

Sustainability Report 2015/16

Key Performance Indicators

Environmental Management System (EMS)

The University successfully passed audit for ISO14001 (sixth year of holding ISO14001). The University included Education for Sustainable Development within this management system in 2012/13 which was 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. A new version of ISO 14001 was published in late 2015 which focuses on outcomes as well as processes, inclusion of curriculum puts the university in a strong position to deliver the new certification. The University is working towards this new standard in 2017.

Carbon/Energy Management

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.

From the table below we note that **carbon dioxide emissions are 8.7% below the baseline**, a greater reduction than the 1% noted in the previous year. This change can be ascribed to: warmer weather; electrical efficiency works such as lighting and heating controls at the halls. There were upward pressures due to lower CHP duty due to failures and warmer weather, which increase electricity import and reduced gas imports. There was also additional activity around the Precinct due to higher student numbers.

	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	142.6	31,229	14,801	336	335	46,845	0%
06/07	55.2	77.4	0.6	0.9	134.1	28,630	14,329	167	207	43,332	-7%
07/08	56.8	85.1	1.2	0.5	143.6	28,969	15,753	320	124	45,166	-3%
08/09	57.8	86.4	0.9	-	145.1	30,146	16,000	259	0	46,404	-1%
09/10	56.3	87.4	0.3	-	144.0	29,767	16,187	95	0	46,049	-1%
10/11	56.5	84.0	0.4	-	140.9	28,520	15,552	108	0	44,179	-5%
11/12	57.5	81.6	0.3	-	139.4	28,425	15,111	81	0	43,617	-7%
12/13	57.8	94.5	0.3	-	152.5	28,246	17,436	70	0	45,752	-2%
13/14	60.6	81.0	0.3	-	141.7	31,226	14,957	75	0	46,201	-1%
14/15	62.1	83.6	0.3	-	145.9	31,020	15,413	55	0	46,488	-1%
15/16	63.0	76.8	0.1	-	139.9	28,284	14,203	29	0	42,525	-9%

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The University maintains the Carbon Management Standard ISO 14064 (achieved April 2016).

¹ 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.

As was reported last year, the University has grown by around a third in terms of student numbers, turnover and floor area, so relative emissions have dropped substantially, in the range of 30%.

Our carbon management plan was based on achieving a 15% decrease by 2016 as a milestone on the way to the 2020 reduction. The shortfall can be ascribed to unexpected increases from when the target was first set: the increase in consumption due to the building of National Composites Centre amounts to a 7% increase in emissions, alone.

In the next year, we will be concentrating on:

- Recommissioning fume cupboard systems to prevent unnecessary extraction of conditioned air from laboratories
- Additional roll out of automatic control for space and water heat in electrically heated halls.
- Moving from water heating by immersion heat to air source heat pumps
- An accelerated lighting replacement programme to install efficiency LEDs with local control.
- A revisiting of the opportunities for renewables in the light of recent policy changes.

Rethinking the CMP

As the Sustainability Policy will be renewed in 2017, we are starting to think about how the Carbon Management Plan should evolve. We are working on how the University could achieve its aspiration to be zero carbon by 2030.

The new Plan will retain:

- Action to reduce costs
- Action to reduce reputational risk
- Elements that attract staff and students
- Elements that satisfy funders and potential funders
- A focus on highly serviced areas

However, we may also want to:

- Ask more of building occupiers in the way of behaviour change
- Look at how the supply chain can be manipulated to reduce Scope 3 emissions, reducing reputational risk again
- Undertake beacon projects to demonstrate that we might wish to test nascent technologies, attracting positive comment and press
- Make strong links with Education for Sustainable Development
- Think about Scope 3, and what should be incorporated beyond our current boundaries.

Water

A full audit of consumption at all supplies was undertaken in Dec 2013, correcting some historical errors. The University's water consumption was 27% down in 2015/16 against its baseline year of 2007/08. Reductions between this year and last were due to reduction in water mains leakage. It must

be borne in mind that the 15/16 figure remains provisional until the final half-yearly bills but a small uplift has been added for this.

	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16
M ³	491,473	448,713	445,265	448,161	416,403	367,037	377,772	378,951	356,525
		-9%	-9%	-9%	-15%	-25%	-23%	-23%	-27%

The avoidance of tap water being used for cooling electrical equipment is now a key strand of our water conservation and cost saving activity. The focus is current on Physics and other science buildings.

