

SUSTAINABILITY REPORT 2014



**SUSTAINABILITY
WITH
PLYMOUTH
UNIVERSITY**

ABOUT THIS REPORT

This is the University’s third report on our sustainability performance and the second since we introduced our tri-cameral sustainability structure. It provides a review of our sustainability performance over the last two and a half years from August 2011 to March 2014. The report is for stakeholders who have an interest in sustainability at Plymouth University, including professional and academic staff, students, local communities and local businesses. It focuses on our material sustainability issues and those that are of interest to our stakeholders, and reflects the University’s award-winning whole institutional approach to sustainability, manifested through the tri-cameral framework of operations, research and teaching and learning.

AT A GLANCE
ABOUT PLYMOUTH UNIVERSITY
SUSTAINABILITY CONTEXT

Our structure
The Journey

VICE-CHANCELLOR’S STATEMENT
PERFORMANCE

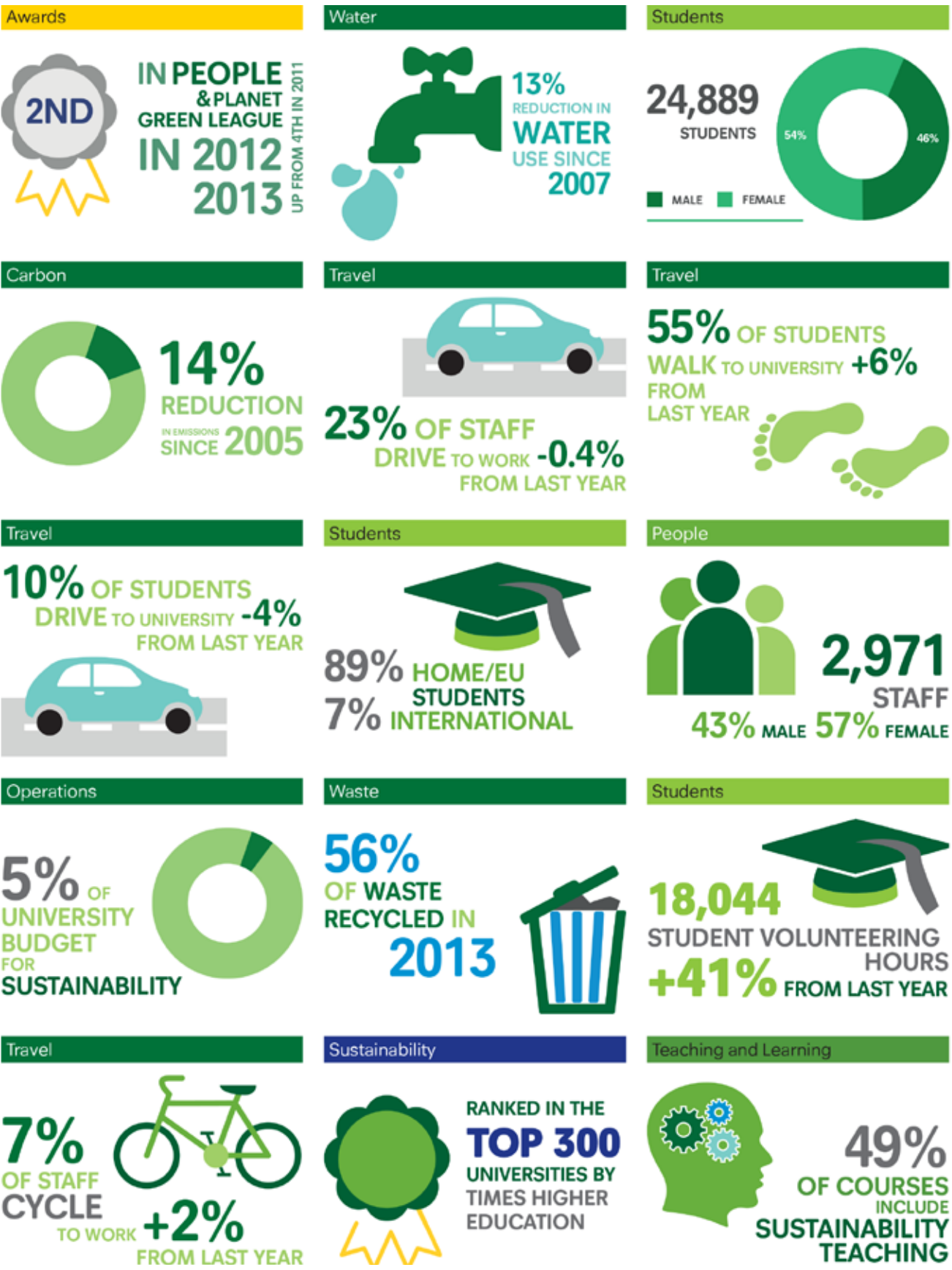
Operations
Research and the ISSR
Teaching and Learning
Community Engagement
Students
People
Safety

2
3
5
6
7
8
10
12
32
38
42
45
47
49

“Universities educate most of the people who develop and manage society’s institutions. For this reason, universities bear profound responsibilities to increase the awareness, knowledge, technologies, and tools to create an environmentally sustainable future.”

The Talloires Declaration, 1990

AT A GLANCE



ABOUT PLYMOUTH UNIVERSITY

Plymouth University is built on a rich heritage dating back to 1862 with the establishment of the School of Navigation, and whilst it has grown in size and impact, our values of social inclusion and a strong sense of place and civic responsibility remain.

With nearly 30,000 students, and almost 3,000 staff. Our aim is to be the enterprise university, truly ‘business-engaging’ and delivering outstanding economic, social, environmental and cultural benefits from our intellectual capital.

In 2013, *Times Higher Education* ranked us in the top 300 universities in the world and 53rd in the world for modern universities under 50 years old, seven places up on 2012. *Times Higher Education’s* World University Rankings use a trusted range of 13 performance indicators, and our performance reflects that the University is well and truly on the global map for higher education, and among a new breed of modern elite universities.

We are the overall sector leader in the People & Planet Green League, on the basis of our ranking since the league was established in 2007.

In 2012, we were the first university in the world to be awarded the Social Enterprise Mark in recognition of working as a genuine social enterprise, caring for communities and protecting the planet. The award was announced by the Social Enterprise Mark company,

which provides the only officially-defined registration for social enterprise.

We are a world-class centre for marine renewables and host one of the largest marine institutes in Europe, with the new BREEAM (Building Research Establishment Environmental Assessment Methodology) Excellent rated Marine Building opening in 2012. The Marine Institute has attracted £16.3 million per annum in marine-related teaching income, £5.5 million per annum research income and represents a £12.8 million gross value added for the city.

We are going through times of great change in the higher education sector through: the introduction of higher fees in 2012; changing student demographics and expectations; new competitors; new technologies and their application; and the increasingly international nature of higher education and research.

Responding to changing demands in the sector we finalised our Strategy 2020. By the year 2020, we aim to make Plymouth University a university of first choice for students, staff and partners.

STRATEGY 2020

AMBITION 1: Excellent learning in partnership with students. We aim to have highly satisfied students and offer the best experience that we can, preparing our students to succeed in their professional and personal lives, by working with our student body and the Students’ Union to understand their needs, encourage their contributions and learn from their experiences.

AMBITION 2: World-class research and innovation. We aim to further develop our research standing and impact internationally. We will support the conditions needed for world-class research and innovation to flourish and continue to ensure that our research is built on strong ethical foundations. We will connect disciplines in novel ways, engaging with stakeholders and funders and promoting public engagement and understanding.

AMBITION 3: Raising aspirations and driving engagement We aim to build on and sustain connections with local, national and international partners to enrich our academic experience. We will continue to seek to raise aspiration amongst groups underrepresented in higher education and provide opportunities for our students, staff and the communities we serve through economic development, social inclusion, community outreach and strategic partnerships.

AMBITION 4: Achieving resilience, sustainability and effectiveness We aim to build on our existing position as a leading UK university in sustainability by striving for excellence in financial, environmental and social responsibility across all of our activities.

ACHIEVING RESILIENCE, SUSTAINABILITY AND EFFECTIVENESS

SUSTAINABILITY CONTEXT

“We aim to build on our existing position as a leading UK university in sustainability by striving for excellence in financial, environmental and social responsibility across all of our activities.”
Strategy 2020

We are enterprising in addressing global issues and committed to transforming lives through education and research. At our core is the partnership approach we take with our students to provide them with the best university experience. We emphasise enterprise, partnership and sustainability and act as a catalyst to advance knowledge and understanding to deliver social, cultural and economic benefits to our community.

At an operational level the University has adopted a tri-cameral approach to support the management and delivery of financial, social and environmental sustainability activity. The tri-cameral approach involves a collaborative approach from operations, research and teaching and learning to deliver our sustainability plan.

Our ambition for sustainability is to be the sustainable university. To make a powerful, positive difference to our individual and collective futures. We harness our spirit of enterprise and our ethos of sustainability to make a positive and transformative impact on the University community, the city, the region and beyond.

‘Plymouth University has already established a reputation both nationally and internationally as a leader in the higher education sector for sustainability, taking an award-winning whole institutional approach and working collaboratively across operations, research and teaching and learning, as well as driving innovation for sustainability at all levels from local to international.’
Plymouth University Sustainability Strategy 2013–20

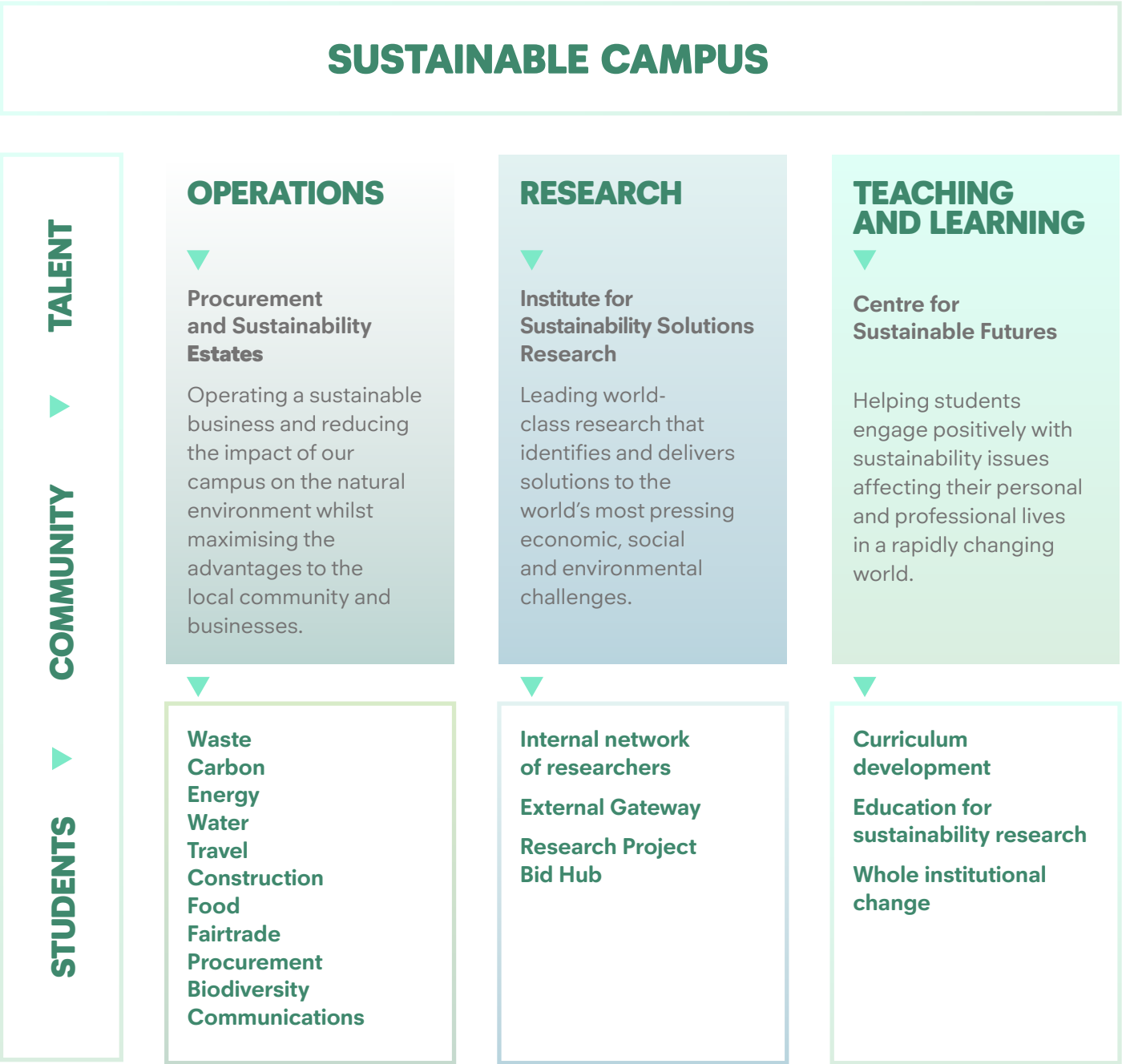
Our Management Approach

Responsibility for sustainability lies with the Sustainability Executive. Linking with our tri-cameral approach, operational sustainability is managed by the departments of Finance and Sustainability and Estates, sustainability research is coordinated by the Institute for Sustainability Solutions Research (ISSR) and sustainability teaching is coordinated by the Centre for Sustainable Futures (CSF). To provide advice on sustainability policy and strategy to the Vice-Chancellor, the Sustainability Executive Group meets quarterly. Members from the department of Finance and Sustainability, ISSR, CSF, External Relations and Talent and Organisational Development constitute the Sustainability Executive Group as well as other stakeholder members from departments across the University such as the Students’ Union. Beyond this a Sustainability Executive Advisory Group meets twice a year, seeking advice from, and collaboration with, key stakeholders in the wider external community. This structure supports the Vice-Chancellor’s ambition for Plymouth University to be a sector leader in sustainability.

