



Sustainable Thinking Meddwl Cynaliadwy

Cardiff Metropolitan University
Prifysgol Metropolitan Caerdydd

REPORT ON SUSTAINABILITY AND THE ENVIRONMENT

AUGUST 2015 - JULY 2016



Cardiff
Metropolitan
University

Prifysgol
Metropolitan
Caerdydd



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FOREWORD

Cardiff Metropolitan's staff, students and stakeholders are committed to working in partnership to establish the University as a leader in education for sustainable development. We want to achieve this goal within an organizational culture that takes a proactive approach to sustainability in relation to all our services as well as in our education, research and innovation.

As a global university rooted in Wales, and with a history of practice-focused and professionally oriented education, we have adopted a values-driven approach to maximize our impact. As evidenced in this report, great strides forward have been made in 2016 and our new Strategic Plan for 2017/18 to 2022/23 emboldens our commitment to developing and delivering education for sustainable development to provide tangible benefits for individuals, society and the economy.

In tandem with improvements to the student experience and our wider working practices, the implementation of our new Plan will further strengthen our ability to deliver against measures of success that have been identified for sustainability and the environment at university level and across the wider higher education sector.

The University's recent ranking as 1st in Wales and 4th in the UK in the People and Planet Green League is testament to the strategic leadership and operational plans that have been implemented successfully across the University. Very conscious efforts have been made in relation to our estate, to energy and efficiency, to procurement, food and drink retailing waste management, travel and transport, and to the safe use of potentially hazardous or polluting substances.

These efforts have been supported within a university where many of our education programmes and research activities are focused on sustainability and the environment and within a wider policy context in which the University is committed to initiatives ranging from Fair Trade to the Future Generations Act.

By working and studying in an organization committed to sustainability and the environment our students will become the next generation of global citizens able to conserve, champion and celebrate the planet we all share.

Professor Cara Aitchison

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President and Vice-Chancellor and Professor in Geography and Cultural Economy



ABOUT THE UNIVERSITY

Located in a vibrant European capital city, Cardiff Metropolitan University is a thriving and modern university. Integral to the city of Cardiff for more than 150 years, we continue to invest in our students' future with a focus on student employability and enhancing the student experience; providing education and training opportunities of the highest quality to students from over 140 countries worldwide.

Cardiff Metropolitan University is made up of five Academic Schools:

Cardiff School of Art & Design; Cardiff School of Education; Cardiff School of Health Science; Cardiff School of Management; and Cardiff School of Sport

Our schools specialise in courses that are career orientated and have been designed in conjunction with business and industry. Each school is also heavily involved with research and enterprise activities in their fields and offer thriving study environments. Our academic teams are at the forefront of their fields and are supported in developing their knowledge and skills through the University's staff review and development scheme.

MAKING OUR STUDENTS EMPLOYABLE

Through work placement programmes, links with professional bodies and the promotion of student entrepreneurship, our focus on employability has ensured that 96% of our graduates enter employment or further study within six months of graduation.*

**Destination of Leavers from Higher Education 2015*

POLICIES, STANDARDS AND BENCHMARKS FOR THE ENVIRONMENT AND SUSTAINABLE DEVELOPMENT

- a) The University's work on the environment and sustainability is guided by an Environment and Sustainability Policy. This policy was reviewed by the Board of Governors in March 2016 and is attached at Appendix 1.
- b) Both the Fairtrade and Ethical Investment Policy aim to give all stakeholders (staff, students, trade unions) a voice in environment, sustainability and ethical matters via the University formal Governance structure.
- c) The University participated in the last People and Planet League Table in 2014/15. The University will continue to use this league table as a measure of its performance. The next league table is due to be published in November 2016 and will be based on information made public on the University website as well as information collected by the Higher Education Statistics Agency, with an additional audit on some questions.
- d) The University achieved ISO14001 in March 2012, with a successful external annual review in October 2015.
- e) The training of staff and students in November 2015, with teams of staff / student completing internal Environmental Management System (EMS) audits.
- f) Inclusion of Major Incident Plan at Appendix 3.

- g) The implementation of a new sustainability scorecard, commissioned by the Association of University Directors of Estates (AUDE) to provide an independent methodology for benchmarking and encouraging sustainability within Higher Education Institutions.
- h) It was reported at the Environmental Performance Group during the review of the Ethical Investment Policy, the confirmation that no investments had been made during the period. The University continues to uphold the values within the Policy and specifically, that the University has not invested in fossil fuels, arms companies or corporations complicit in the violation of international law. It also noted that there had been no challenges during this period.
- i) During this period there were 2 Freedom of Information and Environmental Information requests reported at the termly Environmental Performance Group Meetings.

RESPONSIBILITIES

The Board of Governors has responsibility for environmental performance and the sustainability strategy. The Finance and Estates Committee of the Board oversees the detailed work on the environment and sustainability in the organization and its business operations. The ISO14001 Environmental Performance Group reports directly to the Vice-Chancellor's Board.

The Environmental Management System (EMS) covers all University activities from energy and utilities, to waste management and recycling, awareness activities but more significantly includes embedding education for sustainable development in the curriculum and into research and enterprise activities.

The University works closely with the Student Union to maintain ISO14001 and the Student Union takes particular interest in the University's FairTrade Status and is the vital link to all student activities.

The University has identified environmental aspects and nominated Aspect Owners, which are attached at Appendix 2.





THE UNIVERSITY'S APPROACH TO SUSTAINABLE DEVELOPMENT

During the year, Cardiff Metropolitan University made strides to cohere various strands of its activity with the implementation of a new Health University Strategy.

The Strategy focuses on corporate social responsibility - i.e. the University's approach to going beyond legal, regulatory and contractual requirements to act in the wider interests and welfare of society. The scope of the Strategy encompasses factors such as environmental responsibility, promoting health and wellbeing, ethical ways of working, opportunities to use the Welsh language, and supporting social cohesion. The immediate or direct beneficiaries of the Strategy include communities, students, stakeholders, and staff. The University has a successful record of investing in the local community, environmental awareness and human capital development. The progress is evidenced by the following externally recognised achievements:

- Gold level Corporate Health Standard.
- ISO14001 certified Environmental Management system.

- Platinum in the Welsh Government's travel plan awards and for the development of a second generation carbon management plan.
- Investors in People 'silver' status.
- Two Ticks (Disability) and Stonewall (Gay, Lesbian and Bi-Sexual) symbols.
- Fair Trade University.

Within the UK and internationally, there is growing awareness that effective programmes targeting corporate social responsibility priorities are likely to be complex and multi-factorial. Increasingly universities are looking to apply a more strategic and 'whole organisation' approach to the promotion of community engagement, health and wellbeing, and environmental sustainability. This approach is consistent with the principles enshrined in the Future Generations (Wales) Act (passed in March 2015), which places requirements on public bodies to meet wellbeing objectives, and is reflected in the aims of the Healthy Universities Initiative.

An integrated approach to community engagement, health and wellbeing and environmental sustainability has the potential to deliver tangible benefits to the University's operations, in particular:

- Improved health and wellbeing of students and staff.
- Improved student experience and retention.
- A more motivated and supported workforce.
- Improved business performance and productivity.
- Strengthened institution-level commitment to practise corporate responsibility.
- Projecting a positive public perception of the University.

The Strategy signals the intention to apply a more instrumental approach to actively influencing the factors that have the greatest impact on how people experience the learning and working environment, such as: relationship with their peers/supervisors/managers; organisational culture; the opportunity for personal development; equitability, opportunities for work life balance; health; safety; personal wellbeing; and environmentally friendliness.

This Strategy has clear links with other strategies - including those relating to the Estate; Equality; External Relations & Communications; Human Resources; Learning, Teaching & Assessment; and Student Experience. Supporting staff, students and the public to use Welsh at the University is a key component of this Strategy and is implied in all developments in Wales. The successful delivery of this Strategy requires on partnership working between the University and Cardiff Met Student Union, particularly in relation to student engagement with the local and wider community.

PROGRESS ON ACADEMIC DEVELOPMENT

As a result of the implementation of the Healthy University Strategy and a shift in Learning and Teaching foci due to recent emphasis on the Teaching Excellence Framework, several key initiatives have been concluded since the previous report:

- The Learning and Teaching Development Unit continues to monitor and improve the prevalence and quality of Education for Sustainable Development (ESD) across Cardiff Met curricula through Quality Assurance and Annual Review processes.
- The programme audit tool project has been completed and has provided a useful snapshot of ESD provision across the institution whilst also uncovering an encouraging number of cases that demonstrate innovative pedagogical practice within the field.

SUSTAINABILITY AUDIT SUMMARY

The sustainability self-evaluation tool was rolled out across all five academic Schools for the first time during the academic year 2014-15. Overall, Programme Director engagement with the self-evaluations was good. In total, 54 (c73%) Programme Directors completed the Sustainability Self-Evaluation.

Some examples of practice were identified as excellent and have or will be shared within, and across Schools. In particular, responses to the sustainability questions indicate that ethical issues are well embedded within programme curricula and that a large proportion of programmes utilise interactive, participatory learning and teaching methods.

Areas in need of further development were also highlighted, in particular the fact that links between sustainability education and students' skills/employability were not explicit. Active and explicit engagement with graduate attributes is important in enabling Cardiff Metropolitan University graduates to understand and articulate the skills and attributes they have developed throughout the course of their academic programmes to future employers. Similarly it was highlighted by several Programme Directors that sustainability learning outcomes were not explicit within programme documentation.

- Best practice case studies identified as part of the programme audit are currently being written up and shared within the institution as exemplars. These predominantly highlight authentic or scenario based learning and assessment practices that enable students from within vocationally oriented disciplines to consider how sustainability issues impact upon decision making processes within the professional arena.
- Sustainable campus initiatives have been drawn to a close with the main drive towards the development of a sustainability oriented community of practice being succeeded by Healthy University initiatives.
- LTDU continues to promote and further develop a range of electronic learning and communication systems that seek to promote flexibility and reduce unnecessary travel at both local and international scales. Examples include the ongoing development of Moodle as a VLE, Mahara as an e-portfolio platform, Panopto for lecture capture and streaming, Adobe Connect and Skype for Business as online communication platforms.



The outcomes of the self-evaluation audit has been used to inform two new workshops around education for sustainable development, which are delivered by LTDU. These include addressing any 'gaps' in practice, such as how to ensure that sustainability issues are more explicit for students. It has also been recommended to the L&T board that sustainability themes should be addressed more explicitly through the cycles of periodic review.

PROGRESS ON RESEARCH

Sustainability Research at Cardiff Metropolitan University Building on the University's success in the Research Excellence Framework (REF) 2014, the Academic Schools and the International Centre for Design and Research (PDR) continue to conduct research that is directly linked to sustainability.

a) CARDIFF SCHOOL OF ART AND DESIGN (CSAD)

Ecological design work in CSAD is a well-established part of the school's research portfolio. It embraces, for example, the construction and operation of buildings, environmental and energy performance, and building occupancy evaluation and impacts on health. Some of the most recent projects include thermography in new low carbon dwellings and retrofitted deprived dwellings, impacts of climate change on construction fabric, and ecological housing for Kuwait. Since 2009 the CSAD has also been home to the Ecological Built Environment Research & Enterprise group which brings together research with a number of external collaborative partners including housing associations in south Wales.

b) CARDIFF SCHOOL OF EDUCATION (CSE)

One of the distinctive features of the CSE is the outdoor woodland centre. Based next to two hectares of mature woodland at the Cyncoed Campus, it is a wooden classroom that provides a learning environment used for Forest School activities and short courses (including Environmental Story Telling). It is also a home to the Outdoor Learning Research Group. The School continues to collaborate with an extensive list of external stakeholders (e.g., Millennium Stadium Charitable Trust, Simon Gibson Charitable Trust, and Waterloo Foundation) on the work that leads to research outputs including the development of social and emotional skills, confidence and communication skills, and children's play.

c) CARDIFF SCHOOL OF HEALTH SCIENCES (CSHS)

The CSHS has a portfolio of research activity broadly linked to the sustainability of human health - which includes with environmental themes and issues. A particular on-going high-profile project is concerned in Uganda to address malaria control, part of the United Nations' Sustainable Development Goals. With the overall ambition of making rural villages more 'malaria-proof', the study is developing

an integrated approach to malaria prevention. Preliminary work has been well-received and has the potential to contribute to national (and international) malaria prevention efforts.

d) CARDIFF SCHOOL OF MANAGEMENT (CSM)

A key focus for the Welsh Centre for Tourism Research is concerned with project management in tourism contexts, including business and tourism ethics. One project in particular has focused on the political economy of the development of small businesses in Gambian Tourism. Elsewhere in the CSM other on-going studies involve the role and significance of voluntary environmental programmes in behaviour change within green marketing, and specifically the drivers and barriers in the effective implementation of environmental management programmes.

e) CARDIFF SCHOOL OF SPORT (CSS)

Included within the Cardiff Met submission to REF 2014, the Sociology and Philosophy of Sport research group engages in work that embraces questions concerned with ethics, equality and moral agency. A particular on-going project is concerned with the lives, interests and activities of eco-athletes, and eco-athletes as agents of change in sport. Specifically, it is an empirical project around the topic of environmental sustainability in sport, and the ramifications of climate change and environmental degradation. Making sport more environmentally sustainable presents a challenge for sports organisations, governments and international institutions alike.

f) INTERNATIONAL CENTRE FOR DESIGN AND RESEARCH (PDR)

Established in 2006 within PDR, the Eco-design Centre (EDC) works with businesses, industry groups, academia, educators and policy makers on a national and international scale through collaborative eco-design projects. As part of its Centre of Excellence contract awarded in 2008 by the Welsh Government Waste Strategy Branch, EDC bridges the gap between policy and implementation, and has close relationships with organisations developing industry initiatives to promote the uptake of eco-design and circular economy concepts. Recent work includes a four-year European Commission funded project in collaboration with 18 academic and industry partners who succeeded in developing methods to boost the use of life cycle assessment among Europe's small and medium sized enterprises.