Transport

No University Travel surveys were undertaken in 2015/2016, so the perchance of sustainable travel remains as in 2014/2015 (96% of students were traveling to study sustainably and 81% of staff were travelling to work sustainability). The most popular mode of travel for both students and staff is walking at 63% and 29% respectively.

The staff travel survey will be undertaken again towards the end of 2016 and the student travel survey will be undertaken again in early 2017.

Key actions this year:

- The University's Bus Service 16 transported 736,000 passengers from September to June; a reduction of 9% from 2014/2015 for reasons unknown, with an overall satisfaction of 75%
- The National Express London 040 service successfully operated out of the Stoke Bishop Transport Hub
- The delivery of the new car parking policy and post implementation review that covered all aspects of parking on the Precinct and Satellite Sites.
- Part delivery of the Access and Movement Study recommendations – Gained Bristol City Council's approval to change the route of the Bus Service 16 through the University Estate.
- The delivery of the Travel Options Programme, which includes personalised travel planning sessions, travel roadshows and local operator travel fairs.
- A 24% membership increase to the University's Liftshare scheme and an increase of 35% in the number of Liftshare 'budi' teams created. This is largely due to the changes to the Precinct and Satellite Sites car parking policy.
- The ongoing success of the communication strategy has seen a 12% membership increase for the University's' Bike Users Group (TUB-BUG), currently 1,508 members (29th September 2016).

Waste

In 2015/2016 the University **reused, recycled and composted 86.02% of its total waste achieving our strategy 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 and due to waste market and technology changes is now less than 1%. Under the European Waste Framework Directive, waste should be managed using a hierarchy with prevention as the first option and landfill as the least preferable option. The University has minimised landfill and utilises alternative technologies such as energy from waste (EFW) in line with the Directive.

Proportion of general waste going to landfill:

	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16
% waste sent to landfill	59.7	52.0	51.3	44.3	24.12	5.0	5.8	<5%	<1%

In 2013/2014 the **amount of waste produced per FTE** had grown by 8% on 2012/2013 numbers. This was a reflection of new build projects and associated office/laboratory moves. The move into Life Sciences in particular produced a significant amount of waste as old materials are discarded. In 2014/2015 this figure started to reduce but has again increased in 2015/2016. This trend will continue to be challenged in 2016/2017.

In 2015/2016 we recycled 165 tonnes of **confidential materials**, compared to over 160 tonnes in 2014/2015, 130 tonnes in 2013/2014 and 80 tonnes the previous year. This upward trend will focus our attention on a balance between managing our confidential and non-confidential media correctly and ensuring we adhere to our information security policies at the University.

Construction Waste

Current average recycling/reuse rates for 2015/2016 is 94% up from 92% last year.

Carbon Dioxide emissions from waste

Our target of achieving a 50% reduction by 2016 in emissions was met in 2013/2014 with a recorded reduction of 59% of the baseline year.

Hazardous waste

- The aim is to reduce the amount incinerated by 50% by 2018 (baseline 2010/11), **in 2013/14 this fell and the trend continued in 2014/2015 and 2016/2016, making a total reduction of 24% from the baseline figure.** Initiatives to speed up reductions include more compliance audits, staff training and improved disposal systems and contracts during 2015/16 along with S Labs initiatives.
- New contracts for hazardous waste and recycling have pushed the University's recycling rates up by allowing all plastic to now be recycled. Polystyrene recycling collections have doubled in frequency over the last 2 years to capture this light but bulky waste, in 2016/2017 this will continue but will expand to working with suppliers to the University to reduce unnecessary packaging.
- Over 70 tonnes of chemicals were disposed of in 2013/2014 and this has reduced by 45% in 2014/2015 to 31 tonnes. This is as a result of much improved chemical waste management in terms of housekeeping and reducing backlogs and will also be due to large amounts of disposals associated with Fry refurbishment in 2013/2014. In 2015/2016 chemical disposal increased to 45 tonnes, reflecting an increase in laboratory work.

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% has been achieved consistently over the last three years.** A more challenging target for waste management in current markets is overall waste reduction.

Reuse

The University expanded a reuse website Re-Store that re-homed directly within the University 21 tonnes of reusable furniture and a further 12 tonnes of reusable items were rehomed externally in 2015/2016 to local charities and partners. This has helped the University avoid buying new furniture saving between £50k and £100k, saved disposal costs, minimised environmental impact and reuse supports the local community. In addition the Bristol Big Give project, of which the University is a

partner has reused over 74 tonnes of student waste, which would otherwise have gone to landfill, this raised up to £134,000 for local and national charities.