OUR STRUCTURE

Tri-cameral Sustainability Plan

A collaborative approach from the three areas of operations, research and teaching and learning, and incorporating the wider stakeholder groups, to deliver our sustainability plan.



THE JOURNEY

2005

▼

2007

2008

2009

▼

2010

▼

2011

▼

2012

▼

2013

▼

2014

- Won funding from the Higher Education Funding Council for England (HEFCE) to set up a Centre for Excellence in Teaching and Learning (CETL), named the Centre for Sustainable Futures (CSF), to transform the University from an institution characterised by significant areas of excellence in Education for Sustainable Development (ESD), to an institution modelling university-wide excellence that is able to make a major contribution to ESD regionally, nationally and internationally.
- Ranked second in the newly launched People & Planet Green League of UK universities
- The first Sustainability Strategy approved
- Gained Fairtrade University status
- Achieved ISO 14001 accreditation for our Environmental Management System
- Won Silver in the Corporate Responsibility Index from Business in the Community
- Cross-institutional Sustainability Advisory Group formed
- Sustainability Executive Group formed reporting to VCE, bringing together the ‘tri-cameral structure’: operations, research and teaching and learning
- CSF re-established as part of the Teaching and Learning Directorate after HEFCE funding expires, to champion sustainability in teaching and learning
- Ranked first in the People & Planet Green League
- Won the Green Gown Award for ‘Whole Institutional Change – Continuous Improvement’
- Published the first Sustainability Report
- Achieved Green Tourism Gold Accreditation
- Institute for Sustainability Solutions Research (ISSR) established to promote sustainability research agenda, linking some 300 academics across the University
- Plymouth ranked fifth for overall sustainability performance by international Green Metric World University Ranking, judged against 215 international entrants
- First university in the world to be awarded the Social Enterprise Mark
- Named most Sustainable Public Sector Organisation (Education) in the Public Sector Sustainability Awards
- UPSU won Gold Award in national Green Impact scheme
- Won Silver Award in national sustainability performance index: Learning in Future Environments (LiFE)
- Sustainability featured as one of the University’s four key ambitions in the Strategy 2020, echoed in the Teaching and Learning and Student Experience strategy
- Shortlisted at Times Higher Education Awards for ‘outstanding contribution to sustainable development’
- Launch of revised and updated Sustainability Strategy
- Special commendation from People & Planet Green League for retaining ‘highest performer’ place since its inception in 2007
- UPSU awarded Excellent in national Green Impact Scheme
- Won the prestigious Gold Award from the Royal Society for the Prevention of Accidents
- Ranked first in the People & Planet University League
- Won three Green Gown awards (Food and Drink, Enterprise and Courses and Learning)

STATEMENT FROM THE VICE-CHANCELLOR PROFESSOR WENDY PURCELL



I am delighted to introduce our third Sustainability Report which provides a broad review of our work, during 2011 through to early 2014, in delivering on our strategic ambitions for Plymouth University.

Since our last report in 2011, higher education in the UK has experienced some dramatic changes, with the move from government grants direct to the institution to a per capita student fees model backed by a government loan book. Overseas too, we have seen large-scale changes with the demand for a higher education experience growing across all nations. We continue to operate in uncertain times, but we know that our mission to transform lives through education and research means that how we operate today creates value for tomorrow. That is why Plymouth University has adopted a tri-cameral approach to sustainability, putting it at the heart of our organisation and embedded it in what we do. We view sustainability as an opportunity, rather than a regulatory burden. It’s about the choices we make and how we operate as a world-class scholarly academic community over the long term.

In December 2012, we were named the most sustainable public sector organisation in education, in recognition of how we have embedded sustainability into everything that we do.

The last two years have seen our reputation for sustainability continue to grow, and we are now recognised as leaders in the sector, both nationally and internationally. We have remained the best overall performer in the People & Planet Green League since its inception in 2007, currently ranked 1st. We also gained silver accreditation in the LiFE index in 2012, one of the first two institutions nationally to do so. A key highlight over the period was being awarded the Social Enterprise Mark in 2012, the first university in the world to receive this accolade, demonstrating our social value to the wider world and the community.

Our state-of-the art Marine Building, opened in October 2012 by HRH Duke of Edinburgh Prince Philip, was awarded BREEAM Excellent rating. The building is a living example of sustainable design, utilising solar gain, a natural ventilation system and rainwater harvesting to reduce utility consumption and our impact on the environment. November 2014 will see the unveiling of our new Performing Arts Centre, ‘The House’ – our latest construction – again built to BREEAM Excellent rating.

Our commitment to sustainability and our pioneering and innovative approach helped us to secure £565,000 of funding from the HEFCE Revolving Green Fund in July 2013. The award will improve the provision of heating and hot water in the Library and Students’ Union, two buildings at the core of the student experience. This was our third successful bid to the HEFCE Revolving Green Fund, and puts our total awarded to nearly £2 million.

In December 2012, we were named the most sustainable public sector organisation in education, in recognition of how we have embedded sustainability into everything that we do. Indeed, almost 50 % of the courses we offer now include a sustainability element and we want to further develop this aspect across our programmes.

We work in partnership with our Students’ Union, supporting a host of activities on campus including Fairtrade Fortnight, Go Green Week, UPSU Bike Week

and our regular campus markets. Our third annual ISSR conference took place in May 2014, following a highly successful event in 2013 which attracted over several hundred delegates.

Our new Sustainability Strategy directly supports delivery of the University’s Strategy 2020, helping to deliver strong performance and sustainable outcomes that uphold the University’s leading position as one of the Top 100 universities under 50 years old. We have made fantastic progress in a relatively short time, but there is more that we can do together to build on our success and help others with their journey. We share our expertise and experiences with other institutions and sectors, through research initiatives coordinated by the ISSR, and our work with the Environmental Association for Universities and Colleges (EAUC), where I am a Trustee.

Please enjoy our Sustainability Report; I hope you find it both insightful and inspiring. Thank you to all of our students, staff and partners for their work, some of which is included here. If you want to get involved in our work directly or simply offer ideas, then please feel free to contact us at sustainability@plymouth.ac.uk.

HIGHEST OVERALL PERFORMER ON THE PEOPLE & PLANET UNIVERSITY LEAGUE SINCE ITS INCEPTION

PERFORMANCE

Plymouth University is the highest overall performer in the People and Planet University League since its inception. The league table is the most comprehensive and independent league table of UK universities ranked by environmental and ethical performance. It is compiled annually by People & Planet following a Freedom of Information request. We are the overall best performer on this ranking since the league began.

Assurance

The University has an Environmental Management System which is accredited to the international standard ISO 14001. The standard demonstrates that we have identified our environmental impacts, that we comply with legislative requirements and that we are committed to continually improve our operations to reduce our environmental impacts.

For the University to maintain its accreditation we are periodically audited by approved external assessors to ensure we meet the requirements of the standard. The content of this report stems from auditable information.

In 2013 we came seventh in the Green Metric World University Ranking for overall sustainability performance judged against 301 international entrants from 61 countries.



UP FROM 2ND IN 2013 & 2012



PEOPLE AND PLANET UNIVERSITY LEAGUE RANKINGS FROM 2007-2014

1st	▲	2014
2nd	▶	2013
2nd	▲	2012
4th	▼	2011
1st	▲	2010
6th	▼	2009
2nd	▶	2008
2nd	▶	2007



LEADING BY EXAMPLE WE WILL DELIVER A SUSTAINABLE CAMPUS

OPERATIONS

We develop and manage sustainable resource strategies for our estate and procurement of goods and services, and strengthen and diversify our income base by ensuring that our resources – financial, technological and physical estate – are allocated and managed transparently in line with our University mission, while also reducing our impact on the natural environment. In 2010–11, the department of Finance and Sustainability was formed, bringing together key University operations to coordinate our sustainability performance.

Our campus and operations are an important focus of our sustainability strategy and we seek to develop a first-class sustainable campus. As well as the targeted areas below, we also manage and deliver sustainable procurement processes and, with Estates, deliver on our sustainable construction strategy.

WATER

REDUCE WATER CONSUMPTION TO BELOW 3.3M³ PER STUDENT BY 2015. TO DATE:

- 13% reduction in water consumption since 2007
- 3.6m³ water consumed per student in 2013, and we're on target for 2015.

TRAVEL

INCREASE THE NUMBER OF STAFF COMMUTING BY WALKING, CYCLING AND CAR SHARING BY 2% EACH BY 2017 FOR STAFF AND 1% FOR STUDENTS. TO DATE:

- Staff walking has increased by 1.4%, cycling by 2.2% and car sharing by 0.5%
- Student walking has increased by 6.4% and cycling by 0.7% but car sharing has decreased by 0.3%.

CARBON

BE CARBON NEUTRAL BY 2030. TO DATE:

- 14% reduction in CO₂e emissions since 2005
- 5.5% reduction in electricity use since 2005
- Gas use decreased by 24% since 2005 but in the past two years this has been reversed due to the Combined Heat and Power installation.

WASTE

RECYCLE 70% OF WASTE BY 2015 AND REDUCE WASTE TO 20KG OR LESS PER STUDENT. TO DATE:

- 56% of waste recycled in 2013
- 22kg waste generated per student in 2013
- 11% reduction in waste since 2011.

BIO-DIVERSITY

MAINTAIN THE LEVEL OF GREEN SPACE ON CAMPUS COMPARED WITH 2011 LEVELS AND INCREASE THE NUMBER OF ANIMAL AND PLANT SPECIES AND MARINE ECOLOGY LEVELS COMPARED WITH 2011 LEVELS. TO DATE

- In 2013, £1.4m was secured to restore Drake's Place gardens and reservoir, including a biodiversity habitat.

FOOD

CREATE A SUSTAINABLE FOOD CULTURE ON CAMPUS. TO DATE:

- Fairtrade university
- Food For Life Bronze award
- Good Egg award
- Most meat from a Red Tractor certified local supplier
- Fish from MSC certified source or local Plymouth Responsible Fishing Scheme supplier.

*Kilograms of carbon dioxide equivalent (KgCO₂e)

CARBON



We aim to be carbon neutral by 2030

We have set the ambitious target to be carbon neutral by 2030. It is important to create a campus that is a living example of sustainability, reducing our impact on the natural environment in practice as well as in teaching. The Higher Education Funding Council for England (HEFCE) has adopted a carbon reduction target in line with the UK government, which is a 43% reduction from a 2005 baseline by 2020. The HEFCE Capital Investment Framework (CIF2) now directly links the allocation of capital funding for universities to carbon reduction. It is imperative that we are ahead of this movement.

We have steadily reduced emissions from gas and electricity but we still have a way to go to reach the interim target by 2020. When the University first produced its carbon plan it could only determine emissions from utilities. Since then it has identified emissions from other sources such as transport, travel, waste and procurement. What this has shown is that utility based emissions only account for typically 30 % of our total emissions. The University is working hard to create targets and measurement methods for these other sources. We are also working towards determining a robust method of identifying the associated carbon emissions attributed to innovative technologies and delivering behaviour change through instilling low-carbon values and habits into our students.