A background image showing students in a laboratory. In the foreground, a young woman with dark hair tied back is looking down at something. To her right, another student wearing a black hijab and a white lab coat is using a blue pipette. Other students are visible in the background, also in lab coats.

PROGRESS IN SCHOOLS

CARDIFF SCHOOL OF HEALTH SCIENCES (CSHS)

Alignment of the curriculum with the global sustainability agenda. As previously reported programme teams have audited sustainability in the curriculum. Last year the Housing and Environmental Health programmes were highlighted, this year we look at the Food Science and Technology curriculum reviewed in 2015/16.

The programme has been developed with reference to the latest United Nations sustainable development goals and targets as outlined in Transforming Our World - the 2030 Agenda for Sustainable Development. Throughout the curriculum, students are made aware of the critical role of the global food sector in sustainable development and their role as graduates with a scientific and technical knowledge of food production.

Goal 2 relates to ending hunger, achieving food security and improved nutrition and promoting sustainable agriculture. Students graduating from the programme will have gained the skills to enhance the efficiency of organisations and minimise food waste; this in turn can result in fewer demands upon agricultural systems. By contributing to the development of food products, graduates will have the scope to influence constituent ingredients; this can have an impact on nutritional quality. Effective technical development in the food industry can enhance the availability and pricing of products.

Goal 3 relates to healthy lifestyles and promoting the well-being for all at all ages. Food poisoning has an impact on morbidity and mortality; the young, elderly and pregnant women are particularly vulnerable groups. The effective application of food safety management systems are recognised as being important in the management of food safety. The programme places a strong emphasis upon the development and implementation of food safety management systems. In addition, this aspect of the programme focuses upon the frameworks that ensure product conformity, compliance and labelling. This is of particular importance for those who experience food allergies.

Goal 4 relates to the provision of inclusive and equitable quality education. The programme is seen to link to target 4.3 that stresses the importance of equal access to educational opportunities and 4.4 which highlights the need for relevant technical and vocational skills for employment, decent jobs and entrepreneurship. This programme provides such opportunities and prepares students for employment in the food industry sector.

Goal 8 emphasises economic growth and productive employment and decent work for all. Target 8.2 requires higher levels of economic productivity and action such as technical upgrading and innovation. The programme will equip students to apply best practice and will enhance their ability to innovate in a competitive market.

Goal 9 requires action in relation to infrastructure and sustainable industrialisation and the fostering of innovation. This programme is regarded as producing graduates who will be able to innovate within the food industry sector. This is regarded as enhancing the economic viability of companies, providing employment within communities and ultimately contributing to economic growth. Target 9.5 specifically emphasises the importance of scientific research and the upgrading of technical capabilities. Students graduating from the programme will be well placed to contribute to organisations' endeavours in relation to these issues.

Goal 12 deals with ensuring sustainable consumption and production patterns. Target 12.3 requires action in relation to food waste and pays particular attention to losses along the production and supply chains. The effective management of the development and distribution of products is regarded as of high importance to the management in the food sector and is addressed within the programme.

Furthermore, sustainability in respect of programme delivery is enhanced through measures such as the use of Moodle, electronic submission, assessment and feedback and e-books

These aspirations are incorporated throughout the programme and there is clear evidence that it reflects key goals and targets within the sustainable development agenda.



ENGAGEMENT WITH COMMUNITY ORGANISATIONS

The School is working with a number of community and third sector organisations. Two case studies are presented:

The Applied Psychology Department's collaborations with community organisations is key to achieving the agenda of The Well-being of Future Generations (Wales) Act 2015, which states the requirement for an integrated approach where organisations across sectors work together. Many of the community organisations work with vulnerable groups and their work is vital to achieving the policies of Welsh Government related to sustainability, reducing health inequities, social justice, and prudent healthcare.

One case study demonstrates how we are achieving this in partnership with Pedal Power. Our work with this third sector organisation, cuts across all realms of higher education, i.e. teaching, research and enterprise. Undergraduate students work as volunteers to support Pedal Power to enable children and adults of all ages and abilities to experience the benefits of cycling. The students learn skills in practical settings that help them think about the impact of the environment on health and well-being for a range of groups. Undergraduate and masters' students have also completed research projects with Pedal Power, transferring

psychological and research skills into the organisation. The Centre for Outdoor Activities and Leisure research (COAL) team are working to co-ordinate the activities and conduct further mixed-methods research to provide quantitative and qualitative evidence for the benefits of the activities of Pedal Power, thus supporting the sustainability of this project. COAL has also already published work demonstrating the benefits of gardening and has provided materials to support other third sector organisations demonstrating the impact of their activities for beneficiaries and volunteers in their organisation, for example GOFAL the Mental Health charity and the Care Farming Sector.

Our second case study, the 'Keeping Well in Your Home' project developed by the housing team in the Department of Applied Community Sciences with Derwen Cymru, part of the Pobl group is another excellent example of a community-based activity with sustainability at its heart. The programme launched in January 2016 at the Pant Y Celyn sheltered housing scheme in Newport.

Derwen is a Housing Association which specialises in housing and supporting older people. We are working with Derwen to provide an opportunity to enable learning within the community. The learning will take place in a work based environment and will provide a contribution to the



health and wellbeing of the residents within the scheme. This enables inter professional work between students from Housing, Speech and Language Therapy, Podiatry, Nutrition and Complementary Healthcare; creates course specific opportunities to develop students' knowledge understanding and professional, employability and networking skills with the residents' experiences at the centre of this partnership project. The aim to provide student-led interventions to improve the wellbeing of elderly residents is directly applicable to the Welsh Government Prudent Healthcare agenda.

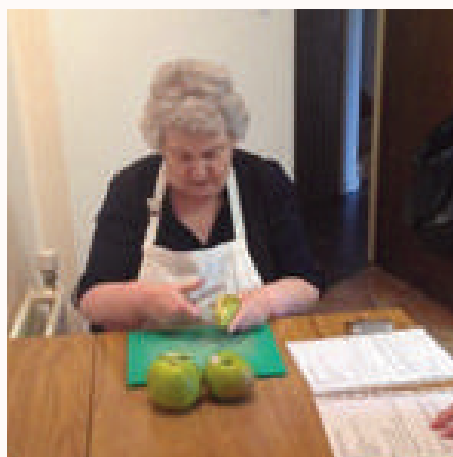
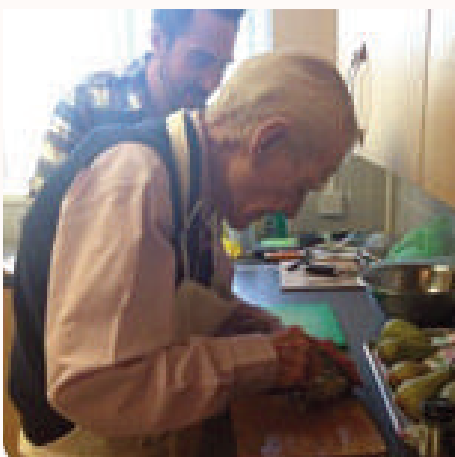
As part of the 'Keeping Well in your Home' project, first year Complementary Healthcare students undertook a hand massage event with the residents of the Derwen scheme in February 2016. The event was well attended and was really successful. Residents are very much looking forward to the next event.

Nutrition students, Speech and Language Therapy students and residents have teamed up to create the Pudding Club

at the Health and Wellbeing Hub. Nutrition and Speech & Language Therapy Students and Residents at Pant Y Celyn thoroughly enjoyed these. Pudding Club brings together residents to cook, eat, explore nutrition, chat and share memories of their own family recipes. Residents participate in the preparation and cooking of a delicious pudding to share with their neighbours.

Some residents are experienced cooks but it has given some others the opportunity to try making something new that they never have before. It was a great chance to socialise with neighbours and also to socialise with new people.

Mrs Taylor said 'I thought I'd be nervous, but they (students) made me feel right at home. I really enjoyed myself. I'd have been stuck in otherwise.' 'I didn't know I could do anything like that but they talked me through it step by step. I really got on with the students, it was lovely, 10 out of 10.'



GLOBAL SUSTAINABILITY RESEARCH

The School has an international reputation for research on environmental and public health with a focus on UN sustainable development goals. The research projects, undertaken by PhD students with influential positions in Government, Industry and Higher Education in Africa and the gulf region. Supervisory teams include academic staff from Cardiff School of Health Sciences, Cardiff School of Art and Design and partner Universities.

Projects live in 2015/16 included:

On-going work with Makerere University on Malaria reduction strategies with a focus on environmental, nutrition and behavior change interventions in rural villages. This collaboration that began as a PhD has developed into a research project with WHO funding and Ugandan Government support.

The impact of land reclamation on marine life on Doha Coast to recommend measures to help reduce future effects of land reclamation, Qatar;

An Assessment Of Organization Operational Needs, Health, Fitness And Well Being Of Fire Fighters in Doha, Qatar to ascertain systemic capacity by assessing needs, identifying gaps and opportunities for improving Qatar firefighters' health, wellbeing, fitness and practice;

Mr Ahmed Rawal- health and safety in oil companies in Libya to evaluate health and safety conditions in oil companies to determine how to improve the health and safety environment.

The effects of environmental exposure to heavy metals and persistent organic pollutants on Women's Health. A case study of Dandora Dump site in Nairobi, Kenya to determine the concentration levels, routes of exposure,

and potential health effects of heavy metals and persistent organic pollutants on women;

Work in collaboration with The Joma Kenyatta University of Agriculture and Technology (JKUAT) to evaluate work related injuries and ill-health among farm workers at public irrigation schemes in Kenya;

The effects of Water, Sanitation and Hygiene (WASH) on selected health outcomes among pupils in schools implementing Home Grown School Meals Program in Ganze Sub County, Kenya (with JKUAT).

The working environment for cement workers in Nigeria to determine actions that will contribute to the improvement of occupational health and safety for cement workers in Abuja;

The suitability and practicability of rammed earth for housing in southern to investigate whether rammed earth is a feasible, cost effective and socially acceptable construction method for house construction in the South African context. This project is led by CSAD with supervision from CSHS.

Water conservation strategies for the reuse of non-clinical non-potable water for outdoor landscape hospitals in arid climates, such as Abu Dhabi to investigate the financial and environmental impact of onsite reuse of non-clinical alternative water sources in healthcare settings and to monitor, record and analyse cost to operate and carbon footprint greenhouse gas emissions. This project, led by CSAD with supervision from CSHS resulted in the PhD student Geraldine Seguela winning the Abu Dhabi Sustainability Group Sustainable Manager of the Year Award 2017 for her work with the Cleveland Clinic in Abu Dhabi where this project was undertaken.



