

# Sustainability Report 2012/13

## Key Performance Indicators

### Environmental Management System (EMS)

The University successfully passed its second surveillance audit for ISO14001 (giving a third year of holding IOSO14001) and has included Education for Sustainable Development within this management system, a year earlier than our target. This has been a significant step to include curriculum within the EMS to have a full institution certification, the first within the Russell Group and one of only a handful in the sector. Sustainability continues to maintain an annually reviewed environmental legislation register available on our web site. Over the next two years further engagement with relevant stakeholders is planned to ensure the EMS continues to be effective.

### Carbon/Energy Management<sup>1</sup>

From the table below we note that **carbon dioxide emissions are 2.7% below the baseline**, up from 7.3% below the baseline in the previous year. Most of this year-on-year increase is ascribable to the fact that 2012-13 was the coldest winter for over 30 years, increasing both gas and, to a lesser extent, electricity usage. However, the growth at facilities such as National Composite Centre (NCC), High Performance Computing (HPC) and the works at Life Sciences, as well as additional activity around the Precinct due to higher student numbers, added to the total, too, adding about a quarter of the difference.

	Elec GWh	Gas GWh	Oil GWh	Steam GWh	Total	Elec tCO2	Gas tCO2	Oil tCO2	Steam tCO2	CO2 (t) tCO2	Total tCO2
05/06	60.0	79.9	1.2	1.4	142.5	31,219	14,702	335	337	46,592	0.0%
06/07	55.2	77.4	0.6	0.9	134.1	28,129	14,242	167	217	42,755	-8.2%
07/08	56.8	84.6	1.0	0.5	143.0	29,649	15,565	284	121	45,618	-2.1%
08/09	57.8	85.9	1.0	0	144.8	30,845	15,812	289	0	46,946	0.8%
09/10	56.3	87.0	0.3	0	143.6	29,726	16,005	96	0	45,827	-1.6%
10/11	56.5	84.0	0.4	0	140.9	28,520	15,462	108	0	44,090	-5.4%
11/12	57.5	79.8	0.3	0	137.6	28,425	14,680	81	0	43,186	-7.3%
12/13	57.8	92.3	0.3	0	150.4	28,257	16,989	89	0	45,335	-2.7%

<sup>2</sup>

If we remove the effect of NCC, HPC, LVS, Colston St and the works at Life Sciences, the key areas of additional estate that have been added since 2005/6, emissions would have fallen by a further 5.7%, even in this coldest year in 30.

Recertification to the Carbon Management Standard ISO 14064 CEMARS was achieved in April 2013.

Our procurement via a flexible purchasing arrangement continues. We are confident this will protect us against market extremes for wholesale prices for both gas and electricity, but the industry is predicting large increases in non-commodity charges to pay for generation, transmission and distribution infrastructure.

Project delivered this year include, reboiling, new voltage optimisation, a 200kw CHP unit, heating controls in residences, insulation, LED lighting and fume cupboard/ventilation recommissioning.

<sup>1</sup> We have considered for this report, as in previous years, the areas for which we have full operational and financial control. These are areas owned and leased by the University at which we contract and pay for fuel. This is the area considered by Carbon Reduction Commitment. Estates Management Records now require us to also consider leased areas where we do not pay for fuel and do not have maintenance control – largely space within hospitals and leased accommodation. We have very limited control over consumption in these areas, and do not include them in our Carbon Management Plan.

<sup>2</sup> The co-efficients with which carbon emissions are calculated have been changed retrospectively by DEFRA to take into account the effect of imported electricity, which tends to be less carbon intensive. The figures within this report have been re-calculated to take account of this.

## Water

We have seen a 1.4% increase in water consumption on the previous year, and saw an increased figure for 11/12 due to some estimates coming in high at reconciliation (we had reported a 15% reduction last year). Water conservation activities have preceded at a slower rate than the previous year, which saw a major infrastructure upgrade on the Precinct, and against a 6% increase in student numbers, we believe a 1.4% increase is justified. The University is still 12% down against its baseline year of 2007/08.

	07/08	08/09	09/10	10/11	11/12	12/13
M3	485,213	439,930	437,542	438,058	422,032	428,096
	0	-9%	-10%	-10%	-13%	-12%

Capital Maintenance and Infrastructure have played a significant role in both reducing carbon emissions and water consumption.

