PLYMOUTH UNIVERSITY
SUSTAINABILITY
RESEARCH REVIEW 2015
CRACKING EARTH:
BUILDING SUSTAINABILITY
RESEARCH WITH FOUNDATIONS

SUSTAINABILITY
WITH PLYMOUTH UNIVERSITY

Institute for Sustainability Solutions Research
Research excellence for environmental, social and economic impact
Welcome to the Plymouth University Sustainability Research Review 2015 from the Institute for Sustainability Solutions Research (ISSR). This review, the second of its kind, highlights a small selection of the world changing research undertaken at the ISSR in 2014/15.

This research review is built around six Societal Challenges outlined in the European funding stream Horizon 2020. Many summaries in this review outline research carried out in collaboration with a partner organisation. You will also find information about our shared research manifesto with Plymouth City Council, news articles, blogs, student research prize winners, twitter chats and photo competition.

If this review inspires you to find out more, short presentations from our fourth annual research event are available on our website. If you’re interested in working with us, please contact us:

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*Tim Daley, Paul Hardman and Kirsty Andrews*

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**ISSR Visions of Sustainability Photography Competition**

Thank you to everyone who entered the first ISSR Visions of Sustainability photography competition for Plymouth University staff and students – we had a significant number of excellent applications this year and plan to produce an e-book of all submitted entries along with the descriptions. We plan to open the 2016 competition to everyone, including external partners and community members.

The judges decided unanimously on the winner, Dave Gilvear, for his picture ‘Salmon Fishing for the Future’ which was entered into the Sustainable Food, Agriculture and Water category.

On the title pages of each of the sections to this research review you will find the highly commended photo for each category.
ABOUT THE INSTITUTE FOR SUSTAINABILITY SOLUTIONS RESEARCH

Plymouth University has 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.

The Institute for Sustainability Solutions Research (ISSR) was launched in April 2012 and brings together the world class sustainability research underway 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. The ISSR is the single point of contact for organisations wanting to collaborate with the University on sustainability. We provide an incubator for developing multidisciplinary research projects, helping to find solutions to world’s most pressing environmental, economic and social challenges.

To find out more about the ISSR, please visit www.plymouth.ac.uk/research/issr
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Visions of Sustainability Photography Competition 2015:
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CHALLENGE:
HEALTH AND WELLBEING

Visions of Sustainability Photography Competition 2015:
Highly Commended Out of Order by Clare Pettinger
STUDENT NURSES’ ATTITUDES TOWARDS INCLUDING SUSTAINABILITY IN CURRICULA: A COMPARATIVE STUDY ACROSS FOUR EUROPEAN COUNTRIES

Dr Angelick Schweizer, University of Lausanne, Switzerland
Professor Janet Richardson, Professor of Health Service Research, Plymouth University

Education in sustainable development is a goal recognized by a large number of countries and a vital concept in healthcare. It is therefore important that nurse education incorporates elements of sustainable development into nursing education curricula. However there is limited research on student nurses’ attitudes towards sustainability and no comparison of attitudes towards sustainability and its inclusion in the nursing curriculum across Europe.

Aim: To assess student nurses’ attitudes towards sustainability, its relevance to nursing and its inclusion in the nursing curriculum.

Design: A comparative survey design of first year nursing classes of Universities using the Sustainability Attitudes in Nursing Survey (SANS_2) questionnaire consisting of five sustainability-related items.

Participants: 916 nursing students (UK: 450, Germany: 196, Spain: 124, Switzerland: 146)

Results: Overall SANS_2 showed good psychometric properties. Analysis of Variance of the SANS_2 total score showed significant differences between countries, with German nursing students showing more sustainability awareness than students from UK and Spain.

Conclusions: SANS_2 is a reliable instrument to assess nursing students’ sustainability awareness. There are significant differences in sustainability awareness of students of different European countries; sustainability educational materials in nursing may need to be tailored for a range of contexts to account for cultural differences.

Acknowledgements: Universities of Lausanne and Worcester for collaboration with data collection, NurSus Project team www.nursus.eu in particular Thomas Heidenreich for statistical analysis.

THROUGH OTHERS’ EYES: A SURVEY OF VISITOR VALUES AT THE NATIONAL MARINE AQUARIUM

Paul Cox, Former Director of Conservation & Communication, National Marine Aquarium
Dr Christine Boomsma, Research Fellow in Psychology, Plymouth University

For a long time research has recognized the role of values in human behaviour, more recently this area of research has also been applied to sustainability. Values are high level beliefs that guide us in life. They influence the judgements we make and the messages we pay attention to. So, when communicating sustainability it is important to take underlying (environmental) values into account. This study examined visitor values at the National Marine Aquarium in Plymouth. To assess values in a public environment such as the NMA an engaging tool was designed. The ‘Which sea creature are you?’ quiz provided visitors with information on the marine wildlife they might come across in the aquarium, it was fun and interesting for visitors besides those already interested in the environment – and provided us with data on visitor values. The results showed that visitors come in with a variety of values. These values influence the reasons for visiting the NMA, but also the factors individuals find important when buying seafood, and more general sustainable intentions. Based on this research we can further investigate how a value approach can be used to engage individuals with the marine environment and promote sustainable behaviours.
HOW CAN DENTISTRY BE SUSTAINABLE?
AN EXPLORATORY STUDY

Ian Mills, Partner at Torrington Dental Practice
Dr Jane Grose, Senior Research Fellow, Sustainability and Health, Plymouth University

Primary Dental Care services form a significant element of NHS provision with 29.9 million patients being seen over the 24 months up to June 2014 (56% of the total population)\(^1\). Approximately £3.5bn per year is spent on NHS dentistry in the UK with dentists providing 39.8 million courses of treatment in 2013/14\(^1\). Despite its significant role in caring for the nation’s health, Primary Dental Care services remain an area of NHS provision that is poorly understood in regard to environmental sustainability, and has not been investigated using robust methods. Funded by ISSR a feasibility study was carried out in one dental practice. Methods included: 1] a patient survey 2] scoping of the practice 3] staff interviews 4] a waste audit. The study identified that environmental sustainability had low priority within the workplace with inefficient waste management and procurement of materials based on price and supplier loyalty. Sustainable procurement and a reduction in clinical waste supported by staff training were highlighted as potential avenues to reduce costs and environmental impact whilst maintaining high quality care. The study identified opportunities to develop a responsible approach to waste management which would lead to a reduction in clinical waste, lower carbon emissions and reduced practice costs.


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TWITTER CHAT: HEALTH AND SUSTAINABILITY

On 27 March 2014, along with the Sustainability, Society and Health Research Group (SSHR) we held a Twitter chat for NHS Sustainability Day on the topic of health and sustainability.