CARDIFF SCHOOL OF ART & DESIGN (CSAD)

Sustainability continues to be embedded in all aspects of the curriculum and day to day practice within CSAD. It is implicit in all of CSAD's workshop procedures and in the use of materials as well as in teaching and assessments. It is also the focus of much of the School's research and enterprise activity.

For example, Product Design lecturer Paul Wilgeroth teaches a module called Sustainability Issues in Design for Production as a part of the MSc Product Design programme which has evolved from focusing on the three R's of reuse, reduce and recycle to considering impact assessment and lifecycle analysis.

Many of the School's PhD and Professional Doctorate students are pursuing sustainability focused research. One PhD candidate is looking at sustainable energy production at a community level and a Professional Doctorate candidate is researching energy and CO2 reduction in manufacturing techniques. He is nearing the end of his studies, has already published several papers and spoken at conferences, so is sharing the benefits of his research with the wider academic and manufacturing communities. The implementation of his ideas have the potential for his employer to make 30% savings in energy usage.

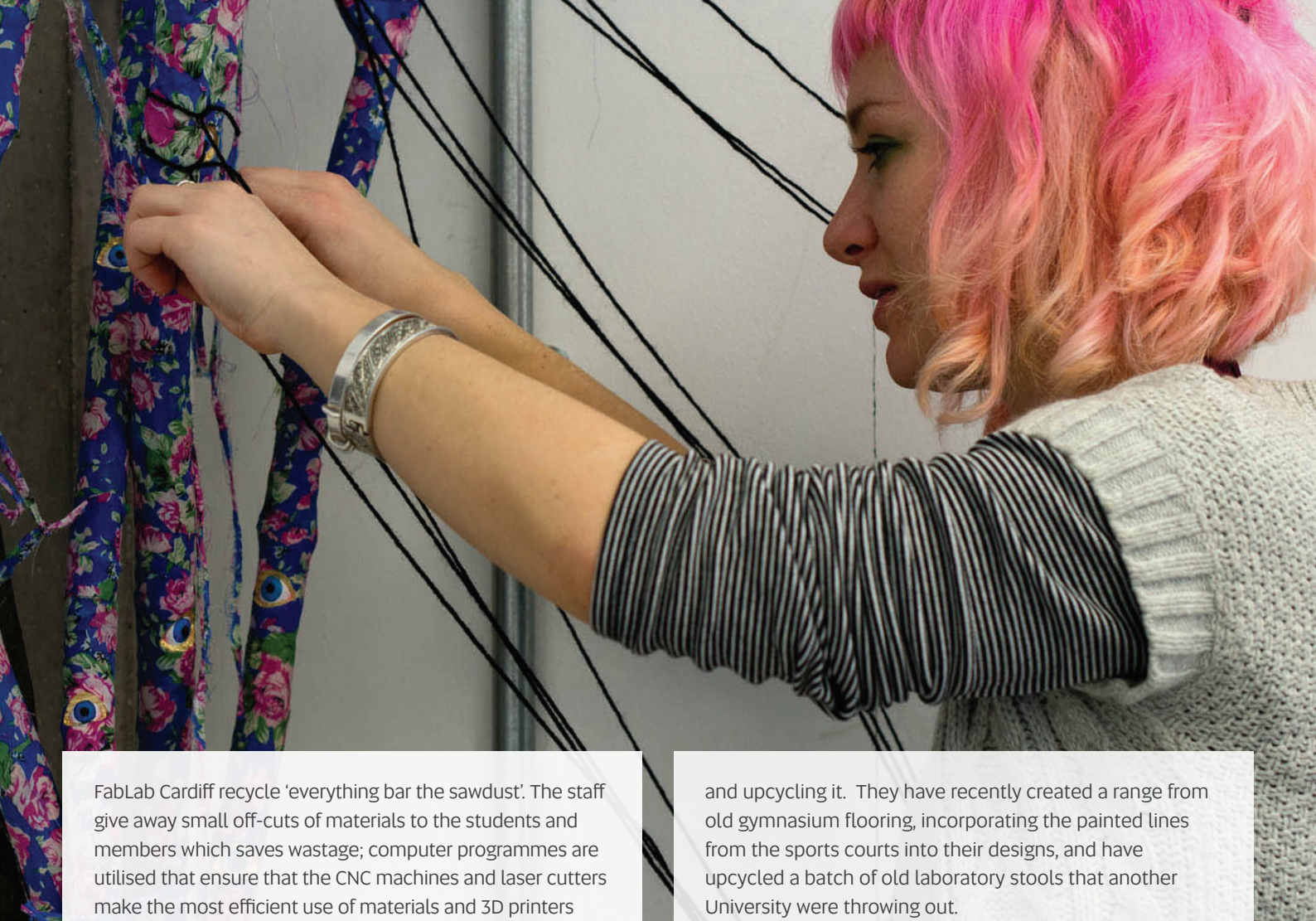
Several staff are focused on sustainability issues for their own PhD studies. For example, Huw Williams is looking at sustainable kitchen design and he is being supervised in this by Paul Wilgeroth and Prof Steve Gill, all of whom feed Huw's research into the curriculum.

Sustainability is introduced to students from the very beginning of their studies at CSAD. The Level 4 students in Textiles start their degrees with a project called Natural Matters, recycling denim working with Cardiff's

Sustainability Studio. All Textiles students use recycled, found and off-cut fabrics and papers throughout their projects. Staff and students buy regularly from Recreate, a Cardiff based company that sources waste products from factories around the UK. They also study eco-friendly fabrics and dyes and learn about sustainably and ethical production techniques. A series of films are screened at lunchtimes, targeted specifically at the Textiles students but open to all CSAD students that consider ethical production in India. The programme has excellent relationships with many external companies including Melin Tregwynt which gives the students waste woollen fabrics to reuse.

The School is committed to the Mothers of Africa charity and has organised upcycled equipment to be sent to its centres in Zambia as well as staff and students organising fund raising activities using recycled materials to create quilts for auction. The School has also involved a range of primary and secondary schools in the quilt making project, which has also helped our students gain experience of teaching school children to sew and to be aware of how fabric can be repurposed.

The Programme Director for Textiles, Dr Keireine Canavan's research looks at traditional textiles production techniques in India, the Middle East and Far East and in North Africa and her work is helping ensure that these designs and techniques are not forgotten. She feeds her research into her teaching but also lectures on these subjects in the Middle East so helping ensure those traditions are maintained. The Textiles staff also provide consultancy for St Fagans, part of the National Museum of Wales, on the conservation of their textiles archive, which helps sustain an interest in traditional Welsh customs and textiles techniques.



FabLab Cardiff recycle 'everything bar the sawdust'. The staff give away small off-cuts of materials to the students and members which saves wastage; computer programmes are utilised that ensure that the CNC machines and laser cutters make the most efficient use of materials and 3D printers and laser cutters have been selected on the basis of their energy efficiency as well as their initial cost. Running a laser cutter for an hour uses the same amount of electricity as boiling a kettle just once. The FabLab has also invested in a machine to crush old PLA from the 3D printers, which is then reheated and turned back into filament which can be used for prototyping.

Sustainable practice was the focus of a Whole School meeting in Summer 2016 which resulted in several proposals for improved practice within the School. For example, a materials credits scheme that gives the free materials used by students not only a monetary value but an environmental impact value has been proposed and is being explored. From the same meeting discussions are also taking place into how ethical practice can be more embedded in the Constellation (theory based) modules through, for example, more focus on the societal impact of design and design thinking.

The CSAD Graduate Incubation Unit's businesses are also very much aware that sustainable practice is not only ethical but makes good business sense. For example, The Wonky Chair's USP is making furniture from repurposed materials, having ranges that reuse frames from found furniture, to sourcing furniture that is due to be scrapped

and upcycling it. They have recently created a range from old gymnasium flooring, incorporating the painted lines from the sports courts into their designs, and have upcycled a batch of old laboratory stools that another University were throwing out.

The School has excellent relationships with some of the city's major property owners and developers and so contributes to its lively pop-up culture, holding regular exhibitions and events in empty shop units and other spaces around the city centre. This helps bring footfall to the city's historic arcades, raising the profile of its vibrant creative culture and contributing to building Cardiff's reputation as one of Europe's most liveable cities, that the Council is committed to. This helps generate wealth for the city, publicises our students' talents and teaches them a wide range of employability skills.

Within the administrative functions, staff are committed to recycling stationery, reusing old furniture rather than investing in new and encouraging colleagues and students to use the designated recycling bins that can be found throughout the School. Students use the School's mini kitchens daily to prepare simple food and for hot and cold drinks, another simple way of minimising the waste generated from buying tins and plastic bottles and hard to recycle coffee cups. The School also continues to benefit from its energy efficient award winning building, with its concrete core helping it to maintain a constant temperature, and its lighting system meaning that power is not wasted through lights being left on.

CARDIFF SCHOOL OF SPORT (CSS)

The Cardiff School of Sport has taken steps to embed core principles of sustainable practice within the everyday delivery of its undergraduate and postgraduate programmes, as a part of a wider perspective of sustainable practice across the School. The School recognises that this is particularly pertinent for its undergraduate operations because the scale of its teaching portfolio and student population means that even modest shifts towards more sustainable practice has potential for significant improvements across a number of sustainability indicators. Subsequently, the key social, environmental and economic sustainability initiatives in the School have surrounded the transition towards digital information delivery and administration workflows across as much of the teaching portfolio as possible. Using a combination of Sharepoint, Moodle and Turnitin platforms, combined with extensive staff development interventions in support of these technologies, this has been largely achieved in the relatively short period of time since 2012-13 when all student coursework submission through Turnitin was made mandatory. In 2014-15 the transition to Moodle took place and this is now complete across all programmes, for the year 2015-16. In addition, in 2015-16 the School began piloting the use of an online scheduling service (Doodle©) with the aim to roll this out to all staff in 2016-17, this has now been completed with all teaching and research staff in the school given access to a doodle account. This service offers students and staff the ability to make tutorial (as well as teaching and research meeting arrangements) from on and off-site locations via either a web interface or a free smartphone app thereby greatly simplifying the student/staff processes of booking and undertaking tutorials and greatly reducing unnecessary wastage of time and resources in booking, un-booking tutorials. Links to these tutorial schedules are embedded within Moodle module sites on an increasing number of modules. Combined with this initiative is the use of VOIP services such as Skype to offer students video tutorials. This practice is being encouraged in the school as an option rather than the norm, but provides a social, environmental and economically sustainable solution for those groups that need it (e.g. athletes away travelling and competing, student's suffering from illness, research students working in the field, as well as part time students and distance learning students). In 2015-16, the video software Panopto has been adopted for videoing seminars and is also now used in Postgraduate student induction across all programmes. On-line recruitment has also been rolled out. In 2014, CSS

participated in an LTDU audit of sustainable teaching practice. The process revealed a considerable amount of curriculum content was devoted to issues surrounding social justice and equality in sport, indicating a strength in the provision of social sustainability, environmental sustainability lectures are also provided on a number of social science modules the school offers. In 2015-16 Laboratory, user groups have been set up between PA, SCRAM, Biomechanics and Physiology teaching groups to improve the use of resources and promote group working and projects. Throughout 2014 and 2015 many of the School's basic administrative functions have been further revised to shift towards paperless workflows and this process is now realised too the extent that it is feasible. The coursework, examination, question preparation, student evaluation and external examiner evaluations have all been digitised via SharePoint and Dropbox in the 2012-13 Academic Year and were further refined in 2014-15 and 2015-16. In support of paperless processes, CSS issues iPads to all its academic and senior administrative staff. Outlook calendar is now used extensively for personal and school business. This has removed the need to print minutes and papers for committee meetings and paper diaries are no longer purchased for staff. Printers for individual staff offices are no longer purchased. For example, in a new office block in the School 33 staff share one MFD. In other areas of the school staff either use a MFD or a multiple share networked printer. This shift in policy is realising a reduction in the costs of toner cartridges and repair bills for printers as well as reducing the environmental involved in the procurement, use and disposal of these devices. Recycle bins have been placed in offices and other well used spaces around the school. The School was part of the HR trial into online recruitment and selection. This led to paper based application forms being replaced by pdf documents and online shortlisting and has been rolled out in 2015-16. In the built environment, the school has worked with estates to replace the windows in the Syd Aaron Gym reducing the amount of heat lost through the old ill-fitting frames and single glazed panes of glass. In 2015-16 new windows have been fitted in the Russell Rees to reduce heat loss and the refurbished School offices all contain new windows, lights on sensors and no printers (administrative staff use the print studio service). Finally, travel for academic purposes has been refocused around promoting the most cost effective method (for example, shared transport to conferences and use of public transport are now strongly encouraged).