Staff Waste/Compliance Training

The University CIWM (Chartered Institute of Waste Management) Training Centre in 2014/2015 developed a chartered Student Waste Audit course to raise awareness of waste management amongst students while providing students with certified training. In addition 54 members of staff and external partners were trained in CIWM accredited courses in 201/2016. A further 66 members of staff were trained in spill response and more specialist areas of laboratory waste management, helping the University to run more efficiently and remain compliant with complex waste legislation.

Sustainable Procurement

In 2014/2015 The University made a pledge as part of Bristol Green Capital to develop a strategy to include social and environmental considerations into our procurement process. A Procurement Policy has been developed which includes sustainable procurement and plans are in place for Procurement and Estates Contracting to achieve the Flexible Framework for Sustainable Procurement. Each new tender is reviewed for relevant sustainability criteria including requirements around the Modern Slavery Act 2015.

Sustainable Construction

A number of projects have progressed during 2015/16 either in design or construction, these include the Fry Building, Queens Building Extension and 33 Colston Street. None of these projects has completed yet and haven't progressed since the initial design stage certification noted in last year's annual report. The Trial of SKA for Beacon House and Film and TV (at the Richmond building) have been completed achieving a Bronze and Silver standard. An independent analysis of SKA versus BREEAM has identified that SKA tends to be prescriptive on products rather than on standards and the University has decided not to use this route for sustainable construction in future. BREEAM refurbishment has also been used as a trial for smaller projects in 8-10 Berkeley Square, achieving an Excellent rating and was nominated for an award at the national BREEAM awards in February 2016. Finally, a full review of sustainable construction was made during 2016 to ensure it is still fit for purpose. A new set of targets have been proposed and a new process for BREEAM and sustainable construction has been agreed for the capital projects manual.

Biodiversity

ArcGIS maps are almost complete for the entire University landholding; and should be available from July 2017. New green roofs have been planted on the university's Richmond Building with over 320 square metres established. The green roofs established last year on the entrance and exit of the Life Sciences building have been supplemented with more vivacious species (for both the occupants of the building as well as invertebrates).

A new public artwork has been installed in the Royal Fort garden called 'Hollow' by Katie Paterson. This is a cave (or grotto) like structure which contains samples of wood taken from over 10,000 species of tree throughout the world. Although this does not increase biodiversity; it is being used as an educative tool to inform visitors about species diversity. In the same vein the Botanic Garden ran a number of events (Bee and pollination day; the ballast seed garden; and attended Bristol's 'festival of nature') in order to promote education about, specifically, plant diversity.

Surveys of key indicator species were completed, once again, in 2016 and covers birds and butterfly species. The surveys indicate the continued necessity to provide boxes for house sparrows (a local biodiversity action plan species) and house martins; as these were absent at the times of the surveys. Consequently suitable bird boxes will be purchased and installed in early 2017. The good news is that some areas of University grounds are attractive to the butterfly species brown argus which is otherwise 'locally uncommon' in the area; but declining overall declining numbers of butterflies is probably "due to the mild and wet 2015/16 winters".

Having been awarded a green flag in 2016, External Estates have continued to establish links and schemes in order to “work in partnership with environmental groups and involve staff and students in biodiversity issues”. Providence Plantation continues to engage students (Bristol University Conservation Group - BUCG) who broadly manage this habitat. Whilst members of the Gardens and Grounds team are starting to develop activities which attract local community groups, clubs and schools. For example, in 2016, the Bristol Naturalist Society ran a number of tree, fungi and bird identification walks, organised by External Estates, through University grounds. Numbers interested in attending their bat walks outstripped demand.

This area of the policy has been delivered by the External Estates Team

Staff and Community Communications

A full communication plan was implemented during 2015/16 and included the running of Green Impact in 22 departments, a joint Green Impact scheme with the Bristol University Hospital Trust and North Bristol Health Trust, as well as within GP Practices. Members of the Sustainability team spoke at a number of staff events, including Technical Managers Conference and Site Services Supervisors meetings. A key event this year has been the close working with the technicians helping to sponsor their conference. Transport has run a number of events around personalised travel planning, as well as running a bike user group with over 1000 members and facebook pages. A new facebook and twitter feed for sustainability has been set up. Sustainability is one of half a dozen teams that now regularly ‘speed dates’ with new staff at welcome lunches!

