



The University of  
**Nottingham**

UNITED KINGDOM • CHINA • MALAYSIA

# Sustainability Report 2011/12

[www.nottingham.ac.uk/sustainability](http://www.nottingham.ac.uk/sustainability)



## **Executive Summary**

The University's vision is to become 'a leading green university', in our teaching, learning, research, campus operations and governance. Work in this area is led by our Sustainability Team based in the estates directorate. This year we built upon our positioning in The UI Green Metric World University Ranking run by the University of Indonesia, being ranked in first place. We also improved our position in the People and Planet Green League table and attained a bronze award in the sector recognised Eco Campus environmental management scheme.

A number of major new sustainability initiatives took place during the last year. We gained our 10<sup>th</sup> successive Green Flag award for University Park, with the judging criteria requiring strong evidence of environmental and community programmes. We continue to win awards regionally and nationally and year on year attract more and more visitors to our award winning grounds.

We are just going into our third year of our carbon management plan. Our plan developed in late 2010 proposes ambitious absolute carbon dioxide (CO<sub>2</sub>) emissions reduction targets of 20% by 2015 and 40% by 2020, both from a 2009/10 baseline. In its second year the Carbon Management Plan developed 55 projects requiring a total investment of £1.48 million. The predicted benefits equate to 2,028 tonnes of CO<sub>2</sub> and £350k per annum. In 2010/11 we saw a 1.7 % decrease in CO<sub>2</sub> emissions and we continued this trend in 2011/12 with a 2.3% reduction from 67,454 to 65,901 tonnes CO<sub>2</sub>, a saving of 1,553 tonnes.

The University has continued with its expansive capital investment program and we have ensured that new developments meet nationally recognised environmental standards, utilising cutting edge technology and design.

We have made significant progress in improving our supply chain around our catering operations and have achieved a number of national and international awards that recognise our sustainable approach to catering across our campuses.

Work on Education for Sustainable Development (ESD) has been taken forward by the University's Teaching and Learning board and new resources and opportunities for students to engage with ESD have been established.

Communication and engagement with the wider community is a key part of our work and this last year we have run a number of direct engagement activities and are increasingly using social media and technology to engage with the community. Earlier this year we launched a new and updated website and we produce a monthly Sustainable Nottingham E-news bulletin.

This report summarises progress made against our key environmental objectives and provides examples of best practice achieved. For more details of our work please see [www.nottingham.ac.uk/sustainability](http://www.nottingham.ac.uk/sustainability)

I hope you enjoy reading about the progress we are making in this area.

Professor Karen Cox, Pro-Vice-Chancellor



## **Waste and Recycling**

The University generated 3,799 tonnes of waste from Campuses and Halls of Residence, 2,060 tonnes of general waste and 1,739 tonnes from recycling bins. Further segregation and sorting takes place at a local materials recycling facility resulting in only 358 tonnes (9%) going to landfill.

### **Key achievements in 2011/12**

- Our **waste and recycling contract** continues to deliver financial savings and resulted in reduced costs, a saving of £63,000.
- New recycling bins have been installed in key areas, including building foyers and catering outlets.
- On site recycling and further segregation by our waste collection contractors has achieved a recycling rate of 91%.
- Recycling rate in halls of residence **increased by 8%**.



### **KPIs**

Indicator	2010/11	2011/12
Waste mass generated per m <sup>2</sup>	6.3kg	6.2kg
Proportion of waste recycled on site	43 %	45 %

## **Information Services**

### **Key achievements in 2011/12**

- A new **High Performance Computer** has been installed that delivers 4 times the computing power using the same energy load.
- **Server virtualisation** continues with more than 160 servers being virtualised in the last year bringing the total to 617, reducing risk and improving energy and carbon performance.
- **PowerMAN/WakeMyPC** was launched across the University in 2011 to default hibernate inactive PCs at 8pm across all staff PCs.

### **KPIs**

Indicator	2010/11	2011/12
Members of the University adopting green practice in everyday use of IT	92%	97%
Successful server-hosting service and reduction localised rooms	99	72



## **Carbon Management**

The University's Carbon Management Plan was approved in 2010. In 2010/11 we saw a 1.7 % decrease in CO<sub>2</sub> emissions and we have continued this trend in 2011/12 with a 2.3% reduction from 67,454 to 65,901 tonnes CO<sub>2</sub>, a saving of 1,553 tonnes. Achieving reductions in carbon emissions remains one of our key priorities.

