



The University of Hertfordshire's Environment & Sustainability Annual Report

August 2015 – July 2016

1.0 Introduction

The University of Hertfordshire is recognised as a leading university in terms of environmental management and performance. It is committed to embedding environmental improvement within its business model and ethos, and as such has stated *'Positively improving our impact on the environment'* as a strategic objective in the University's *Strategic Plan 2015 - 2020*.

The University has achieved the internationally recognised ISO 14001:2004 Standard and EcoCampus Platinum for its Environmental Management System (EMS) for the majority of its estate and associated activities. For both these Standards the University is audited annually by an external certification body to ensure compliance, with the last audit completed in October 2016. The EMS is implemented to manage the University's environmental risks and aims for continuous improvements in environmental performance; all the programmes detailed in this report are underpinned by the EMS. An internal audit programme, which reviews the University's EMS compliance against associated legislative requirements, is undertaken annually, with objectives and targets reviewed to ensure environmental programmes are targeted and are specific.

In September 2015 the revised version of the ISO 14001 Standard was released which contained ten significant changes. There is a three year transition period allowed to implement all the changes, and be audited for the ISO 14001:2015 Standard. One major change is that Senior Management involvement and the importance of the EMS in the ethos of an organisation have become more prominent aspect. Another change is that the Scope of the EMS can now not exclude any sites that an organisation has direct influence over. Therefore Bayfordbury, BioPark, Uno, MacLaurin Building, Meridian House, Club de Havilland and the Fielder Centre need to be included within the Scope. Titan Court, de Havilland PFI and ULiving will continue to not be included.

This is the University's sixth Environment and Sustainability Annual Report, and covers the University's financial year August 2015 to July 2016.

Key points from this Annual Report

The key points identified in this Annual Report are:

- The University was awarded with continued certification for ISO 14001 and EcoCampus Platinum in October 2016 after a 3.5 day recertification external audit
- A comprehensive annual environmental external audit has been implemented
- Reductions in carbon emissions of 31% have been achieved against the UH Groups 2009/10 baseline year
- Recycling performance increased from 82% in 2013/14 to 86% in 2014/15 achieving the 85% target; This decreased to 63% in 2015/2016
- Implementation and further development of initiatives related to the Travel Plan
- Increased focus on sustainable procurement



- Green Impact, the University's overarching environmental engagement initiative has continued momentum with engagement from staff from a range of departments from across the University
- Progress continues to be made on reducing power consumption and CO₂ emissions through the consolidation, rationalisation and virtualisation of ICT equipment and services

2.0 Scope

- *Estate Management Return (EMR)* scope is dictated by the HEFCE (Higher Education Council for England) and is the same scope used for the Carbon Management Plan (CMP). For 2015/16 the residential scope included the de Havilland halls; the non-residential scope included all sites but excluded all commercial space. The EMR scope for the waste data includes all construction waste.
- *UH Board Group* scope for carbon emissions includes all University owned buildings.
- *Waste and Resource Management Strategy* scope includes only the waste managed by the University and does not include any construction waste, or any waste produced at the PFI and ULiving residences.