This first Twitter chat hosted by the ISSR generated over 350 tweets, included 25 participants and the tweets had over 269,000 impressions. Topics of the chat included teaching climate change in higher education, the role of the nurse in climate change and what sustainable healthcare means.

The Twitter panel included Professor Janet Richardson, Dr Jane Grose and Benny Goodman, all from the Faculty of Health and Human Sciences at Plymouth University.

To see the full chat, simply search for #issrchat on Twitter.
A strategic partnership funded by the European Union to provide education and professional development on sustainability issues in nursing has been launched by a project team led by Plymouth University.

The NurSusTOOLKIT project is a three-year collaboration with funding of 448,000 Euros involving universities in Esslingen (Germany), Jaen (Spain) and Maastricht (the Netherlands) and which is looking to share best practice across the continent. This team brings together expertise in nursing, sustainability and global health and will produce a range of teaching and learning materials that will be freely available through the [www.nursus.eu](http://www.nursus.eu) website.
CHALLENGE: CLIMATE ACTION AND RESOURCE EFFICIENCY

Visions of Sustainability Photography Competition 2015: Highly Commended Earth Hour by Ilaria Torre
DARTMOOR MIRES PROJECT
RESTORATION OF PEAT FORMING VEGETATION

Frances Cooper, Dartmoor Mires Project Officer
Dr Paul Lunt, Associate Professor in Environmental Science, Plymouth University

The Dartmoor Mires Project (2010-2015) was set-up to take forward assessment of feasibility and effects of restoring degraded blanket bog within Dartmoor National Park. Benefitting from public-private partnership, the project explored the potential for enhancing ecosystem services to areas of bare and eroding peat, and followed trials in 2008. This paper provides a summary of the changes in vegetation and bare peat up to five years after experimental restoration at five Dartmoor sites. Three of the oldest restored sites showed a decrease in the cover of bare peat and an increase in the % cover of beneficial mire species. Pools created by blocking were colonised by aquatic Sphagna, within 2 years of restoration works. The second phase of vegetation recovery occurred on sites within 3-5 years following restoration.

Under the influence of higher water tables, ‘active’ peat forming terrestrial Sphagna was able to spread locally, at the margins of standing water. In comparison to the Sphagna, no consistent pattern of recovery and spread was apparent in the Cyperaceae and mire herbs. A lag in the final stages of vegetation recovery was observed on Dartmoor, which appears to take up to five years to initiate. The findings of this report suggest that ditch blocking and gully blocking can successfully aid restoration of bare peat and degraded blanket bog vegetation, with restored sites undergoing a succession from bare peat and standing water to Sphagnum pool and lawn communities.

THE DISTRIBUTED MUSEUM
(REPURPOSING COLLECTIONS)

Tony Davey, Learning Officer, Arts & Heritage Service, Plymouth City Council
Dr Pete Davis, Programme Leader MA Design, Plymouth University

Although our work with others in the university sector involves creating new systems of change through design, this project gave us an opportunity to deliver something practical that the museum could use as it transitioned into the new planned building. We were asked to create a ‘POP UP MUSEUM’ - an instant museum that can happen anytime, anywhere. It needed to be a real, object based platform creating a safe starting point for interaction by the public and a physical intervention that transforms a space.

The Heritage Lottery Fund (HLF) has committed half of the cash needed to create a £21million ‘History Centre’ that will breathe life into Plymouth city’s world-famous historic collections. The History Centre, which will not be its eventual name, will unite five separate heritage collections into one single location including treasures from the Plymouth City Museum and Art Gallery, Plymouth and West Devon Record Office, South West Film and Television Archive, South West Image Bank and the Local Studies and Reference Collection from the Central Library. Plymouth University is an official partner through the engagement of Peninsula Arts.

The project was taken on by two of our MA Design students Adam and James and they used a simple brief to transform sustainable bamboo laminate into a transportable museum. They wanted a design that brings people together in a conversation through objects, enabled them to share different perspectives, enabled the museum to step outside physical confines, and collaborate with community partners. This project opens up conversation as to what it means to be a museum and who can participate in making one. It allowed them to experiment with themes, content, and collaborations in an intimate yet short-lived, simple way. It challenged traditional concepts of what a museum is and created a talking point in its own right.

TWITTER CHAT:
COMMUNICATING CLIMATE CHANGE

We held our second Twitter chat on Tuesday 9 December with Professor Iain Stewart (Faculty of Science and Engineering), Professor Alison Anderson (Faculty of Business), Dr Debbie Robbinson (Faculty of Arts and Humanities) and Dr Tim Daley (Faculty of Science and Engineering). The chat had a broad topic of communicating climate change. Overall, the chat had 47 contributors with over 45,500 accounts being reached.

To see the full chat search for #chatclimate on Twitter.
MAKING HEAT VISIBLE: THERMAL IMAGES MOTIVATE CLIMATE ACTION

People are more likely to respond to the issue of climate change if they can see it with their own eyes, research on thermal imaging has found.

Sabine Pahl and colleagues at Plymouth University investigated ways to motivate people to improve the energy efficiency of their homes. They tried three strategies, including a home energy audit, a text report about energy efficiency and taking photos with a thermal imaging camera.

“We found across several studies that thermal images of their own homes are really engaging to householders,” says Dr Pahl, Associate Professor in Psychology at the University of Plymouth who will be presenting at the Our Common Future Under Climate Change conference in Paris from 7–10 July.

Her team’s results show that householders shown thermal images of their homes were up to five times more likely to install draught-proofing than a control group.

“By engaging people with the topic of energy on their own terms about things they value – their home – with a powerful technology that makes the invisible visible, thermal imaging has great potential to motivate a change in habits and improve the fabric of our homes.”

This insight may provide vital clues to engaging a disengaged population on improving the fabric of our planetary home too.

(This is a shortened version of a blog profiling researchers presenting at the Our Common Future Under Climate Change conference in Paris from 7–10 July 2015, the largest forum for the scientific community to come together ahead of the 21st UNFCCC Conference of the Parties (COP21) – to read the full article visit http://tinyurl.com/ MakingHeatVisible)
As the clock winds down on current efforts to avert an impending Greek default, it seems timely to consider the role of deal making in decisions that have far-reaching consequences. The Greek situation has produced extraordinary volatility on stock and bond markets through May and June 2015. Whilst the macroeconomic outlook for many European stocks would seem positively bullish, cognitive attention has been drawn to a relatively minor contributor in terms of GDP and anticipation of future risks from the no-win scenario of Grexit. In psychology, this might be referred to as perception narrowing; enhanced focus on a more immediate problem than the overall picture.

