sub> to 7,226 tCO<sub>2</sub> (3.5%) – the increase may reflect an increase in number of trips made, or it may be that more people are logged on University travel insurance records (where we obtain our travel data)
- 95% of total travel emissions were from business flights (7% of the University's total emissions)
- 5% of total University travel emissions were from our fleet vehicles

### We set up a Travel Strategy Steering Group

The Travel Strategy Steering Group is chaired by a Pro-V-C, to provide advice and guidance on the University's strategic travel issues.

### We revised car parking charges

The University established new car parking charges, with the aim of bring the cost of travelling to work by car in line with the cost of using public transport (this will help reduce the number of staff travelling to work by car).

### Car sharing

The University continues to promote the University car share scheme –which enables staff to car share, walk or cycle together in Oxfordshire. 76 staff signed up so far, bringing the total number registered to 251.

### We set up videoconferencing facilities

Videoconferencing facilities ([www.admin.ox.ac.uk/estates/travel](http://www.admin.ox.ac.uk/estates/travel)) with dedicated IT staff are available at 14 locations across the University.





## Travel continued



### WHAT WILL WE DO IN 2013?

#### We'll continue to improve sustainable travel facilities for staff and students

- Create a personalised travel planning service for staff at Old Road Campus
- Expand and improve cycle parking in the University Science Area
- Publish a new Travel Plan for 2013-18

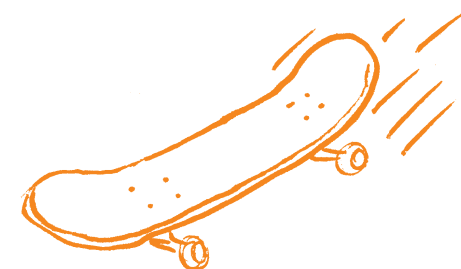
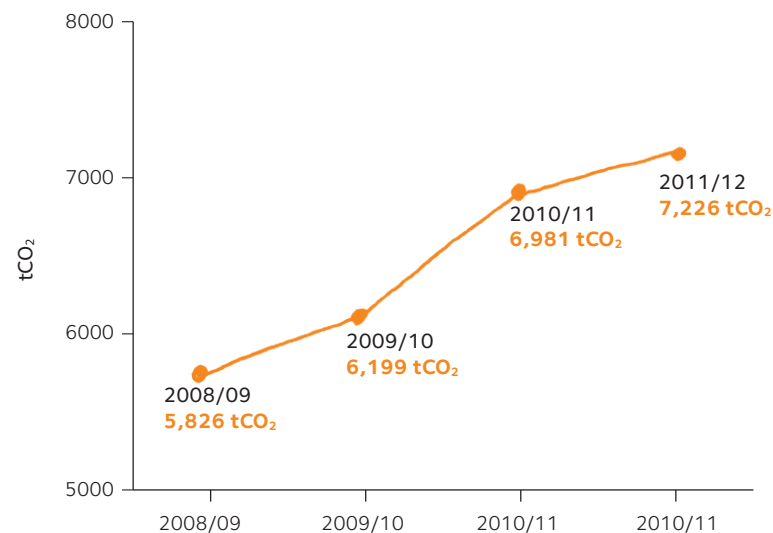
#### We'll work in partnership to improve staff cycling

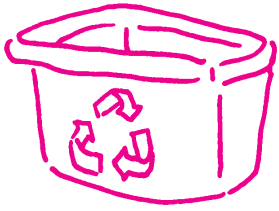
In 2013 the University will join the automatic bike hire scheme in Headington, headed by Oxfordshire County Council who will provide £150k from the Local Sustainable Transport Fund to help staff in Headington cycle to work. The University will also work with Oxford City Council on the Oxford Cycle City partnership, promoting cycling and a joined up cycle network that is safe, convenient and direct.