CARDIFF SCHOOL OF MANAGEMENT (CSM)

In conjunction with Programme Directors in other Schools in Cardiff Metropolitan University, all of the full time Programme Directors in Cardiff School of Management conducted a sustainability audit of their programmes during the 14/15 academic year.

The individual audits were summarised in an overarching report written by the Director of Learning and Teaching. This report was considered at the September 2015 meeting of the University L&T Board.

Many examples of good practice were evidenced throughout the set of programmes.

In particular the Foundation programme demonstrated a holistic integrated approach in some responses and areas of specific relevance in others.

For example in relation to Ethics in the curriculum:

Ethical issues are addressed throughout the curriculum. For example, Academic Skills looks at the issues around plagiarism, in Marketing issues regarding trade and Marketing are explored and considered throughout the year. Specific identification and discussion of differences in ethical standards, 'norms' and viewpoints are discussed and debated i.e. what is an acceptable consumer practice or product to one group is not necessarily acceptable to another. In addition corruption is discussed and its effect on society, the marketplace and legal implications. In Personal Finance, different perspectives on finance are discussed, particularly in relation to Islamic finance and in IT, legal and ethical issues surrounding Big Data from social

media etc. are considered and students are encouraged to debate the right to anonymity and privacy online.

Specifically in relation to the Marketing module:

Sustainability is discussed in relation to global business, the role of MNCs and the impact this has both developed and developing economies, in addition when discussing consumerism and its effect on the planet, other societies and cultures is discussed.

For example Apple, Nike and other MNC are discussed in relation to slave labour, the issues of conflict minerals that are used to make iPhones etc. Ethics in relation to corruption, and corrupt practices act (US and UK) are discussed. Furthermore intercultural perceptions of sustainability and views of corruption are utilised as this has an impact on SD.

The Business and Management Programme Director gave clear and incisive answers also demonstrating a holistic approach where possible:

Ethical issues are looked at BSP4O64, BSP5OO3, BSP4OO2, BSP5O15, BHL5OOO, BSP6OOO, BAC6OO4, BSP6O64, BSP6OO4, BHL6OO6, BHL6OO8, BHL6O16, BHL6OO2. In Finance in discussion of profit maximization and shareholder wealth maximization; ethical leadership; ethical behaviour in decision making of directors and towards shareholders/stakeholders; ethical approval required in research; influence of international companies upon the workers they employ and the communities within which they operate; ethical issues in trade and marketing; codes of ethics in professional bodies; free trade and fair trade.

The MBA Programme Director highlighted the following interesting example:

Problem-solving is included in the core module MBA7002 Strategic management module and here students are encouraged in their sustainability literacy. This can be challenging with their different perspectives and so team presentations bring out cross-cultural comparisons.

The Programme Director for MSc International Tourism and Hospitality Management provided the following evidencing the integrated approach taken:

Sustainability is a key issue within the study of Tourism, Hospitality and Events and is, therefore, embedded throughout our programmes. Sustainability-related issues are explicitly examined in modules such as Event Tendering, Feasibility and

Conceptualisation where the learning outcomes include:

1. Evaluate the potential success of individual events in terms of long term sustainability and legacy impacts.
2. Analyse the power of stakeholders and evaluate their impacts on event conceptualisation and feasibility.
3. Investigate political, economic and socio-cultural and legislative environments and their influences on event feasibility and tendering.

THE Industries in Context is another module which explicitly addresses sustainability and indicative content includes

- DEEPLIST factors impacting on current and future THE demand and supply e.g. changing demographics, the world economy, sustainability, digital marketing, globalisation.
- Concepts of business stewardship and triple-bottom line approaches to sustainability.

Knowledge and understanding of the key principles of sustainability and their application to the THE industries are explicitly assessed within these modules.

The Accounting Programme Director identified the programme area as one where there is limited opportunity to embed sustainability education due to the prescribed and technical nature of many of the modules. However in relation to Ethical considerations, good examples were able to be provided:

Ethics is a major element of accounting and this is embedded into the curriculum of all modules. For example, students are expected to fully assess the professional ethical implications of auditing decisions and of the distinctions between tax planning, tax avoidance and tax evasion in the taxation modules.

The Programme Director of the Computing/IS suite of programmes provided an interesting perspective and examples.

In all three of our undergraduate programmes, there is a strong theme of legal, social, ethical and privacy issues address at each Level. This has been partly driven by professional body accreditation (BCS, The Chartered Institute for IT), as well as fully addressing the socio-technical/socio-cultural aspects of the 2007 QAA Computing Subject Benchmark Statement. Also in the programme-level outcomes:

Sustainability-related issues are primarily covered in the following core modules:

- Legal and Ethical Issues in Computing (BHL4005)
- Legal Regulation in Information Systems (BHL5005)
- Professional and Ethical Issues in Computing (BCO6003)

This is evidenced through certain learning outcomes and assessment in these modules, cutting across technological, economic, social and environmental sustainability.

Furthermore, module-specific sustainability issues would be addressed; a good example would be in software development (covered in a number of core and optional modules): the importance of developing high quality, useful and maintainable software artefacts, software carpentry, linking to specific technological, social, cultural or economic issues.

In summary the above extracts give a flavour of the in depth responses provided by CSM Programme Directors in the 14/15 audit. Very good examples in terms of curriculum and activity were provided where you would expect them to occur together with honest reflection in relation to programmes where this is more difficult.

The validation documentation for all newly validated programmes includes explanation as to how Sustainability is incorporated in the programme. The newly validated Fashion Marketing Management submission referred to the promotion of creativity, experimentation, employability, international sustainability/development and academic research through a blend of marketing and management content combined with specialist knowledge of the fashion industry.

Second year students from a range of programmes worked extremely diligently to arrange a programme of events for the Go Green Week in February 2016, and Cardiff School of Management was delighted to have played its part in helping Cardiff Metropolitan University achieve 1st Place in Wales in the 2016 People & Planet League.



CARDIFF SCHOOL OF EDUCATION (CSE)

Cardiff School of Education's purpose-built, eco-friendly outdoor learning building in the woodland area at the Cyncoed Campus opened in April 2015 and provides a range of learning opportunities linked to sustainability issues. The Centre is reaching a wide range of people within the local community and across South East Wales, promoting the principles of sustainability through a range of courses, including Forest School training, Earth Education workshops and curriculum focused events, such as literacy, numeracy and science, promoted within a natural environment. In 2016 we started using the outdoor learning building to support staff and student wellbeing by running a series of mindfulness and singing workshops.

Many of our undergraduate and PGCE Primary students make extensive use of our woodland area for Forest School and other outdoor activities such as storytelling. We have embedded a new 10 credit module 'Sunshine, Woodpeckers and the Swamp of Biting Mud: Outdoor Play & Learning' within our BA (Hons) Early Childhood Studies with Early Years Practitioner Status degree. This will provide a valuable opportunity for our students to consider the environmental impact of using outdoor spaces and to explore ways to support the sustainability of woodland and coastal settings. The students will be able to gain their Forest School Practitioner's level 2 Assistant accredited award if they wish. This will enable them to gain theoretical knowledge and practical experience of working with young children to





increase awareness of the ways in which we can all nurture our local environments. In 2016 our use of the outdoors was supplemented by the Concrete Patch Project, an initiative between staff and students in CSE and Cardiff School of Art & Design to repurpose an area of paving as an outdoor play area, with colourful hexagonal wooden boxes containing a range of fascinating objects and outdoor play equipment. As well as improving the visual appearance of a drab area of the campus, this initiative has provided an exciting learning resource for use with young children as part of our BA Early Childhood Studies degree. In other programmes within the Department of Humanities, one of our English tutors has used the woodland with her Children's Literature students to embed an awareness of the interrelation between the origins of storytelling and the environment in the English curriculum, whilst promoting the development of environmental responsibility among our students.

Our Department of Initial Teacher Education (ITE) plays a key role in the development and implementation of Welsh school curriculum strategy with regard to sustainability. The Successful Futures curriculum currently being developed has as one of its four key purposes the development of 'ethical, informed citizens who show their commitment to the sustainability of the planet.' This commitment builds on the seven interlinked themes identified in the Education for Sustainable Development and Global Citizenship (ESDGC) dimension, all of which are addressed and embedded as a core features of our ITE programmes and are part of the Qualified Teacher Status (QTS) Standards that student teachers need to achieve. During 2015-16, the PGCE Primary programme dedicated a one-day student conference focusing on ESDGC highlighting its importance to future generations of teachers and their pupils. The health and



wellbeing of our student teachers is paramount, so they are supported throughout their study and during school experience, beginning with 'Student Teacher Wellbeing' events as part of induction onto ITE programmes. Individual student teachers with medical and disability needs are supported by the Safeguarding, Equality and Diversity Co-ordinator through a rigorous risk assessment process.

In the Department of Professional Development, all programme directors have included sustainability as a standing item within their committee agendas. The Learning and Teaching Development Unit Sustainability Toolkit informed the revalidation of BA and PGDip youth and Community Work, PGCE PCET, PCE PCET and the International Foundation Course during 2015-16. Programmes preparing students for the youth and community development professions promote a commitment towards social justice, inclusion, equality and global citizenship. A recognition of environmental, political and cultural issues is central to these courses and students are encouraged to develop critical faculties that will prepare them for working in a wide range of contexts, including voluntary and statutory organisations, many of which are situated in socially disadvantaged local communities. Across the Cardiff School of Education we are committed to reducing waste and the consumption of natural resources through moving towards a paper-free environment, circulating all documents and papers for meetings electronically whilst encouraging attendees to view these on laptops and tablets during the meeting. CSE has made significant strides towards all electronic submission and marking of assignments to further reduce our environmental impact whilst providing students with detailed feedback in written and oral forms.



STUDENT UNION AND FAIR TRADE

ENVIRONMENTAL CHAMPIONS

The Students' Union is a partner within the volunteer group organised by Cardiff Council, 'Environmental Champions' who work on getting students involved in volunteering on sustainability and environmental initiatives. Environmental Champions is a partnership project between Cardiff Digs, Student Volunteering Cardiff, Cardiff Met Students' Union, Cardiff Volunteering and Cardiff Students' Union.

11 Cardiff Met students signed up to take part in regular projects as part of Environmental Champions between the 2015-16 academic year. Projects that took place during this time period included:

- Students attended a South Wales Police stand at Cyncoed student hall key collections in order to give living advice to students moving in.

- Cardiff Met students have also taken part in Cardiff Council community walkabouts, where they knocked on the doors of student houses in Gabalfa/Roath to make students more aware of the changes to council waste collections.
- Helped the SU promote fairtrade by giving out free fairtrade bananas and chocolate.
- A trip to the Viridor ERF site in Cardiff to see how waste is managed there.
- Students volunteered at the Cardiff Digs stand for Go Green Week to give out recycling bags and energy saving light bulbs.
- A litter pick in partnership with Keep Wales Tidy along the River Taff.
- Students participated in the 'Get it out for Cardiff' campaign, where students knocked on the doors of houses in student areas to let them know how/when/where to dispose/recycle their items when they move out of their student accommodation.