So, this prompts the question more generally of how, in a game when there are at least some certainties of a negative outlook, players can be drawn to act in the short-term interest. There is, of course, a wealth of literature in this field, but the parallels to the international negotiations on climate change are perhaps worthy of some note.

It was interesting to see the business-focused media outlet, Bloomberg, publish on June 24th an infographic (www.bloomberg.com/graphics/2015-whats-warming-the-world/) that spelled out more clearly, and in a format accessible to all, the overwhelming case that greenhouse gas emissions from the activities of global society are the cause of recent global warming. It is interesting because this is not an article hosted by the left-wing press. It makes reference to NASA-GISS based data produced by Kate Marvel and Gavin Schmidt as part of the Coupled Model Inter-comparison Project “Phase 5”, where climate models are being tasked with attempting to reproduce climate trends of the past 150 years or so, to see just how well they can do it. The evidence is overwhelmingly clear: climate change is happening and human activities are having an effect. The models reproduce recent changes convincingly and those same models estimate truly astonishing change for the future if emissions are not curtailed.

Deal making is currently taking place in the run-up to the next annual UNFCCC Conference of the Parties (CoP) in Paris in December. As with Greece, once again, eyes will turn to the international political negotiating teams for the hope of some sort of deal that might allow our global society to take on a more certain trajectory and allow better anticipation of future climate change. I choose those words carefully. Global warming through to the end of the century is a near certainty. Past emissions from the burning of fossil fuels remain in the atmosphere for considerable time, continuing to heat the planet, even after activities below may have changed. Climate models have often come in for criticism from some for the ranges of “uncertainty” presented. It is taken that this means there is little certainty in the trajectory of future climate. This, however, reflects a fundamental misunderstanding of what climate models do. Like an expensive calculator, they tell you what climate is likely to result from a set of instructions they are given as to how people are living their lives. If we burn fossil fuels wildly and move things (and ourselves) unsustainably then we provide those instructions to the model and it tells us a range of future outcomes. Those instructions are known as “scenarios”. What this means is that the importance of the negotiations in Paris this year is not that a deal to cut carbon emissions is achieved for its own sake, but rather that it provides far less uncertainty in terms of the likely future “scenario”. Climate models should then be able to provide a narrower range of forecasts, allowing for better potential to make long-term cost-saving adaptations.

Political decision making, however, is obliged to consider more than scientific output. It must consider, among others, the influence of lobbying groups and the broader interests of the constituencies its selected few represent. I was recently fortunate enough to enjoy an assessed presentation from a masters student on our MSc in Sustainable Environmental Management, studying for the module on Climate Science and Policy. I was struck by the truly excellent representation of ideas that the student had learnt through sessions with Prof. Iain Stewart on the role for appropriate channels of communication of climate science. The argument made was that, despite the overwhelming evidence from science, many people are too distant from the process of science to really believe its offering. Instead, our responses are informed by our values and attitudes, themselves informed by our experiences through childhood, our parenting and our current situations. To that end, the argument presented was that religion and faith structures have a vital role in both ultimately shaping values and attitudes towards environmental management but also in terms of driving political settlement.

How timely it is, then, that just last week (June 2015) Pope Francis released his keenly anticipated Encyclical on climate change. In the text, he describes the moral obligation on political leaders to find agreement given that the poor and vulnerable are likely to suffer most from its effects. Through the Encyclical Pope Francis is calling upon not just the political representatives, but also 1.2 billion Catholics to respond to climate change. Whilst, of course, some will find the instruction a hard buy to reconcile with more individual or immediate concerns, the intervention should undoubtedly prove more influential than another academic text on the climate science.

The religious intervention is simply another voice in the chorus of opinions by which international negotiators will necessarily be influenced in the coming months. The short-term interests of some must of course be recognised. In a similar frame to the situation with a potential Grexit from the Euro, where overwhelming evidence points towards the negative effects of a no-win scenario, those voices will be heard and pose general risk. Perhaps the most uncanny parallel between the two deals is that the short-term will always pose volatility that overrides the fundamentals. Notwithstanding, the deal to be struck in December 2015 in Paris, will provide greater certainty in the future climate scenario, and perhaps, therefore model projection, regardless of whether the outcome limits or accelerates the rate of climate change.
CHALLENGE:
SUSTAINABLE SOCIETIES

Visions of Sustainability Photography Competition 2015:
Highly Commended Dave’s Plot by Luke Gartside (www.lukegartsidephotography.co.uk)
In 2014, Stephen Vaughan was given rare access to the world’s largest deep-ocean scientific drilling vessel Chikyu (meaning Earth in Japanese) during the Nankai Trough Seismogenic Zone Experiment. The experiment is at the cutting edge of geological exploration and research. The scientific mission is to drill deep into the Earth’s surface and retrieve core samples from the boundary between the Philippine Sea and Eurasian tectonic plates at the Nankai Trough – one of Japan’s most seismically volatile regions and the source of historic and future mega-thrust earthquakes. This mission aims to provide greater knowledge of the Earth’s tectonic mechanisms and to help protect future generations from disaster.

This series also includes photographs made at the Kochi Core Repository where 150 kms of deep-earth core samples (representing 200 million years of geological time) are archived. Stephen’s photographs were made in collaboration with the Center for Deep-Earth Exploration (CDEX) and the Japan Agency for Marine-Earth Science and Technology (JAMSTEC), with support from the Marine Institute at Plymouth University.

These photographs form the most recent series in Stephen’s ongoing research in Japan that considers the relationship between geological phenomena and human-cultural histories. A book of these photographs – including his series A Catfish Sleeps (2009) and Tohoku (which was made at the time of the 2011 Great East Japan Earthquake and Tsunami) is currently being prepared for publication.
GLOBAL LEARNING AND EDUCATION

Dr Andrew Peterson, Senior Lecturer: History and Civics Education, University of South Australia
Dr Paul Warwick, Research Fellow/Academic Developer, Plymouth University

The United Nation’s Global Action Programme on Education for Sustainable Development (ESD) highlights the importance of transforming learning environments in order to empower and multiply ESD actions among youth. Collaboration between Paul Warwick, Plymouth University and Andrew Peterson, University of South Australia has explored this mandate with a particular focus on the global citizenship dimension of ESD. It has resulted in the publication ‘Global Learning and Education’, a book published by Routledge, that seeks specifically to build the capacities of educators in this area.

Paul and Andrew’s book raises questions such as:

- What is globalisation?
- How are its effects felt by different people across the world?
- How can we help young people flourish in a world characterised by globalisation?