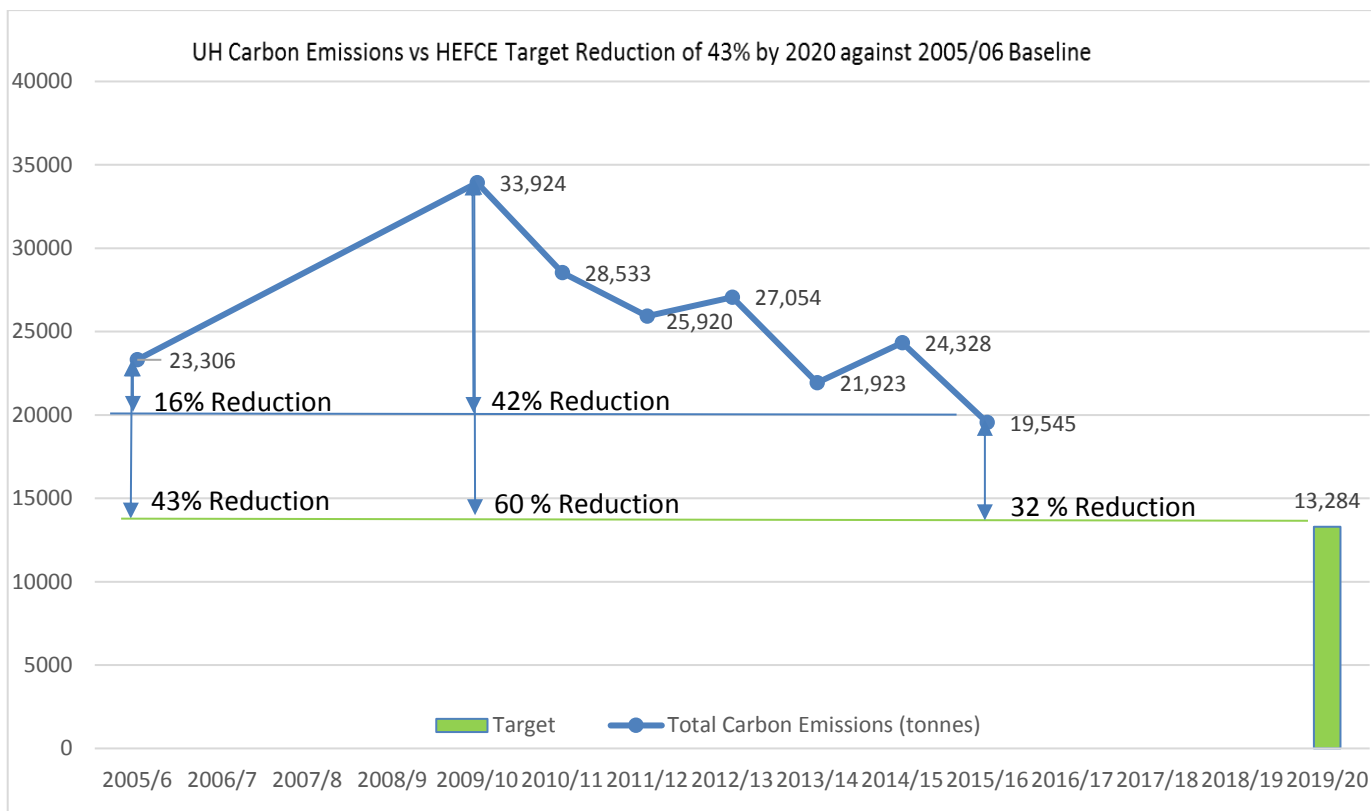
3.0 Performance, programmes and case studies

3.1 Energy

Performance: The University's Carbon Management Plan (CMP) adopts the HEFCE (Higher Education Council for England) sector target for carbon emissions, which is monitored through the Estate Management Return (EMR), and aims for a 43% in emissions from owned buildings and vehicles by 2020 against a 2005/06 baseline. As the target does not include all of the UH Group emissions the University also has an equivalent target for the Group to reduce emissions by 60% from a 2009/10 baseline from 33,924 tonnes to 13,284 tonnes by 2019/20.

An assessment of progress against both targets is undertaken annually and the following graph demonstrates that there has been a 16% reduction in carbon emissions from buildings and University owned vehicles against the CMP/HEFCE scope, since 2005/06 and a 42% reduction in carbon emissions since 2009/10.

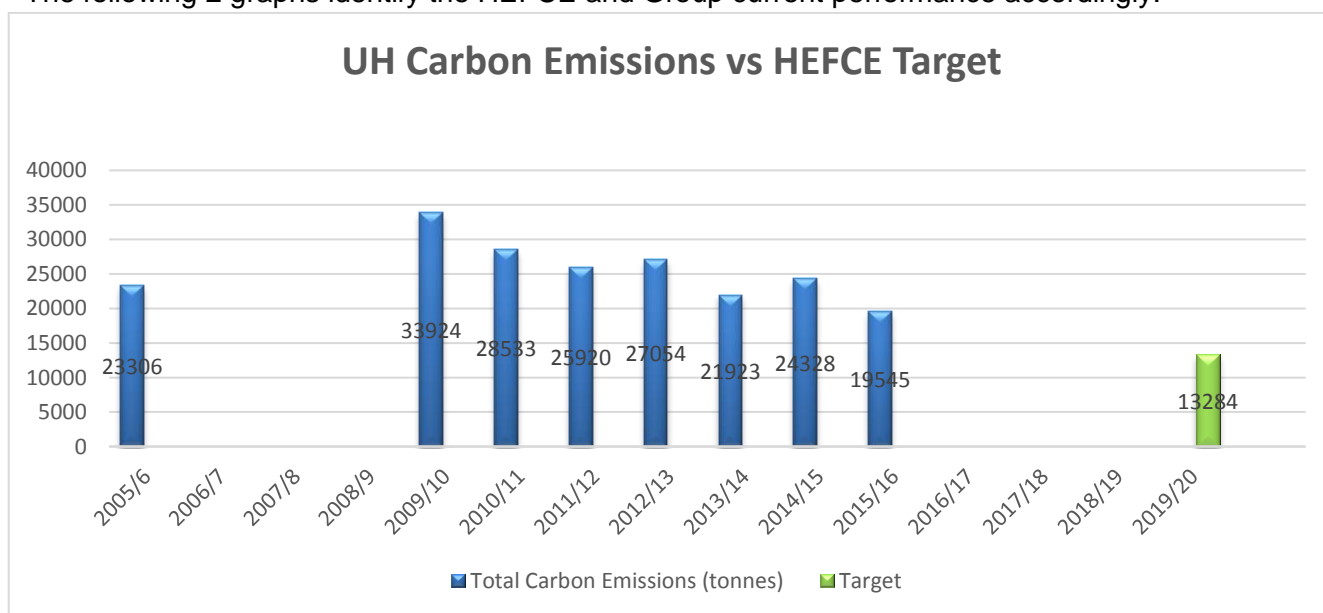
This means that the University will need to make further reductions of 32% from 'current' levels (2015/16), if it is to reach the required target reduction for 2019/20:-

