



Environmental Sustainability Annual Report 2016



UNIVERSITY OF
LINCOLN

Welcome from Matthew Cragoe



Welcome

As the Chair of the University of Lincoln's Environment and Sustainability Committee I am very pleased to be introducing our Environmental Sustainability Report for the 2015/16 academic year. The University has a strong commitment to improving its environmental performance and has been making good progress over the last year towards meeting its sustainability objectives.

During the course of 2016 the University published its new Strategic Plan for the period up to 2021. The Strategic Plan reiterates the commitment of the University to improving its environmental performance, stating that "Our campus will be inspiring, supportive and sustainable We will model environmental responsibility for our students and instil sustainable values in our graduates".

The Environment and Sustainability Committee, which started work in 2015, has now become an established group for reporting on environmental performance; with the help of the Students Union, it generates ideas to raise the profile of environmental issues for communities across the University. The committee also seeks to promote closer working on sustainability issues between the University and environmental groups around Lincolnshire.

Climate change, resource use and environmental degradation are global problems and the University can help to meet these challenges through its research activities and by developing students that understand the cross disciplinary nature of sustainability issues. This report outlines how we plan to do this by providing Education for Sustainable Development opportunities for our students. Additionally, the report focuses on the environmental highlights at the University of Lincoln over the last twelve months.

Professor Matthew Cragoe
Pro Vice Chancellor / Head of College of Arts
Chair of the Environment and Sustainability Committee

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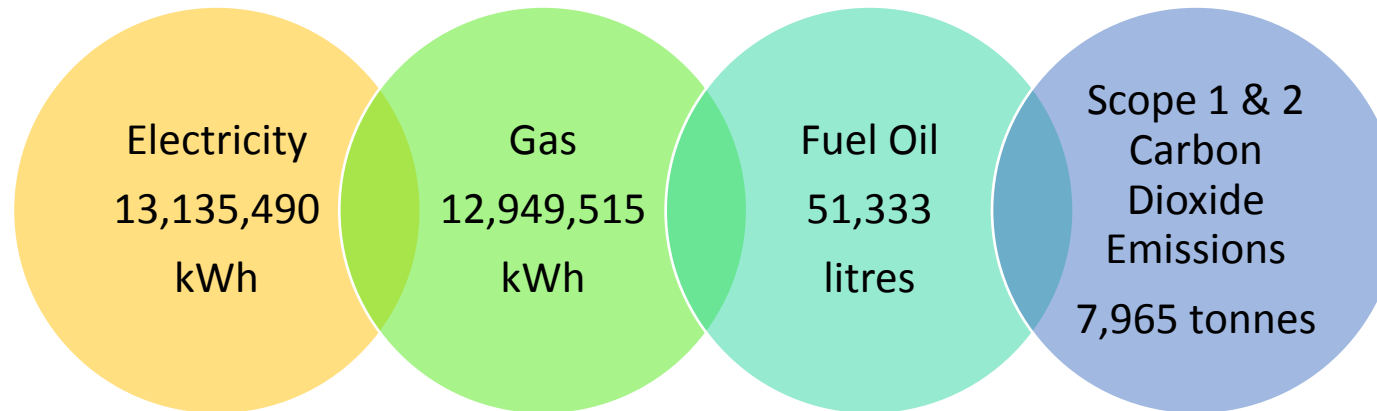
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Energy & Carbon Management

Consumption during Academic Year 2015/16



2020/21 Carbon Reduction Target

The University has an objective to reduce its emissions of carbon dioxide by 43% by 2020/21, against a baseline year of 2005/06. This is in line with the HEFCE Carbon Reduction Targets and reflects Scope 1 and 2 emissions (i.e. carbon dioxide emissions due to direct fuel usage and electricity consumption).

The calculated carbon dioxide emissions in 2005/06 were 8,733 tonnes. For 2015/16 carbon emissions have fallen to 7,965 tonnes – a reduction of 8.79%.