AIM

Reduce the University's own emissions as far as possible by delivering a:

- 43% reduction in CO₂e by 2020
- 52% reduction in CO₂e by 2030.

Compensate against the remaining emissions by:

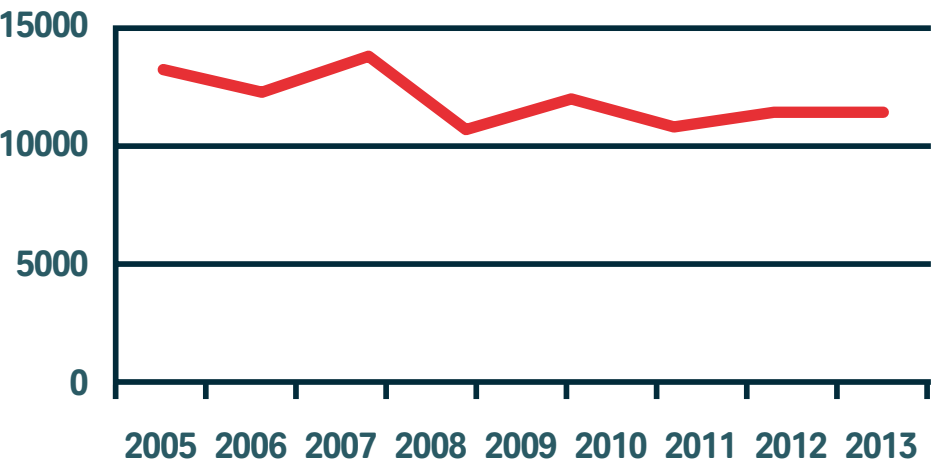
- developing research solutions and innovative technology
- delivering behaviour change through instilling low carbon values and habits into students.

PERFORMANCE

- We have reduced CO₂e emissions from gas and electricity by 14% since the base year 2005.
- We need to reduce our current emissions by a further 34% based on our current consumption to achieve the 2020 target.

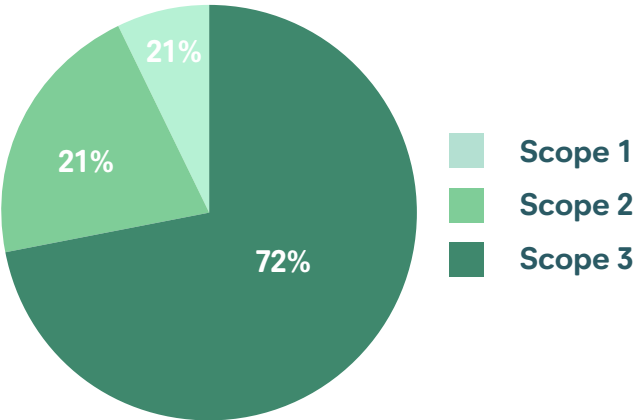
EMISSION SCOPE	TYPE	BASE YEAR 2005–06	NOW 2012–13
SCOPE 1 ▶	Combine Heat and Power plant	Not applicable	Included
	Solid fuels	Not applicable	Included
	Liquid fuels	Included	Included
	Gaseous fuels	Included	Included
	Vehicle fleet	Data not available	Included (calculated)
	Refrigerant gases	Data not available	Included
SCOPE 2 ▶	Grid electricity	Included	Included
	Heat purchased	Not applicable	Included
SCOPE 3 ▶	Water	Included	Included
	Waste	Data not available	Included
	Business travel: hire vehicles	Data not available	Included
	Business travel: rail	Data not available	Included
	Business travel: air	Data not available	Included
	Employee commuting	Data not available	Included (calculated)
	Student commuting (daily)	Data not available	Included (calculated)
	Student commuting (home)	Data not available	Included (calculated)
	Procurement related: general	Data not available	Included (estimated)

Utility emissions TC0₂e

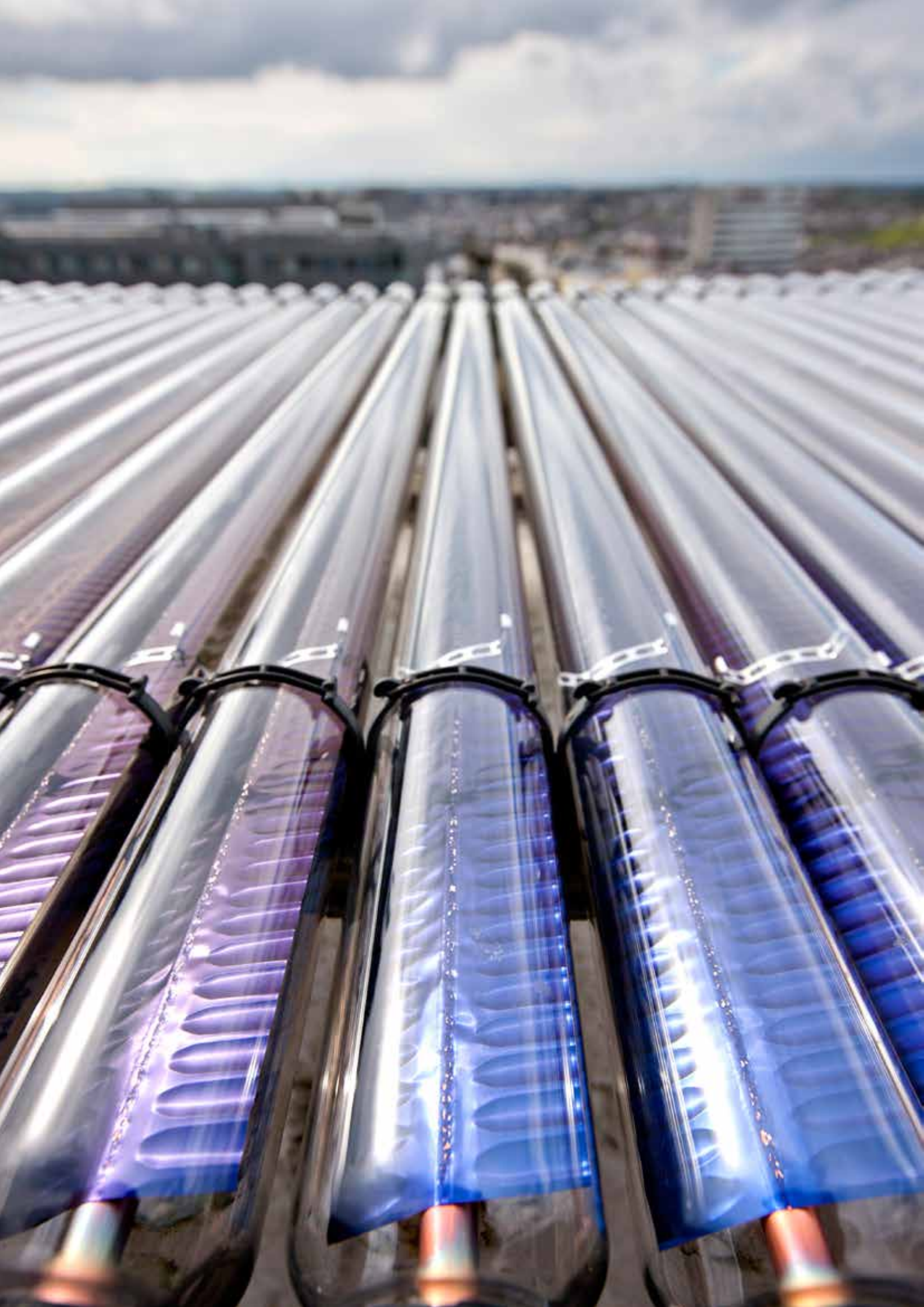


The table above shows how far the University has progressed since 2005 in identifying the carbon emissions from sources beyond utilities. Some of the emission sources are calculated rather than from automatic meter readings or computer generated reporting. We are working towards streamline measurement methods for the additional scope 3 emissions.

Scope emissions TC0₂e 2012-13



*Tonnes of carbon dioxide equivalent (TCO₂e)



ENERGY

AIM

To support our carbon management targets we have kept steady pressure on reducing our energy consumption through:

- improving the energy efficiency of University buildings and facilities
- diversifying energy supply sources to move away from reliance on fossil fuels
- reducing the use of energy through technologies such as solar shading and smart building management systems
- using the residual energy within a building before burning fuels.

Investment in carbon reduction to date. Successful grant applications have provided external funding to deliver:

- Campus Information Control System (CICS) project = £967,000
- Revolving Green Fund = £580,000 and counting
- CHP = £1 million
- Energy reduction projects have saved over 1,100TCO₂e over the past five years, equating to over £200,000 a year

PERFORMANCE

- In 2012, we opened the Combined Heat and Power plant (CHP) installed in the Davy Building to provide 50% of the campus with heat.
- Since 2009–10 grid purchased electricity has reduced by over 12%.
- In 2011–12 there was a reduction of over 16% in gas when compared with 2009–10. But now that gas is the fuel used for on-site generation of electricity in the CHP plant, gas consumption has increased by nearly 27% when compared with 2009–10. Although at first glance this percentage appears high it should be remembered that the net effect is a reduction in carbon emissions.

CAMPUS INFORMATION CONTROL SYSTEM (CICS)

This project brings together the world of building management systems (BMS) and information control technology (ICT) to accurately match the supply to the demand for electricity and deliver smarter buildings in a smarter campus. HEFCE awarded funding to the CICS project to provide an exemplar solution to reduce energy and carbon emissions for higher education establishments. We are developing the world's first known integrated ICT and Building Energy Management System (BEMS). This functionality is essential to manage occupant demands for energy efficiently and maximise economic benefits, enabling a future proof system ready for the SMART Grid. In addition to providing over 60% of the University's 2015 carbon reduction targets (2,800 TCO₂e), this initiative lays the foundation for a 'smart campus' and a carbon neutral University by 2030.

A WHOLE BUILDING APPROACH: BABBAGE BUILDING

We have reduced annual carbon emissions from Babbage Building by 26% which equals a £60,000 saving in the annual energy bill. This was delivered through a whole building approach of looking at technology and resulted in: installing voltage optimisation technology, a lighting upgrade, ICT upgrades and reduction in gas usage after being connected to the Davy Building centralised CHP plant.

This reduction in energy use 'offsets' the increase in emissions resulting from the opening of the Marine Building.

Combined Heat and Power (CHP)

Opened in 2012, and located in Davy Building the CHP plant provides heat to 50% of the campus. It integrates the production of usable heat and power in one efficient process. CHP generates electricity whilst also capturing usable heat produced during the process. Usually in conventional electricity production heat is a by-product that is wasted. The CHP plant is typically 30% more efficient than traditional gas boilers.

Green roof with photovoltaic cells

The Peninsula Dental School and the Pool Innovation Centre both have a green roof, covered in growing vegetation, and photovoltaic cells (which the University operates on behalf of Cornwall Council). As well as being visually pleasing, green roofs insulate the buildings, create a habitat for wildlife and help to lower urban air temperatures with the photovoltaic cells converting the sun's energy into electricity.

Passive ventilation and night cooling

Used in the Portland Square and Marine Buildings. The buildings are designed to ventilate naturally using natural convection currents. The large atrium in the Portland Square Building allows hot air to rise and draws fresh air into the building without mechanical intervention. Night time cooling occurs by using the natural ventilation to cool the thermal mass of the concrete at night, which then cools the building in the daytime.

Solar shading

Used in the Link, Rolle and Babbage Buildings, solar shading comes in the form of louvers on the Link Building and fins on the Rolle and Babbage Buildings. Solar shading saves energy by reducing heat gain from the sun inside the building, which reduces the demand for cooling, and helps maintain comfortable conditions.

Inverter Controls

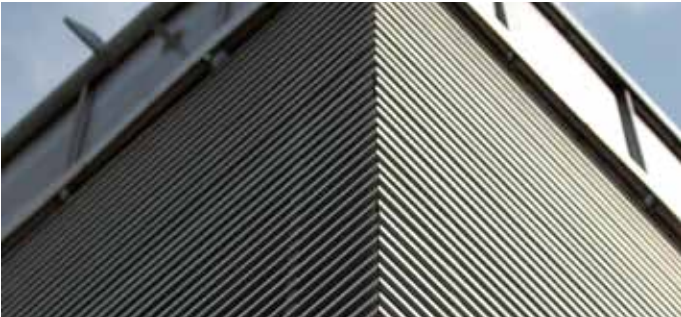
Installed on all electric motors on campus, inverters give a soft start and stop and variable speed control to allow motors to be operated at optimum performance. This saves energy, improves the power factor (and reduces the reactive power required, therefore reducing energy use) and improves performance.