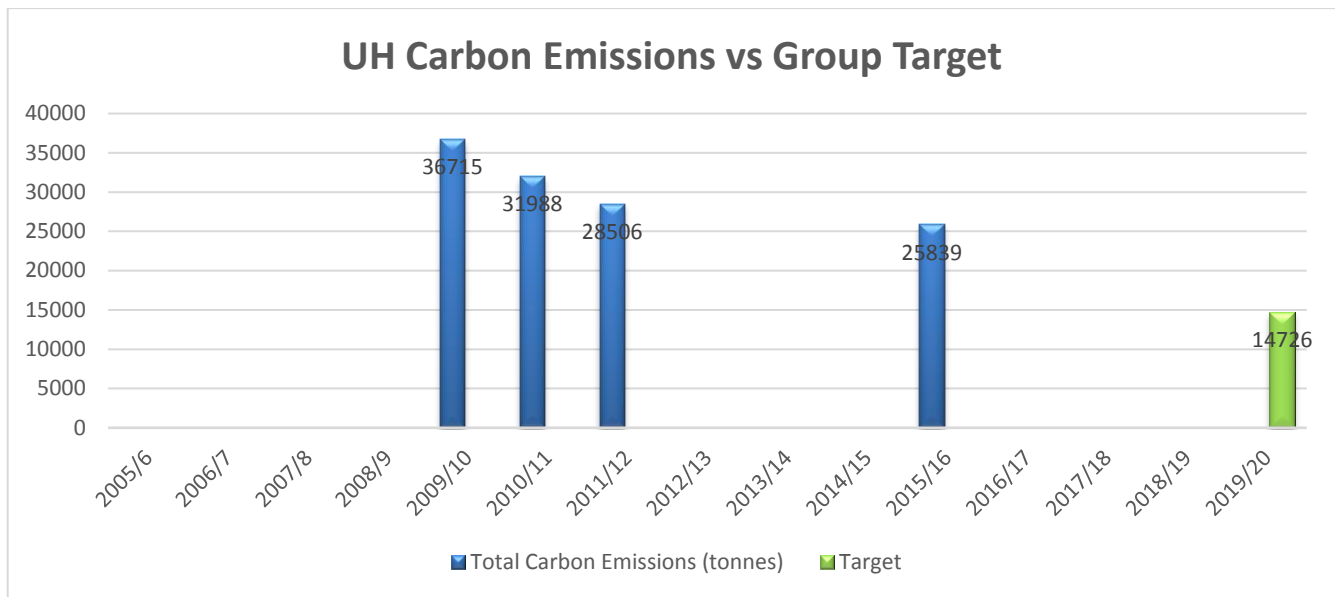


It is recognised that the University grew as an institution between 2005/06 (the baseline) and 2009/10 by increasing the size of its built estate by approximately 21% and doubled the Uno bus fleet. When this is considered, in 2015/16 there was a 42% reduction in carbon emissions since 2009/10.

For the UH Board scope there was a 30% reduction (10,876 tonnes) in 2015/16 against the UH Group scope 2009/10 baseline year. A further 11,113 tonnes of CO₂ per annum reduction will be required (43%) if the University is to meet its secondary Group target of a 60% reduction from 2009/10 levels by 2019/20.