Carbon Management Plan Update

The first Plan was published in 2011 and now requires updating to reflect the progress that has been made since this date. A new document has been produced by the Energy Manager and will be available in 2017. An annual narrative is produced for the Senior Management Team – this can be found on the Environment and Sustainability Team website:

<http://estates.lincoln.ac.uk/sustainability/>

Investing in Energy Efficiency

In February 2015 £520k of external funding was secured to invest in an energy reduction programme on campus. The projects include:

- Installing Coolphase air conditioning units to new teaching space in the Minerva Building;
- New high efficiency boilers in Student Village;
- Water flow restriction valves in Student Village;
- Installing low flow push taps in various buildings across Brayford Campus;
- LED lighting installed in a range of buildings and external spaces around campus and at Riseholme Hall. This includes specialist LED 'Fresnel' replacement lights in the TV Studios, making the studio fully LED (this follows an earlier project in 2012 which replaced all the background technical lighting to LED using similar external funding).
- £50,000 of the funding has been used to improve our utilities sub-metering to help us identify future energy saving opportunities on campus and to help track the success of these projects.

The programme will be fully delivered by December 2016 and is expected to reduce annual energy consumption by just under 1 million kWh. This equates to reducing the University's energy costs by about £65,000 and carbon emissions by almost 287 tonnes of CO₂e every year.

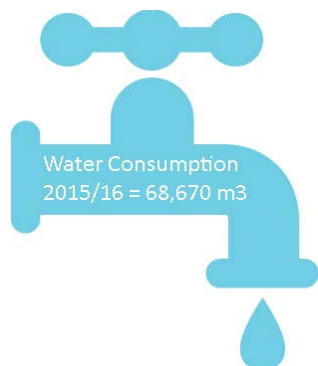
PV Panels Project

A business case has been produced for retrofitting photovoltaic solar panels to our existing buildings. This has been approved in principle. Once a test building has been proven to work the project will then recommend a campus wide retrofit of photovoltaic panels.

ISO 50001 Energy Management Standard

The University's energy management system is now aligned with the international standard and we are now seeking certification (expected by summer 2017).

Water Resources



Since 2014/15 we've seen a reduction of 6,852 m³ in water consumption. Which represents an absolute reduction of 25% compared to our 2010/11 baseline. This is mainly due to improved water monitoring and rapid investigation of problems.

Improved data collection

We now have the majority of our building level water sub-meters feeding data into the eSight utilities management system, so we are better able to monitor consumption levels and recognise issues fairly quickly.

Riseholme leaks

During the summer of 2016 we hired a leakage fix and find service to investigate issues at our Riseholme Campus. Despite the complexity of the site they uncovered several substantial leaks. Unfortunately the main water meter at Riseholme failed and is awaiting replacement so we are currently unable to quantify this saving but we believe it could mean an annual saving of around £10k on our water bills.

Push tap project

As part of the RGF4 programme of projects we have installed 264 self-closing taps in buildings that had conventional taps. This will not only help us to realise a reduction in water consumption but will also lead to a reduction in gas use as hot taps can no longer be left running.

Water deregulation

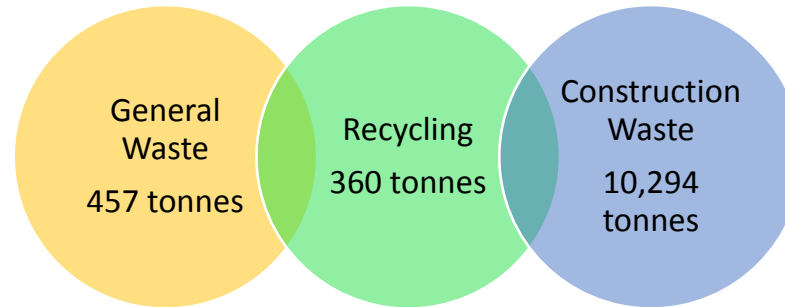
From April 2017 the water market will be deregulated. Deregulation offers customers the opportunity to change which retailer they deal with (it does not change who we get water from). Because of deregulation OFWAT has insisted that companies align their tariffs so we have seen a fall in prices for 2016/17. The University is monitoring the market as the deregulated market comes into place.

Water efficiency

We have already met our stated water reduction target of 5% against the 2010/11 baseline. Therefore alongside the renewed Carbon Management Plan there will also be a Water Action Plan released that will set out a reviewed water reduction target and how we will realise it for 2020/21.