### **Key achievements in 2011/12**

- Overall **energy consumption** reduced by 0.8%, with electricity consumption up 1.3% and gas usage down 2.2%, despite floor area increasing by 3.5%, student numbers rising by 3.3%.
- **Energy costs**, including taxes, rose by £1.2 million to £11.8 million. High and rising European energy prices have again pushed up our costs. We have managed to minimise our exposure to these rises through our strategy of flexible energy purchasing – this has allowed us to time our energy purchases and obtain favourable pricing levels.
- Our carbon emissions fell by 2.3% to 65,901 tonnes CO<sub>2</sub>. This was the second successive year absolute reductions in CO<sub>2</sub> emissions were achieved
- £1.48 million was invested explicitly in **carbon reduction projects**, generating predicted savings of 2,028 tonnes CO<sub>2</sub> and £350k per year. Projects have included:
  - Roof insulation and cavity wall insulation of both academic buildings and halls of residence
  - A number of major glazing projects
  - Replacement of a number of large chiller systems and improvements to heating systems have provided better control and thermal comfort .
- Strategic **studies of heating systems** were carried out for Sutton Bonington and University Park. Options for delivering efficient, low carbon energy are to be progressed as priorities.
- Overall **water usage** increased by 3%, remaining constant per m<sup>2</sup> of total floor area



### **KPIs**

Indicator	2010/11	2011/12
Total Energy Consumption pa	201 GWh	199 GWh
Energy consumption per m <sup>2</sup>	344 kWh	330 kWh
Energy emissions per m <sup>2</sup>	115 kg CO <sub>2</sub>	111 kg CO <sub>2</sub>
Water consumption per m <sup>2</sup>	1.39 m <sup>3</sup>	1.38 m <sup>3</sup>
Total carbon emissions from energy	67,454 t CO <sub>2</sub>	65,901 t CO <sub>2</sub>

## **Travel and Transport**

Over recent years the University has made significant progress in increasing transport choice for staff and students and year on year we have seen increasing investment in facilities and services in this area. At the same time the implementation in 2010 of an exemplary car parking charging scheme based on vehicle CO<sub>2</sub> emissions and salary has encouraged more staff to opt for non-car travel choices.

### **Key achievements in 2011/12**

- Investment of more than £360k in **cycle infrastructure** including:
  - new secure cycle storage facilities
  - new shower facilities
  - installation of 418 additional cycle parking spaces, taking the total spaces available across our campuses to over 4,400
  - further covering of cycle parking spaces
- Student **bike hire scheme** continues to be in great demand with more than 250 students benefiting from hiring a U Cycle bike. The staff **Cyclescheme** continues to be popular, with the purchase of new bikes through a salary sacrifice scheme.
- Use of the **hopper buses** continues to grow, with passenger journeys increasing 26% compared to 2010/11. Approval was given for £200,000 additional investment in hopper bus services for 2012/13, including more frequent services to Sutton Bonington and a new service to Royal Derby Hospital Centre.
- **Travel pass scheme** expanded to include East Midlands Trains. Over 420 staff taking advantage of purchasing discounted travel through Payroll deductions.
- Installation of **electric car charging points** and a **hydrogen refuelling station** at the Energy Technologies' Building to showcase environmentally friendly vehicles.
- Joint working with local bus operators has continued to increase **bus patronage**. This has resulted in improved frequency of the Unilink 34 service from every 7/8 minutes to every 5.
- 339 members of the University Community accessed our free **Dr Bike** service.



### **KPIs**

Indicator	2010/11	2011/12
No of cycle parking spaces	4,202	4,544
Number of staff taking part in Cyclescheme	145	128
Bus patronage on hopper bus services (number of trips)	844,471	1,060,287

## KPIs

Mode of Transport	2010/11		2011/12	
	Staff	Student	Staff	Student
Cycle	13	10	19	15
Car	67	13	59	10
Other	20	77	22	75

## Procurement

The environmental impact of what and how we procure and dispose of goods and services is a significant part of our activities. The decisions we take and the processes we follow can reduce the environmental effect and deliver both carbon and fiscal savings. Over this last year significant work has been done to improve the sustainability performance of our food and beverage procurement including the achievement of a number of globally recognised awards. Reducing the carbon associated with what we buy is becoming an increasing priority and work is underway to measure the carbon footprint of purchased goods and services.