#### We'll report on our Scope 3 emissions

Scope 3 emissions are indirect carbon emissions from travel. The University must report Scope 3 emissions to The Higher Education Statistics Agency (HESA), so in 2013 we will identify how to improve our data for fleet vehicles, business air and land travel, staff and student commuting.

University business air travel emissions:

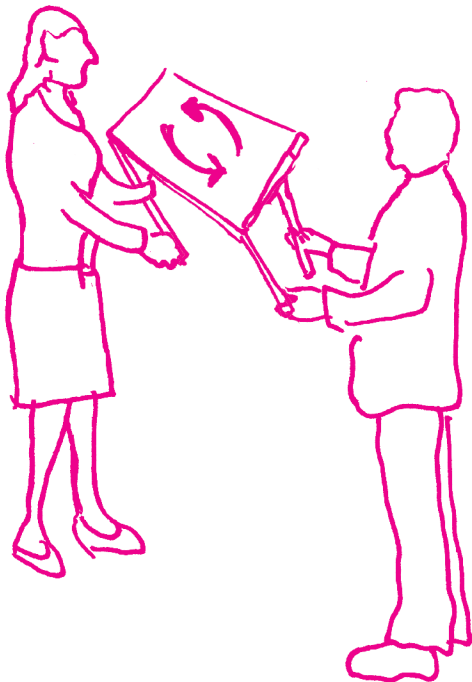




# Waste, recycling and reuse

## HOW DID WE DO IN 2011/12?

The University's preferred supplier collected a total of 2,344.43 tonnes of waste materials compared to last year's 2,445.85t – a decrease of 101.42t (4.15%). Of this, 1,801t went to landfill (compared to last year's 1,792.53t) – an increase of 9.37t (0.52%). 542.53t was recycled (compared to 653.32t recycled last year) – a decrease of 110.79t (16.96%).



In addition, the University recycled 3.01t of cartridges compared to last year's 1.71t – an increase of 1.3t (76.02%) and recycled 46.65t confidential paper compared to last year's 30t – an increase of 16.65t (55.5%).

### **We saved money through our virtual Swap Shop**

The University reused 7.49t of good quality items through its in-house, virtual Swap Shop, compared to 93.81t last year (a decrease of 86.32t / 92.02%). The substantial decrease was due to large office clear-outs taking place last year. However, the value of the items reused meant that the University saved an estimated £43,943 from not buying new items, compared to an estimated £37,000 saved last year.

### **We set up Lab Swap and Sports Swap**

Based on the success of Swap Shop and Plant Swap, we set up two more swap schemes: Lab Swap for science departments to reuse good quality science equipment and Sports Swap for the University and College sports clubs to reuse good quality sports equipment.



## WHAT WILL WE DO IN 2013?

### **We'll continue to implement the Waste Strategy**

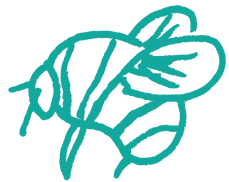
We'll continue to roll out the University Waste Management Strategy across departments, through the Waste Implementation Group ([www.admin.ox.ac.uk/estates/environment/waste](http://www.admin.ox.ac.uk/estates/environment/waste)).

### **We'll reuse even more good quality items**

We'll continue to expand reuse schemes across the University and encourage an increasing number of staff and students to use these schemes.

### **Waste Toolkit A-Z**

We'll continue to improve the online Waste Toolkit A-Z so that departments have access to up to date waste guidance and best practice.