Waste Management

Consumption in Academic Year 2015/16

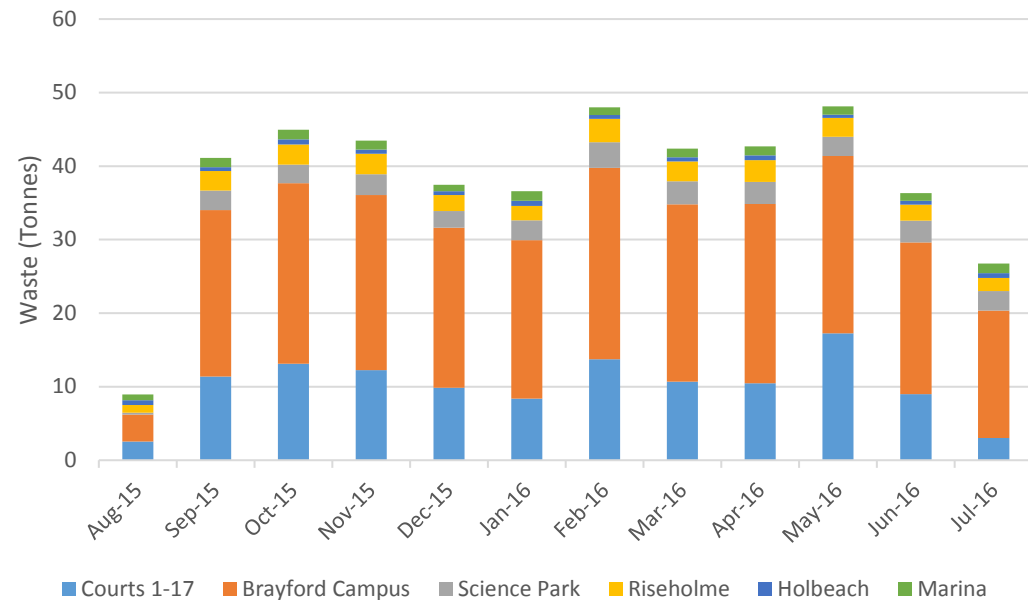


General Waste

The total amount of general waste collected at the University in 2015/16 was 457 tonnes. This was the second full year of data on the weight of waste collected. The amount of general waste increased from 381 tonnes during the previous year. The reason for the increase is not clear, one possibility is due to data issues during 2014/15.

The waste data now gives the University a clear picture of which areas are generating the most waste and the areas to focus on for increasing recycling rates. The monthly reports provide a weight of waste breakdown from each bin location. In the chart below the data has been aggregated by campus area.

University of Lincoln: General Waste 2015/16



New Waste Management and Recycling Contract

The University has procured a new waste contract with Veolia, which began at the start of the 2016/17 Academic Year. The new contract covers both general waste and recycling and includes provisions for skip services and food waste collection. Additionally, data on the weight of waste collected will now be provided for both general waste and recycling – the previous suppliers did not provide data on the weight of recycling. The new contract should allow the University to improve its communications on recycling, as the process is now much clearer.

What happens to our waste?

As part of the new waste contract both the general waste and recycling will be taken to Materials Recovery Facilities at either Caythorpe or Barkston. At these facilities the waste will be mechanically sorted into various material streams for recycling. Any waste that cannot be recycled will be used to make Solid Recovered Fuel (SRF), which can be burnt in an Energy from Waste facility. The new contract should ensure that waste from the University is not disposed of to landfill.

New Waste Storage

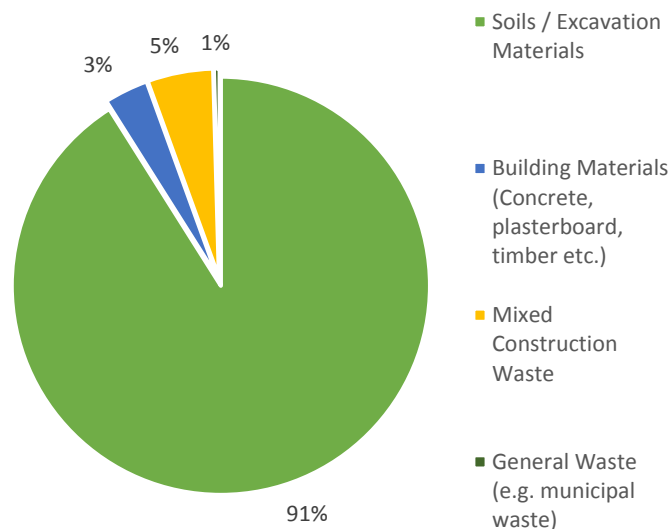
The Environmental Sustainability Team operates a rolling programme of waste and recycling bin replacements for indoor bins. The objective is to get to a consistent type of bin in use across the University. The bins use the WRAP Recycle Now logos to ensure that a consistent message is given on what materials can be recycled. In 2015/16 new bins were purchased for the Quad Diner Restaurant area in the Minerva Building. Other areas with new bins include the AAD Building and the David Chiddick Building.