S-Labs Initiative

The Sustainable labs initiative grows from strength to strength. The Sustainable Labs Officer has over the last year helped realise savings of £133k. This includes energy & water saving activity, procurement savings,

Savings to date

Carbon and energy management

- Replacement of Ultralow temperature freezers (ULTs) - £9k per year
- Chilling up (raising the temp. from -80°C to -70°C) - saving on average £120 per unit. Currently have 25 units chilled up, savings of £3,125 per year.
- Drying cabinets - 68 units, energy savings £27,200/year. Total spend £114k. Payback 4.2yrs.
- Biological safety cabinet – Trial saving £200/year and additional in HVAC. Roll out on 22 units.
- ‘Shut the sash’ fume cupboard campaign - £2k during two campaigns.
- Fume cupboard upgrades in Synthetic Chemistry, estimated savings £50 to £60k per year.

Sustainable procurement

- Drying cabinets - £19k on purchases within year.
- Sharps bins and BioBins - £21k per year - novel procurement approach reverse e-auction.

Staff and community communications

- Monthly sustainable labs newsletter and social media.
- UoB’s Laboratory Lead for procurement at the SUPC.
- Outreach
 - Workshop in collaboration with S-Labs on ‘How to minimise laboratory energy use and environmental impact’ - internal and external delegates.
 - Presenting at the 2016 EAUC conference - ‘Lab Sustainability – Modernising Research for Tomorrow’s Challenges’.
 - Setting up of a growing group of UK universities with equivalent sustainable labs initiatives (17 universities, 20 members) - the Laboratory Efficiency Action Network (LEAN). Consists of an online forum and bi-annual meetings. Outputs include standardised environmental frameworks, job descriptions, staff and student training programmes, resources (stickers, posters, best practise guides etc.), sharing tender

specifications/joining up on joint tenders for optimal buying power, equipment energy benchmarking, project identification and data sharing.

- Resource creation: guidance documents, best practice guides, posters, stickers, brochures.
- Environmental framework for labs - redevelopment of the existing labs framework and launching through Green Impact Labs. The framework was expanded significantly adding 66 new criteria; H&S compliance, specific guidance and criteria rationale are completely new features. New framework to be edited and used nationally.
- Eight teams signed up to Green Impact Labs in two months. A 'Sustainable Labs Network' was set up with seven Sustainable Lab Leaders signed up in two months.
- Lab equipment database, inventory system trial for cold storage.

Education for Sustainable Development (ESD)

Academics and Sustainability

The ESD team engaged with the higher education sector at a number of events during the year including the annual EAUC conference (Environmental Association of Universities and Colleges) on *Learning and Legacy: The Role of Education in Creating Healthier, Happier Cities*. The team also presented at Canterbury Christ Church University's *Sustainability in Higher Education: Challenges and Opportunities* conference.

The team helped to lead an exciting day of research at Two Mile Hill School with school children and the Department of Archaeology & Anthropology. The investigation into the legacy of mining at the site informed innovative sustainability planting on the grounds as part of *Bristol 2015 European Green Capital*.

Institutionally, staff engagement was also a priority. Training was provided to PGs and staff new to teaching within the CREATE scheme. Our e-newsletter grew to over 200 members, and our bespoke resource wiki received over 23,000 views in twelve months. The ESD team is an integral part of the University's plans for *Bristol Futures*, a whole institution development that will see *Sustainable Futures* as a key element.

For the third year in a row, £5,000 was awarded to departments as part of the Green Apple 2015/2016 Scheme. The funds serve as a catalyst to test out innovative curriculum ideas that are embedded within the discipline but also relate to ESD. Two major projects are underway: the Centre for Comparative and Clinical Anatomy is working on *Ethics and Anatomy: student skills and reflection during an excursion to the Hunterian*; while the Centre for Academic Primary Care is seeing fantastic results from its *Green Impact for Health* project.

Working with academics the team has been developing opportunities for engaged learning projects working with the schools of Geographical Sciences and Sociology, Politics and International Development Studies.

Students & Sustainability

Education for Sustainable Development

A Student's Guide to Sustainability Conference 2015 & 2016

Organised by students from the Green Curriculum Team, this annual conference aims to demonstrate that students are conducting a wide variety of interesting sustainability related research as part of their courses. Undergraduate and postgraduates alike gather to review posters and talks presented by fellow students. In 2016, topics included research on smokeless cook stoves, human rights and population growth, CF4 emissions and their risks, the benefits of veganism, biomass willows and their potential to help the bee population, and what you can do to become sustainable.

Sustainability Speaker Series 2016

In the run up to the sell-out student-led research conference, "A Student's' Guide to Sustainability" the Green Curriculum Team hosted a series of exciting speakers who are challenging their field to make a more positive impact on the World. The series challenged students to think about how their courses

equip them with the skills to change the world, and see how their skills could be used for good in the community.