The following 2 graphs identify the HEFCE and Group current performance accordingly:-





The University continues to progress energy efficiency and carbon reduction projects. These projects have been varied and include plant insulation, adoption of low energy lighting and controls, improvements in heating controls, BMS reviews and adjustments, installation of improved boiler and chiller plant, Combined Heat and Power (CHP) plant and Solar PV panels to generate 'green' electricity.

The University complies with the requirements of the Energy Performance of Buildings Directive and has Display Energy Certificates, Advisory Reports and Technical Tables for all the necessary buildings; it uses this and other information, to continually identify future projects for reducing energy consumption.

3.2 Waste

Performance: The University's targets in relation to waste management are detailed in the Waste and Resource Management Strategy which was first produced in 2008, updated in 2011 and revised again in 2015. This Strategy is only for that waste managed by the University only, and not that produced during construction, through the PFI or at U-Living.

During 2015/16 the University achieved the recycling targets;

- 63% of waste was recycled, composted or sent to anaerobic digestion and therefore the 86% target was not achieved.
- The total waste arising in 2015/16 was 662 tons, a decrease of 44 tons on the previous year and achieving the target of 986 tons as set out in the Waste and Resource Management Strategy.

Programmes undertaken:

The University has completed the implementation of the two waste streams; Mixed and General waste.

The University has recognised the drop in recycling figures and has worked hard to understand why there has been a reduction and how to re-establish the high level of recycling. The university is working with colleagues and students across the campuses to enhance the recycling provision.

FoodHertfordshire have reduced the use of take away dishes, and embraced the use of reusable cups

offering a discount to staff and student for bringing their own cup.

The University works closely with the de Havilland and College Lane student residences management companies (Carillion and Derwent/Living) who both also use Cawleys as their waste contractor, to improve data collection and performance with recycling rates. Carillion's recycling rate has increased from 27% in 2010/11 to 84% in 2014/15, but dropped to 74% in 2015/16.

Derwent/U-Living's average recycling rate was 50% in 2014/15, which has increased to 63% in 2015/16.

Links have been established with U-Living and Carillion to increase their recycling rate and ensure constancy across the University and raise awareness and educate students. Initiatives have included regular meetings between the University, waste contractor, Carillion and U-Living; toolbox talks with students in the halls of residence; information days held by the waste contractor and University; and regular monitoring of performance in all areas.

The University is also working to improve the waste data collected from small and large construction projects. Data received from those projects using Site Waste Management Plans indicates that just less than 100% of waste was recycled or reused in 2015/16.

3.3 Transport

Performance: The University Travel Plan is a statutory document required as part of the local authority planning and highways framework. First developed in 2002, the University has now in its third phase of modal split targets. Every two years, an update is provided through a commuter survey to both Hertfordshire County Council and Welwyn Hatfield Borough Council, with the latest survey circulated in April 2015. The targets were last updated in 2013, covering the period 2013/2018, and require the University to continue to work towards reducing the number of its employees and students travelling alone by car to work/study to 60% and 20% respectively. In relation to staff, there has been a decrease in staff travelling alone by car from 82% in 2002 to 68% in 2015. For students, a decrease was recorded from 38% in 2002 to 18% in 2015. The survey undertaken had a 22% response rate from staff and 5% from students. A target of limiting the number of residents bringing their car to campus to 7% is also now included from 2013. There is just under a 1:10 car park space ratio to accommodation available on the College Lane Campus. The 2015 survey indicates that just over 5% of students presently bring their own car to the University. Various incentives to increase response are offered, and these could be reviewed to maximise response rate.

Programmes of work undertaken: As part of the Travel Plan a package of measures/interventions have been implemented and continue to be developed. These include:

- An electric car club was launched in January 2014, the first of its type at a UK Higher Education Institute, with the aim to develop wider research with the Centre for Sustainable Communities. As of the end of May 2017, there were 150 'active' University 'Private' members had signed up to the club. The fleet of electric hire cars consists of five e-cars. The club is supported by six electric car charging posts, which were installed in partnership with Source East across the University's main campuses and Park & Ride Facility. In August 2017 new EV charging points are due to be commissioned and maintained by Chargemaster as part of their Polar network across the two main University campuses that will allow for private use by staff and student use. These will be located in the Forum car park, the College Lane Main Reception, Angerland Park and Ride and de Havilland Campus. A marketing campaign has been developed in partnership with

e-car and the Team for the beginning of term.