Plymdesk 6 ICT improvement

In early 2013, a new centrally organised fleet of computers was installed. The new computers have more efficient components, reduced log in times and automatic sleep mode on monitors which all contribute to a 30–40% reduction in PC driven CO₂e emissions.



Davy Building: reducing carbon emissions with combined heat and power.



Portland Square building ventilation



Rolle building solar shading



Roland Levinsky Building: reducing carbon emissions with inverter controlled electric motors

CAMPUS TECHNOLOGY

Solar thermal hot water

Marine Building
Smeaton Building
Portland Square Building
Nancy Astor Building

Thermal decks

Portland Square Building

Passive ventilation

The House
Portland Square Building

Night time cooling

Portland Square Building

Solar shading

Babbage Building
Rolle Building
Link Building

CHP location

Davy Building

Voltage optimisation

Scott Building
The House
Cookworthy Building
Babbage Building
Brunel Laboratories
Charles Seale-Hayne Library
Nancy Astor Building

Rainwater harvesting

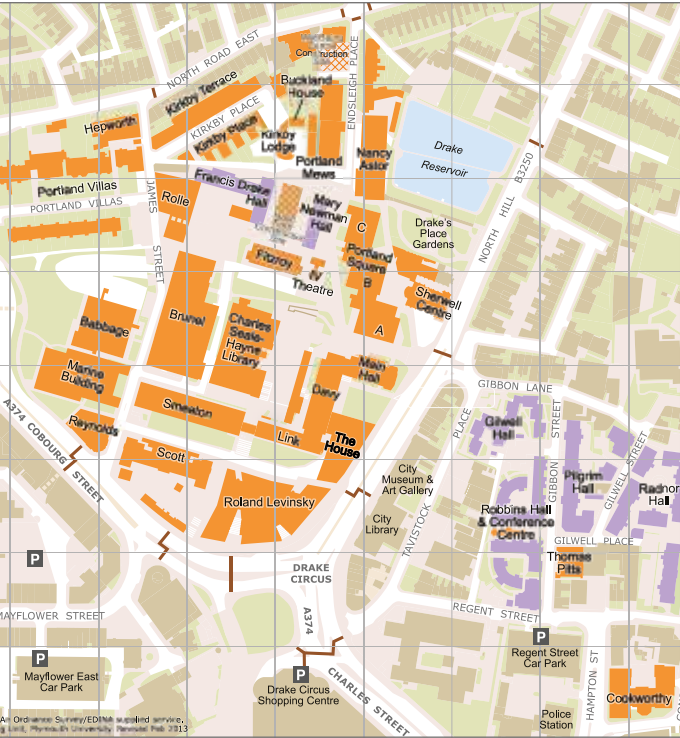
Marine Building
Roland Levinsky Building
Nancy Astor
The House

Low-loss transformer

Marine Building

Large gardens and growing space

Portland Villas
Drake's Place Gardens and Reservoir



High-efficiency LED lighting

Marine Building
Smeaton Building
Portland Square Building
Nancy Astor Building
The House
Rolle Building
Link Building
Davy Building
Scott Building
Cookworthy Building
Babbage Building
Brunel Laboratories
Charles Seale-Hayne Library
Roland Levinsky Building
Robbins Hall of Residence and Conference Centre

Lighting sensors

Marine Building
Smeaton Building
Portland Square Building
Nancy Astor Building
The House
Rolle Building
Link Building
Davy Building
Scott Building
Cookworthy Building
Babbage Building
Brunel Laboratories
Charles Seale-Hayne Library
Roland Levinsky Building
Robbins Hall of Residence and Conference Centre

CONSTRUCTION AND RENOVATION



The University has a continuous programme of construction and refurbishment to ensure the campus is fit for purpose and exceeds the ongoing expectations of our students.

This programme provides a tremendous opportunity to improve the efficiency of our campus and reduce operating costs, carbon emissions and other environmental impacts. We have minimum requirements for all refurbishment and construction projects which are included in our Sustainable Construction and Refurbishment Strategy to ensure that the benefits of the new building outweigh the negative environmental impacts of construction work.

BREEAM

As a minimum all new construction projects will achieve the BREEAM Excellent rating. This standard is considered the best practice in sustainable design, construction and operation and is the world's leading design and assessment method for sustainable buildings. The BREEAM assessment uses recognised measures of performance which are set against benchmarks, to evaluate a building's specification, design and use and represent a broad range of categories from energy to ecology. The certified assessment is delivered by a licensed organisation, using trained assessors.



The House – Performing Arts Venue



The Marine Building

MARINE BUILDING

This state-of-the-art building opened in 2012, and houses unrivalled wave tank testing facilities, a ship simulator and a Marine Innovation Centre.

The building design was also a big driver for the campus CHP plant. In addition, the building incorporates rainwater harvesting facilities, solar hot water, a natural ventilation system and high efficiency LED lighting and lighting sensors which all reduce the buildings carbon impact.

HEALTH AND WELLBEING, POOL AND TREMOUGH INNOVATION CENTRES

All three of these innovation centres are built to BREEAM Excellent rating giving a low environmental impact during construction and throughout the building's operation. The buildings incorporate biomass boilers, natural ventilation systems, rainwater harvesting and all use locally sourced building materials. In addition Pool Innovation Centre has photovoltaic cells to generate electricity from the sun and a green roof to aid biodiversity and reduce heat gain in the building.

'THE HOUSE' OPENING IN 2014

The new performing arts building is built to the BREEAM Excellent rating. Part of this includes using environmentally friendly materials; at least 25% of the high grade aggregate is from recycled sources and 70% of the construction waste is diverted from landfill. The building makes use of natural daylight through the use of sensors, the occupied spaces are entirely naturally ventilated and a 20,000 litre water tank will capture rainwater. It will also be connected to the campus CHP plant.

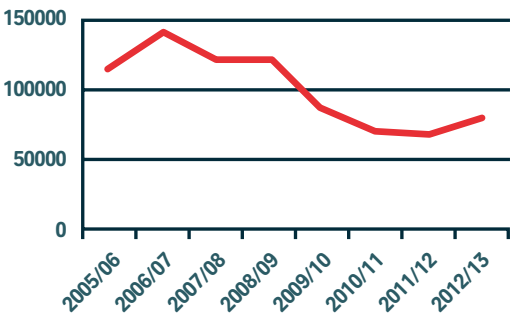
WATER



Reducing our consumption through technology innovation and behaviour change.

In line with the carbon and energy plan, water consumption will be reduced by better use of existing plant and investment in new and innovative technologies with new buildings being as water efficient as is economically practical. We are working to maintain the water efficiency of the equipment within our buildings to the highest standard and to reduce the consumption of water and associated CO₂e emissions.

Water Consumption Trend (m3)



Rainwater harvesting

We have rainwater harvesting technology in the Roland Levinsky Building, Nancy Astor Building and the Marine Building.

Rainwater is collected from the roof and stored in large tanks. The water is then used for the flushing of toilets and



Rolle building solar shading

saves the drinking water from the mains being used. There are many advantages to harvesting rainwater, mainly in providing an independent and local water supply which is not impacted by regional water restrictions and reduces the demand on local water infrastructure.

AIM

To help achieve the carbon reduction targets, the University will:

- reduce water consumption from 7.3m³ per student to below 3.3m³ by 2015
- maintain water consuming equipment at its optimum efficiency
- reduce consumption through tighter control and elimination of leakages.

PERFORMANCE

- Since 2007 we have reduced annual water consumption by 13%. A series of leaks in 2012 unfortunately reduced our achievement.
- Our goal to reduce water consumption per student is on target and consumption is currently 3.6m³.

Half hourly metering

In 2012, we spent £20,000 on improving water meters through installing half hourly logging equipment. This has provided intense monitoring and mapping of water consumption and has identified potential savings of £50,000 from water use.

The first round of water conservation from 1990 to 2004 led to over a 45% reduction in water use delivering a saving of £4 million and 300TCO₂e.

From the more intelligent metering we are looking into a number of water projects including: reduced flow and improved control urinals, flow restriction on taps and reduced water pressure in toilets. A survey of water consuming equipment is planned for during 2014 and improved methods of detecting leaks are planned for installation.

*Kilograms of carbon dioxide equivalent (KgCO₂e)

WASTE

Working towards the 5 Rs: reduce, reuse, recycle, (energy) recovery and remove.

We have two targets for waste; to increase the proportion of waste recycled and reduce the amount of waste generated. Along with reducing waste we want to educate staff and students about the main issues. To support this we sort our waste on site and the waste depot transfer station is visible to all on campus. In 2012–13 the University consolidated its waste reporting structure to a single source. This was to improve efficiency and ensure compliance to ISO 14001.

Desktop recyclers

In 2012, we introduced desktop recyclers and removed desk bins. The desktop recyclers make it easier for staff to recycle. Putting all recycling waste into their desktop recycler in the day and taking it for separation into the recycling bins at the end of the day.

Food recycling introduced

In 2013, we introduced food recycling (composting) from the catering outlets. For the academic year we composted 2.7 tonnes of food. We have a projected target of reducing food waste by 5% per year.