Campaigns & Volunteering

Bristol SU and Bristol Hub are working in partnership with University of Bristol's Sustainability team to ensure students have the opportunity to participate in social and environmental action outside of their curriculum.

A continued partnership with the Bristol Student Hub supporting a school's' plus outreach program, ethical internship scheme and three conferences on social enterprise, international development and sustainable futures has been completed.

Bristol SU delivered a range of sustainability engagement activity for Bristol's year as European Green Capital, contributing to 100,000 hours of student activity by UoB and UWE students. 200 students self-reported completing over 11,000 hours of social, economic and environmental sustainability activity during 2015 through the Change Maker Award. University staff reported that students in their department were contributing over 22,000 hours of voluntary activity alongside their course.

Other sustainability projects and campaigns that launched in 2015 include the Way To Grow community gardening initiative

Bristol SU Get Green's legacy lived on as student society, BUST, relaunched the Engage Café for 2015/16. These were very successful throughout the year exploring a range of environmental, economic and social topics.

The Whole Earth Exhibition was placed across University campus during October. WHOLE EARTH? is based on the premise that the future belongs to today's young people and that students and universities everywhere can play a major role in making society more sustainable. The exhibition provides the kind of evidence students need to join the debate about their future. But it's not prescriptive – it's an invitation to students and their tutors to articulate the kind of world they want to live in, and, through Students Organising for Sustainability (SOS - see below) bring them together to show political and business leaders support to take the difficult long-term decisions that underpin security for all.

Awards

The ESD Team and supported projects were recognised for their contributions to sustainability with a number of awards.

Bristol Post's Green Capital Awards 2016

The University and Union were nominated for several Bristol Post Green Capital Awards. The Student's Union was up for the innovation award, while ESD Academic Lead, Chris Willmore, was in the running for green hero. On the night, the University won the Green Public sector award.

Queen's Award for Voluntary Service 2016

The Queen's Award for Voluntary Service is the highest award given to local volunteer groups across the UK to recognise outstanding work in their communities. The awards were created in 2002 to celebrate the Queen's Golden Jubilee, and winners are announced each year on 2 June – the anniversary of the Queen's Coronation.

University of Bristol students who work in the community have been honoured with the Queen's Award for Voluntary Service. Thirty-nine per cent of students at Bristol gave time to volunteering in 2016, with more than 100,000 hours given in total. Students volunteered on projects ranging from sustainability initiatives to work helping children with disabilities, young carers, adults with learning disabilities and isolated older people.

The Green Gown Awards 2015 & 2016

The Green Gown Awards recognise the exceptional sustainability initiatives being undertaken by universities and colleges across the UK. The University was shortlisted for the Student Engagement category in both 2015 and 2016:

Green Gown Awards 2015 & 2016 - Student Engagement Finalists

University of Bristol and University of the West of England - *Student Capital: Green Capital: Unleashing the power of Bristol Students*

Green Gown Awards 2015 - Student Engagement Finalists

Bristol SU - *Learn Act Engage Create: a four-step approach to embedding sustainability into the student experience*

University Awards 2016

The ESD Team's Hannah Tweddell was awarded the University Award for Enhancing the Student Learning Experience.

Guardian Award 2016

The Guardian University Awards honour universities for projects that transform the lives of students and communities. Bristol SU's Sustainability project was shortlisted in the Sustainability Project Category.

University of Bristol Engage Award 2016

The Engage Awards are given for outstanding achievement in engagement. Hannah Tweddell and Gaston Fornes received highly commended for their NGO business planning initiative.

Responsible Futures 2015-2018

Responsible Futures certification is awarded to a whole institution in recognition of fostering an environment where sustainability learning can thrive. The Responsible Futures accreditation mark provides a framework that helps cultivate top-down institutional change and develop social norms around sustainability education in both the formal and informal curriculum.

The University, in partnership with Bristol SU, was one of 13 UK institutions to take part in the recent Responsible Futures pilot, coming out with full accreditation at the end of a two-day audit that assessed how well the partnership embeds social and environmental responsibility in all its activities. The auditors praised Bristol for its strategic approach to embedding educational sustainable development (ESD) across the institution, stating that levels of knowledge and understanding of ESD were 'well developed and robust'.