Students in their health & safety gear at the visit to Viridor ERF- Dec '15



Litter pick during Go Green Week- Feb '16



Volunteer dressed as a banana to promote fairtrade to students

VOLUNTEER BEACH CLEANS

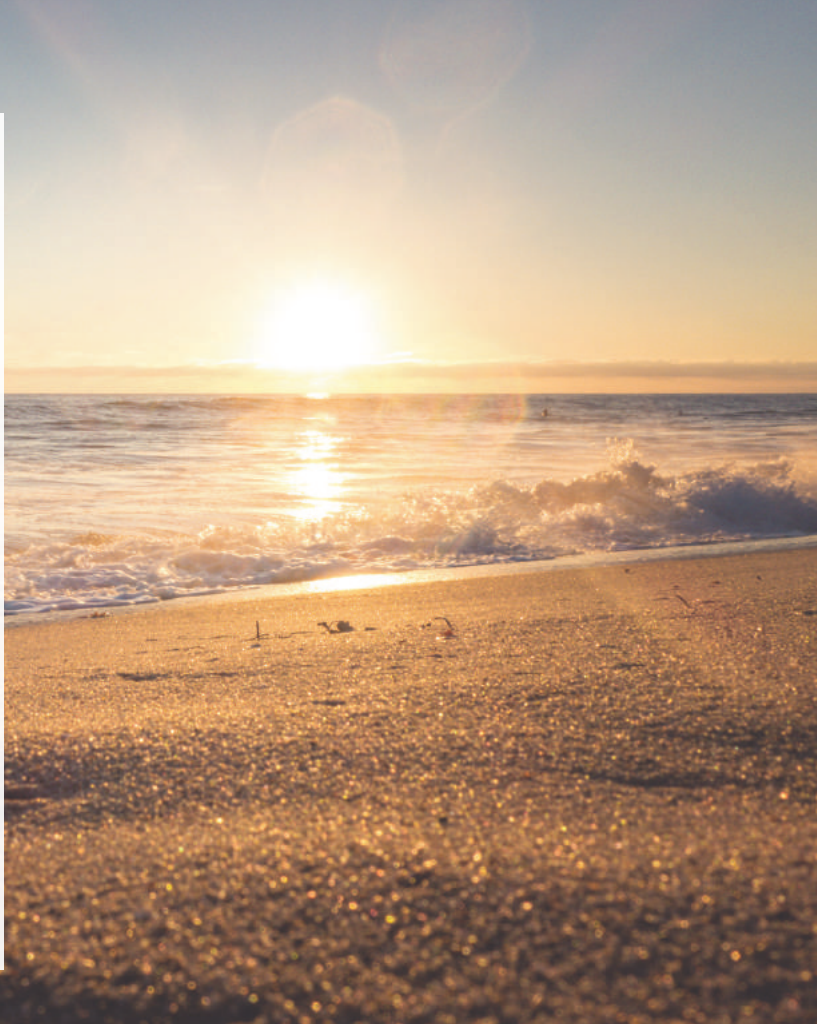
The Students' Union organised 2 beach cleans in partnership with Keep Wales Tidy at Ogmore-By-Sea. Volunteers mainly collected drinks bottles and bits of plastic and rope that had been washed up by the sea.

The first litter pick of the academic year took place on the 14th October 2015 and 7 Cardiff Met students attended.

The spring beach clean took place on the 9th March 2016 and was attended by 13 students. 21 bags of rubbish were collected in just one hour. Volunteers found lots of shark egg cases on this beach clean. These were submitted to the Shark Trust and will help indicate to them the types of sharks in British waters.

AMELIA TRUST FARM VOLUNTEER PROJECT

On Friday 26th February, a group of 11 students spent the day volunteering at the Amelia Trust Farm. The farm provides an alternative education for vulnerable and disadvantaged young people and is also open up to the public who can enjoy looking around the farm. The farm



Student's at the beach clean -Oct '15



Student's at the beach clean -Oct '15



Shark egg cases found at beach clean - March '16





relies heavily on volunteers in order to run. One group of students on the project created a new path for access to the farm's new camping area. Another team went into the woodland and worked hard to dig out footings for a new fitness trail while the other group mucked out the farms flock of chicken's house.

UNIVERSITY FAIRTRADE STATUS RENEWED

In March 2016, Cardiff Metropolitan University was awarded Fairtrade status by the Fairtrade Foundation thanks to the joint effort of the Students' Union, University and students.

The University had to fill in an application form to demonstrate that we have reached the following 5 goals in order to be awarded the status:

- Form a Fairtrade steering group featuring staff and students
- Stock Fairtrade products for purchase in on-campus shops and catering outlets
- Serve Fairtrade products at meetings
- Campaigns are run on campus to increase understanding of Fairtrade and consumption of Fairtrade products
- Creation of a Fairtrade policy.



Student volunteers at the Amelia Trust Farm project Feb '16



Promoting Fairtrade products on-campus

EMISSIONS AND EFFLUENTS

The University continues to be exempt from Emissions to Air Consent, due to its insignificant impact (ref Natural Resources Wales) This exemption was re-confirmed in July 2015.

However, despite this exemption, the University continues with its robust maintenance strategy in line with statutory obligations, its Schools continue to maintain their risk assessments to ensure minimal impact on the local environment (dealt with at a local level within Schools)

The University has completed a full survey of surface and foul water drainage at its Cyncoed (and Llandaff), and has an action plan to address all remedial work identified.

The University continues to hold a letter of consent, issued by Welsh Water, again this was re-visited in July 2015 which permits the University to deposit trade effluent into the local drainage system. This consent recognises the insignificant impact that the University effluent has on the water course.

AIR-CONDITIONING INSPECTIONS

The University contracts specialist services to maintain its air conditioning equipment. This contract includes robust testing for refrigerant leaks, and oversees the phased replacement of the ozone depleting gas, R22, with more environmentally friendly gas, as and when necessary.

Refrigerant leak tests also form part of the servicing schedule, as even the environmentally friendly gasses have a global warming potential.

The Estates and Facilities Department will continue to pursue an active regime of reducing, where possible, the amount of chemicals in use through its procurement of contractors and materials.

Throughout the implementation of ISO14001 the University has been working to become compliant and to ensure emissions to air are kept to a minimum, including identifying further potentials for improvement. All relevant environmental legislation relating to emissions to air has been identified and the University is working toward full compliance.



ENERGY AND UTILITIES

CARBON MANAGEMENT PLAN

This year represents the third year of the University's five-year Carbon Management Strategy and Implementation Plan for the period 2013-2018. This plan builds upon the previous strategy which was successful in achieving emissions reductions of 16.3% against a 12% target largely from behavioural change, technical projects and improved housekeeping. The current strategy tasks the University with reducing a further 3% in carbon emissions per year up until 2018 in line with Welsh and UK Government long term ambitions.

Over the last year the University has facilitated the construction of a new Sports Hall Facility on our Cyncoed Campus which when complete (January 2017) will contribute an additional 2% to the overall floor area.



ENERGY AND CARBON EMISSIONS

The University has achieved overall absolute energy consumption reductions of 3.3% compared to the previous year from a total of 16.4 GWh to 15.8 GWh. This reduction has been achieved primarily through the lower consumption of gas volumes (6% reduction) and if considered using degree day corrections for heating, the final gas consumption (9.2GWh) represents a 3.4% reduction compared to the expected volume of 9.5GWh. This demonstrates the efficient and effective management of heating across the estate.

Electricity consumption increased marginally by +0.4% which was to be expected based on the construction works required for the development of the new sports facility although this rise has also been mitigated by the successful implementation of an LED upgrade project within student learning spaces across estate.

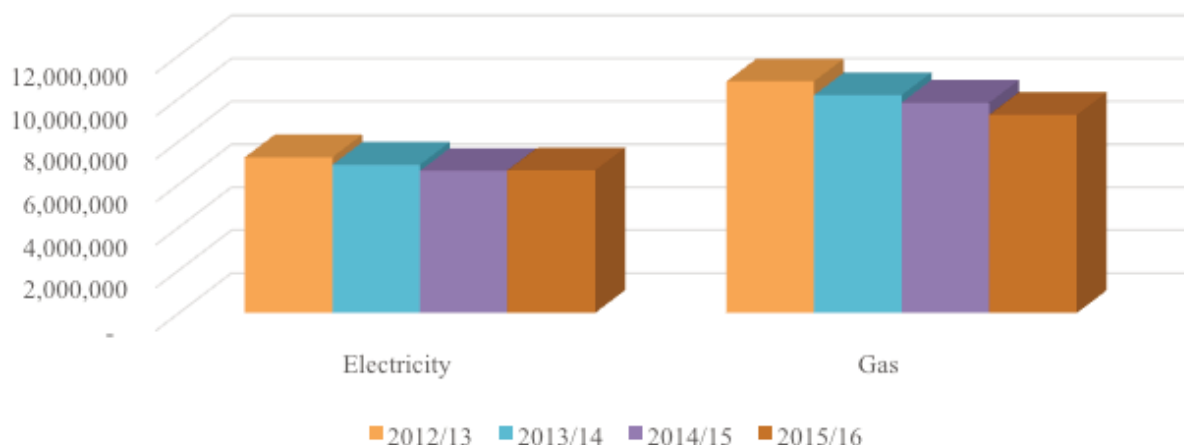
Oil consumption also reduced by 9% this year although it represents less than 1% of total energy consumption.

As a result, overall energy performance continues to follow a positive, encouraging curve with a reduction of 12% compared to the baseline year 2012/13.

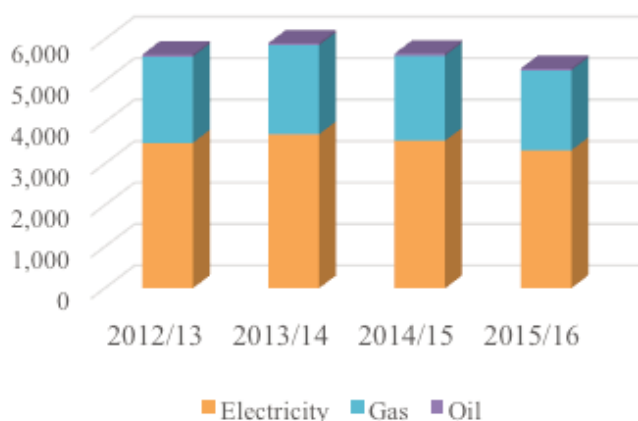
Correspondingly, energy emissions for 2015/16 are down 6.4% compared to the previous year from 5,633 tCO₂e to 5,301 tCO₂e, and a total of 6% compared against the baseline year. This currently leaves us 3% short of our annual emissions target of 9%. Despite small reductions in the carbon metric for electricity over the period of the year, there have been no notable changes to the gas carbon metric and therefore the reductions in consumption are not reflected by the reductions in emissions. However unlike consumption data, carbon conversion factors are subject to fluctuation based on the fuel mix.

Looking ahead, carbon targets will become increasingly challenging to achieve given the scale of future development and planned growth in occupied space.

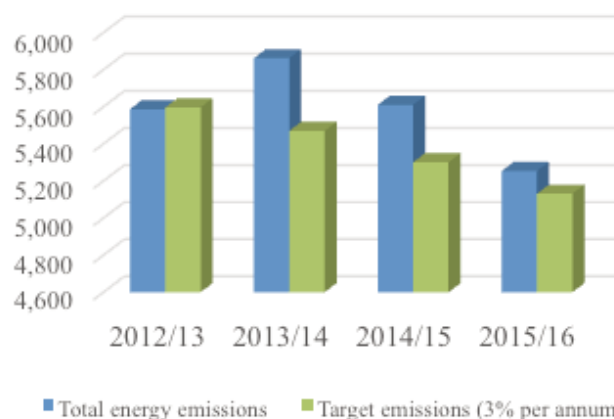
Energy Consumption 2012/13 (baseline) - 2015/16



Energy Emissions by Fuel



Total energy emissions vs target



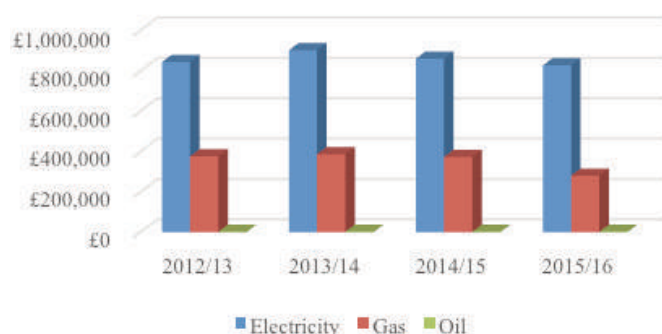
ENERGY AND WATER COSTS

In 2015/16, the University spent £1.28m on energy (electricity, gas and oil) and water representing a 9% reduction in overall utility costs compared to the previous year in accordance with a 3.3% reduction in energy consumption. Of this total, energy costs amount to 86% with electricity contributing approximately 65% of energy expenditure.

Electricity expenditure reduced by 3.85% compared to the previous year and gas expenditure reduced by 25% over the same period. The overall University water expenditure for 2015/16 has decreased by 1.7 % when compared to the corresponding period in 2014/15.