Construction Waste

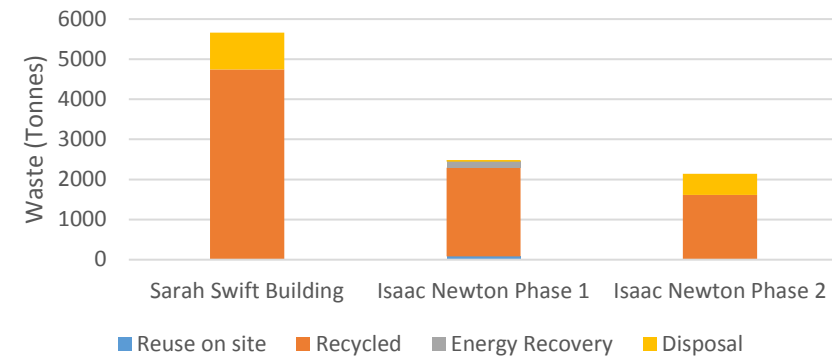
Quarterly waste reports are provided on the major construction projects that the University of Lincoln currently has on site.

The construction waste data reveals that 83% of the construction waste is recycled and 14% is sent for disposal. The remainder is reused on site (1%) or sent for energy recovery (2%). The vast majority of the waste has been soils and stones from on-site excavations. This has particularly been the case during the construction of the Sarah Swift Building, where 5,600 tonnes of soil have been removed from site. A total of 91% of the waste has been in the form of soil and excavation materials.

University of Lincoln: Construction Waste Types
2015/16



Waste Disposal Routes for University of Lincoln Construction Projects



Warp-it

In November 2015 the University began using the Warp-it system for the reuse and recycling of surplus furniture. The University has a very limited amount of storage space available and therefore surplus furniture often had to be sent for disposal. The Warp-it system allows items to be passed on to charities or other public sector organisations for reuse. To date over 7 tonnes of furniture has been sent to charity groups to be reused.

Sustainable Transport

Staff and Student Travel Surveys

New Travel Surveys were held for staff in October 2015 and for students in January and February 2016. These surveys collect data on the ways in which people travel to the University each day and collect views on transport issues and how they can be resolved.

The surveys revealed that the University continues to perform well compared to the rest of the sector for students commuting by sustainable methods. Over 77% of our students travel to and from the University on foot – this is the second highest proportion of student pedestrian commuting for universities in the UK. The high pedestrian rate is due to the compact nature of Lincoln City Centre and the fact the main student accommodation centres are all within one kilometre of the Brayford Campus.