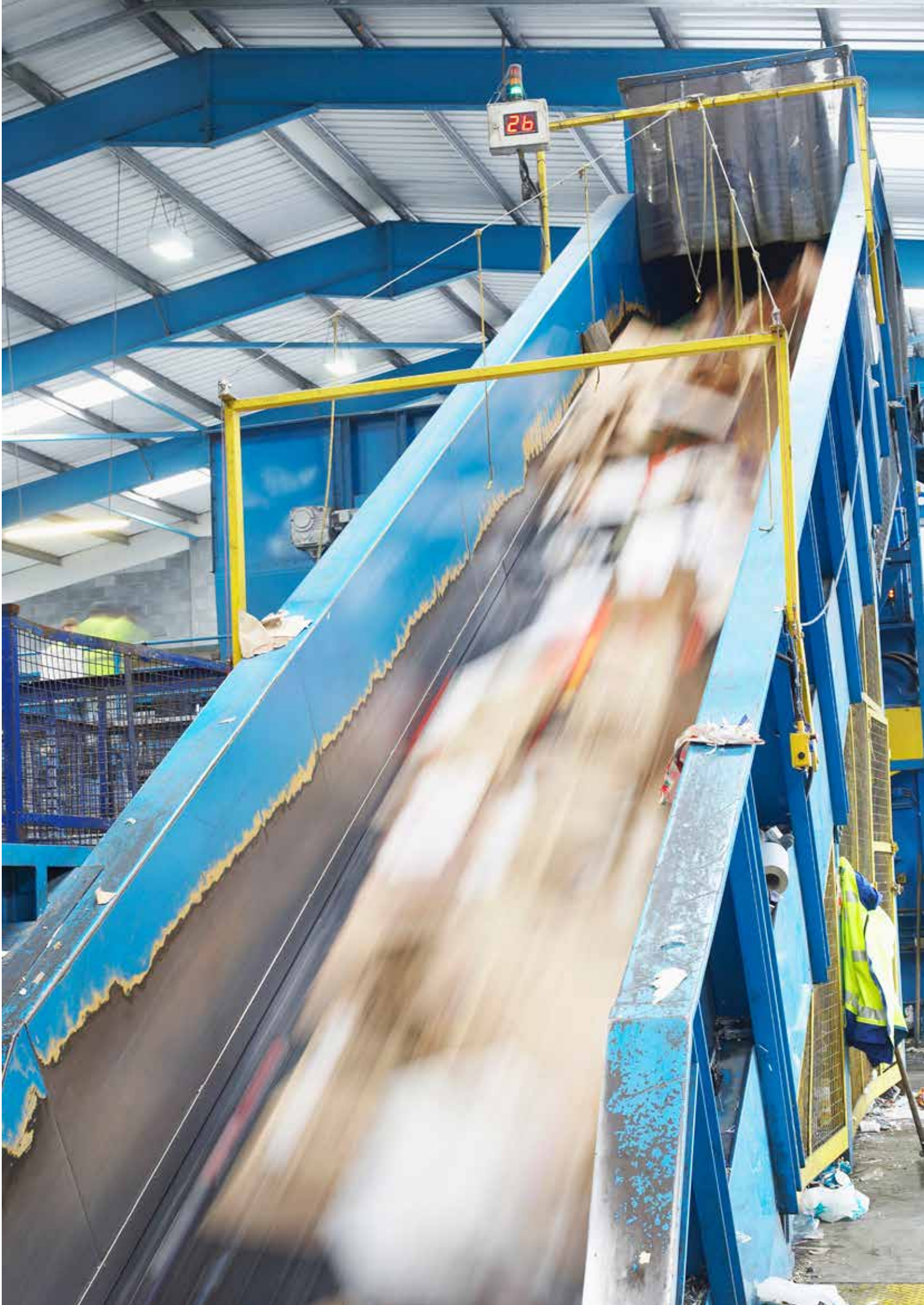
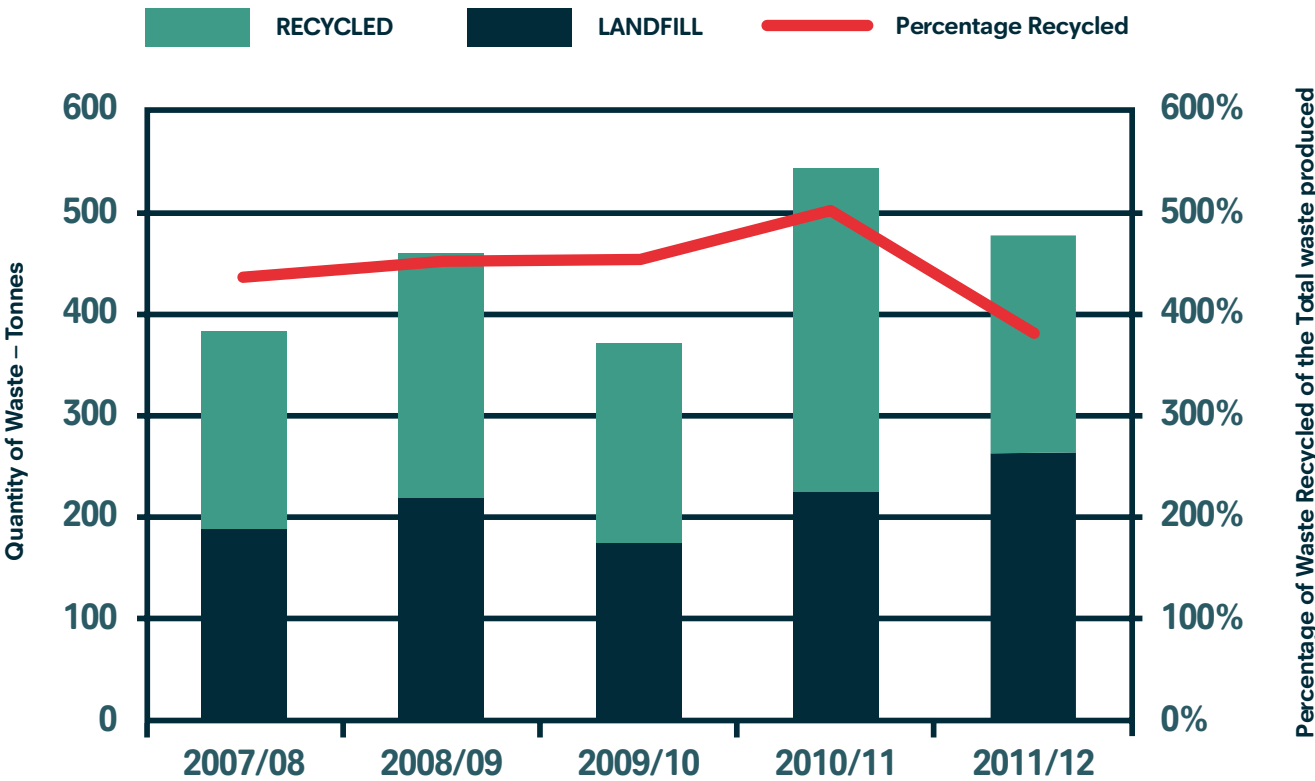
AIM

To reduce the impact of our operations we will control waste through:

- recycling 70% of waste by 2015
- reducing the waste generated per student to 20kg or below from 2010–11 levels by 2014.

PERFORMANCE

- Since 2011, we have reduced our total waste by 11%. We currently generate 22kg of waste per student and so are in line to meet our 20kg target.
- In 2013, we recycled 56% of our waste which has increased by 6% since the base year of 2007 and are on target to meet our 2015 goals.



TRAVEL

Supporting sustainable modes of transport through the Green Travel Plan

Owing to the location of the main campus in the city centre, and the student and staff population reaching almost 30,000, travel and transport is an important issue and one that impacts the local residential community.

In an attempt to minimise the impact of car travel on the campus and local environment, the University, with the co-operation of local public transport operators and Plymouth City Council, has developed a Green Travel Plan. We want to encourage maximum use of public and sustainable transport, as described in the University Travel Plan.



AIM

To reduce the impact of the movement of our staff and students, we will:

- increase the number of staff commuting by walking, cycling and car sharing by 2% each by 2017, for staff and 1% for students not living in University accommodation
- reduce the proportion of single occupancy car drivers by 7–8% by 2017 for staff and by 3% for students not living in University accommodation
- increase the use of public transport by 3% by 2017 for staff and by 2% for students not living in University accommodation
- increase the use of video/telephone conferencing by 3% by 2017, to reduce business travel.

PERFORMANCE

See table below.

MODE	STAFF			STUDENT		
	Change 2012–13	Current proportion	Target 2017	Change 2012–13	Current proportion	Target 2017
			Increase to:			Increase to:
			Decrease to:			Decrease to:
WALK	+1.4%	22.9%	22%	+6.4%	55.2%	47%
BICYCLE	+2.2%	6.8%	4.68%	+0.7%	3.0%	2.9%
PUBLIC TRANSPORT	-2.4%	31.5%	34.4%	-4.2%	23.8%	30.9%
CAR SHARERS	+0.5%	12.9%	12.8%	-0.3%	6.2%	5.7%
MOTORCYCLE	-0.6%	1.2%	No target	+0.1%	1.1%	No target
CAR	-0.4%	22.9%	21.5%	-2.2%	10.3%	11.9%

290 bike racks
+5% since 2012

196 parking spaces
-27% since 2012

INCREASE OF 104 BICYCLE SPACES

We offer 290 bicycle parking spaces on campus, which is an increase of 104 spaces since 2007.

We positively encourage cycling to campus and promote the local cycling network and facilities. We have a Bicycle User Group (BUG) which promote and campaign for cycling facilities on behalf of the staff.

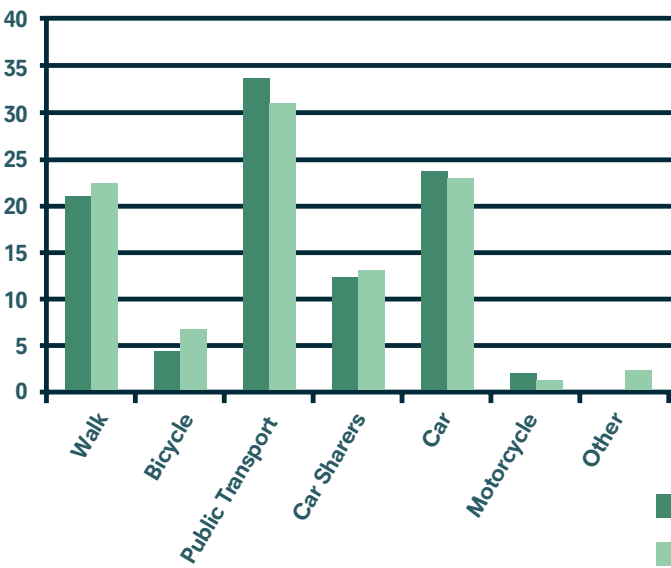
We run regular cycling campaigns on campus, including two events in 2013–14 which included bike doctor workshops, led rides, cycle maintenance courses and the sale of second hand bikes. Throughout the year we promote free monthly workshops offered in the city by Bike Space.

For staff we also offer the cycle-to-work scheme that enables staff to purchase a bike through a salary sacrifice scheme.

GREEN TRAVEL PASS

We also provide the Green Travel Pass to staff at a discount, which provides unlimited travel on all bus networks within the city. This is the only seasonal ‘multi-operator’ pass in the region and is only available as an employer scheme.

Staff commuting (%)



2013 Annual travel survey participation
4.1% students
26.9% staff

CAR SHARE OPEN TO STUDENTS

In 2013, we opened the car share group to students as well as staff. This helps provide a more trusted lift share group. Registered car share drivers are given preferential treatment for car parking spaces over single occupancy car drivers.

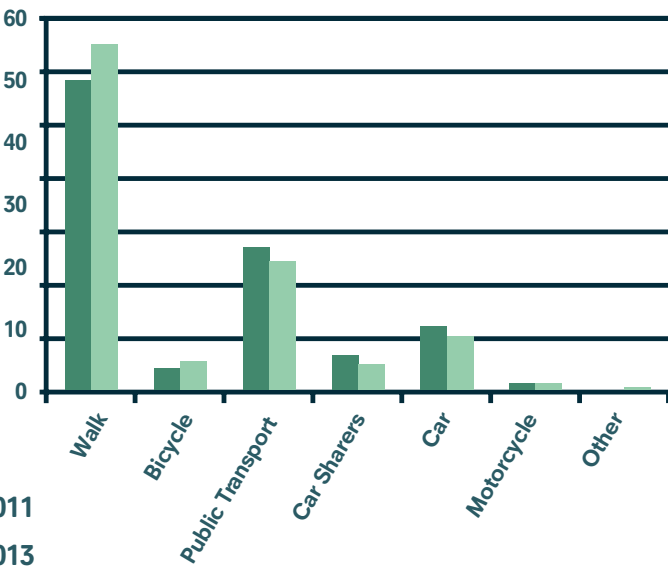
PERSONAL TRAVEL PLANNING

Plymouth City Council is currently working on the Plymouth Connect programme. Part of this programme is the delivery of personal travel planning to 43,000 households and 1,800 businesses in the city. We promote this service to staff and students at events throughout the year.

FREE INTER SITE BUS TRAVEL

In 2012, we introduced a travel scheme between the city centre and Royal William Yard and Derriford for inter site travel for staff and students who are based off campus. This scheme provides free access to buses running along those routes during office hours for inter site travel as required.

Students commuting (%)



FOOD AND CATERING

Creating a sustainable food culture that supports local, sustainable and Fairtrade produce and suppliers

We are proud to support both Fairtrade and the Plymouth Food Charter through which we publically pledge our commitment to developing a sustainable food culture at the University. We acknowledge the need to work with both local and international producers in a transparent and sustainable way in achieving our ambition. We do not believe that the Fairtrade and local drivers are incompatible and we aspire to finding a sustainable balance between the two in our food provision.



**LOCAL
SUSTAINABLE
FRESH
WITH
PLYMOUTH
UNIVERSITY**

AIM

We have an extensive action plan for sustainable and Fairtrade food, and a number of the goals have already been achieved. The remaining measurable targets include:

- increasing the percentage of local food suppliers by 5% by 2016
- reducing the sale of bottled water on campus and reducing the use of bottles for hospitality by 2014
- increasing the purchase of organic milk by 2015
- striving to continue to use local suppliers and food from the British Isles through working to reducing food waste by 5% a year.

PERFORMANCE

The catering team is making great progress towards sustainable catering. Local and seasonal produce is marketed in the catering outlets and healthy options are available and promoted as standard. Menus are changed in accordance with seasonal availability and the main dishes are served with two seasonal ingredients. We have achieved the following aims over the past two years.

- Our Fairtrade status was renewed in 2013 in recognition of our support in selling and promoting Fairtrade products and campaigns.
- We were re-awarded Food For Life Bronze status recognising our commitment to ethical and local food sourcing.
- In 2013, we were awarded the Good Egg Award in recognition that all our eggs and egg products are free-range.
- Our fish is sourced from fishing boats that are part of the Responsible Fishing Scheme. The remainder of our fish is from MSC-certified stocks where the species allow.
- Most meat and dairy purchased is Red Tractor assured, which guarantees the compliance with minimum production standards, and the products are fully traceable back to the UK. We have committed to purchasing 100% of meat from Red Tractor assured sources by September 2014.
- In 2012, food waste recycling was introduced.
- Students' Union runs five campus markets a year, selling local produce and crafts.