	2012/13	2013/14	2014/15	2015/16
Electricity	£842,822	£901,455	£859,443	£826,273
Gas	£375,139	£386,325	£372,053	£279,711
Oil	£1,447	£1,448	£1,096	£991
Water	£157,058	£175,209	£179,235	£176,046
Energy cost (£)	£1,219,408	£1,289,228	£1,232,592	£1,106,975
Total utility costs (£)	£1,376,465	£1,464,437	£1,411,827	£1,283,021

Total energy and water costs (£)



The existing strategy places a specific focus on reducing electricity consumption as the primary contributor to our total utilities costs. To address this, an LED replacement programme facilitated through loan funding from the Welsh Government was planned, implemented and completed in 2015/16 replacing some 1,700 existing fittings with low energy, high output LED fittings. The principle focus of the programme targeted student academic areas first with the most energy intensive light fittings replaced on a priority basis throughout the year aided by a comprehensive lighting survey. Headline achievements include a 69% reduction in energy and carbon, £77,000 annual savings in electricity costs and a return on investment of 4 years.

A summary of this project including headline savings and achievements is outlined in this case study ([link](#)).

UTILITY COSTS PER M2 FOR EACH CAMPUS

Campus	Floor Area (m ²)	Electricity	Gas	Water	Total
Llandaff	44,397	£9.33	£2.16	£0.91	£12.40
Cyncoed	44,000	£8.16	£3.49	£2.10	£13.75
Plas Gwyn	7,911	£6.68	£3.78	£5.39	£15.85
Total	96,308	£8.06	£3.14	£2.80	£42.00

	2012/13	2013/14	2014/15	2015/16
Floor area	44,397	£9.33	£2.16	£0.91
Total energy and utility costs	44,000	£8.16	£3.49	£2.10
Utility Costs per m ²	7,911	£6.68	£3.78	£5.39

In comparison to the previous year, overall utility costs in 2015/16 per square meter reduced by 9%. The floor areas used include all academic, research and residences areas.

WATER AND CARBON EMISSIONS

The consumption of water for the period August 2015 to July 2016 has increased by 1,051m³ when compared to the corresponding period in 2014/15, an increase of 1.7%.

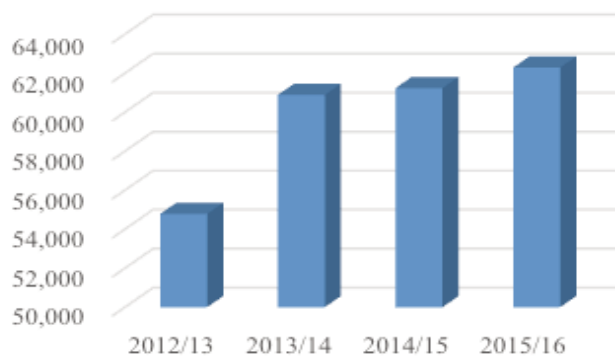
Consumption has increased by 13.5% since the baseline year 2012/13 since the construction of the new Cardiff School of Art of design building at the Llandaff campus and more recently the construction of the new Sports Hall Facility in the Cyncoed Campus and an additional sports pitch developed at Llandaff Campus that requires irrigation to ensure it is maintained to the required standard.

Despite the marginal rise in water consumption, emissions associated with the supply and treatment of water remain the same as the previous year due to a small reduction in the emissions conversion factor. Future reductions in water use will continue to present a challenge with the completion of the Sports Hall development in early 2017, however there are water reduction projects identified in the Carbon Management Plan that will be considered in the coming year to help us achieve cuts in consumption. Potential energy saving projects identified are also outlined in this plan with predicted energy and carbon savings for the University.

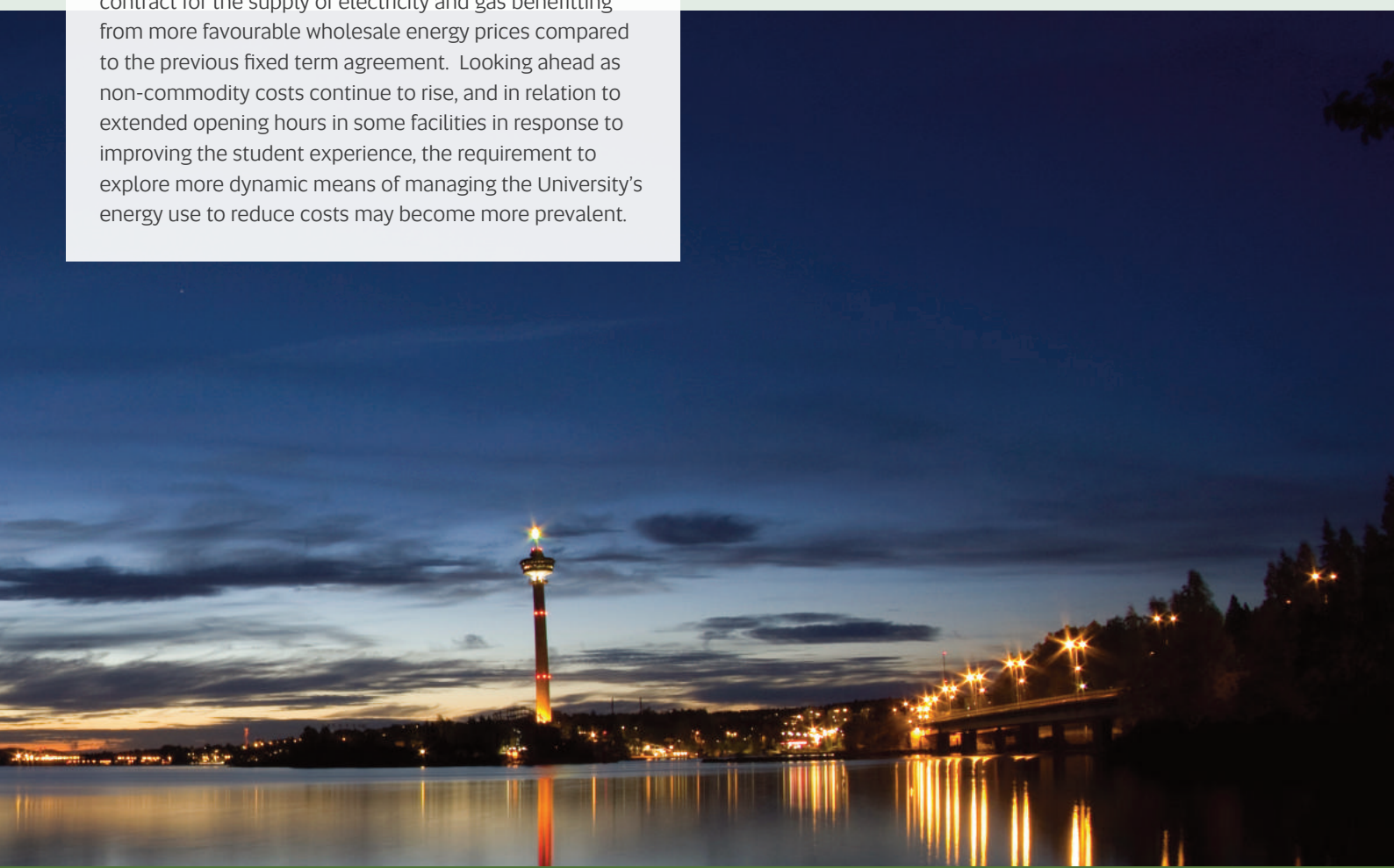
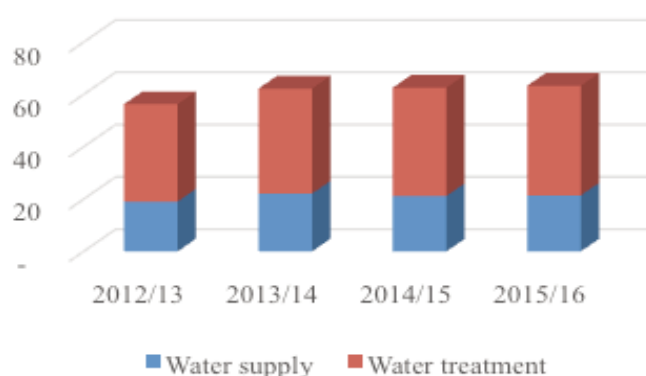
ENERGY AND WATER COSTS

This year represented the first year of the University's fixed contract for the supply of electricity and gas benefitting from more favourable wholesale energy prices compared to the previous fixed term agreement. Looking ahead as non-commodity costs continue to rise, and in relation to extended opening hours in some facilities in response to improving the student experience, the requirement to explore more dynamic means of managing the University's energy use to reduce costs may become more prevalent.

Water consumption (m³)



Water Emissions (tCO₂e)



ENVIRONMENTAL AWARENESS

The University recognises environmental awareness as a key aspect in its Environmental Management System, particularly in respect of the large number and annual migration of students, staff, visitors and contractors on site, presenting a challenging mixture of backgrounds, cultures and interests. The environmental awareness supports all aspects of the Environmental Management System.

Different methods are used in order to engage initially with all but also to contact the right people at the right time, for example the reference earlier in the report of Go Green Week. There is also compulsory student Halls induction which communicates the recycling and waste on Campus.

The use of television screens, posters, emails, twitter and signage continue to confirm the message. Attendance at awareness sessions e.g. Freshers Fayre, Go Green Week and the collaboration of Aspect Owners and other parties e.g. Cardiff Digs, in terms of waste management, noise pollution etc, Cynnal Cymru and Fairtrade Fortnight, Student Blackout etc.

The University has an on-line, E-learning module which is accessed by all new staff as part of their Induction and staff development process. The course introduces staff to the topic of sustainability and policies of the University and is a compulsory part of all new staff's Corporate Induction into the University.

PEOPLE AND PLANET: GO GREEN WEEK 2016

Go Green Week is People & Planet's annual national week of action on climate change in schools, colleges and universities.

The University celebrated the People and Planet Go Green Week 2016 between 8th -12th February. A team of students from the Cardiff School of Management International



Hospitality & Events students and International Tourism & Events programmes led and organised a series of activities aimed at raising student awareness of environmental issues, and to encourage their engagement with this topic through a range of practical workshops and recycling opportunities to support a low carbon future.

This was the fourth year that the University has participated in Go Green week. Second year students worked hard in conjunction with the University's Environmental Performance Manager to arrange and deliver a successful programme of events for the week. Students were tasked with deciding the event types and locations, this year they decided to concentrate on a recycling and re-use theme. There were different activities each day, Revamp your Lamp, Awareness Selfies; Clothing Swap-a-thon; Smoothie station and Art Recycling Competition; Video Game - swap and play and Cake Sales. Lots of social media activity took place to promote the events.

The week was successful and engagement of staff and students was greater than the previous year. The planning & organising of the Go Green week gives the students the opportunity to learn more about global environmental issues as well as building their transferrable skills such as leadership, team working and time management which all help to aid employability. The student activities were complimented by environmental awareness activities on the Campus, including the launch of Smalls For All. Go Green Week was an ideal opportunity to create awareness and launch a new Recycling initiative: the recycling of old and unwanted bras and donations of new children's and ladies pants for Africa. The response to this initiative in the week was fantastic with over 11 A4 photocopying boxes





being collected in total over the two Campus'. There were 41 free bike mot's and 20 marked up with security marking. Cardiff Digs provided a stand, highlighting waste, noise and transport arrangements within the local community - giving out free energy efficient light bulbs and food and recycling bags. Guidelines were also discussed at the stand as part of waste arrangements - this coincided with a project for Business in Action Students - for the improvement in students recycling. The outcome of this was the creation of an e-module called Halls to Home, by a student for year 1 students leaving Halls of Residence and moving into the community. The e-module was multiple choice, gave the correct answer and then signposted to Cardiff Digs for further information.

Engaging with Cardiff Met Students' Union Sustainability Pathway initiative Students Christopher Ellis, Thea Wilkinson and Hannah Walker from the School of Health Sciences participated in a collaboration between the Students' Union and Environmental Performance Manager offering students the opportunity to train as environmental auditors.

A certificate presentation by course facilitator Jodie Read from Penarth Management and David Benson, Director of Estates and Facilities to the students that completed the 'Internal Environmental Auditing' course.

The course was offered to students under the Cardiff Met Award, part of a Cardiff Met Students' Union initiative as a

Sustainability Pathway. Students were able to demonstrate the skills that they learnt whilst studying the course by participating in the 2015/16 internal audit of the Environmental Management System. The students worked alongside Environmental Performance Manager and as a result have provided recommendations of improvements and identified and recognised areas of good practice across the University.