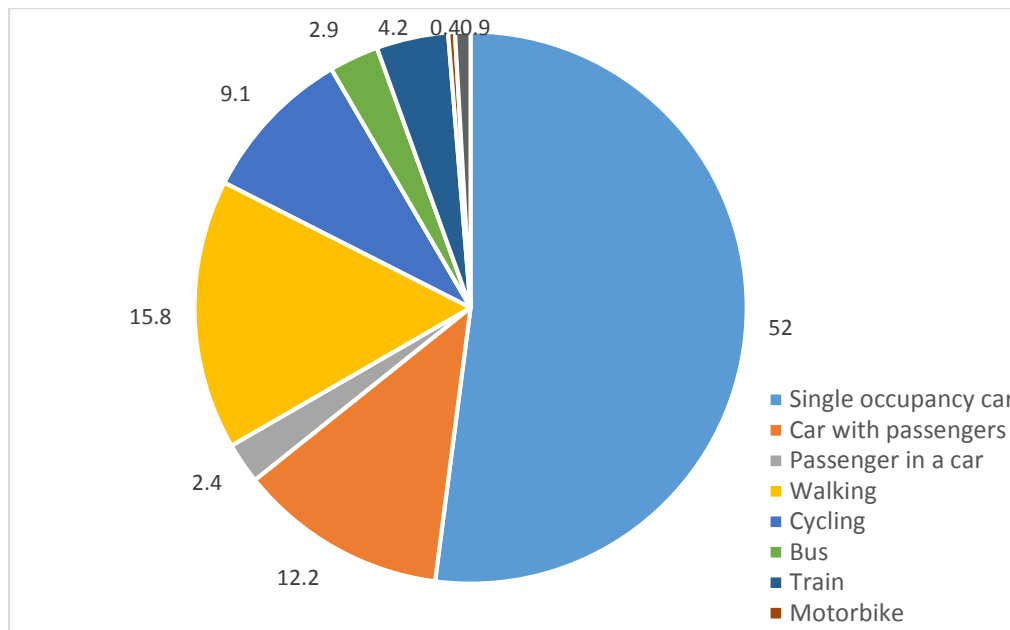


Chart: Staff Travel to the Brayford Campus

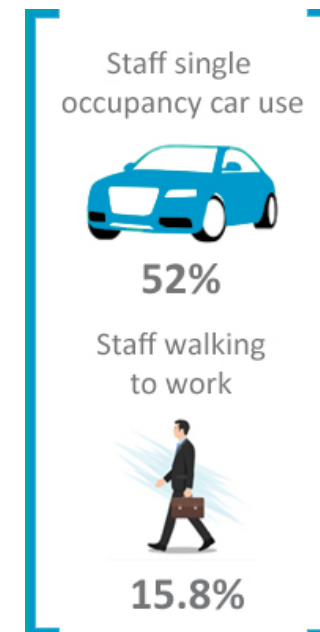
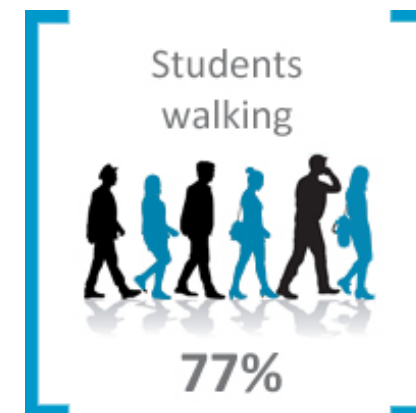
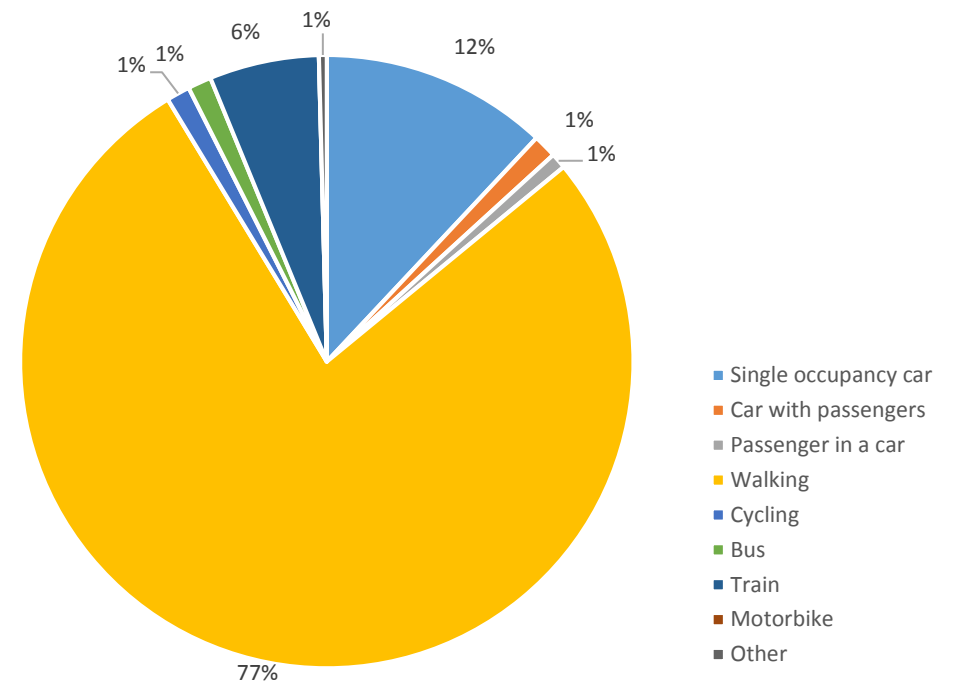




Chart: Student Travel to the Brayford Campus



New Minerva Building Cycle Compound

An issue highlighted in the travel surveys was security of cycles around the Brayford Campus. In response to this a new secure cycle compound with capacity for 80 bikes was installed at the Minerva Building during March 2016. The new compound provides secure storage and is covered by CCTV cameras.