# Biodiversity



## HOW DID WE DO IN 2011/12?

### Biodiversity Toolkit

We continued to add to the online University Biodiversity Toolkit. We produced guidance for finding alternatives to using peat products and developed case studies on how departments and colleges are helping wildlife. [www.admin.ox.ac.uk/estates/environment/biodiversity/biodiversitytoolkit](http://www.admin.ox.ac.uk/estates/environment/biodiversity/biodiversitytoolkit)

### Botanic Garden built compost bays

Oxford Botanic Garden built bespoke compost bays which produce compost (used as mulch on site) in 16 weeks. The compost is used on the garden's organic fruit and vegetable plot to attract beneficial insects and naturally condition the soil. The garden and the Ashmolean Natural History Society of Oxfordshire hosted germination trials of Corn-cleavers (*Galium tricornutum*) – a rare plant found in only one arable field in the UK. Trial data will be used to reintroduce Corn-cleavers, increasing biodiversity. [www.botanic-garden.ox.ac.uk](http://www.botanic-garden.ox.ac.uk)

### Plant Swap continues to thrive

25 colleges and departments reused 228 plants and seedlings via Plant Swap, the University's virtual plant reuse scheme. It saved 62kg (228 plants) from landfill and £704 from not having to buy new plants. So far, 203 staff and students have joined the Plant Swap mailing list.

### Partnership projects:

*OxGrow* turned two ex-College tennis courts into organic vegetable gardens for the community, staff and students. They grew 60 species of edible plants; hosted film screenings on local, organic, wildlife friendly gardening; held a harvest festival for 400 people; mapped the local wild food landscape and hosted bushcraft and summerschools for children. [www.oxgrow.org](http://www.oxgrow.org)

*Veg Van* is a mobile, local, organic food 'shop' set up by Cultivate – a group of people including Oxford students and staff who grow organic veg locally. Veg Van visits sites around the University, Oxford City and beyond the ringroad, selling local organic produce. <http://cultivateoxford.org>

We hedge-ucated kids about wildlife – *FAI Farm* (based on the University estate in Wytham) hosted 100 education visits, teaching school children sustainable food production and biodiversity. 90 children from Pegasus Primary School, Blackbird Leys, planted a hedgerow (rowan, oak and blackthorn), forming a wildlife corridor between Wytham Woods and the farm. Research projects include feeding farm animals sustainably – such as replacing pig and chickens' soya diet with locally-grown field beans and peas, as the majority of soya is grown on previous rainforest land in South America. <http://faifarms.co.uk>

We set up a green social care scheme – based at FAI Farm in Wytham, *Farm Ability* is a 'green' social care scheme for adults with autism and learning difficulties. Sessions run three times a week, encouraging the participants to do organic gardening, hedge planting, horse and chicken husbandry and organic egg collecting. Currently, Farm Ability delivers around 70 boxes of organic eggs to the staff at University IT Services. [www.farm-ability.org.uk](http://www.farm-ability.org.uk)

## WHAT WILL WE DO IN 2013?

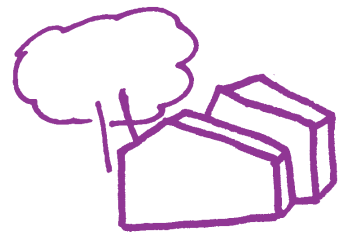
### We'll develop a Biodiversity Strategy

We're working on developing a Biodiversity Strategy this year in partnership with internal and external stakeholders.

### We'll continue to develop our Biodiversity Toolkit

We'll keep adding to our online Biodiversity Toolkit for departments, colleges, staff and students and publicise the toolkit in the University via EcoFinance, the University's in-house newsletter on all things sustainable.





# Sustainable buildings

## HOW DID WE DO IN 2011/12?

### How did we do in 2011/12?

The University target is to achieve BREEAM\* Excellent rating for new buildings and major refurbishments costing more than £1 million:

- OMPI (Oxford Molecular Pathology Institute) achieved BREEAM Excellent rating
- Rex Richards Doctoral Training Centre refurbishment – achieved BREEAM Very Good rating
- Tinsley Building refurbishment – achieved BREEAM Very Good rating
- The New Radcliffe House building was completed and achieved BREEAM Excellent rating

### We installed Ground Source Heat Pumps and rainwater harvesting

- We installed a ground source heat pump and rainwater harvesting in Said Business School Phase 2
- All buildings in the Radcliffe Observatory Quarter will have ground source heat pumps as part of the overall energy strategy for the site