The Cardiff Met Community Garden Project was proposed in March 2016 as a voluntary Wellbeing opportunity for Cardiff Met staff/students. An initial Business Plan was given permission to proceed by Health, Safety and Wellbeing and Estates in May 2016.

A staff led initiative for the creation of a Community Garden on Llandaff Campus. This project was supported with the allocation of a raised bed area, funding for purchase of a shed, outside water tap, equipment and materials and support by the Grounds Maintenance contractor. The project aims to seek volunteers of staff and students to manage the area and promote activities and progress to all.

* During July and August 2016 the Sustainability web pages of the University were re-designed and developed.

This coincided with an external audit by People and Planet Green League (audit and scores 150 publicly funded UK Universities).

OCCUPATIONAL HEALTH AND SAFETY

The University has long recognised that the health and well-being of staff and students is essential to its success and therefore has committed to the provision of an environment which supports the adoption of healthier lifestyles. The philosophy which underpins this commitment is one of self-help and individual responsibility within a corporate framework, promoting and supporting good practice to comply with legislation, addressing key workplace risks to health and encouraging a healthy lifestyle culture. The encouragement of healthy lifestyle culture among staff and students includes active support to staff and students that use sustainable forms of commuting (walk/cycle/public transport) to/from and between their places of work and study. Health and well-being development is a key component of the Corporate HR and Healthy University Strategies and improvement goals have been set which target key preventable ill-health issues and the Welsh Government's Health Challenge Wales priorities.

During 2015/16 a series of staff/student consultation road shows were held across both campuses to help inform a new Healthy University Strategy and in July 2016 the University's Board of Governors agreed a Healthy University Strategy. The new Strategy was informed by the staff and student voice and contains specific objectives to cohere and enhance improvements in well-being, the environment, equality and diversity, community engagement and Welsh language and culture.

CHEMICALS AND HAZARDOUS SUBSTANCES

Schools and Units are required to identify and assess risks posed to staff, students and the environment by hazardous chemicals and to liaise with Campus Services over their safe disposal. During 2015/16, Schools and Units continued to ensure that risk controls implemented for hazardous chemical substances remained effective. Progress continues to be made towards the establishment of a University-wide Code of Practice for the use and disposal of chemical substances. A cross school working group was established in the summer of 2013 and a Hazardous Chemicals User Workshop event was held in 2014/15 as part of the Corporate Staff Development Programme. During 2015/16 workshop attendees continued to work together towards a University wide approach to the use and disposal of chemicals. An example of this collaboration arose in autumn 2016 when new updated guidance was received from CLEAPSS regarding the use, storage and disposal of a potentially explosive chemical used widely across the education spectrum. Following extensive cross school/campus dialogue a consensus was reached on a University wide agreement on the storage of the potentially volatile substance 2,4 Dinitrophenylhydrazine (24 DNP).

PAPER

Due to a change in purchasing contract the university now source the majority of its paper through Springfield Paper. The university selected My Copy Professional, this is PEFC (Sustainable Forest Management) paper which is also elemental chlorine free (EFC). The target was updated in 2014 as the previous target was exceeded. The new target was to reduce total paper purchased by 50% from 2008/9 and 2016/17.

2008/2009 - volume of paper purchased: 11,129,152 sheets

2015/2016 - volume of paper purchased 6,090,741 sheets (55%)

Professional print within the university print service continues to increase as a percentage of overall print, and further work is ongoing to increase the percentage of print produced internally. The ability to print professional jobs internally enables users to print reduced quantities and is more cost effectively than placing external orders where larger volumes can appear more cost effective. These reduced quantities required for internal print has the added benefit of further reducing waste from unused prints.

DOCUMENT PRINTING

During the year the university made progress with the implementation of its centralised print policy, following the installation of 31 MFD devices across the university phase two of the project was started with the removal of desktop printers.

The volume of print on the new devices has been monitored to assess the uptake in staff adopting the new devices and moving print from desktop devices. This usage has steadily increased as a percentage of total staff print and accounted for 28% of the total print volume by year end.

In 2016/2017 year the university will be adopting electronic submission for the majority of student hand-ins and this is expected to further decrease print volume.

DOUBLE SIDED PRINTING

The implementation of the print policy also assisted in increasing the duplex printing and therefore reducing paper usage. The new devices measured duplex at a rate of 57% and this has helped to increase the overall duplex rate to 50%. This has enabled us to exceed the original target of 40%. We have therefore revised the target to further increase duplex by 1% per year over the next two years.

Duplex percentage 14/15 = 46%

Duplex Printing 15/16 - 50%

JOB DELETION

The deletion of jobs shows actual savings in print due to the controls on the Print Management system adopted by the university when compared to desktop printers where prints are released immediately and without a secure log-in.

There are two main categories of deletion:-

1. Deletion maintenance - when the system deletes a job after 24 hours in the print queue

2014/2015	161,144 mono pages	65,043 colour pages
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2015/2016	139,239 mono pages	95,479 colour pages
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2. Manual deletion - is when the user deletes the job from the queue themselves

2014/2015	229,051 mono pages	75,272 colour pages
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2015/2016	206,957 mono pages	130,908 colour pages
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3. Total deletion savings (paper to trees calculated as 17 reams equals 1 tree)

2014/2015	530,510 pages	approx. 1000 reams of paper saved (58 trees)
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2015/2016	572,613 pages	approx. 1150 reams of paper saved (67 trees)
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SUSTAINABLE ESTATE

In academic year 2015 - 16 the University Estates Strategy promulgated the construction of a new Sports Arena, which has been passively designed and achieved a theoretical EPC rating of B. The university has also continued its focus on refurbishment and upgrade of existing space.

This Refurbishment Programme has allowed the LED lighting programme to be extended in year, effecting significant reduction in electricity and carbon use. In terms of the planned projects we continue to adopt a passive design strategy to ensure that our buildings are efficient in use and capital expenditure and designed beyond current building regulation requirements.

The sustainable estate covers a number of aspects and we have made very positive steps in improving the estate using these aspects as an action plan ie:

- Flood: The planned maintenance programme, for inspection and clearing of all main drains on our campuses continues.
- Campus appearance: Campus walkabouts are diarised prior to term start, to ensure that the campuses retain a welcoming appearance. We continue to enhance the soft and hard landscaping and all pathways, to ensure that they are safe for students and staff. In addition to last, we have commenced an extensive planting programme across all sites and completed the timber planters to the main entrance of the Llandaff campus. We continue to follow through the knotweed eradication plan which is greatly enhancing the border areas to our campuses, especially at Llandaff, with 40% of existing knotweed being eradicated.
- Planning: We have engaged with the City Council on a number of developments and have instructed a number of ecological surveys to our campuses. We work with the Council's Ecology Section, to agree appropriate strategies to limit damage to plant and animal life. A number of separate initiatives have been undertaken relating to bird boxes, beehives and encouragement of insects and wildlife by the retention of fallen/felled trees.

In respect of the Student Accommodation project at Cyncoed we have worked the designs on several occasions to ensure that the ancient woodland and bio-diversity within are not disturbed.

SUSTAINABLE PROCUREMENT

The University's procurement function is a key contributor to the achievement of sustainability objectives through its role in managing all aspects of the University's supply chains and associated sourcing and transactional processes.

The primary objective of all University procurement is the achievement of best value for its goods and services needs. Within this objective, the University seeks to configure all procurement activity to include outcomes for the economic and environmental benefit of the local community, and to do so in a manner consistent with the Welsh Government 'Welsh Procurement Policy Statement'.

The University makes extensive use of collaborative procurement opportunities, actively participating in - and benefiting from - the collaborative procurement activity of the Higher Education Purchasing Consortium, Wales (HEPCW) and the National Procurement Service for Wales.

Whether adopting a collaborative procurement agreement or conducting its own procurement exercise, the University applies Sustainability Risk Assessment criteria to the evaluation to help mitigate environmental risk. The University also utilises regional or requirement 'lots' to assist in ensuring smaller and local businesses are able to engage in University procurement exercises and to help reduce the carbon footprint in its direct and indirect supply chains.

A primary indicator of these various 'local supply' initiatives can be illustrated through the fact that in the last twelve months, some 56% of the University's influenceable spend was placed with Welsh based suppliers, an indicator which has shown positive growth in recent years.

The University seeks to make full use of electronic tools wherever appropriate in its procurement processes. The University has been using electronic tendering for over 10 years and has been 'live' with an e-marketplace for nearly 5 years. The e-marketplace hosts electronic catalogues and facilitates the transmission and receipt of electronic purchase orders and invoices. The University also transmits non-e-marketplace purchase orders via automatically-generated emails and uses the same technology to electronically issue remittance advices to suppliers.

Implementation of these processes has resulted in more than 95% of the University's Purchase Order and Remittance documents now being transmitted electronically, with the consequential dramatic reduction in the use of hard copy documents, stationery and surface mail services.

In the coming twelve months, the University will be seeking further opportunities for upcycling, recycling and the use of products manufactured from post-consumer waste; further enhance transparency in its extended supply chains to help deliver greater social and environmental benefit; and seek opportunities for the procurement of energy from renewable sources.

TRAVEL AND TRANSPORT

Cardiff Metropolitan is one of the leading sustainable travel organisations in Wales. Having a history of focusing on sustainable travel for its students, staff and visitors to ensure that the University reduces its impact on the environment, contributes to the positive health and well-being of staff and students and is a responsible member of the local community.

Since 2009 we have witnessed a reduction of 15% in students using a car as their mode of transport. This equates to a significant 1,575 students ceasing using a car as their preferred mode of transport in under eight years.

The following highlights achievements and initiatives held between August 2015 and July 2016 that have assisted in ensuring that Cardiff Met continue as a 'leading light' in the area of sustainable travel.

	2016	2013	2011	2009
Walk - Student	34.96%	27.9%	26.9%	23.0%
Walk - Staff	18.84% (265)	14%	7.9%	5.8%
Cycle - Student	5.26% (550)	5.5%	5.3%	4.2%
Cycle - Staff	17.84% (250)	11.7%	12.4%	7.0%
Car - Student	24.06%	27.1%	21.8%	39.0%
Car - Staff	67.59% (952)	58.3%	63.4%	74.2%

Above: Table for Travel and Transport .

WALKING / RUNNING

The past year has seen an increase in walking or running to campus as a lifestyle choice amongst both students and staff. The 2015/16 travel survey indicated that 34.96% of students and 18.84% of staff now daily walk to campus.

This has been supported by:

- An increase number of students and staff accessing the dedicated showers, storage and changing facilities.
- Provision of safe campus walking guides.
- The introduction of a weekly staff/student running/walking club.
- The continued agreement to house circa 700 first year students in private halls located within walking distance of campus.
- Walk to Work free breakfast packs available four weeks a year.

CYCLING

Cardiff Metropolitan University has the largest work based Bike User Group in Wales with in excess of 250 members of staff regularly cycling to work. In addition to this, over 800 students have currently requested card access to the cycle stores be added to their ID card.

Our continued focus on cycling as a preferred travel method for staff and students has resulted in 5.26% of students (550) and 17.84% of staff (250) cycling regularly. This has been supported by the University free breakfast scheme which has witnessed in the past three years an average of 330 members of staff annually participating in the Cycle or Walk to Work weeks. Cardiff Met having provided a staggering 6,565 free healthy breakfasts during this period.

Recent cycling initiatives have included:

- Reinforcing message to changing ??? of students.
- The upgrading and completion of the Cycle Hub at Llandaff - a direct cycle lane from the front of the campus that safely skirts the perimeter and delivers the user safely to the cycle stores and shower facility
- The purpose built Cycling changing, storage and shower facilities that opened in September 2014 in the new Cardiff School of Art & Design.
- The 28 days a year of FREE breakfast for staff who opt to cycle or walk to work.
- The addition of a further all weather, card access cycle stand at Llandaff and Pas Gwyn Campus in August 2016, providing cover for 260 bicycles.

- Continued sales of Grade 10 security D-Locks for to purchase at £20 from Print Studios. RRP £69.99
- The April 2016 participation in the staff Cycle to Work purchase window resulted in a total of 52 new staff bicycles.
- The annual provision of 1,000 Cardiff cycling maps courtesy of the Cardiff City Council given to staff and students from September 2014.
- Donation of discarded cycles on campus to Cycle Training Wales to be rebuilt and reused in the community.
- Cycle repair workshops for staff and Dr Bike repair days for students and staff cyclists in April and May 2016
- The launch of the Cardiff Met Cycling Club and participation in Velothon Wales.