New Sustainable Travel Plan

Work began on an updated Sustainable Travel for the University. The previous plan covered the period up to 2016. The new plan will cover 2017 to 2022 and includes an action plan with the objective of reducing single occupancy car usage by 10%.

Dr Bike Sessions

These sessions have been delivered in partnership with the Smarter Choices Team from Lincolnshire County Council. Cyclists can bring their bikes along for simple maintenance and advice on complex bike problems. The Smarter Choices Team have also provided information on bike security and cycle routes around the area.

Changes to the CycLin Bike Hire Scheme

The CycLin Bike Hire scheme is now operated from the Sports Centre and offers bike rental for terms or full academic years. The cost to hire a bike for a full year is £45. The maintenance for the bikes is provided by staff from the local Halfords' store.



Biodiversity

Highlights of the Year

Ecology Surveys

As part of planning process new ecology surveys were conducted for the following sites: Ruston Way, Riseholme Campus and Holbeach Food Enterprise Zone (FEZ).

At the Riseholme Campus several protected species were identified such as great crested newts, pipistrelle bats, grass snakes and red listed bird species were identified on the wider Campus. The report recommends improvements to improve the biodiversity at the site including new nest boxes.

The Ruston Way and Holbeach surveys were small scale reviews. However, the habitat value of the land at the end of Ruston Way was highlighted. The Holbeach survey identified an area of marsh orchids in a drainage ditch close to the FEZ site. The orchids should be unaffected by the proposed development.





Swan Island Improvements

In 2013 a floating island was installed in the Brayford Pool as a location where swans and other wildfowl could get out of the water. Over the subsequent years the island had become overgrown and access was restricted by wire netting left in place to allow the vegetation to become established.

The University asked Biomatrix Water (the company who originally supplied and installed the island) to cut back the vegetation and remove the netting. Since the work was completed in June 2016 the number of birds using the island has increased significantly.

Joseph Banks Laboratories Wildflower Meadow

When the Laboratories opened at the beginning of the 2014/15 academic year a student project began to create a wildflower meadow next to the building. The wildflower meadow created a fantastic backdrop to the building over the summer months in 2016.

Secret Garden

Although the Brayford Campus is largely urban in nature there are pockets of land with a high biodiversity value around the Campus. One such area is the “Secret Garden”, which is located in a narrow strip of land between the Brayford Way Flyover and the All-weather Sports Pitch. This area is home to a wide variety of spring flowers including Bee Orchids and Broomrape.

Environmental Engagement

Highlights of the Year

Go Green Week: February 2016

The annual environmental awareness raising week included events on waste management, recycling, energy awareness and sustainable transport.

Student Green Fund

This is a new initiative where the Environmental Team made a small fund available for students to develop and deliver their own environmental sustainability ideas. The focus is on environmental benefits and developing real world skills for students, which could include writing business cases, managing a budget, event management, leadership and team work. The Fund was able to pay for two students to take part in Operation Wallacea, to study ecological issues in Romania and the Caribbean.

Environmental Film Season

The successful film season consisted of six film screenings, which were spread across the year. Films shown this year included “Watermark”, “No Impact Man” and “Project Wild Thing”. The emphasis was on showing films that had a positive environmental message and focussed on sustainable changes that the viewers could take.



Education for Sustainable Development Project

The University's new Strategic Plan for 2016 to 2021 includes support for development of an Education for Sustainable Development (ESD) programme. This involves the following stages, which the Environment Team are undertaking:

Stage One – Identifying what the University of Lincoln currently does on Education for Sustainable Development: The University already has many courses, modules and research projects that address environmental sustainability issues. The Environment Team will map and record these courses to create a register of current environmental sustainability academic activity at the University.

Stage Two – Extracurricular activities on sustainability:

The Environment Team already has an extensive range of extracurricular activities on sustainability issues, which students can engage with through-out their time at the University. These activities are intended to be educational (as well as fun) and include Go Green Week, Fairtrade Fortnight and the Environmental Film Programme.