### Key achievements in 2011/12

- **Sustainable food policy** published in March 2012.
- Received multiple awards for sourcing foods from a sustainable source, including:

- **Marine Stewardship Council** certification for sustainable fish purchase. This is a globally recognised and trusted indicator of seafood sustainability, allowing us to demonstrate best practice in sustainable fish and seafood sourcing.



- **Soil Association's Food for Life** Bronze Catering Mark - this demonstrates that we deliver menus that use fresh, seasonal, local and organic ingredients, high welfare meat and sustainable fish.



- **Good Egg Award** from the Compassion in World Farming organization, which celebrates companies that use **only cage-free eggs**



- The initiation wide roll out of the **managed print service** by 2013/14 anticipates a 34% reduction in carbon emissions from the new print service, reducing paper use and increasing the efficiency of printing across the University.

### KPIs

Indicator	2010/11	2011/12
Progression on the Government's sustainable Procurement flexible framework	Level one	Level one

## Teaching and learning

The University's Strategic Plan requires all students to be able to access Education for Sustainable Development (ESD) in some form during their studies, whether through extra-curricular activities and/or their choice of modules. This strand, led by Teaching and Learning board, has made significant progress in the last year.



### Key achievements in 2011/12

- Development of new Teaching and Learning webpages focused upon **Education for Sustainable Development** and linking to a range of videos and podcasts: <http://www.nottingham.ac.uk/teaching/teaching/esd/sustainability.aspx>
- Launch of 100 credits of **Open Educational Resources** in U-Now (<http://unow.nottingham.ac.uk/>) on the theme of Sustainability and using sustainable learning technologies. These new modules can be taken as part of the Nottingham Advantage Award by students across campuses in Nottingham, China and Malaysia.
- Shortlisted for a **Green Gown Award** in the category of 'Learning and Skills' for the Grand Challenge's work in promoting the Sustainability agenda within the curriculum and the student experience. (Award winners to be announced November 5th)

### KPIs

Indicator	2010/11	2011/12
Number of courses related to environment and sustainability	230	230

## **Research**

The University has established a number of Research Priority Groups to grow and deliver an influential amount of world-class research and knowledge transfer addressing global issues and challenges. Priority Groups include: Energy; Global Food Security; Integrating Global Society; Science, Technology and Society.

### **Key achievements in 2011/12**

The University enjoys a world leading research programme across the following themes:

- carbon abatement in clean fossil energy
- energy vectors and storage
- renewable energy
- low-energy buildings
- electrical grids, environment, policy and society

### **KPIs**

Indicator	2010/11	2011/12
Research funding for environmental / energy / sustainability related research	£20.7m	£19.4m

## **Campus development**

Over this last year the University has continued to grow, with significant investment in new buildings and facilities across the estate. One of the greatest challenges that we face is to ensure we minimise the environmental impact of our developments. Through utilising renewable innovative technologies and environmental and sustainable best practice we have been able to minimise the impact of our capital development programme and continue to use the Building Research Establishment Environmental Assessment Methodology (BREEAM) to assess our progress, with all our major developments designed to meet as a minimum the BREEAM *excellent* standard.

### **Key achievements in 2011/12**

- **Low carbon technology** continues to be a key part of energy strategies with new buildings utilising a range of insitu low/zero carbon energy generation technologies including Biofuel combined heat and power systems, solar PV systems and air and ground source heat pump technology.
- The **commissioning of new buildings** at University Park and Sutton Bonington will increase the overall Gross Internal Area by 19,546 m<sup>2</sup> with additional predicted increases in CO<sub>2</sub> emissions of 765 tonnes.
- The **photovoltaic systems** solar thermal and biomass installations produced 327mwh of generation with a carbon emissions saving of 120 tonnes.





**KPIs**

Indicator	2010/11	2011/12
Building Display Energy Certificates / Energy Performance Certificates achieved	Engineering Science Learning Centre Category B  Humanities Building Category B  Mathematics Building Category B	Institute of Mental Health Category B  Derby School of Nursing Category B  Aerospace Technology Category B  Energy Technologies Building Category A
Awards for sustainable construction / design	<b>Nottingham Geospatial Building:</b> RICS Awards East Midlands – Highly Commended in the category of 'Sustainability'.  RICS Awards East Midlands – Short-listed in the category of 'Regeneration'	<b>Engineering &amp; Science Learning Centre:</b> Bronze Considerate Constructor Scheme (CCS) award received 13.3.12. National Site Awards to 'recognise and award exceptional levels of consideration against the scheme's code'.  RIBA East Midlands Award for Architecture.  <b>Humanities:</b> ICE East Midlands Merit Awards (EMMAs) – Highly Commended. Award received 20.4.12.  <b>Bio-Energy:</b> Winner – Building Excellence 2011 'best educational development'. Awarded 18.5.12 by Local Authority Building Control 'to promote quality in the construction industry'.  <b>Gateway Building (Bio-Sciences):</b> Winner – 'Excellence and Quality' (CIOB Committed to Quality awards). Awarded 30.3.12 'to promote excellence in the construction industry'.