- Mobile ticketing is provided by INTALINK, in partnership with HCC. This enables users to purchase Uno bus tickets. The project was launched in October 2014 and has continued due to an 11% conversion from cash to mobile tickets from launch. By the end of May 2017, there had been over 34,000 App downloads. Uno also commissioned an Uno App from the provider (Corethree), to enable the company to provide m-tickets in Northampton and Cranfield, where it also has operations. This APP will also offer Park and Ride carnet tickets (in booklets of 10 and 20) from September 2017, which should reduce the queues at the paper machines, and this improve the overall student experience.
- Improved marketing of existing services to and from the station has been implemented, to coincide with the improvements at Hatfield Station. In addition, the single fare was reduced from £1.70 to £1, or a £2 return.
- In March 2015, new discounted tickets were offered exclusively via the mobile phones platform, with further discounts on annual ticket available and other tickers continually offered.
- The Environment & Sustainability Team, working with Thameslink Great Northern provides an 'overnighter' ticket. This ticket will allow University students to purchase a return train ticket to London that is valid up to 12:00 pm the following day of purchase. This will reduce the number of students being fined for returning on the first return train journey the follow day.
- The University offers the Transport for London (TfL) photo card scheme, which enables students live or undertake a placement in London to obtain 1/3 off their travel. In 2015/16, over 2,000 students were registered with this scheme.
- In May 2014 the U-Bike scheme was launched by Derwent FM, with support of the Environment and Sustainability Team. The scheme now provides U-bikes for weekly, monthly and termly periods.
- To support the increases observed in cycling at the University, over 1,300 new covered mixed uses (bicycles, Scooters and motorbike shelters were installed at the new College Lane Halls of Residence. In addition, two new real time ready bus stops were commissioned for a second bus terminal on this campus (to supplement the Forum).
- The University offers the scheme Halfords 'Cycle2work'. The scheme provides staff with greater flexibility in terms of the length of the hire; two hire periods are now available (12 and 18 months), which allow employees on a short contract to take advantage, whereas previously they were excluded as only an 18 month hire period was available. The new scheme also substantially reduces the time for the employee to receive their voucher to redeem their cycle, from up to six weeks, to between one and seven days. Over 500 employees have taken advantage of this scheme since it launched in 2009/10.
- Carshare and Travel Planning software is being reviewed to better provide for and support those staff and students who wish to car share to the University for their commute.
- Working with HCC and Pindar Design, the University has developed an interactive transport map for the Hatfield Business Park, to compliment the mobile App. The map enables users to download real and scheduled bus information by clicking either a specific bus stop or route.
- On board bus advertising is now available via UNO for the University to advertise open days and other academic events and university services.

3.4 Procurement

Performance: Work on sustainable procurement has focused on embedding sustainable procurement principles into the University using the Government's Flexible Framework as guidance. With the assistance of the Environment and Sustainability Team an action plan has been produced and approved by the Procurement Committee that aims to achieve level three (out of five) for all criteria.

The University's Sustainable Purchasing Policy was approved in mid-2013 and as standard is included in the

terms and conditions presented to tenderers during any tender process and incorporated in to any subsequently awarded contract to ensure contractor compliance to University policies. The policy forms part of our Modern Slavery Act Statement which is available for viewing on the University public site. Both the statement and policy shall be annually reviewed and updated accordingly.

With the Procurement team being formed with an emphasis on improving both purchase to pay and contract processes to achieve a greater standard of professionalism and outputs in-line with a business facing University, sustainability tools and staff skillsets are being further developed to achieve these goals. Examples of this include whole life costing/life cycle assessment tools, regular staff training sessions to increase sustainable purchasing knowledge with sustainable procurement objectives set, carbon footprint reporting, supply chain management to preserve natural resources, reduce deliveries and eliminate surplus waste in materials or processes with ongoing ethos for resource efficiency.

3.5 Behaviour change

Performance: A key aspect of the University's EMS is stakeholder engagement and a record is kept of the environmental events and activities that are undertaken to enhance staff and student awareness of environmental aspects and how they can make a difference. From August 2015 to July 2016 c.300 activities took place, which included workshops, presentations, inductions, walkabouts, interactive events, competitions, and electronic communication. These activities have accounted for over 4,000 face-to-face interactions with students and staff which include presentations, workshops, lectures, and stalls and events.

Programmes undertaken: Numerous activities take place at the University to enhance staff and student awareness of environmental aspects and how they can make a difference. Activities include inductions for new students, presentations at staff meetings; workshops to help staff and students support environmental improvements, interactive events, competitions, Environment Week and Fairtrade Fortnight.