Food

The implementation of the Ethical and Sustainability Policy for food continues, noting locally sourced seasonal foods, Fairtrade and rainforest alliance certified products, all milk used is organic and all eggs are free range and the good egg award status has been achieved from Compassion in World Farming. Sourcing of only 'Red Tractor' meats continues as does sourcing fish from Marine Stewardship Society approved suppliers. On site bottling of water continues reducing transport related carbon emissions while saving money. New water fountains have been introduced to promote use of tap water over disposable bottled water and where disposable bottled water is sold it is FRANK water supplied by a local Bristol charity. Vegware which is a compostable brand for disposable plates, cups and cutlery has been introduced to reduce use of plastics. The team continues to work with suppliers to reduce our scope 3 carbon impacts. The University achieved a Soil Association Silver award in 2013/2014 and have maintained this in 2014/2015 and 2016/2016. Delivery of ethical and sustainable food is a major success story for the University.

Awards

The hospitality team has also won the Bristol FairTrade Business Awards 2015 for best FairTrade University or College

Appendix one – Target update 2015/16 for Sustainability Policy

Environmental Management System and Legislative Compliance

Targets:

1. To implement a fully operational, externally verified environmental management system across the entire University including curriculum by 2014

The University included Education for Sustainable Development within this management system in 2012/13 **Target achieved**. Certification continued in 2015/2016.

2. To expand the influence of the University's EMS, by process, to other relevant stakeholders such as contractors by 2016 to ensure best practice for environmental management.

In 2015/2016 the University carried out a programme of CIWM training which was offered to contractors most likely to produce waste as part of their work activities. The University also committed to achieving Flexible Framework level 5 for the Estates Office and Procurement. **Not on target, Sustainability continues to engage with the Estates Contracting Group and Procurement aiming to achieve Flexible Framework Level 5.**

3. As part of the EMS, an environmental legislative register will be maintained which will include emissions and discharges. This will outline the compliance required; responsibilities for compliance, the controls needed and detail resultant actions.

A full legal register has been developed including emissions and discharges and is audited against in accordance with EMS auditing procedures. The register is updated regularly and communicated to relevant staff. **Target achieved**. Register updated annually.

Energy

Targets:

1. To put the University on a path consistent with a reduction in carbon emissions of 80% by 2050, from a 2005/06 baseline, entailing a reduction of 15% by 2016. This target covers all scope 1 & 2 carbon dioxide emissions. Investments planned for measures consistent with delivering this target will deliver a net cost saving in-period. This will be undertaken using the measures detailed in the Carbon Management Plan, which is aimed at producing a 38% reduction in emissions from buildings by 2020.

Carbon Descent plan allows for current slow reduction of emissions, but continued student growth and estate expansion may mean a review of this target is required. Normalised target show a 28% target when income or floor area or student/staff number changes are accounted for. **On target for completion 2020.**

2. The University will reduce scope 3 carbon dioxide emissions by 10% from a baseline of 2010/11 by 2020.

New work is being planned with procurement, with a commitment from senior management to include scope three within procurement practices. **On target for completion 2020.**

Water

Target:

1. An initial target to reduce water consumption by 10% by 2016 from a 2007/8 base year and to do this cost neutrally or better within period was achieved in 2009/10. We now aim for a 20% reduction on 2007/08 by 2016.

23% reduction achieved, even with student number increases. Further work is needed to maintain this reduction. **Target achieved.**

Management of Waste as a Resource

Targets:

1. To achieve continuous year on year reduction in waste arising per FTE staff and students.

In 2013/2014 waste produced by the University totalled 97.7kg per person an increase on the previous year of about 8% (2012/2013 - 90.6kg per person).

In 2014/2015 this upward trend started to reverse with total per FTE being 92kg.

In 2015/2016 this started to increase again with the total per FTE being 98kg.

2. To reuse, recycle and compost 65% of total waste produced at the University 2016.

In 2015/2016 The University reused, recycled and composted 86.02% of its total waste. **Target achieved.**

3. To reduce the amount of hazardous waste incinerated at the University by 50% by 2018 based on a baseline of 2010/2011.

In 2011/2012 the University increased waste incineration due to changes in legislation and process and increased laboratory activity. Against the baseline this figure dropped:

in 2012/13 by 4%,

in 2013/2014 6%

2014/2015 by 16%.

2015/2016 by 24%

Currently not on target for completion 2018.