Red Tractor Assurance



MSC fish and the Responsible Fishing Scheme

Our fish is from a local Plymouth supplier and is either from MSC certified or local fish stocks. The local stocks are from fishing boats that are part of the Responsible Fishing Scheme and sourced from Plymouth and Brixham markets. The remainder of our fish served on campus is from MSC-certified fish. We are working towards greater sourcing of MSC certified fish with our suppliers, but there are some products still unavailable as MSC certified and this sourcing often clashes with the agenda to source local sustainable fish.

Good Egg award 2013

Since 2007 the Good Egg award has celebrated companies that use cage-free eggs and egg products. We were successfully awarded the Good Egg Award for our achievement and commitment to selling and using free-range eggs.

Fairtrade University

In 2013, our Fairtrade status was successfully renewed following two years of activity supporting the Fairtrade policy and action plan. For Fairtrade Fortnight 2014, we had a smoothie bike on campus, a banana hunt, a talk from a St Lucian banana grower, a film screening of Bananas!, and a book reading of Fighting the Banana Wars by Fairtrade's Chief Executive. It was a fun filled two weeks that put Fairtrade bananas on the map.

Red Tractor meat

Most of our meat is Red Tractor certified and we are working towards Red Tractor Accreditation for 100% of our meat by September 2014. Our meat is sourced from Red Tractor assured suppliers which means the meat is sourced from responsible production standards and is fully traceable back to independently inspected farms in the UK. In addition our meat is sourced from a local family butcher based in Exeter, who has invested in a recycling system for waste products to be converted into eco-friendly compost and uses recyclable plastic for delivery crates.

Food For Life standard

We were re-awarded the Food For Life Bronze status in 2013 in recognition of our commitment to sourcing fresh food, locally in an ethical and sustainable manner, and promoting local producers while still delivering healthy nutritious food.

Food Plymouth

Plymouth University is a proud supporter of Food Plymouth Initiative, a city-wide, cross sector partnership of organisations working to support Plymouth's journey towards being a sustainable food city. Led by the Soil Association, in partnership with Plymouth City Council and Plymouth Community Healthcare, the programme is working to promote sustainable and healthy food as a powerful driver for promoting and enabling positive social, economic and environmental change.

Green Gown Food and Drink winner

Our model of sustainable catering won the hotly contested Food and Drink category in the 2014 Green Gown Awards. This reinforces our delivery of best practice in this field.

Devon & Cornwall Food Association (DCFA)

We have a partnership with the DCFA to supply them with surplus, short-date and end-of-line stock. In turn they redistribute this to local charities and support the local community including the homeless, disadvantaged and elderly. They also provide food to a range of organisations including drug rehabilitation centres and community skills training centres.

Sustainable Restaurant Association

We received the top Three Star Rating from the Sustainable Restaurant Association (SRA) which rate sustainability performance of restaurants across the three areas of sourcing, environment and society. We scored 72% overall, which made us the highest performing University in the UK. We worked with the SRA to develop an accreditation system that would work for the university environment, and this is now being rolled out by the SRA across UK institutions.



BIODIVERSITY

Counteracting the high-density city centre campus developments by aiming to maintain the level of green space on campus

Plymouth University is an intensely occupied, compact, urban campus with dense development on the campus site. Because of this, biodiversity has to be carefully considered to ensure that the maximum social, environmental and economic benefits can be achieved.

Our main campus is under biodiversity pressure as a result of increased development on greenfield spaces in past years.

Plymouth University recognises that biodiversity is of utmost importance across social, economic and environmental factors, but also in terms of well-being and understanding the value of nature.

AIM

We have a large number of goals within our Biodiversity Action Plan and we are working to:

- maintain the level of green space on campus as the same level as 2011
- increase the number of animal and plant species on campus compared with 2011 levels
- increase the level of marine ecology in the reservoir compared with 2011 levels
- provide growing space on campus for biodiversity education and where staff, students and the local community can grow their own food.

PERFORMANCE

In 2013, a £1.4 million restoration project started for Drake's Place to restore the reservoir and gardens back to their original design and to support and increase levels of plant life and insect species. Drake's Place is a community space and a place where students, staff and the community can come for relaxation, learning and volunteering.

The Physic Garden, used by Plymouth Growing Futures, opened in 2012, for the purpose of growing plants and vegetables. It is used by an expanding group of students, staff and members from the local community, who meet every Tuesday to look after the gardens. This involves growing food on campus and developing learning opportunities in the outdoor space. Children from Freshlings Nursery have also been involved in the growing activities.

We also have a 12 bed allotment space in the north of the city which are used for growing vegetables and edible flowers as well as health and well-being activities. This is run by the Students' Union and was expanded in 2013.

For buildings off campus the biodiversity achievements are much wider. The Peninsula Dental School in the Plymouth Science Park and the Pool Innovation Centre both have a green roof, supporting wildlife as well as adding thermal properties to the building.

We also planted 15 endangered and rare species of trees on campus in 2012, as part of the University's 150th anniversary legacy.

Drake's Place won the Best Public Space and People of Plymouth categories in the Abercrombie Awards 2014

150TH ANNIVERSARY TREES

Recognising partnerships around the globe and increasing biodiversity on campus

- Patagonian Cypress**
Recognising partnerships in Chile and Argentina
- Handkerchief Tree**
Recognising partnerships in China
- Tulip Tree**
Recognising partnerships in North America
- Liquidambar.**
Recognising partnerships in Mexico and Mesoamerica
- Japanese Snowbell**
Recognising partnerships in Japan, China and Korea
- Monkey Puzzle Tree**
Recognising partnerships in South America
- Indian Bean Tree**
Recognising partnerships in North America
- Oriental Beech**
Recognising partnerships in south east Europe, northern Iran, Caucasus and south west Asia
- Japanese Zelkova**
Recognising partnerships in South Korea, Japan and Taiwan
- Pink Tulip Tree**
Recognising partnerships in Sikkim (India), Nepal and Bhutan
- Magellan's Beech**
Recognising partnerships in New Zealand and South America
- Scotch Laburnum**
Recognising partnerships in south and central Europe, Italy and west Balkans
- Date Plum**
Recognising partnerships in south west Asia, south west Europe and China
- Rhododendron (rare)**
Recognising partnerships in north India and Nepal

For more information on the trees please visit:
www.plymouth.ac.uk/150/pages/legacy



SPREADING THE MESSAGE

Sustainability induction

All new staff are encouraged to complete the Environmental and Waste e-Learning tool as part of their induction process. This takes new staff through what sustainability is for Plymouth University and how staff can get involved and adapt their behaviour to achieve the University's targets.

Bespoke sustainability training

We have bespoke training titled 'Self Leadership for Sustainability'. This is a two part activity-led training course designed to help individuals cultivate self-leadership skills attributed to a sustainability context. The aim of the course is to support the self-development of participants in ways that will motivate and empower them to engage meaningfully with positive change.



Sustainability with Plymouth University



@SustainPlymUni

For more information please go to:
www.plymouth.ac.uk/sustainability



CREATING SOLUTIONS TO THE WORLD'S MOST PRESSING SUSTAINABILITY CHALLENGES THROUGH MULTIDISCIPLINARY RESEARCH

RESEARCH AND THE ISSR

Delivering solutions to global sustainability problems

The Institute for Sustainability Solutions Research (ISSR), in collaboration with other research institutes, centres and groups at Plymouth University, leads the action area on sustainability research. The ISSR was launched in April 2012, and brings together the world-class sustainability research under way at Plymouth University. The institute has over 420 members, including over 300 researchers investigating sustainability from a variety of different disciplines and perspectives including science, business, arts, humanities and health.

AIM

To contribute to defining the problems and creating solutions for the world's most pressing international, national and local, environmental, economic and social challenges. Through our creativity, innovation and energy for change, we will make a difference to the world and be known as a hub of social transformation and learning for a more sustainable, just and equitable future. We split our activities into three broad areas; internal network, external gateway and research project bid hub.

Internal Network

To facilitate internal communications and enhance internal research interaction through:

- the biannual ISSR Council
- the fortnightly management team meetings
- the wider network with monthly communication to over 420 staff
- the quarterly postgraduate and early career researcher's network
- the annual research event with 100 attendees in 2012, 160 in 2013 and 170 in 2014
- workshops
- annual surveys.

External Gateway

To promote sustainability research, be the single point of contact for organisations wanting to engage with the University for, and increase the impact of, sustainability research through:

- the monthly external e-bulletin to over 440 partners
- monthly sustainability blog
- Twitter with over 300 followers
- the YouTube channel with over 40 videos
- the New Horizons Reports (three published)
- ISSR brochure
- Sustainability Research Review (launched in 2014)
- evening seminars
- strategic relationship meetings.

Research Project Bid Hub

To support understanding of multi-disciplinary funding, identify and communicate funding opportunities and support teams and their project ideas through:

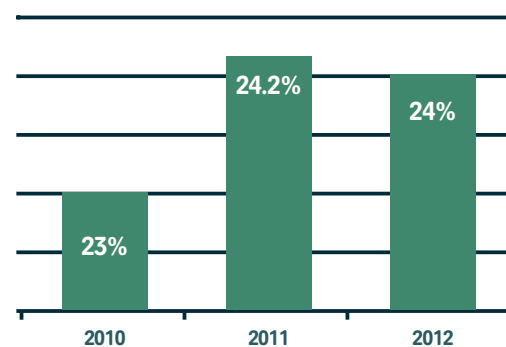
- horizon scanning and communicating current funding opportunities
- incubating ideas and supporting multidisciplinary teams
- the ISSR small collaborative funding awards (in 2014, eight projects were supported with seed funding)
- bid development meetings.

Research groups, centres and expertise

The ISSR coordinates the research activity and expertise of a number of groups:

- 3D Design
- Architecture
- Agricultural and Rural Sustainability
- Culture, Community and Society
- Marine and Coastal Policy Research
- Environment and Society
- Education for Sustainable Development
- Sustainable Leadership, Governance and Policy
- Sustainable Transport
- Ecotoxicology Research and Innovation
- Environmental Buildings
- Environmental Science/Terrestrial Ecosystem Services
- Interactive Systems Studio
- Sustainability and Surfing
- Medicine and Dentistry
- International Development
- Sustainability and Psychology
- Sustainability, Society and Health

Proportion of University publications related to sustainability



Plymouth University has more than 300 sustainability researchers

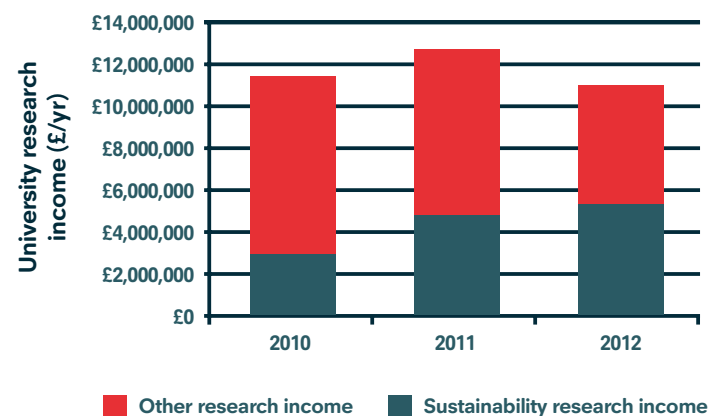
The ISSR monthly bulletin reaches over 850 internal and external stakeholders

Average 1,632 publications per annum related to sustainability About 24% of the total

An average of £11.7 million per annum total research fund over the last three years

Of which £4.4 million per annum fund was dedicated to environment and sustainability research

Proportion of University research income for sustainability



KEY ACTIVITIES 2012–14

Internal Network

Climate Change Minister opens ISSR in April 2012

The Minister of State for Climate Change, Gregory Barker, MP officially opened the ISSR on the 30 April 2012. Mr Barker said:

"Plymouth University's new sustainability research institute cements its position as a leading centre for innovation and research. The South West is already an area at the forefront of our low carbon future and Plymouth University has a key role to play, not least in the development of marine energy. I look forward to hearing more about the research institute's work."