### We worked with Libraries to cut carbon emissions and costs

Libraries account for around 7% of the University's total utilities spend, and in 2011 they identified a need to reduce utility consumption (totalling over £700k) and set an annual savings target of £100k (14%). To do this, Libraries and the Sustainability Team will work together to:

- Target the seven library buildings with highest energy consumption, including Osney Mead and the Swindon Book Depository
- Review energy consumption of boilers, lighting, building management systems and ventilation
- Work with Libraries EcoReps to spot any wasteful practices in energy use in their building and flag up areas for improvement

## WHAT WILL WE DO IN 2013?

### We'll continue to work with Libraries to

- identify more opportunities for energy reduction and cost savings
- streamline repairs and maintenance on buildings and project handover
- improve communication and decision making across Libraries and Estates Services

### We'll aim for BREEAM Excellent ratings

In 2012/13 four developments are under construction and on course to achieve BREEAM Excellent rating:

- Kennedy Institute
- Nuffield Department of Medicine
- New Mathematics Institute
- Castle Mill

### We'll implement the Sustainable Buildings Philosophy

- The University will continue to implement the Sustainable Buildings Philosophy for all new buildings and major refurbishments
- The 'Soft Landings' protocol will be implemented to ensure buildings are commissioned to perform in the most sustainable way.

### Low carbon buildings

We'll implement a pilot project in the Blavatnik School of Government which will focus on low energy and low carbon, natural ventilation, exposed thermal mass to regulate temperature and a double skin façade for a high level of insulation.





# Sustainable purchasing

## HOW DID WE DO IN 2011/12?

### We reduced even more paper

In 2012 the Purchasing Department signed up over 2,000 additional suppliers for electronic purchase order distribution – over 80% of all new suppliers in the University!

### We reviewed our catering suppliers' sustainability credentials

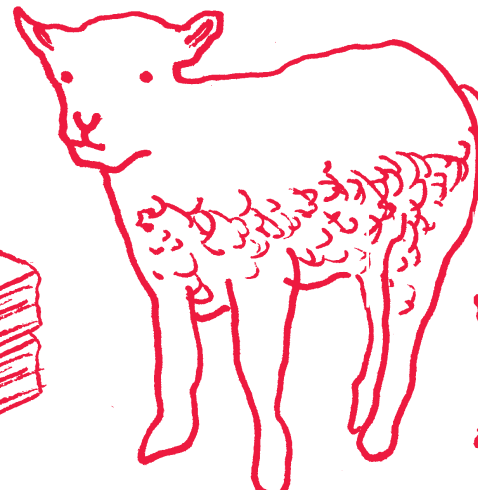
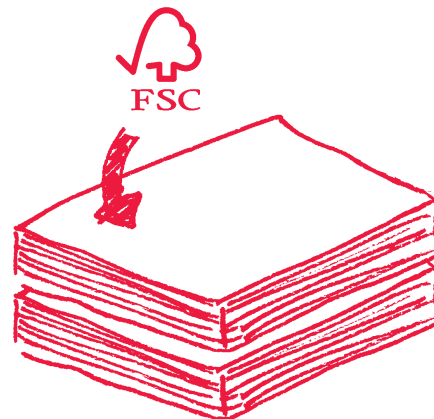
Purchasing reviewed the sustainability credentials of the University's three preferred catering suppliers and identified key performance indicators (KPIs), including:

- ensuring our food doesn't contain fish under threat of extinction
- supplying tap water in reusable glass bottles for hospitality, instead of plastic
- minimising the number of food deliveries per week, to cut carbon emissions
- increasing recycling from staff and student catering (cardboard, paper, glass and metal)
- separating dry from wet recycling and using food waste for composting/energy recovery