4. To recycle or reuse 85% of construction and demolition waste by 2018.

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 87% in 2012/2013, 85% in 2013/2014 and 92% in 2014/2015 and 94% in 2015/2016. Almost the entire target is recycling with little reuse. In 2016/2017 we aim to increase the reuse element. **Target achieved.**

5. To reduce emissions from waste management by 50% from a 2007/8 baseline by 2016.

In 2013/2014 emissions were recorded at 59% of the baseline year. **Target achieved.**

6. By 2013, to test the feasibility of the University sending zero waste to landfill by 2016.

The University has consistently achieved 5-6% waste to landfill for the last three years and will continue to minimize this where possible in line with available technology and targets.

Feasibility tested, target achieved.

Transport

Targets:

1. Develop a framework to support sustainable modes of transport to work and study at the University by staff and students (e.g. walking, cycling, public transport and car sharing).

Achieving 85% (baseline 2007) and 96% (baseline 2008) respectively by 2016 for sustainable modes of transport.

In 2015, 96% of students were travelling to study sustainably, up from 95% in 2013.

In 2015, (last time surveyed) 81% of staff were travelling to work sustainably, down from 82% in 2013. Staff will be surveyed again in 2017. **Currently on target for completion in 2017.**

2. Reduce the percentage of single occupancy car journeys made to the University by staff and students by 2016 from 21% to 15% (baseline 2007) and to remain at 4% (baseline 2008) respectively.

In 2013 18% for staff and in 2015 4% for students. **Currently on target for completion in 2018.**

3. Reduce the percentage of All students and Stoke Bishop Students bringing a car to the University by 2016 from 27% to 14% (baseline 2008) and 19% to 7% (baseline 2008) respectively.

In 2015, 18% of all students brought their car to the University and 8.4% for Stoke Bishop students. **Currently not on target for completion until 2018.**

4. Increase the percentage of All students and Stoke Bishop Students usually travelling by bus from 4% to 10% (baseline 2008) and 3% to 60% (baseline 2008) respectively by 2016.

In 2015, 15.4% of all students and 80.6% of Stoke Bishop students were traveling by bus. **Target complete**

5. Reduce car and aviation business mileage by 5% by 2016 (from a baseline of 2009).

Due to incomplete 2009 baseline data, Sustainability has put in place collection protocols for the data and now has a good understanding of all data sources. This means our first robust baseline is 2012/13 and the target would be moved to 2020 in the revised Sustainability policy.

In 2013/2014 Car Business mileage was up by 2.7% from 1,062,873 km to 1,091,200km and Aviation business mileage was down 2.0% from 30,570,921 km to 29,956,340 km. **Based on the original 2016 target, this target was not completed and will be reviewed.**

6. Review the University's supply and demand for fleet vehicles and produce a Fleet management plan by 2014.

Review not carried out. Review required when this will be feasible to do. **Target not met.**

7. Measure and analyse visitor activity to the University; develop and implement a management plan to encourage sustainable travel by visitors by 2016.

Not action to date. Review required when this will be feasible to do. **Target not met.**

8. Identify measure and monitor carbon emissions related to all University related transport by 2015.

This is in the baseline and regular data now. **Target Complete.**

9. Identify how 'deliveries' to the University can be reduced and develop a reduction plan by 2016.

No action to date. Review required when this will be feasible to do. **Target not met.**

10. Analyse and seek opportunities to reduce student travel to and from Bristol by 2016.

No action to date. Review required when this will be feasible to do. **Target not met.**

Sustainable Procurement

Targets:

1. To implement the Government's 'Flexible Framework for Sustainable Procurement' to level 4 by 2016.

Current assessment across the areas of procurement place us between levels 2 and 3.

Currently on target for completion 2017.

2. To implement a new sustainable procurement policy/strategy produced in 2011 with individual actions for the different areas of the flexible framework.

Policy written and published in 2015 and is being reviewed in late 2016. **Target achieved.**

Sustainable Construction

Targets:

1. To build new buildings that cost over £1million to at least BREEAM "Excellent" and Energy Performance Certificate (EPC) "B" rating.

All new builds built to excellent standard. All achieved EPC of 'B'. See text in main body of report. **Target achieved.**

2. To undertake refurbishments over £1million to at least BREEAM "Very Good" and EPC "B" rating, with an aspiration to achieve 'Excellent'.

All refurbishments built to very good or excellent standard. See text in body of main report. **Target achieved.**

3. To assess for each building the cost effectiveness of achieving EPC "A" rating.

Each project is assessed to this level, but as yet none have been cost effective to build to 'A' rating. **Target achieved.**

4. Develop guidelines, targets and procedures for introducing sustainability issues into projects smaller than £1million by July 2014.