**Awareness raising, training and communication**

Engagement and communication with the University community is a key part of ensuring that we meet our targets. Over this last year we have led events and introduced a number of new communication channels including the use of social media.

## Key achievements in 2011/12

- **Nottingham Advantage Award** 2 groups of students from a variety of backgrounds created films to engage their peers in greener behaviour, specifically related to local services at the University.
- Extensive work with student groups to raise awareness including: **Environment Question Time** with Project Nottingham; Green Week 2012 with the Students' Union and associated societies; and supporting the JCR Environment Reps.
- Launch of a **new Sustainability website** to provide a one stop shop for sustainability information at the University.
- Improved communications channels established through use of a Sustainability facebook page, **Sustainable Nottingham e-bulletin** and blog site.
- **Halls environmental competition** encouraged students to reduce electricity consumption and reduce the waste sent to landfill. Electricity usage reduced by 3.5% compared to the same period in 2010/11. Recycling rates increased by 8%.
- A range of **seminars, stalls fairs and presentations** have been given to engage different sections of the University community, including:
  - Welcome events for new staff
  - Community engagement and sustainability conference
  - School Managers' meeting
  - School board and admin committees
  - Hall JCR committees
  - Freshers' Fair
- The **Environmental Association of Universities and Colleges** has selected Nottingham as the venue for its 2013 conference. This will provide an opportunity to showcase our sustainability achievements to the sector.



## **Landscape**

Our award winning landscape is very much a part of the Nottingham experience. We continually work to improve the attractiveness and bio-diversity of our campuses, to ensure that our practices are exemplary and they reflect the international nature of our University.

### **Key achievements in 2011/12**

- University Park campus was awarded a **Green Flag award** for the tenth consecutive year, acknowledging it is a well-managed, high-quality green space, open to the community, and with sustainability integrated into our operations.
- **Biodiversity** has been given a huge boost on University Park by the change of management of 3 hectares of mown lawns being given over to Meadow Area management.
- The **beehives** at King's Meadow campus continue to do well.
- The **Student Allotments** both received RHS East Midlands in Bloom awards with University Park attaining a level 3 Standard of Developing and Sutton Bonington attaining a level 4 Standard of Thriving.
- A new irrigation system has been installed at Highfields Sports Grounds which includes **rainwater capture systems**. This enables more fast and reliable recovery of pitches and will provide a better experience for users in the future.



### **KPIs**

Indicator	2010/11	2011/12
Awards	2011 Green Flag Award  2011 Nottingham in Bloom Garden Competition, 'Best Commercial Premises' Category	2012 Green Flag Award  2012 Nottingham in Bloom Garden Competition, 'Best Commercial Premises' Category - for University Park North and West Entrance displays and the new landscaping at the Djanogly Gallery.
Numbers attending events	Picnic in the Park - 300  National Gardens Scheme Open Gardens University Park - 400	Picnic in the Park - 500  National Gardens Scheme Open Gardens - University Park - 450 Sutton Bonington - 170
Recycling of garden waste	960 tonnes	1,050 tonnes

## **Corporate governance**

The University has a longstanding commitment to the environmental agenda and to institution-wide environmental excellence. Through the adoption of sustainability as one of our guiding principles in The University's Strategic Plan - 2010-2015, sustainability continues to be at the very heart of our governance and operation.

### **Key achievements in 2011/12**

- The University was placed first in the **UI GreenMetric World University Ranking** carried out by the University of Indonesia, building on its second position in 2010/11.
- The University moved 26 places up in the **People and Planet Green League**, scoring a 2.1.
- Achieved **Bronze level** in the EcoCampus programme to develop an environmental management system



### **KPIs**

Indicator	2010/11	2011/12
Eco Campus Environmental management System Award	-	Bronze Award



Estate Office  
The University of Nottingham  
University Park  
Nottingham  
NG7 2RD

t: +44 (0) 115 951 3600  
w: [www.nottingham.ac.uk/estates](http://www.nottingham.ac.uk/estates)