It explores key issues including interconnectedness and interdependency, cultural diversity, social justice and sustainable development. It considers how global learning should and can imbue all aspects of education, within curriculum subjects, through project based learning, and through extra-curricular activities that help students participate and engage in global issues. It argues for the importance of the mission and ethos of a school itself, of shaping global learning for different educational contexts, and of ensuring teaching and learning meets the needs of individual learners.

Global Learning and Education is illustrated throughout with case studies that seek to inspire creativity and hope, and includes questions and suggested reading for further investigation.

The book has been described by Prof Ian Davies as: “A wonderfully impressive book that will be of great value to all those involved in global learning”

For more details about this publication visit: http://www.routledge.com/books/details/9780415717267/

THE LION, THE PITCH AND THE GARDEROBE

Farouk Jiwa, Co-Founder, Farm Shop
Dr Robert Newbery, Associate Professor in Entrepreneurship and Development, Plymouth University

Futures Entrepreneurship Centre are working with their partners the Farm Shop Trust, to scale up an innovative micro-franchise social enterprise for subsistence farmers in Kenya.

Supported by Comic Relief, academics and students from the Futures Entrepreneurship Centre are working with the Farm Shop Trust, to help the organisation develop a sustainable and commercially viable supply chain for agriculture across its network.

Using their expertise in social enterprise and rural entrepreneurship, the team have so far analysed the current set-up and have added 21 new shops to the network. This helps farmers access the supplies that they need, when they need them, giving them choice and expertise at the point of sale they need to increase their agricultural yield. The network has the goal of helping around 100,000 farming households out of poverty in Kenya.

Plymouth University is the first higher education institution to receive funding from Comic Relief, and has been awarded £535,484 for the two-year project. The work will also involve liaison with one of its existing partner colleges, Duchy College in Cornwall, whose rural business network has been identified as an exemplar model for supporting rural entrepreneurship.

The Comic Relief project builds on Plymouth University’s long-held commitment to promoting social enterprise and entrepreneurship education across the world. In 2013, the Plymouth Business School produced a report for the Government’s Department for International Development – titled Supporting Entrepreneurship Education in East Africa – which highlighted the importance of self-employment as a means for social change.
As recent events have witnessed, flooding is the biggest geo-hazard facing the UK, threatening the economic, environmental and social sustainability of local communities. Given climate change, these situations are likely to become more frequent, requiring sustainable responses to them (Adger et al 2005). In keeping with a strand of governance that posits local communities as the solution to local problems, greater use is being made of voluntary emergency services, such as Mountain Rescue Teams, to provide aid in geo-hazardous environments (Yarwood 2010, 2011, McEwen and Jones 2012). This paper examines the changing role of Mountain Rescue Teams in flooded environments. Drawing on multi-agency perspectives it examines the working practices of volunteers flood rescue situations and discusses how the role of volunteers is perceived in emergency planning.

The work outlines how volunteers can be co-ordinated in local resilience frameworks and highlights some of the issues they are faced with when delivering swift water rescue and casualty care in hazardous environments.

Further Reading
Yarwood, R (2012) One moor night emergencies, training and rural space. Area 44.1, 22-28
Couper, P and Yarwood, R (2012) Confluences of human and physical geography research on the outdoors: an introduction to the special section on ‘Exploring the Outdoors’. Area 44.1, 2-6

SUSTAINABLE DEVELOPMENT GOALS (SDGS) AND THE ROLE OF EDUCATION
Professor Stephen Sterling, Head of Education for Sustainable Development, Plymouth University

In late 2014, I was asked by the International Council for Science (ICSU) to work on an independent scientific review of the proposed seventeen UN Sustainable Development Goals (SDGs) - a universal set of goals intended to guide international development to 2030, replacing the Millennium Development Goals, and due to be adopted by the UN General Assembly in September 2015.

ICSU’s review of the SDGs involved 40 contributing authors from 21 countries assessing the goals and their accompanying 169 targets in terms of: scientific evidence, how far they take an integrated approach to sustainable development, and how amenable they are to implementation and monitoring. I wrote the commentary on Goal 4: ‘Ensure inclusive and equitable quality education and promote life-long learning opportunities for all’.

The task for all contributors was not just to look at individual goals but the relationship between one goal and the other sixteen. This was particularly important as the contributing team found that goals – for example – relating to climate, food security and health were often presented in isolation from one another. For the education Goal 4 and its targets, a key point in my submission is that their articulation did not sufficiently recognise the importance of education as an agent of change, and that it should be seen as a prime means by which progress on other goals can be achieved.

For universities, the SDGs present an important and highly relevant framework of global challenges with which many disciplines can and should engage, not least they will help determine the kind of world our graduates will enter.


For more information see: http://unsdsn.org/resources/publications/indicators/
A BIG IDEA FOR ADDRESSING OVER-CONSUMPTION: A THIRD PHASE FOR MARKETING AND AN INDUSTRY CODE OF PRACTICE

Mike Childs, Head of Science, Policy and Research, Friends of the Earth
Dr Victoria Hurth, Lecturer in Marketing, Plymouth University

How can marketing become a force for sustainability? Many marketers and company leaders are seeking to be a force for sustainability above and beyond the short-term profits that might be made by being seen as green. However that aspiration is often met by a series of institutional and cultural barriers. If we are going to harness the desire of society and companies to make business a force for sustainability then marketing has to be at the heart of this (because it is at the intersect between a company and society) – and to do this we need to understand what the core barriers to change might be, create a common language about what we mean by ‘Sustainable marketing’, what its core features are and agree how progress to maturity can be judged. Last year, Friends of the Earth commissioned Victoria Hurth to research the topic as part of their Big Ideas research programme. This presentation will briefly outline this commission, what was found and what the next steps are. For more information see: http://unsdsn.org/resources/publications/indicators/

CLIMATE SCIENCE IN THE MEDIA

Richard Black, Director, Energy and Climate Intelligence Unit (former BBC Environment correspondent)
Professor Alison Anderson, Professor in Sociology, Plymouth University

Climate scientists deal in data, quality of evidence and testable hypotheses. Journalism deals in stories, people and controversy. Scientists may produce two pieces of research per year, journalists two per day. It is hardly surprising therefore to find a gulf of understanding between the two camps. While climate scientists are often frustrated by how media treat their subject, it is not clear whether many try to understand the reasons why media coverage is as it is, and ask what they can do to engage with and shape it. The Energy and Climate Intelligence Unit is a new non-profit organisation set up to improve the quality of the ‘national conversation’ on energy and climate issues, with an emphasis on working with mainstream media. Based on recent research we have undertaken this talk highlights key ways in which this divide of understanding can be bridged. Understanding how journalism operates and what makes a good news story is key to connecting with a wider audience. Climate change is often perceived as distant, uncertain and abstract, yet it becomes more ‘real’ when it hits home through, for example, experiencing extreme weather events. Where climate change is situated in people’s immediate locality, and connected to their personal experience, it heightens its saliency. Since regional news media often give such issues greater space getting more climate science stories in local outlets will help to move the conversation forward.