Third annual sustainability research event

The event 'Challenge Accepted! Creating Solutions for Horizon 2020' was held in May 2014, and attracted over 170 delegates. This included presentations from the New Economics Foundation, Plymouth Energy Community and Centre for Sustainable Healthcare. This built on the success of the 2013 annual conference on 'Responding to the challenges of Living with Environmental Change' which attracted around 160 delegates in April 2013.



PhD and Early Career Network is launched in 2014

The ISSR PhD and Early Career Researcher Network had its first meeting on 19 March 2014 – there was a great turnout with lots of discussions about sustainability and future events of the network. A range of subject areas were represented; geography, health, nutrition and food, business and psychology.

External Gateway

External e-bulletin reaches over 440 partners interested in Sustainability Research

In September 2013, the ISSR launched a monthly e-bulletin to keep sustainability stakeholders up to date with blogs, news, events and much more.

ISSR launches Twitter: @ISSRPlymUni

The ISSR launched Twitter in October 2013. This has enabled a new route to engaging people in sustainability research. Our first Twitter chat was held on 27 March 2014, on sustainability and health.

Practitioner-based publications

The ISSR has developed a number of practitioner-based publications to take the research out into practice.

- **The Big Society & the Environment: Better Together:** the report suggests that there is a need for government and civil society to come together over the Big Society and Greenest Government Ever agendas.
- **Win Win: Saving Cost and Carbon – Sustainable Waste Management in Healthcare:** a case study report looking at the dual benefits of reducing waste in healthcare.
- **Supporting Entrepreneurship Education in East Africa:** supported by the UK Department for International Development to assess the capacity of business schools and other institutions to support entrepreneurship education in East Africa.



Research project highlights

eViz – Energy Visualisation for Carbon Reduction

Starting in September 2012 and running for three years, eViz is an Engineering and Physical Sciences Research Council funded study investigating how to reduce energy demand in buildings. It focuses on transforming people’s understanding and behaviour through novel energy visualisations using personal pervasive digital technologies. It’s a £1.5 million project which is being carried out by four universities: Plymouth University, Newcastle University, University of Bath and University of Birmingham.

SWSAL: smart card solutions for the South West bus network

SWSAL is a not for profit organisation formed in October 2010, encompassing the 15 highway authorities and 17 public transport operators in the South West and hosted by the ISSR. Completing in 2013, the £9.4 million funding was targeted at delivering electronic ticketing machines across all buses in the South West, and delivering Europe’s first open access regional card management system.

SWSAL were proud winners of the Plymouth University Enterprise Award 2011 and received a commendation in the National Transport Awards in the category of ‘Transport Team/Partnership of the Year.

Plymouth University helps drive youth enterprise in Nigeria

Plymouth University worked with Enterprise Educators UK, and counterparts at Lagos Business School, to support the Youth Enterprise with Innovation (YouWin) initiative, funded by the Nigerian government.

Plymouth was approached by the UK government’s Department for International Development (DFID) to provide training and quality assurance services for the competition. The University’s Business School, supported by the ISSR and Enterprise Educators UK, sent teams to Abuja and Lagos to run the workshops and assessments.

Biodiversity and ecosystem service sustainability

Working with external partners, we investigate the relative importance of recycled methane and atmospheric carbon dioxide in peatland carbon sequestration and thus the ability of rewetted mire systems to sequester carbon from atmospheric CO₂, a key ecosystem service.

‘Win win: Saving cost and carbon – sustainable waste management in healthcare’

Researchers from the Sustainability, Society and Health Research Group (SSHG) are carrying out a programme of research that will lead to an understanding of current practices, and the pressures associated with sustainable management of waste. Based on data from interviews with staff involved in healthcare waste management, we have developed a whole systems pathway, which identifies key drivers and trigger points for change interventions.

2014 small collaborative funding awards

The ISSR scheme provides seed funding for multidisciplinary projects which can lead to larger scale funding bids. Eight projects were awarded funding in 2014:

- Through others’ eyes: a survey of visitor values at the NMA
- Automated mapping of river networks for ecosystem service assessment
- Improving the effectiveness of volunteers in sustainable emergency planning
- How can dentistry be sustainable? An exploratory study
- Exploring food as a ‘lifestyle motivator’ to support wellbeing and life skills in marginalized groups in Plymouth
- Thermal mapping of patient spaces and journeys in Derriford Hospital
- Sustainable travel facilitation through web/app based interoperable ticketing
- An innovative, consumer-centric eco-system for sustainable water resource management (ICONS).



LEARNING FOR THE FUTURE THROUGH EDUCATION FOR SUSTAINABLE DEVELOPMENT

TEACHING AND LEARNING

Learning for the future

Learning from sustainability best practice within Plymouth University and across the globe, our students are able to engage positively with sustainability issues affecting their personal and professional lives in a rapidly changing world. In support of this, we enable organisational learning involving all members of the University community towards sustainability-oriented whole institutional change.

The Centre for Sustainable Futures (CSF) is the sustainability education team, responsible for driving

this agenda forward, as part of the wider teaching and learning support group including PedRIO and Education Development. Working closely with professional and academic staff and students across the University, CSF leads and supports education for sustainable development (ESD) through curriculum support and research.

CSF works across three interrelated programme areas – curriculum development, ESD research and whole institutional change – with the following aims:

AIM

Curriculum

To develop and realise the potential of ESD in enriching learning across the formal and non-formal curriculum

ESD research

To promote and advance ESD pedagogic research in relation to both enhancing the student and staff experience, and building a more sustainable university

Whole institutional change

To advance and articulate the central role of education and learning in furthering the University's cross-institutional sustainability agenda, and in relation to PU's sustainability leadership and profile in the HE sector

PERFORMANCE

In the academic year 2013–14, a strong platform for cross-institutional sustainability has been developed which holds real potential to progress this work still further. CSF has benefited from an increase in capacity from 1.6 FTE staff to 3 FTE from June 2013, reflecting the University's commitment to the sustainability agenda.

The curriculum review, a cross institutional survey on the sustainability content of the curriculum, was carried out in July 2010, and was followed by a more in depth review in May 2012. The review found that an element of sustainability, either content or pedagogy, was present in 49% of courses, including specialist courses.

Curriculum

CSF works in a number of ways to further the potential of ESD to enrich the student experience at Plymouth University. One approach is to work directly with individual schools and programmes, and members of CSF have worked with colleagues across a number of areas in the last couple of years. Whilst CSF staff have given one-off lectures to students, where possible the emphasis has been on enabling academic staff to engage further with sustainability and become empowered to work on curriculum change and delivery themselves. This approach has been successful recently in support of colleagues working in the fields of business and management, civil engineering, and robotics.



Curriculum Development Grants

CSF has launched a fund of £8,000 to support eight curriculum development projects. These small grant support projects seeking to create and explore new practices that will enrich the student experience of sustainability education. In particular, projects were encouraged to apply if they were interdisciplinary, involved innovative learning methods, or involved curriculum links to other aspects of University operations. Successful projects include:

- building on a pilot co-curricular programme entitled Collaborative Leadership for Sustainability
- developing a guide to health and sustainability for staff and students
- developing a staff continued professional development opportunity on transformative learning in partnership with Schumacher College
- enabling a 'train the trainer' workshop for Interactive Teaching on Energy and Climate in Environmental Sciences.

Sustainability Education Guidance for Academics

The Educational Development team provide guidance for academics who want to incorporate sustainability education into their teaching in a number of ways.

The team produce a guide called **'7 Steps to: Embedding sustainability in your teaching'**. This resource provides guidance for academics from any discipline who are new to sustainability education and want some quick and easy suggestions for how to get started. The short document provides pointers for where to access more information on: the principles of sustainability; how to frame sustainability within different disciplines; and how to use different teaching approaches. In addition, there is a second document **'7 Steps to: Using the campus to learn about sustainability'**, which gives guidance for academic staff to use the campus as a learning tool for ESD.

In terms of continued professional development, the **Postgraduate Certificate in Academic Practice** on Sustainability Education provides an introduction to the subject area and the opportunity for participants to explore ESD in relation to their own academic practice. It is an optional 15 credit masters-level course which

equips lecturers from all fields with the skills to introduce sustainability education and learning within their own subject areas and is offered to all new academic staff. However, anyone in the University can work through its content as an open educational resource.

Education for Sustainable Development Research

CSF collaborates closely with the Pedagogic Research Institute and Observatory (PedRIO), the Institute of Sustainability Solutions Research and other groups across the University and external partners. Twenty-one ESD related research projects have been launched or completed since 2009, mostly funded by PedRIO including:

- 'Transformative learning for sustainability in HE': exploring diverse student experiences, PedRIO, 2011–12
- participatory research with students and staff studying and teaching on the new BUS 229 'Shaping the Future: Creating Sustainable Business Organisations module' with Plymouth Business School and CSF, 2013–14
- 'Communicating Carbon Through Images: opportunities and challenges' with CSF, 2011–12
- 'Energy Literacy in Higher Education', 2011–12
- 'Environmental Activism and its influence on sustainability education: experience at two British universities', 2011–12.

Whole Institutional Change

Working with staff and students, CSF brokers links and drives initiatives that benefit learning for sustainability across the University and beyond.

The Future Leaders Programme is open to any students who have an interest in advising and leading innovation in sustainability education at Plymouth University. Students selected have the opportunity to join peers from a range of different disciplines and to receive a range of personal development and collaborative leadership opportunities in order to work alongside the pioneering approaches to ESD and learning space design within the University. The University is keen

students' natural creativity, inspired innovation and enterprising leadership. The voice, perspective, and imagination of students at Plymouth are vital elements in progressing the work of CSF in 2014.

Plymouth Growing Futures (PGF) is a cross-institutional project involving both staff and students, which aims to contribute to transformative learning experiences through working in and around the outdoor campus green spaces. From small beginnings, as a student led project on the Masters in Learning for Sustainability in 2012, it has developed into a dynamic and innovative project benefiting the campus and institutional learning.

This project facilitates interdisciplinary collaboration including: enabling social work students, service users, and their enablers to enjoy a six-week taster session in the Physic Garden, regular gardening sessions with children and staff from Freshlings on-campus nursery, supported by Early Years education students' fundraising, and securing funding from Plymouth City Council to allow 3D Design and Fine Arts students to design and build street art sculptures for a public Plymouth in Bloom gardening event. There are moves to integrate this work with the University's biodiversity policy, affording further links between campus and learning.

External Advisory Work

In 2013–14, external work by both CSF and Education Development staff has included:

- acting in an advisory role on the Higher Education Academy's Green Academy programme which aims to embed sustainability across the curriculum holistically working with a group of UK universities
- contributing to the UN Decade of ESD Expert Reference Group at UNESCO, Paris, in April 2013 – designed to solicit expert input into a global programme framework for ESD after 2014
- working on the draft guidelines for ESD to be produced by the Quality Assurance Agency for Higher Education
- writing a major invited conference paper for the UNESCO World Conference on ESD scheduled for November 2014 to mark the end of the UN Decade of ESD.



TRANSFORMING LIVES THROUGH PARTNERSHIP

COMMUNITY ENGAGEMENT

Plymouth University is firmly connected with place and people, playing a significant role in driving economic, social and cultural vitality. Our development as an organisation has continued to reflect the changes and demands of our city and region.

As a University strongly connected to our community, we want to help people transform their lives through education, provide opportunities to foster social inclusion and build a future-facing society distinguished by innovation, where people are encouraged to use their abilities, experience and talents to make a difference.

We recognise strength in diversity, promote the importance of a globally connected community and are committed to achieving a low carbon economy, integrating sustainability principles into our work.

505 PUBLIC EVENTS IN 2012–13 **OF WHICH 372** WERE FREE
INCLUDING: **28** CONFERENCES **172** FREE LECTURES **10** FREE
PERFORMANCE ARTS EVENTS **14** FREE EXHIBITIONS.

WORK WITH **5,000** BUSINESSES A YEAR **73,547** LEARNER
DAYS DELIVERED TO BUSINESSES AND THE COMMUNITY,
UP **32%** FROM THE YEAR BEFORE.

150th Anniversary

Our 150th anniversary in 2012 demonstrated how our approach to partnership creates a lasting legacy for our community. We raised over £720,000 in the year to support our celebrations and partnership activities such as the 150th student scholarship scheme, which enabled our students to fulfil their potential. We also planted 15 rare species of trees on campus ([link to page 25](#)).