Each of these activities can count towards the Lincoln Award, which is an achievement framework designed to support, enhance and recognise extra-curricular activity.

www.lincolnsu.com/lincolnaward

Stage Three - Sustainability Module Development:

The University is developing a series of cross-curricular modules, which will be available to students on any course. One of the modules will cover "Global Issues" and will therefore include environmental topics. The Environmental Sustainability Team will work with other groups from around the University to develop this course.



Sustainable Food & Fairtrade

Highlights of the Year

Keepcups

As part of the drive to reduce waste at the University the Environment Team worked with the Catering Team to sell University of Lincoln branded Keepcups at each catering outlet around the Brayford Campus. The Keepcups are a reusable mug, which is sold at cost price. The Keepcup entitles the owner to 10 pence off each hot drink that they buy at the University's catering outlets. The first batch of the cups sold out quickly and have resulted in saving over 3,000 paper cups from the waste stream in the first year.



Edible Campus: Heritage Apple Trees

In January 2016 a new Edible Campus project was started to engage with students on environmental and sustainable food issues. The project is using land close to the Student Village at the Brayford Campus for the planting of a variety of apple trees.

The apple trees are heritage varieties, with associations with Lincolnshire and the East Midlands. The varieties of apple include Ellison's Orange, which was first grown in the outskirts of Lincoln in 1904 and the Peasgood Nonsuch, which was first grown in Grantham. The apple trees were planted by a team of student and staff volunteers. The intention is to grow some of the trees against walls as espalier plants, as they would have been grown in various walled kitchen gardens around Lincolnshire.

The second stage of the project will be to create various raised beds for students to grow their own fruit and vegetables.



Fairtrade Fortnight

As part of the annual celebration of Fairtrade products an awareness raising event was held in the Atrium of the Minerva Building in partnership with the University Chaplaincy. The event included Fairtrade samples, a Fairtrade snakes and ladders game and the University Chaplain in a banana costume. As part of the Fortnight there were product displays and promotions in the University Shop and the Quad catering outlets.

Fairtrade Lincoln Status

The University Fairtrade Group is linked with the City of Lincoln Fairtrade Group. Over the course of 2016 the University has supported the City in reconfirming its Fairtrade City status. The status was confirmed for another two years in June 2016 and the Environment Team played a key role in achieving this.

WE ARE A
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UNIVERSITY!



Environmental Management System

Environment and Sustainability Committee

Was set up in 2015 to provide advice on sustainability issues at the University. The Committee receives annual reports on environmental and sustainability performance and generates ideas for new environmental initiatives. Over the last year the Committee has become well established and has begun to make a valuable contribution to sustainability at the organisation.

Investors in the Environment Green Award

Our Environmental Management System is accredited to the IIE Green Award standard. Investors in the Environment is a nationwide environmental accreditation scheme. It is designed to help businesses save money and the environment by improving their energy efficiency and reducing their environmental impact.