## Transport

In 2013 81% of staff were travelling to work sustainably down from 82% in 2011 and compared to the target of 90% by 2016, with only 19% of staff travelling via single occupancy car journeys against 21% in 2009 and a target of 10% by 2016. The most popular mode of travel was walking accounting for 30% of staff up from 28% in 2011. Students commuting between their term-time accommodation and their study by car rose from 4% to 5% between 2008 and 2012.

Key actions this year have been a further increase in bus journeys for the new bus service from Stoke Bishop to the precinct, reaching almost 400,000 journeys, up from the previous year's 330,000. Funding from the £330,000 Local Sustainable Transport fund started with a major new cycling strategy, employment of a new travel plan assistant, new bike installations at Old Park Hill, Physics and the Students' Union, as well as a joint UBU/UoB cycling week. A movement and access study has been completed for the precinct and a parking review has started.

## Waste

In 2012/2013 The University **reused, recycled and composted 80.1% of its total waste** at the University, up from our previous year level of **75.88%, achieving our target of 65%**. The amount of general (residual) waste to landfill produced at the University has consistently fallen since our baseline year of 2007/2008. Proportion of general waste going to landfill is:

	07/08	08/09	09/10	10/11	11/12	12/13
% waste sent to landfill	59.7	52.0	51.3	44.3	24.12	5

Over 165 tonnes of metal and wood waste were cleared by Sustainability and Maintenance to improve the aesthetic of the University. 100% of this waste was recycled and rebates from the metal waste made this very cost effective. This raised income of £26k for the University.

### Construction Waste

The University's contractors all use a combination of waste transfer stations and segregated skips for construction and demolition waste. The average segregation rates range from 65-100% for waste transfer stations and 95-100% for segregated skips. 72% of waste from construction was reused or recycled in 2010/2011, this increased to 82% in 2011/12 and **for 2012/2013 is 87%, exceeding our target set at 85% by 2018.**

### Carbon Dioxide emissions from waste

In 2011/2012 the University **reduced its emissions by 32%** against the baseline year 2007/2008 and 230 tonnes of emissions and is on target of achieving a 50% reduction by 2016.

### Hazardous waste

This area has been growing until recently due to new laboratory processes and awareness of staff about storage of old materials. The aim is to reduce the amount incinerated by 50% by 2018 (baseline

2010/11), **in 2012/13 this amount fell by 4%**. Initiatives to speed up reductions include more compliance audits, staff training and improved disposal systems and contracts during 2013/14. New contracts for hazardous waste and recycling have pushed the University's recycling rates up by allowing all plastic to now be recycled. These contracts have also saved the University £130,000

#### Feasibility of zero waste to landfill

The amount of general (residual) waste to landfill produced at the University has consistently fallen since our baseline year of 2007/2008. There were particular leaps in this target over the last two years as the University was able to retender contracts and make use of new technological solutions for waste management. **We do not feel 100% diversion is ever achievable, but over 95% should be.**

#### Reuse

In 2012/13 'reuse' at the university increased to 21.4 tonnes, up from 6 tonnes in 2009/10. The 'Big Give' and 'Student Summer Clear Out' projects saved 9 tonnes of reusable items from landfill while benefitting 16 local charities. The University also launched a reuse website Re-Store that has to date helped rehome 500 items of University furniture within the University. In 2013/2014 the Big Give aims to collect 40 tonnes of reusable items and Re-Store aims to reuse 20 tonnes of items. As Reuse is so high up the waste hierarchy and is specifically targeted in the Waste (England and Wales) Regulations 2011, this is an important trend.

#### Staff Waste/Compliance Training

The University CIWM (Chartered Institute of Waste Management) Training Centre trained and certified 60 members of staff in general waste management, construction waste management and healthcare (clinical) waste management. Sustainability trained Over 30 Security, Gardens and Grounds, Maintenance and front line staff were trained in a practical demonstration of 'Spill Response Training' with a further 50 staff receiving updated toolbox talks in what to do in an emergency. Finally 30 University students were trained in compositional waste audits to help gain information on the composition of our waste at the University and provide students with practical work experience in Sustainability through Bristol Plus.