Trialling SKA assessment and BREEAM refurbishment for smaller projects. **Target achieved.** The University will be using BREEAM rather than SKA for future fit-outs and refurbishments.

Biodiversity

Targets:

1. Using the data supplied, every two years, by the Bristol Regional Environmental Records Centre, produce comparative data indicating levels of Biodiversity surrounding key University estates (Precinct, Stoke Bishop and Clifton Village Halls).

Agreed and on-going process.

2. Complete Phase 1 habitat surveys:
 - Of all halls of residence - by the end of 2011,
 - For the Precinct, sports grounds and other outlying properties – by the end of 2012,
 - For agricultural land – by the end of 2013.

These have been completed are currently being converted to the industry approved mapping system ArcGIS - **Target achieved**

3. The University maintains four categories of tree stock, these are:
 - a. Native Woodland
 - b. Tree collections
 - c. Landscape
 - d. Heritage landscapes and veteran trees
- 3a. From 2013, individual woodlands will have a management plan, informed by the specific British Plant community (Rodwell *et al* 2003) together with a short report containing the actual tree species growing. The objective will be to remove, over a period of time, undesirable species which have become established in the past and to prevent their regeneration. Subsequent reports will be written on a three year basis to display, as a percentage, an increase in desirable community and native trees.

On target with initial plans written during the winter of 2015, being implemented during 2016 onwards with review in 2018.

- 3b. Gardens and Grounds have a list of viable trees within specified collections. Each collection has a management plan which aims to maintain the current range of species and identifies, an objective to increase the diversity. On a three year basis, collections will be surveyed to ensure the objectives of the management plans are achieved; and, in a short report, new stock levels will be identified.

On target with initial plans written during the winter of 2015 and will be reviewed in 2018.

- 3c. All landscape trees, within University grounds, have been identified and tagged. As a holistic approach, over a large disparate estate, species diversity is a main objective to achieve. Starting in 2013, and then on a three yearly basis, a short report will be produced, which will statistically calculate the diversity index.

On target with initial plans written during the winter of 2015 and will be reviewed in 2018.

- 3d. Heritage Landscape and veteran trees (located in numerous sites), have been mapped. By 2015 management plans will be produced for the reinstatement of trees lost within a heritage landscape, and successional planting. Within the same time frame a veteran tree plan will be produced, establishing a strategy for their protection and on-going maintenance.

Currently on target.

4. A biodiversity protocol has already been established, whereby each University development (over £1m) must achieve a BREEAM excellent award. In order to achieve this award each project will appoint a suitably qualified ecologist, at the development stage, to identify existing ecology and habitats; biodiversity must be maintained and enhanced. Consequently biodiversity targets can be identified for each project, within a specific target date.

Included for all projects in 2015/16, the University now has over 320m² of Green Roofs.

5. From 2013, Gardens and Grounds will run a competition which requires students to identify a biodiversity project which they wish to run on University grounds. Gardens and Grounds will award funds to run the project and the student/group will receive a prize and publicity after the receipt of a short report which identifies a quantifiable measure of success.

External Estates have commissioned Wessex Ecological Consultancy to organise and run this. Currently the consultants are establishing initial information, through surveys, before launching the competition in 2015. This project has been delayed. **Currently not on Target.**

Communications

Targets:

1. Annually review the communications strategy for sustainability which will inform each annual communication action plan.

Annually reviewed as part of EMS, communications implementation plans also reviewed annually. **Target Achieved.**

2. Develop an annual communication action plan for each academic year starting with the year 2009/10. Report on progress with each plan at the end of each academic year.

Implementation plans on the sustainability web site. **Target Achieved.**

3. Produce an annual sustainability report covering all aspects of the sustainability strategy.

Annual report produced. **Target achieved.**

Teaching and Research

Targets:

1. To annually monitor progress in the three areas of formal curriculum provision, informal curriculum opportunity and subliminal experience through estates provision.

Formal curriculum monitored via APR annually.
Informal curriculum being reviewed as a baseline in 2014/15.
Subliminal curriculum to be reviewed.
Currently on target for completion by 2017.

2. Implement a new Education for Sustainable Development (ESD) strategy starting in 2012.

Strategy approved and delivery of implementation plan. **Currently on target for completion 2018.**

Food

Targets:

1. Approval of an Ethical and Sustainable Food Policy for the University by 2012.

Policy approved and reviewed annually. **Target Achieved.**

2. Deliver targets as set out in the Ethical and Sustainability Food Policy by 2016.

Implementation plan complete for 2015/2016 with the majority of actions achieved or carried over to 2016/2017.