Drought media: does it help?
http://tinyurl.com/Droughtmedia

Reflections on Environmental Communication and the Challenges of a New Research Agenda
http://tinyurl.com/EnviComm
GLOBAL ELITE TO ADDRESS SURFING’S SUSTAINABILITY CHALLENGES

The greatest challenges to sustainability in the surfing world have been laid bare in a new book featuring contributions from the industry’s global elite. Sustainable Stoke – Transitions to Sustainability in the Surfing World includes the views and opinions of more than 40 recognised global experts, including former world champions, environmental campaigners and the directors, CEOs and founders of some of the industry’s most recognisable brands.

Contributors identify key areas in need of attention including education, environmental awareness, sustainable supply chains, corporate governance, economic development and philanthropy, media, and public attention. Sustainable Stoke, published by University of Plymouth Press, is the brainchild of Dr Gregory Borne, Director of the Plymouth Sustainability and Surfing Research Group, and Associate Professor Dr Jess Ponting, Director of the Centre for Surf Research at San Diego State University.
CHALLENGE: SUSTAINABLE ENERGY

Visions of Sustainability Photography Competition 2015: Highly Commended Plymouth's New Incinerator by Jamie Quinn
THERMAL MAPPING OF PATIENT SPACES AND JOURNEYS IN DERRIFORD

Professor Steve Goodhew, Professor of Environmental Buildings, Plymouth University

This unique piece of research links the three elements of health, clinical expediency and building physics. James Melcalfe, Paul Moor and Matthew Boyd have supported Prof Steve Goodhew and Prof Janet Richardson in an on-going project that is designed to assess the impact of the built environment upon the possible reductions in patient core temperature. Low core temperature can cause complications in surgery and in extreme cases cause cancellations, with risk of fatalities in operations. The ward environment and patient journey between Sharp Ward on the 11th floor of the main Derriford Hospital block in North Plymouth are being investigated using two different approaches. Longer term monitoring air temperature and humidity have been recorded over many months. The more immediate thermal impact of the patient journey has been investigated using a bespoke trolley with sensors, alongside thermographic surveys along the route to the operating theatre. The work has currently shown that whilst the air temperature is consistently within acceptable limits on the ward, the impact of cold surfaces in certain positions will have ramifications for varying patient core temperatures.

REGULATING DAYLIGHT AND ENERGY IN HOUSING

Gary Jackson, Managing Director, Space Strategy
Jon Selman, Low Carbon City Officer, Plymouth City Council
Simon Bradbury, Lecturer in Architecture (Sustainable Design), Plymouth University

Daylight and Sunlight in housing is an area that is currently not regulated as part of the planning process in England. Architects frequently rely on rules of thumb or intuition to ensure adequate daylight in homes however research by Plymouth University in collaboration with Lightup Analytics has shown that currently there are poor levels of daylight in new homes. In addition research has shown that improving access to sunlight in new developments can provide significant carbon dioxide savings as well as health and wellbeing benefits.

This collaborative project between Plymouth University, Lightup Analytics and Plymouth City Council aims to reduce carbon dioxide emissions and improve daylight in new developments through robust solar master planning using design centered digital tools. This is being achieved through development of local planning policy (which will be a precedent for other local authorities in the England) and an education course for practitioners and students introducing them to digital tools to design with light.

CARBON DIOXIDE EMISSIONS FROM THE BUILT ENVIRONMENT
PAST, PRESENT AND FUTURE

Chris Birch, Director of Sustainability, Hilson Moran
Dan Jestico, Head of Research and Development, Hilson Moran
Professor Chris Balch, Professor of Planning, Plymouth University

Historically, our approach to building design was focussed on making use of natural light and natural ventilation. Fuel was expensive and the technology simply didn’t exist to provide widespread artificial light and mechanical ventilation. Architects became experts in designing buildings with these passive principles in mind. The era of cheap energy changed all that, and new technology allowed us to explore a broader range of architectural styles.

Our homes reflect this attitude; as greater numbers of houses have employed central heating, the average internal temperature has risen as we seek a more comfortable internal environment. This, together with increasing numbers of households in the UK, should have pushed domestic energy consumption up. But it hasn’t. We’re building more insulated homes with more efficient boilers that now need less energy to meet our demands for comfort.

However, our CO2 emissions are still far higher than they should be and the UK government has committed to reducing our emissions by 80% by 2050. As nearly 40% of our emissions are from buildings, industry has to do its part, and there is an ever changing policy landscape intended to address energy consumption in both new and existing buildings.
Affordable housing residents will be encouraged to use a specially devised game for smartphones and tablets linked to smart meters as part of a partnership initiative designed to reduce energy and CO2 consumption in their homes.

EnerGAware is a €2 million project funded by the European Horizon 2020 programme (EE-11 New ICT-based solutions for energy efficiency), and will see building performance analysis experts from Plymouth University working alongside leading housing provider DCH (formerly Devon and Cornwall Housing), EDF Energy and partners across Europe.

The project team at Plymouth University (who have received €384,000 in funding) comprises Dr Alba Fuertes, Dr Rory Jones and Professor Pieter de Wilde, from the School of Architecture, Design and Environment, alongside Dr Sabine Pahl from the School of Psychology.
Solar panels on The Core, the Eden Project’s Educational Centre, Cornwall
CHALLENGE: SUSTAINABLE TRANSPORT

Visions of Sustainability Photography Competition 2015: Highly Commended Le Tram by Stephen Essex
SUSTAINABLE TRAVEL FACILITATION THROUGH WEB/APP BASED INTEROPERABLE TICKETING

Ian Miller, Regional Director, Traveline South West
Dr Andrew Seedhouse, Director of Transport, Plymouth University

A new partnership between Plymouth City Council, Plymouth University and two of the City’s leading technology business – South West Public Transport Information Ltd (SWPTI), and South West Smart Applications Ltd (SWSAL) was developed with the Youth Parliament to help the city’s young people get around on local public transport.

A successful funding bid for a Knowledge Transfer Partnership is providing employment for a locally-based graduate to research and develop a mobile phone app to help young people in Plymouth use public transport in the city. Using mobile technology should mean that details of where to catch buses and real-time information on bus location can be fed through to user’s fingertips. Ultimately, the aim is also to feed through ticket deals onto the apps.