### Purchasing led the following sustainability projects

- developed a lamp recycling scheme with a local firm
- agreed staff discounts with various local bike shops
- worked with Saïd Business School to set up a Managed Print Service contract (reducing paper consumption and printer products)
- set up a non-hazardous waste group in order to develop a purchasing waste strategy

- highlighted our preferred suppliers that offer sustainable options on the staff intranet
- worked with the Sustainability Team to install Heat Meters in seven areas in the University, so we can monitor their energy efficiency and cut carbon emissions



## WHAT WILL WE DO IN 2013?

- We'll work with one of our preferred furniture suppliers to identify sustainable opportunities such as using recycled packaging and using sustainably-sourced biodiesel to reduce carbon emissions from transportation of goods and services
- We'll report on our indirect carbon emissions, as required by HEFCE\*
- We'll continue to expand our Managed Print Services to the Radcliffe Observatory Quarter and Old Road Campus, to save income, reduce paper/print consumption and reduce carbon emissions

\*In 2012 a survey by ARUP showed the University purchasing-related (embodied) carbon emissions made up 53% of the University's total carbon footprint



# Sharing the knowledge

## HOW DID WE DO IN 2011/12?

The Sustainability Team aims to share practical knowledge of sustainability with staff and students.

### Freshers' Fair

We had a stall at the Freshers' Fair to promote safe and sustainable travel to students.

### Learning and education

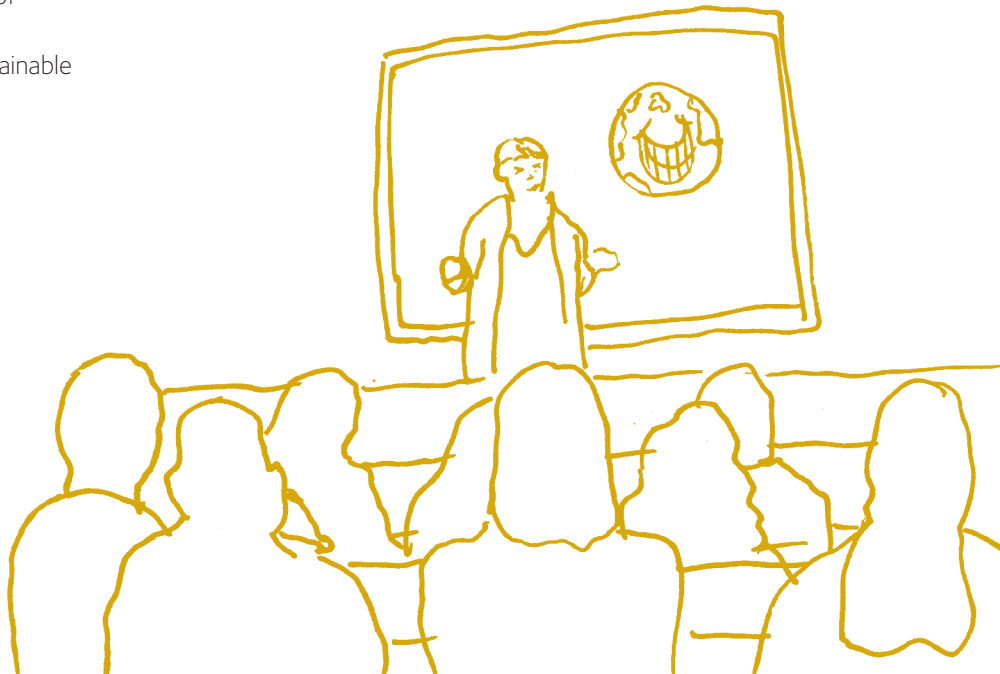
A member of the Sustainability Team taught a module on the practical knowledge of rolling out sustainability in a large organisation, as part of the Department of Continuing Education's MSc course in Sustainable Urban Development.