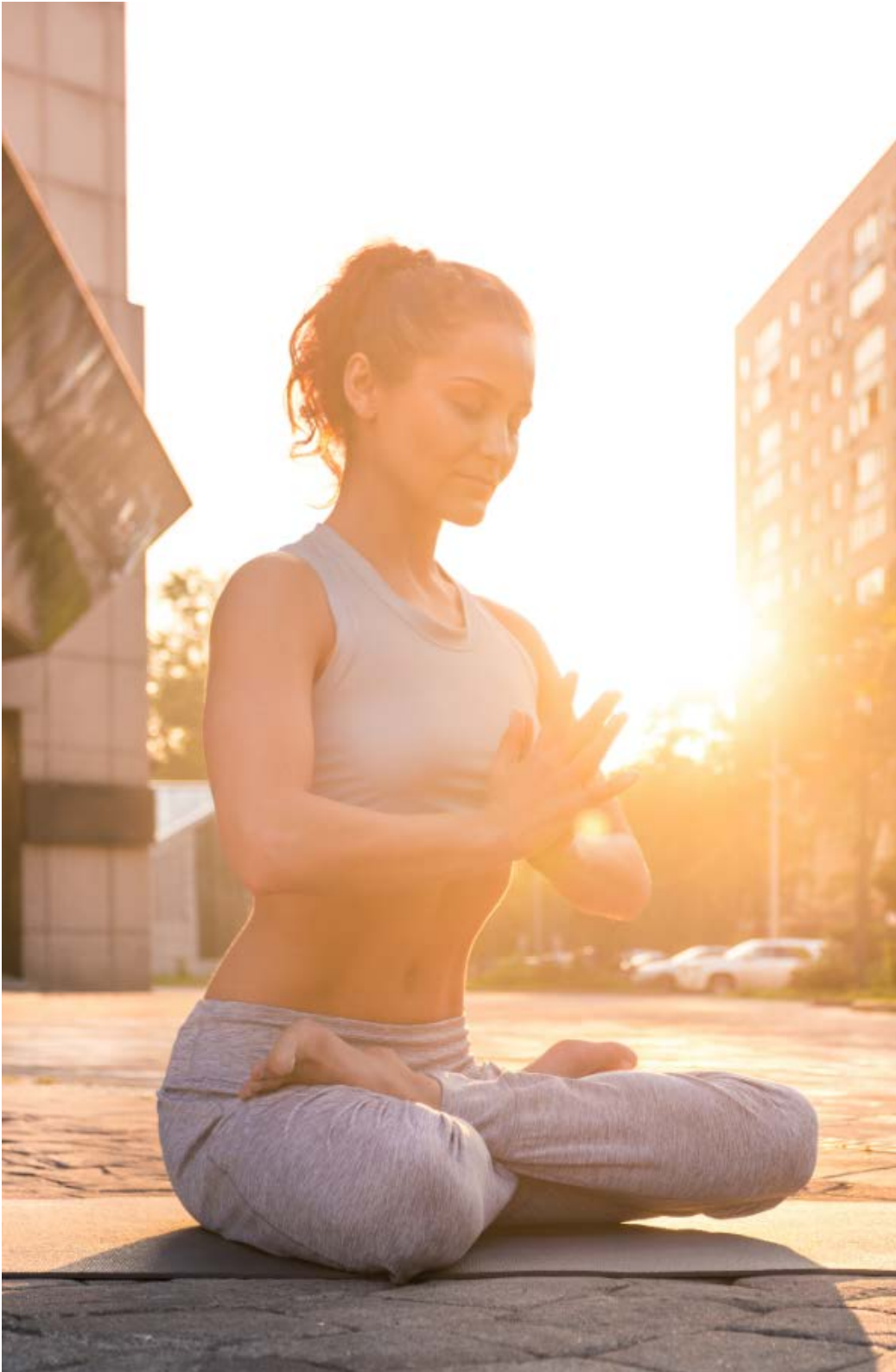
The University achieved accreditation to the scheme in October 2014 and the University was awarded a Green Star Award. In December 2015 the University's accreditation to the standard was approved for another year.

Each year as part of the accreditation process the University produces an environmental manual for the IIE standard. This document describes the work that the organisation has done to improve its environmental performance and compares performance against a baseline year.

ISO 14001 Accreditation Project

The next stage with the Environmental Management System (EMS) is to achieve the ISO 14001 accreditation standard. A project has started to achieve the accreditation standard. The existing EMS for the Investors in the Environment standard provides a good level of information. The Environment Team are now building on this information for ISO 14001.

As part of the ISO 14001 work a gap analysis of what is required to meet the standard has been produced. In addition the Legal Register has been reviewed and updated and the University's Environmental Policy has been revised and is ready to be approved. The overall objective is to move towards full ISO 14001 accreditation by 2018.



Future Sustainability Goals

The Environmental and Sustainability Team has set the following goals for University to achieve in the coming years:

- Reduce the University's emissions of carbon dioxide by 45% by 2020, against a baseline year of 2005/06.
- Reduce the proportion of staff commuting by single occupancy car by ten percent by 2022
- Increase the proportion of staff and students that travel to the University by sustainable means
- Stop sending waste to landfill and increase the opportunities to recycle waste
- Support the development of sustainable buildings by working with the Project Team on adding sustainable elements to new build and refurbishment schemes
- Provide Education for Sustainable Development opportunities for students to increase their knowledge of environmental issues
- Produce a programme of environmental engagement events and information for staff and students
- Create sustainability related volunteering opportunities for students
- Protect the University's ecological assets and enhance habitats around the Brayford Campus