“We were well aware of problems facing 16 to 25 year olds in accessing local public transport after the Youth Travel Fair and Forum” said Cllr Mark Coker. “We agreed to take away the issues raised and see what we could do to improve things. After working hard with local partners, we were delighted that the bid for funding to produce an app locally, for young people in our city was successful.”

The App is due for Focus Group testing in Summer 2015.

2014/15 NEWS ARTICLE
PARTNERSHIP PICKS UP MORE THAN THREE PRIZES

A partnership based at Plymouth University that works to promote and improve local railway branch lines is celebrating winning a number of recent awards.

The Devon and Cornwall Rail Partnership, based in the University’s School of Geography, Earth and Environmental Science on the main Plymouth campus, won three top prizes and shared in a fourth at recent awards ceremonies.

A campaign promoting Looe and travelling to it by train – Love Looe – won Best Marketing Campaign at the National Community Rail awards held in Scarborough.

A one-stop shop website for the Riviera Line, which links Exeter, Newton Abbot and Paignton, won the Innovation in Community Rail award. The website was set up as part of the Citizens’ Rail project, an EU Interreg project with local partners Devon County Council, Torbay Council and First Great Western. The project is led by the Rail Partnership and University.

In addition, the Partnership shared in the Outstanding Teamwork first prize at the Scarborough awards with Network Rail, First Great Western, Dawlish Town Council and Friends of Dawlish Station for rebuilding Dawlish station.
CHALLENGE: SUSTAINABLE FOOD, AGRICULTURE AND WATER

Visions of Sustainability Photography Competition 2015: Winner
Salmon Fishing for the Future by Dave Gilvear
EXPLORING FOOD AS A ‘LIFESTYLE MOTIVATOR’
TO SUPPORT WELLBEING AND LIFE SKILLS IN MARGINALIZED GROUPS IN PLYMOUTH

Dr Lyndsey Withers, Devonport Lifehouse, Salvation Army
Dr Clare Pettinger, Lecturer in Public Health Dietetics, Plymouth University

Driven by multiple complex social factors, food poverty is currently on the local and national agenda. Plymouth has high levels of deprivation with up to 14 years difference in life expectancy across the city. Traditionally ‘hard to reach’ communities often experience multiple vulnerabilities, including substance misuse and mental illness, which can lead to marginalization and disempowerment.

The ‘Food as a Lifestyle Motivator’ (FLM) was a pilot project exploring creative methods to promote food-related wellbeing and life skills in ‘marginalized’ people.

Participatory methods can address some of the power imbalances that arise because of inequalities, enabling marginalized groups to gain more control. ‘Photo Elicitation’ has shown great potential for engaging participants and giving them a voice. Our findings have generated themes that suggest that food can be a powerful lifestyle motivator: Food holds meaning; exerts emotion and power; its environment can be space and social place; it provides occupation.

The next stage of this project will roll out a larger scale research project involving a range of marginalized groups across Plymouth. Working closely with local centres supporting socially-excluded individuals, the project will align with Plymouth’s 10 year inequalities plan to support positive health-enabling choices. Enhanced wellbeing in these marginalized populations will strengthen social assets, promote social sustainability and tackle social justice.

AN INNOVATIVE, CONSUMER-CENTRIC ECO-SYSTEM FOR SUSTAINABLE WATER RESOURCE MANAGEMENT (ICONS)

Professor Shaofeng Liu, Professor of Operations Management and Decision Making, Plymouth University

Sustainable water resource management has been identified as one of the key themes in the EU Horizon 2020 Societal Challenge 5 – Climate Action, Environment, Resource Efficiency and Raw Materials, which requires urgent attention from rigorous research and business practice. There is an urgent need to create an efficient and effective business eco-system that all stakeholders in water resource management survive, improve, thrive and sustain in the long term. Existing research has paid more attention to water providers and regulators, but very little attention has been paid to water consumers and their behaviours in influencing water resource efficiency and sustainability. This project investigates innovative ICT technology solutions and new business models in order to revamp existing water management approaches and systems. This project explores sustainability solutions to address interoperability, analysis capability, control capability and visualisation capability of an innovative business eco-system for water resource management.

PROMOTING LONG-TERM COMMUNITY SUSTAINABILITY THROUGH SHORT-TERM RESILIENCE PLANNING

Dr Andrew Fox, Lecturer in Civil Engineering, Plymouth University

This research sought to contribute to the academic debate about resilience and to build a clearer understanding of how institutions with a goal to enhance community level resilience can tailor their actions in a way that will improve their chances of success in achieving that goal. To assess community level resilience the project measured a specific form of social capital, derived from links between community members and institutions responsible for managing the local flood risk, and the results were depicted using social network diagrams. A case study approach was adopted, involving three communities in the South Devon area that were vulnerable to tidal flooding. The social capital assessment allowed a judgement to be made about the potential resilience of each community to a future flood event. The results showed that fragmentation in the community network undermined the value of links between community members and flood risk management institutions, and that fragmentation also coincided with a lack of awareness of the local flood risk. Fragmented communities were judged to have a low potential resilience. Well-connected communities and those that displayed evidence of action to build links between community members and flood risk management institutions were judged to have high potential resilience.
PARTNERSHIPS TO DELIVER WATER QUALITY IMPROVEMENTS IN THE RIVER TAW CATCHMENT

Dr Laurence Couldrick, Development & Policy Director, Westcountry Rivers Trust
Dr Sean Comber Associate Professor (Senior Lecturer) in Environmental Science, Plymouth University

The Water Framework Directive sets very high standards for European water ecology, with an initial target of meeting good ecological status by 2015. The UK faces a number of challenges in order to meet these targets as catchments are under pressure from many physico-chemical stresses from numerous point and diffuse sources. To address these issues, a catchment based approach has been developed where all stakeholders have the opportunity to contribute to improving environmental quality. River Improvement Projects have been led by the Westcountry Rivers Trust (WRT) and included support from regulators, industry, water users and associations as well as academic institutes such as Plymouth University to help reduce uncertainty regarding possible impacts and improvements to ecological quality. Plymouth University has successfully worked with the WRT to determine the role of sediments in controlling the supply and bioavailability of phosphor to overlying waters in the Taw catchment. This partnership has delivered an improved understanding of how the Taw catchment will respond to mitigation measures that have been put in place, strengthened links between the two institutes and publications which endorse the quality of the research undertaken.