Green Impact is a national scheme that is supported by the National Union of Students and aims to engage staff and students in embedding environmental best practice. The University is now in its sixth year of implementing the scheme and participation has gone from strength to strength with eight teams participating in 2011/12, ten in 2012/13, twelve in 2013/14, eleven teams in 2014/15, and ten teams participating in 2015/16. Staff teams, with support from student volunteers, complete tasks that contribute to reducing the University's environmental impact and are recognised with awards from Bronze through to Platinum.

3.6 'Green' ICT Plan

Performance: Progress continues to be made on reducing power consumption and CO₂ emissions through the consolidation, rationalisation and virtualisation of ICT equipment and services.

Programmes undertaken: Ongoing and during 2015/16, key 'Green' ICT Plan actions included the Network Replacement project which delivered enhanced network capacity as well as energy savings as all components in our network architecture are gradually replaced, and the establishment of a Render Farm for Animation Course students utilising a large number of old desktop computers. Work also continued on the consolidation of disparate server and data storage services onto the UH Enterprise Architecture, the decommissioning of legacy power-inefficient hardware, and the deployment of power-management policies to staff computers.

3.7 Biodiversity

Performance: The Biodiversity Index is designed to help organisations manage biodiversity; it details a practical method to assess the natural environment and provides recommendations as to how to report and manage it. The University has undertaken assessments on the College Lane and de Havilland campuses to enable an annual evaluation of performance to be undertaken and subsequent targets to be set. The first assessment was carried out in the summer of 2013, the second took place during the summer of 2014, and another occurred in 2015. It was found that the methodology used to carry out the survey in 2013 and 2014 varied from the survey in 2015. As such a detailed methodology was developed to ensure consistency for future year. After the 2016 survey a target for 2017 will be considered. The Biodiversity Index will assist in the development of a University wide Biodiversity Action Plan (BAP).

Programmes undertaken: There are currently major build works on the College Lane and de Havilland campuses and this therefore impacts on the biodiversity initiatives that can be undertaken. The University is committed to achieving at least BREEAM Excellent for all new builds and as such the biodiversity implications of projects are considered, any areas impacted on by developments are re-created, and new areas for wildlife are created wherever possible.

During 2014/15 and into 2015/16, twelve new biodiversity interpretation boards were installed. In 2015/16 the Environment and Sustainability Team in conjunction with – Health, Safety and Workplace Wellbeing have developed a pocket sized ‘Biodiversity Wellbeing Map’ for staff and students, to raise awareness about biodiversity on campus and encourage people to explore the site.

3.8 Construction and Refurbishment

Performance: The University’s 2020 Estates Vision is a programme of works that will bring vital additions to the de Havilland campus and dramatically transform the College Lane campus. . Future projects include a new Social Building at the de Havilland campus and the refurbishment of the Main Building and a new teaching building at the College Lane campus. The University is committed to achieving as a minimum BREEAM (Building Research Establishment Environmental Assessment Methodology) Excellent for all new buildings and as such numerous environmental features will be considered and implemented to achieve this high standard.

Programmes undertaken: Works already undertaken include the completion of new true zero carbon accommodation, major refurbishment of the Hutton Building and a new Science Building. The new Science Building achieved BREEAM Excellent status by incorporating features including a cladding system which provides solar shading whilst allowing natural light to penetrate through into the deep floorplates. A programme of minor works continues to include retro-fit energy saving measures to the existing building stock and incorporated such features as LED lighting, automatic lighting control, high efficiency condensing boilers and solar shading.

4.0 Next steps

The University is committed to continually improving its environmental credentials and as such will strive to:

- Expand the scope of the EMS to include all sites
- Implement all changes required to be compliant with ISO 14001:2015
- Complete energy modelling for the College Lane LRC and implement carbon reduction projects

- Focus on monitoring and measuring waste reduction and improving recycling facilities
- Improve engagement with staff across the University raising awareness about UH environmental procedures
- Further develop the transport schemes and monitor and develop the mobile ticket scheme for the UNO bus network
- Achieve at least level three in all areas of the Flexible Framework
- Continue with the 'Green' ICT Plan which will deliver energy savings and enhanced network capacity
- Develop and implement the current awareness initiatives and develop one for energy consumption
- The Estates 2020 Vision has been a major contributor to the reduction in emissions achieved to date and towards achieving the targets set.