#### Sustainable Procurement

A review of the flexible framework was carried out in January 2013 and highlighted scores of 2 and 3 across the framework. An action plan was developed that feeds into the annual implementation plan. The Sustainable Procurement strategy was revised as was the risk register which assesses suppliers and service providers 'sustainability impacts' to enable more effective supplier engagement and tender specification. Two tenders had sustainability principles included, these were for sports clothing through the Students' Union and the tenders for lab equipment for the new life sciences building. There has also been significant engagement with VWR on laboratory equipment; particularly -80 Freezers. The Estates Procurement Team has been heavily involved in the delivery of this part of the sustainability policy. Delivery of the action plan during 2013/14 should see level three being achieved across all areas of the flexible framework.

#### Sustainable Construction

During 2012/13 two refurbishments achieved BREEAM very good and E.P.C. B rating in line with our policy targets. These were the Wills Memorial Building Library and 1-9 Old Park Hill. We also achieved an Excellent rating for the second tranche of the Richmond Building refurbishment, exceeding the very good target. Capital Projects within the Estates Office have been instrumental in delivering this BREEAM scores. Achieving an EPC rating of A has been prohibitively expensive, but the University still investigates if it is cost effective for projects. The SKA assessment is being reviewed as a possible standard for sub-£1million projects.

#### Biodiversity

This year has seen the further implementation of a biodiversity action plan including further phase 1 habitat surveys and continued research with university academics researchers into urban pollinators. During 2013 at the Richmond Building, an enhanced landscape, has resulted in a 80% increase in floral diversity and developed for the new Life Sciences building, initial surveys resulted in

conservation and enhancement of bat refuge. This area of the policy has been delivered by the External Estates Team

## **Communications**

A full communication plan was implemented during 2012/13 and included the running of Green Impact in 25 departments, a joint Green Impact scheme with the Bristol University Hospital Trust, a Green Impact scheme for Dentists, a partnership with the Bristol Hub supporting a speaker series and activities such as the 'Lions Den' run in conjunction with R.E.D. highlighting student social enterprise projects relating to sustainability. Engagement activities around sustainability with the Trade Unions have been developed. £180,000 has been secured from HEFCE/NUS from their Student Green Fund, one of 25 out of 125 applications funded. The project aims to encourage sustainable behaviours in students across all accommodation. This project will run for the next two years.

## **Education for Sustainable Development (ESD)**

Much of the previously agreed ESD strategy has been delivered this year, the full baseline contextual review of all course modules has been updated by a number of departments (e.g. Humanities), to enable the quicker annual updating of this baseline, a number of more detailed questions have been included in the SITS process. The baseline mapping tools produced the previous year has been used as an engagement tool within 5 of the 6 faculties. Resources to help academics include ESD in their courses is now available on a wiki <https://wikis.bris.ac.uk/display/BristolESD/ESD+at+Bristol>. Resources has been grown over the year and now have a number of videos explaining what ESD is and how it is relevant to each faculty. An ESD question was included in the Annual Programme Review (APR) process, and the ESD Team has provided a report on each department for FQET Chairs to review when they visit the department. Outcomes from these visits and next steps for ESD will be discussed in the new academic year 2013/14. An ESD network has been created to enable better engagement for academics in ESD. This coming year see a new joint project with the Students' Union to foster greater links to the student body on ESD, this will also include a baseline review of the informal curriculum in line with the sustainability policy. This forms part of the Student Green Fund project. This area of work illustrates the successful collaboration between the Estates Office and academic departments.

## **Food**

The implementation of the Ethical and Sustainability framework for food is well underway, noting locally sourced seasonal foods, fairtrade and rainforest alliance certified products are now main stream, all milk used is organic and all eggs are free range. On site bottling of water is has been introduced this year reducing transport carbon emissions and saving money. The Soil Association Bronze catering award has been achieved, and now organic UK meat has been sourced. The hospitality team has also won a regional award for its Fairtrade work.

## **Awards**

The Chartered Institute of Waste Managers awarded the University a Community Champion award for our work on the Big Give. For work over the last five years the University has been awarded the prestigious **Continuous Improvement Award at the Green Gown Awards** (the sector sustainability awards), the University was also awarded for our innovative work on Education for Sustainable Development a highly commended award under the Courses heading. The University has also been awarded a Gold Award for its Travel Plan within the South West Regional Travel Awards. Finally the cumulative work of teams across the University enabled the University to rise up the People and Planet Green League from 36<sup>th</sup> place to 23<sup>rd</sup> maintaining our 1<sup>st</sup> status.