ALLOTMENTS AND ALTERNATIVE FOOD NETWORKS: THE CASE OF PLYMOUTH, SW ENGLAND

Dr Wendy Miller, Committee Member of the ISSR Postgraduate and Early Career Researcher’s Network and Associate Lecturer, Plymouth University

Wendy Miller’s PhD research looked at the UK allotment system and how it compares to newer urban food-related projects. The latter include community gardens, community supported agriculture, ‘abundance’ initiatives and farmers markets, all activities which are included in the term ‘alternative food networks’. It focused on the situation in Plymouth, drawing on interviews as well as participatory and archival research. Analysis looked at the contingent factors required for success of the different food-related activities and their impacts upon human, social, cultural, economic, natural and political capital-assets. The allotment system was historically set up as a means for growing a large proportion of food supplies for poor households, so alleviating pressures on welfare benefits. Parliamentary debates also highlighted the benefits of healthful exercise in the restorative natural environment. Allotments require far greater urban land allocations per household to meet this goal compared to a community project which often aims more to enhance health, social and cultural goals. Current housing densities and urban land values mean that there are continual difficulties in allocating urban land for allotments, and allotment tenants do not hold sway politically over land distributions. This situation compares with the situation historically whereby elections were fought on the issue of allotments and access to land, and with elsewhere in the world today whereby social movements such as MST in Brazil have achieved significant land redistribution for the landless. The concept of the Garden City envisaged by Ebenezer Howard and which all planners are taught about would imply massive changes in current day urban settlement patterns.


Figure 1. The capital-assets framework used in the research (source: author)
TWITTER CHAT: SUSTAINABLE FOOD

Our third Twitter chat, part of Plymouth University’s Green Week was based on the topic of sustainable food. The chat discussed food and homelessness, sustainable food cost, food marketing and sustainable seafood to mention a few. The chat was a collaboration between researchers from the ISSR and members of staff from Plymouth University’s campus operations team. Overall, 193 tweets were generated from 37 participants making the reach of the chat over 51,000 accounts.

The Panel included Dr Clare Pettinger (Faculty of Health & Human Sciences), Dr Victor Kuri (Faculty of Science and Engineering), Dr Samantha Price, (Estates & Facilities Management) and Darren Procter (Executive Head Chef, Plymouth University).

To see the full chat search for #foodPU on Twitter.

2014/15 NEWS ARTICLE

USING BACTERIA TO REDUCE IMPACT OF DIAZEPAM IN UK RIVERS

The natural photo degradation of diazepam (valium) and similar medicines – followed by bacterial breakdown – may reduce their potentially harmful impact on the UK’s freshwater environment, a team of researchers has said.

Diazepam – used to treat anxiety and other similar conditions – has been detected in rivers across the UK and Europe, having been released from waste water treatment plants. At the levels recorded, it has the potential to produce harmful ecological effects in surface waters, including changing the behaviour of fish shoals and their ability to sense danger from predators.

Now, experts in the Biogeochemistry Research Centre at Plymouth University and the Institute of Integrative Biology at the University of Liverpool, with funding from the Natural Environment Research Council, have identified a bacterial breakdown pathway. They say it could reduce the concentrations of diazepam and similar chemicals that reach rivers and subsequently flow into the world’s oceans.
CRACKING IDEAS
FOR THE FUTURE
THE HIDDEN COMMONS: TOWARDS THE SUSTAINABLE EXPLOITATION OF THE SUBSURFACE

Professor Iain Stewart, Professor of Geosciences Communication, Plymouth University

Earth’s subsurface environment is both the natural resource base for much of the global economy and a potent hazardscape for limiting sustainable development. Human exploitation of the ‘land below ground’, and our growing vulnerability to its dangers, lie at the heart of many pressing environmental and social concerns. Public disquiet over unconventional gas extraction (fracking) is the most recent and acute expression of societal anxieties over the use, and potential misuse, of our geological basement, but other concerns arise from ground-based energy (geothermal, coal gasification, coal-bed methane), the depletion of groundwater reserves, the storage of gas and fluids in the pore spaces in sedimentary rocks, and the engineering of deep repositories for radioactive waste. Scientific challenges abound, but arguably more acute is the issue of gaining societal acceptance for our subsurface interventions, made problematic because for most people the world that lies beneath their feet is unfamiliar and alien. Confronting our collective public dissonance with underground space will rely not simply on communicating better our subsurface science, but will also require a cultural re-engagement with the underworld. Reconnecting individuals and communities with what lies below them will demand novel collaborations between geoscientists, social scientists and artists if we are to establish the wise stewardship of our hidden commons.

2014/15 NEWS ARTICLE
PROFESSOR FRONTS BBC DOCUMENTARY PLANET OIL

Plymouth University’s Professor Iain Stewart fronted a ground-breaking new BBC documentary series charting the history and influence of oil production.

The three-part series, launched in February, charted the early days of oil production in the mid-19th Century, the rise of the oil barons, international battles for global control and the fundamental rewiring of geo-politics in the 20th century.

The series also took the story to the modern day and the technological breakthroughs which have extended the life of existing oilfields as well as the new unconventional and controversial oil and gas supplies, such as shale oil and tar sands.

Iain Stewart, Professor of Geosciences Communication at Plymouth University, says: “From the first moment, we drew this stuff from the ground, we opened a Pandora’s Box that changed the world. It transformed the way we lived our lives, dictated the outcome of our worst global conflicts, became an obsession for some of our greatest leaders, and turned a simple natural resource into the most powerful political weapon the world has ever known. Over the last 150 years we’ve become more and more dependent on this extraordinary resource. On a personal level, the span of my life has tracked the rise of the oilfields on our own ‘doorstep’ in the North Sea. As a species within the space of less than a life-time, our use of oil has come to define us. It has given us a lot but it has also come at a high price and over the course the three parts of the series we look at the global history of crude oil and how we have got to this point.”

Filmed across the world, from Scotland to Azerbaijan, Planet Oil offers a compelling account of the last 150 years of world history – and reviews the question-marks over our future.
PLYMOUTH UNIVERSITY AND PLYMOUTH CITY COUNCIL LAUNCH SUSTAINABILITY RESEARCH MANIFESTO

From health and housing to flooding and food – a University and its local city council have launched a research manifesto aimed at tackling specific sustainability issues affecting people and place.

The manifesto, Plymouth: Creating a Sustainable Future, is focused upon areas relating to life in Plymouth, such as health, housing, transport, water quality and flooding, and food, and comes on the back of a number of partner projects between the University’s Institute for Sustainability Solutions Research (ISSR) and the Council’s Low Carbon Team.