PERFORMANCE

The past two years have seen many successful community and engagement projects. Partnering with our local community, the University encourages shared use of campus facilities from meeting and conference rooms and attending public lectures and seminars, to visiting the Peninsula Arts Gallery, Jill Craigie Cinema and campus cafes.

We celebrated our 150th anniversary in 2012, and more than 50,000 people helped us celebrate this legacy.

Plymouth U3A

Starting in 2011, the University enjoys a successful and mutually beneficial academic partnership with Plymouth U3A. Transforming lives through providing educational, creative and leisure opportunities for people no longer in full time employment to continue learning. Members of the Plymouth U3A have been attending lectures, touring and accessing University facilities and enjoying bespoke presentations from University academic experts in return for engaging with our students and enhancing their experience and employability. We have delivered more than 2,600 engagements since the partnership began in 2011.

COMMUNITY PARTNERS

OUR COMMUNITY PARTNERS INCLUDE:
SOCIAL ENTERPRISES, BUSINESSES,
REGIONAL BODIES, LOCAL AUTHORITIES,
NHS/HEALTH, STATUTORY AUTHORITIES,
SCHOOLS AND COLLEGES, ALUMNI GROUPS,
THE GENERAL PUBLIC, OUR NEIGHBOURS,
COMMUNITIES OF INTEREST, COMMUNITY
ORGANISATIONS AND CHARITIES.

Drake's Place

In December 2013, a £1.4 million restoration project commenced to restore Drake's Place gardens and reservoir, thanks to funding from the Heritage Lottery and the Big Lottery fund. The restoration is a community project with over 800 ideas and comments received as to how the space could be developed for everyone to enjoy. Following the completion of the redevelopment, the community will have the opportunity to get involved with all sorts of projects in the gardens and reservoir, from bug hunts to exhibitions, picnics and garden markets.

Plymouth is leading the major research project, Natural Connections

This project is part funded by the Department of Environment Food and Rural Affairs, Natural England and English Heritage and is one of the largest outdoor learning projects in the UK. This three-year project started in 2012, and will work with more than 200 schools across the South West to increase the number of schoolchildren experiencing the full range of benefits that come from learning in natural environments.

Making Waves

This public art project celebrating the city's skills, creativity and innovation, was spearheaded by the National Marine Aquarium in partnership with the University and the National Apprenticeship service and supported by Plymouth City Council. It celebrates Plymouth's successful record of apprenticeship training and raises awareness and funding for marine conservation across the city using the sunfish as the design basis for the city's trail of fish sculptures.



Above and below: Drake's Place Gardens and Reservoir

Community Research Awards

These awards have been running since 2008–09 and have driven successful partnerships between a variety of local community groups and the University. The 2012–13 ceremony awarded seven projects involved in the following areas: wildlife, health, school, sports, housing and homelessness and marine services. The seven projects were selected from a wide range of high quality research ideas submitted by community groups, charities and social enterprises.



GAIN: the South West's engine for business growth

GAIN is the Growth Acceleration and Investment Network founded by Plymouth University, Plymouth City Council and Plymouth Science Park. It aims to accelerate growth and investment in high-quality businesses and ideas to create wealth and jobs in the south west. GAIN builds upon and adds value to an existing range of business services, assets and facilities by joining them up and making them more accessible within a network of growth-minded businesses and investors.

The network plays a key role in the Plymouth and South West Peninsula City Deal, which includes a £6 million business support programme.



STUDENTS

Excellent learning in partnership with students

Plymouth University is a community of learning, underpinned by the principle that students and staff are partners in enhancing the student experience here. Our agreement has been devised by students, staff and representatives of the Students' Union to place enterprise at the heart of everything we do and develop an innovative and creative student experience that is empowering.

Students' Union wins Excellence- Outstanding standard for the Green Impact Award

UPSU was awarded the Excellence-Outstanding in the Green Impact Students' Union Scheme 2014, following from Gold in the previous two years. The national initiative, led by the National Union of Students, recognises unions who work to limit their impact on the environment and operate in a sustainable way. Judges undertook a thorough analysis of the measures UPSU has in place to make its operations more environmentally friendly and awarded it gold status for its good practice. Many of the criteria required a partnership approach with the University.

And to add to their collection, UPSU became one of seven unions nationwide to scoop a top award for its policy and practice in selling alcohol responsibly, winning the gold award in the Best Bar None national scheme in 2013 and Silver in 2014.

16,000 volunteering hours
12,000 student placements
with over 70 organisations

Student led fundraising

Raising and Giving (RAG) is the student led committee for fundraising. Plymouth University has the fastest growing student fundraising committee in the country with fundraising increasing from £6,000 in 2012 to £106,187 in 2013 and £232,799 in 2014.

Over 630 widening participation outreach events in 2012–13

Through our widening participation activities, we seek to raise awareness, aspirations and achievement to support the successful progression to higher education of groups that are otherwise under-represented.

This scheme includes:

- student shadowing where school pupils are matched with an undergraduate for the day
- UniExperience which allows year 11 and 12 pupils to gain invaluable residential experience at our campus
- access for adult returners – a service available for adults returning to study
- access for care leavers – provides dedicated resources to provide information and advice on the Plymouth University bursary scheme which provides financial support and access to accommodation services
- access for ethnic minorities – designs and delivers outreach activities aimed at increasing the ethnic diversity of participants.

110 societies in total including Young Greens and Allotments

6,500 society members

£232,799+ fundraised this year



PEOPLE

Empowering our people

Our Staff Survey results in 2013 showed that Plymouth University continues to be an employer of choice with the vast majority of our people identifying with the University's mission and gaining tremendous satisfaction from their roles. Survey results have been shared widely across the University and action planning at both the University and the local level is actively underway. Action planning at University level has resulted in a priority focus on how the University can better communicate and engage staff in change, an area that staff shared some concerns about in the survey.

The University's People Strategy published in April 2014 has been informed by the 2013 Staff Survey results and developed to "Empower our People" as outlined in Strategy 2020. It demonstrates the University's continuing commitment to our talented staff and determination to continuously review and renew our approach to enabling our people to deliver of their best.

Recognising that the University's sustainable growth is dependent upon continued performance in the short and long term, sustainability threads through the five goals articulated in the People Strategy as summarised below:

- Goal 1:** Sustain a culture of empowerment, accountability, transparency and trust that enables effective leadership and promotes great decision-making at the appropriate level supported by highly effective governance arrangements.
- Goal 2:** Ensure that the right people are in the right roles at the right time with succession plans in place for all key positions.
- Goal 3:** Cultivate and sustain a culture of self-leadership and trust where people take responsibility for what they need to do, are clear on what success looks like in their role and understand how best to contribute to the core strategy of the University.
- Goal 4:** Foster self-development by providing an environment where people have the tools, resources, feedback and leadership they need to enjoy and be successful in their work.
- Goal 5:** Recognise and reward individual and team contributions through processes such as an effective Performance Development Review procedure and the Vice-Chancellor's Enterprise Awards.

The University's behavioural framework outlines the behavioural expectations of staff so that they are clear not only on what is expected of them but also the way in which work should be delivered. This approach is enshrined in the University's Performance Development Review process and emphasises the importance for individuals to take ownership for their continuous development, in particular their self-leadership so that performance is sustainable amidst a context of continuous change.

Our development framework available to all staff continues to feature programmes designed to enhance self-awareness, self-regulation and personal sustainability. Our formal induction programme emphasises to all staff the commitment the University has towards the sustainability agenda and signposts new staff to a bespoke e-learning tool. In 2014 we launched an induction programme specifically targeted at leaders as we recognise the importance of leadership in helping staff to sustain their performance.

The formal Leadership Essentials programme introduced in 2013 focuses on the importance and value of authentic leadership. Formal leadership development, along with our use of executive coaching for senior and executive leaders, has proved to be a powerful way of enabling leaders to sustain their formal leadership responsibilities whilst navigating through a period of unprecedented change.

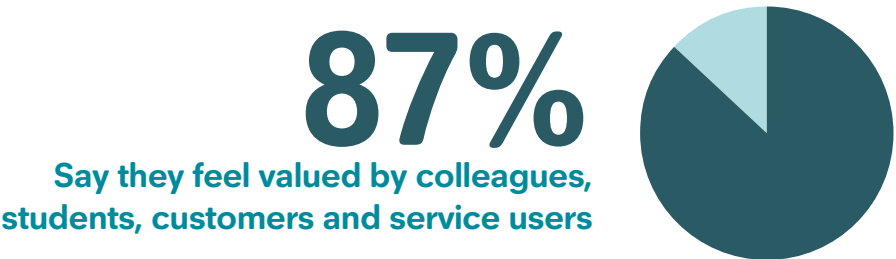
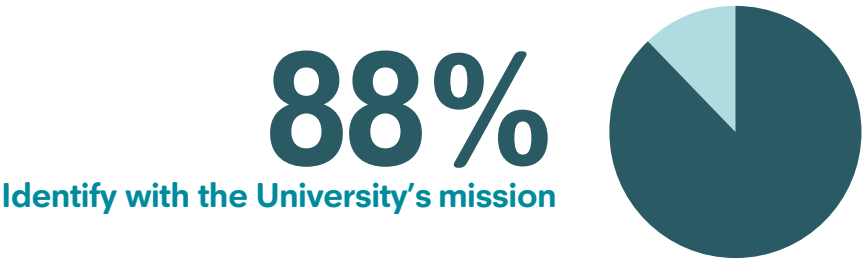
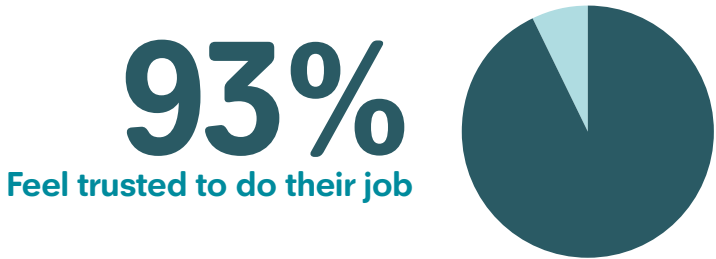
The University will be continuously reviewing the implementation of the University's People Strategy and progress towards each of the five goals articulated.

PIONEERING
EMPOWERING
SPIRITED
EXPERT
CONNECTED
CREATIVE

An employer of choice

The firm Capita, who ran the staff survey has developed a framework and benchmark tool comparing results from 307 clients in both the private and public sectors surveyed by 2012-13, to establish whether staff feel their organisation is an 'employer of choice'. With this system Plymouth was ranked 35th out of 307 organisations.

Ranked **35th**
out of 307 organisations



SAFETY

The University takes a very serious view of health and safety (H&S) matters, and whilst studying and working on campus staff and student interests in this respect are protected by the University’s safety policies and practices.

The University Safety Committee meets three times per year to oversee the implementation of policies and procedures, codes of practice, address H&S concerns and monitor training and development.

The 2013, staff survey collected responses on attitudes towards H&S and received some great feedback. The results reported that 96% of staff felt safe and secure in work and 82% understood how to report an accident, which are both improvements from last year.

Health and Safety e-learning module

As part of the University’s duty of care, all staff complete a General Health, Safety and Fire Awareness e-learning module as part of their induction, which is then renewed every three years. The module covers H&S at work, such as roles and responsibilities, fire awareness and risks and hazards, and manual handling and display screen equipment to give an understanding of correct usage.

Around 90% of staff complete the H&S e-learning module, and each intake of new staff is given the module link as part of their induction.

Health and Safety Training

H&S management training is about competence and having the confidence to undertake any H&S role with the training focused on developing specific skills. From August 2012 to the end of 2013, 487 members of staff attended 40 courses. The courses ranged from fire marshall refresher training, first aid at work and evacuation training for example.

FURTHER READING

- Sustainability Strategy
- Energy and Water Policy
- Carbon Management Plan
- Community Engagement Strategy
- People Strategy
- Sustainable Procurement Strategy
- Waste Management Plan
- Biodiversity Policy
- Green Travel Plan

Awarded the prestigious Gold Award from the Royal Society for the Prevention of Accidents in 2014

487 members of staff attended 40 courses



The University is committed to providing information in accessible formats. If you require information from this guide in an alternative format, please contact:

Tel: +44 1752 600600

Email: sustainability@plymouth.ac.uk



Sustainability with Plymouth University



@SustainPlymUni

For more information please go to:
www.plymouth.ac.uk/sustainability

**SUSTAINABILITY
WITH
PLYMOUTH
UNIVERSITY**