### Internships

We provided an Oxford student internship as part of Oxford Hub's Ethical Internship scheme, involving one month's study on developing a report on how the University might integrate Education for Sustainable Development into its curriculum. We also provided an internship for the IARU (International Alliance of Research Universities).

### Eco Reps

We set up training sessions and presentations for volunteer Eco Reps from the Libraries Department, to enable them to identify and reduce environmental impacts from their day to day activities.



## WHAT WILL WE DO IN 2013?

**We'll implement a certified environmental management system which will require environmental training to be included in all staff inductions**

- We'll work in partnership with the Careers Office and the Community Action Groups Project to further promote opportunities for student interns who want to gain on-hands experience managing sustainability projects in organisations
- We'll provide sustainability internships for students to work on projects within the Sustainability Team



# Sustainability in colleges

While the Sustainability Team doesn't collate sustainability data for colleges, we think it's good to highlight the environmental sustainability work colleges have been doing in 2011/12:



**Blackfriars Hall** – replaced lighting with energy efficient lighting and set up recycling in the main hall, offices and housing. Staff and student volunteers took part in the Oxford 'Abundance Project' – collecting fruit from the premises that will be used to make chutney and jam.



**Lady Margaret Hall** – installed 172 photovoltaic panels on flat roofs. Total capacity is about 32kW peak and the College expects the panels to generate 25-30 megawatt hours a year – the payback will be less than 10 years (due to feed in tariffs).



**Linacre** – is on track to meet its carbon reduction target of 40% by 2020. It installed solar panels which generated over 7,878 kWh of electricity (saving 4,784 kg CO<sub>2</sub>) in the first year of operation. The College is a member of the City Council's Low Carbon Oxford and their first Green Student was appointed to run energy saving competitions and help reduce greenhouse gas emissions. Linacre supports Cultivate – a local community food growing

co-operative. It's a certified Fairtrade college; has a textile recycling bank and is also trialling food waste recycling from student kitchens.



**St Catherine's** – fitted double glazing and insulated the roofs in their common rooms, improving thermal efficiency and reducing energy bills. Installed a sedum roof on the gym; fitted LED lights to the library and all common rooms; commissioned refurbished heating systems online and installed a Building Management System which achieved 8% savings in the first 6 months. The College recently began a degree day analysis to understand energy usage better and reduce emissions in 2013.



**St Hugh's** – planted Blackthorn bushes to attract the very rare Brown hairstreak butterfly. Many Brown hairstreak eggs have been found on the bushes – demonstrating that the College has created a valuable wildlife habitat for this rare species.



**St Peter's** – fitted water saving devices on all of its buildings (where possible) to include: 132 flow restrictors on taps; 121 flow restrictors on hand held showers and 127 dual flush systems retrofitted on WCs. Potential annual cost savings from the water saving initiatives is around 10-20%.



**Wadham** – recycled old mattresses, installed a cardboard recycling compactor and recycled electrical, IT and metal items. They donated unwanted student items, curtains and fabrics to charity; installed secondary glazing in Staircase 9 and fitted energy efficient lightbulbs in Holywell Music Room. The new Graduate Centre was linked to connect with the Building Management System, to save energy.



**Wolfson** – reused furniture and other good quality items left by students at the end of the year, by selling it at low-cost to new incoming students (money raised was donated to charity). The College built a low carbon, 155 seat lecture theatre with passive heating and cooling, natural ventilation and a high level of insulation.



**Worcester** – the College's Governing Body approved an Environmental Policy and Environmental Action Plan, which will be reviewed annually. It produced a Biodiversity Fact Sheet for its gardens and planted wildlife-friendly, drought-tolerant plants (rosemary, echinacea, perovskia atriplicifolia 'Little spire', escholtzia californica, eremurus Cleopatra and sedum).

## Contact the Sustainability Team

To find out more about the University's environmental sustainability or to give us feedback on the report, contact: [sustainability@admin.ox.ac.uk](mailto:sustainability@admin.ox.ac.uk)