Around 90 delegates attended the launch, led by Professor David Coslett and Councillor Tudor Evans in the Sherwell Centre at Plymouth University on Wednesday 25 February 2015. The research development workshops took place after, with representatives from the University, City Council and the local community. The workshops were based on the nine themes highlighted in the research manifesto. These are outlined below with a small selection of research ideas included:

1. **Health Inequalities** – e.g. How can the city’s growth agenda support interventions that tackle the inequality of life expectancy? Ageing population challenges – how does a city service an aging population?

2. **Natural Infrastructure** – e.g. How can we prompt a step-change in how natural spaces are valued by communities? Will Plymouth’s biodiversity networks function in the face of climate change?

3. **Water Quality and Flooding** – e.g. What water infrastructure do we need to become a resilient city? How can Plymouth ensure that its bathing beaches meet current and future water quality standards?

4. **Home Energy** – e.g. How can we best drive uptake of domestic energy efficiency and renewable measures? How can we influence behaviour change in order to ensure that energy saving technologies deliver the emissions reductions intended?

5. **Transport** – e.g. What is needed to ensure that city growth aspirations are supported by adequate transport links? Can the rising trend in cycling in Plymouth be maintained? How?

6. **Knowledge Economy** – e.g. How can we make the most of the City Deal programme to enhance low carbon business? What is the role of the University in enabling growth in the city and in the expansion of the hi tech knowledge economy?

7. **Sustainable Food** – e.g. How can we use food as a tool to address cross-cutting inequality issues, in particular poor health? How can we maximise opportunities for sustainable food procurement?

8. **Governance and Participation Context** – e.g. How to make the most of opportunities for community involvement and co-design of services within the context of austerity and the need for sustainability? What new approaches are needed in order to redefine how the council works for its residents?

9. **Housing** – e.g. how can we raise the standards of housing in the private rented housing stock? How do we balance the need to deliver more homes with the need to enhance natural infrastructure within the city?

The full research manifesto can be found on our website, [www.plymouth.ac.uk/research/issr](http://www.plymouth.ac.uk/research/issr). If you’re interested in getting involved with any of the research areas, please contact us on [issr@plymouth.ac.uk](mailto:issr@plymouth.ac.uk).
ISSR STUDENT RESEARCH PRIZE WINNERS

In 2015 the ISSR launched the student research prize to acknowledge sustainability research carried out by undergraduate students, and to nurture and develop the researchers of tomorrow.

The winners of the prize of £100 are:

**BSc (Hons) Psychology**
Emma L Gover
*Energy Visualisation: Comparing Methods of Presenting Information on Household Energy Consumption (Supervisor: Dr Christine Boomsma)*

**BA (Hons) 3D Design – Product Design**
Mark Buckley
*Future of the Everyday*

**BA (Hons) 3D Design – Designer Maker**
Beth Hughes
*Mindful Living*

**Bsc (Hons) Environmental Science**
Gregory Wannell
*Genetic population structure of Atlantic salmon (Salmo salar L.) in southern Europe revealed through microsatellite DNA variation, and its application in future conservation management*

**BSc (Hons) Geography**
Jack McCarthy
*Is Fracking Environmentally Sustainable in the UK?*

**BA (Hons) Fine Art**
Jamie Morrison
*Project 302*

**BSc (Hons) Public Management and Business**
Will Cane
*The Effects of a ‘Sustainable University’ on the waste and recycling habits of Plymouth University students*

**BSc (Hons) Marketing**
Georgia Deery
*What role does CSR play in reducing the intention-action gap in the fast fashion industry?: A qualitative study to understand the influence of competitive barriers, individual factors and CSR on consumers’ purchasing behaviour*

**BSc (Hons) Nursing (Adult)**
Cerys Russell
*Surviving Survivorship: Does patient and family engagement with Intensive Care Unit diaries lessen the experience of psycho-social morbidity, particularly Post-Traumatic Stress Disorder, following critical illness? A Literature Review and Critical Appraisal.*

**BSc (Hons) Dietetics**
Name: Natalie White
*Exploring food security in traditionally ‘harder-to-reach’ adults in Plymouth*
2014/15 NEWS ARTICLE

PLYMOUTH UNIVERSITY TO RECEIVE INCREASED RESEARCH FUNDING

Plymouth University has been recognised for the world-leading quality of its research with a 25% increase in the amount of funding it receives from the government.

The University is set to receive almost £8 million in quality-related funding for 2015-16 after figures were released by the Higher Education Funding Council for England (HEFCE). It represents the fourth biggest jump in the country of any university receiving in excess of £5 million, and puts it in the top-40 for research income.

It is the first set of funding allocations to take account of the 2014 Research Excellence Framework (REF), which was published in December. It is also the first to be based on HEFCE’s revised formula which gives greater weighting to four-star, world-leading research compared to that graded as three-star, internationally-excellent.

PLYMOUTH UNIVERSITY TOPS THE PEOPLE AND PLANET GREEN LEAGUE

Plymouth University has once again been ranked as the most sustainable university in the country after topping the People and Planet Green League for a second time in five years.

The University was ranked first out of 151 universities, and in the process maintained its remarkable sequence of top-four placings over the past six years, moving up from second in both the 2012 and 2013 leagues.

The People and Planet Green League is the most comprehensive assessment of a university’s sustainability credentials in the sector. Institutions are judged across a broad range of criteria, with the heaviest weighting coming in campus performance such as water consumption and renewable energy use. Dr Tim Daley, Director of the Institute for Sustainability Solutions Research, said:

“Our students benefit from the world-leading sustainability research that forms the foundations of our courses and is expressed through the campus they enjoy. This is an achievement that can be shared, not just within the institution, but with all those who work with us, when the global issue of sustainability is so strongly linked to what we do.”

GREEN IS THE COLOUR AS PLYMOUTH UNIVERSITY CLAIMS THREE NATIONAL SUSTAINABILITY AWARD

Plymouth University is celebrating after winning an unprecedented hat-trick of prizes at higher education’s biggest awards ceremony devoted to green issues and sustainability.

The University won three Green Gown Awards – for Enterprise, Courses and Learning, and Food and Drink – cementing its reputation as one of the most sustainability-minded institutions in the country.

In the Enterprise category, the University won for its Peninsula Dental Social Enterprise (PDSE), which provides dental outreach services and treatment to a wide range of community groups.

A teaching module that brings together nursing and design students to work together on tackling issues of sustainability in the health sector impressed the judges in the Courses and Learning category.

The third award recognised the strides the University has made in Food and Drink, through ethical and local sourcing, the provision of healthy food through its campus outlets, and in reducing food wastage by 66 per cent.
The University is committed to providing information in accessible formats. If you require information from this guide in an alternative format, please contact:

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