MET RIDER

Since the Met Rider launched in 1997 usage has grown from just 100 permits a year to in excess of 2000 passes a year, making it the largest student bus service in Wales. The Rider offers students and staff an affordable and subsidised method to travel safely around the city of Cardiff. Student passes are valid from 1st September until 30th June each year and costs just over £6 a week for the entire year. Staff passes are valid for the entire year at under £25 a month which is deducted monthly throughout the year.

During the 2015 term the university peaked at 6,200 individual journeys being made weekly on the Rider with over 130,000 journeys being taken in total that year. It is not just members of Cardiff Met that benefit though, as the Rider is a public service linking Cardiff East and West with routes that did not previously exist.

The 2016 Student Travel Survey illustrated that 31% of students confirmed they have used the Rider to attend Campus during the past year. Regarding staff, 9% confirmed they had used the Met Rider in the past year to either travel to campus or between campuses.



CAR SHARE

Cardiff Met is a founder member of CarShare2Cardiff joining within the first week of the schemes launch in 2006. Since the

introduction of the scheme the university has experiencing fluctuating demand for car share spaces dependent upon the success on our periodic car share campaign.

The University currently has a total of 731 members (148 staff and 583 students) and 39 active groups registered with the car share scheme.

BUSINESS TRAVEL

Business travel is an essential part of Cardiff Mets daily operations, but where applicable we always seek to ensure that staff are travelling via the most sustainable option. The University encourages staff to reduce their business travel via the utilisation of technology, such as web conferencing, virtual learning and one to one skype discussions.

With an expanding overseas student market, we will always have a necessity for air travel to promote the University and its courses. Where possible air travel is kept to a minimum with long haul visits being combined to several destinations in one trip rather than repeated long haul flights from the UK.

COLLABORATIVE WORKING

SEWTA - We have continued to work closely with SEWTA (South East Wales Travel Alliance) hosting and presenting at the HE/FE Travel Group as a founder member twice in the past reporting period.

Cardiff Met are currently used as a 'Case Study' in the Cardiff Cycling Strategy 2016-2026

Cardiff Council - Ongoing consultation with Cardiff City Council to explore how we can align our joint Travel Strategies. The University receives continual recognition from the Council as 'best practice' in the Higher Education sector in South East Wales.

Traveline Cymru - Continuation of our eight year relationship with Traveline Cymru and guidance provided on effectiveness of their new promotional campaign to be launched January 2016

SOCIAL MEDIA

September 2014 saw the addition of the Met Rider timetable and directions to campus being added to the Cardiff Met App, along with regular travel promotions via the University Facebook and Twitter accounts.

July 2015 saw the launch of the latest Cardiff Met Travel Plan - Annual Report 2014/15

Link to Travel Plan:

http://campaigns.cardiffmet.ac.uk/documents/accommodation/TravelPlan_2014-15.pdf

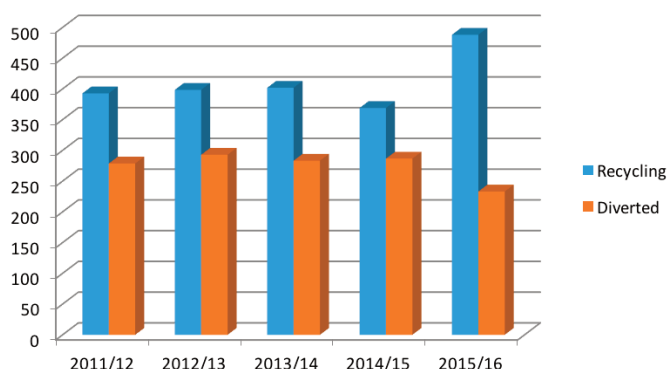


WASTE MANAGEMENT

The University is still sending all of its General Waste to the Trident Facility in Cardiff Bay for energy conversion. This means that very little, if any, waste is now sent to Landfill.

Another recent improvement to our figures is caused by the Trident Facility sorting the Diverted waste and recycling a further amount. They are publishing monthly / annual recycling figures and for Academic Year 2015 / 2016 Trident recycled 19% of all received waste.

Recycling / Diverted Waste (Tonnes)



On-site Recycling continues to rise but the rate of rise is very small. From the graph one can see that the positive impact of the Trident actions have pushed our total for the year, 488 Tonnes, to the highest that Cardiff Met has

achieved. It has also allowed our Recycling of Total Waste percentage to reach 68%.

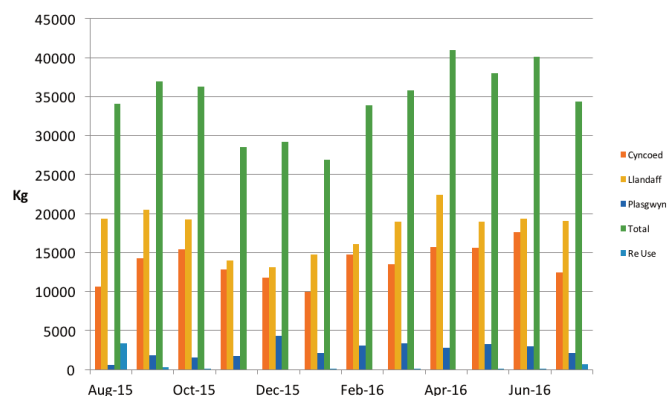
On a regular basis the University recycles:-

Paper, Cardboard, Plastics (including Bottles), Glass, Food-waste, Wood, Metal, Batteries, Stamps, Printer Cartridges, Mobile Phones, Clothes, Books, WEEE and White Goods.

Campus Services staff will investigate the possibilities for recycling any other material that may be in use and will continue to Re-emphasise the need and importance of Recycling at every opportunity within the university environment.

The Re-Use website set up by Campus Services has, in the past, made a good contribution to the waste reduction target. It is being re-launched so that new staff and / or those that have forgotten can once again make use of equipment that would otherwise become waste.

Recycling by Campus (Kg)





SUSTAINABLE FOOD

In June 2016, Catering & Hospitality Service were awarded Silver in the Sustainable Restaurant Association award (SRA). A mixed menu of initiatives to serve customers delicious, healthy, ethical and sustainable meals at Cardiff Metropolitan University has been rewarded with a Two Star Food Made Good rating. The Sustainable Restaurant Association (SRA) which conducted the rating found that the university had all the ingredients in place to demonstrate an excellent level of sustainability. While well sourced ingredients play a significant part in making food good, Cardiff Metropolitan University also demonstrated excellent social and environmental credentials. The team place a strong emphasis on sourcing as much as they can from Welsh suppliers, supporting local businesses and taking advantage of the high quality produce on offer. Much of what is imported, including the coffee, is either Fairtrade or Rainforest Alliance certified. And customers are offered the used coffee grounds to use as compost on their gardens.

Aware of the growing interest in and emphasis on healthy eating, the catering team at Cardiff Metropolitan is now working with the Food Industry Centre to further develop the nutritional information on its menus so that customers can make an informed choice.

Cardiff Metropolitan is one of more than 30 universities to have joined the SRA and become part of the Food Made Programme.



FUTURE GENERATIONS ACT 2015 (WALES)

The Well-being of Future Generations (Wales) Act 2015 became law in Wales on 29 April 2015. The Well-being of Future Generations (Wales) Act is about improving the social, economic, environmental and cultural well-being of Wales. This will help to create a Wales that we all want to live in, now and in the future. As the University is not a Public Body, it does not have to comply with the Act but we still face the same challenges now and in the future, to tackle these we need to work together with Public Bodies to give current and future generations a good quality of life we need to think about the long term impact of the decisions we make.

CONCLUSION

The University continues to make excellent progress on the environment and sustainability agenda and thanks are due to the staff and students for their contribution. Its pursuit of becoming a top 10 university in the next five years opens up further challenges. There are many examples where the University makes a difference, but it can do more. This is a great opportunity to lead in pushing forward the principles of sustainable development. By committing to the sustainable development agenda, Cardiff Metropolitan University can win the hearts and minds of staff and students, create positive impacts, shift the culture from compliance to alliance and drive up performance and invest in the future.

The University was delighted in November 2016 to be awarded a 1st class hon, achieving 4th place in the UK and 1st in Wales, jumping from 19th place and 2nd in Wales from the 2015 league.

GOING FORWARD

The Environmental and Sustainability Policy will be reviewed during the next academic year, to provide alignment to support the focus and objectives of the University new Corporate

Strategic Plan and to set out more ambitious targets accordingly. Future targets may include but not be limited to :-

- Aim to increase the standing within the People and Planet League from 2016 result of 4th in UK and 1st in Wales;
- Complete Bi-ennial Travel Survey;
- Fundraising on GO Green Day - Oct 2016 for Size of Wales;
- Go Green Week Feb 2017;
- Extending real World projects to all schools, in conjunction with all areas of the HU Strategy Team;
- Free Green Workshops for Staff and Students;
- Further opportunities for students to engage and train as Internal Auditors of Environmental Management System;
- Volunteering of staff and students to support Green events;
- Complete the transition from ISO14001:2004 to ISO14001:2015 Environmental Management System;
- Achieve 3 star Gold Sustainable Restaurant award;
- Review of Carbon Management Strategy.

Cardiff Metropolitan University



4th in UK
1st in Wales
UNIVERSITY
LEAGUE 2016



Sustainable Thinking
Meddwl Cynaliawdy
Cardiff Metropolitan University
Prifysgol Fetrropolitan Caerdydd

ENVIRONMENT & SUSTAINABILITY POLICY

Policy Statement: Cardiff Metropolitan University recognises the importance of the role it has to play in environmental stewardship of its estate and in promoting principles of sustainability across all its activities, including teaching and research. The University will manage and control its environmental risks in a sustainable manner by complying with relevant legislation and adopting where appropriate best practice.

Application: It is essential that sustainable development is at the core of all activities in the higher education sector and at Cardiff Met. The University is a major contributor to society's efforts to achieve sustainability through:

- ◆ the environment in which its students learn
- ◆ the skills and knowledge that they acquire and put in to practice; and
- ◆ its own strategies and operations

This policy applies to all activities undertaken by (or on behalf of) the University including those of governors, staff, students and contractors.

Objectives of this policy are:

- ◆ To make sustainability a core principle in all that we do
- ◆ To ensure that all environmental risks are assessed, managed and controlled.
- ◆ To promote and adopt best practice within the higher education sector.
- ◆ To maintain and develop the University in a sustainable manner.
- ◆ To work together with our community on matters of the environment.
- ◆ To develop good working relationships with relevant external authorities and bodies.
- ◆ To develop managers, staff and students by providing training and information on sustainable development: environmental management, social justice and economy.

In accordance with the policy statement the University will:

- ◆ **Adopt Sustainable Development: Environment, Social Justice and Economy, as a key principle in the University's strategic planning and delivery.**

Cohere the plans and activities of complementary policies, to enhance efficiency and results: health & wellbeing, environmental management, equality & diversity and staff development.

- ◆ **Control its Environmental Risks**

Meet the requirements of environmental legislation and commit to a process of continual environmental improvement.

- ◆ **Promote and Adopt Best Practice**

Maintain an Environmental Management System; set targets and indicators, measure environmental performance and report progress
Promote and adopt sector initiatives.

- ◆ **Maintain and Develop the University in a Sustainable Manner**

Through sustainable procurement best practice, seek to support, influence and deliver continuous improvement across social, ethical and environmental aspects of products and services, whilst achieving best practice
Maximise energy efficiency, use of renewable resources and use of low carbon technology
Minimise waste generation and facilitate repair, reuse and recycling over disposal of wastes
Audit the ecology and biodiversity of the estate, and develop an associated action plan to enhance its performance and mitigate impact
Actively promote sustainable and active travel to and from the campus
Promote continual improvement in maintenance practices
Encourage activities to enable students to contribute to sustainable development.

- ◆ **Communicate and inform the University Community**

Produce an Annual Report
Produce reports to the appropriate committees
Communicate with the Sustainability Champions.

- ◆ **Working with External Authorities and Bodies**

Develop good working relationships with all relevant external authorities;
Develop links with appropriate environmental bodies and associations;
Report any incidents as required.

- ◆ **Development of Managers, Staff and Students**

Provide appropriate training and information to the University community.

Signed: 

Professor A J Chapman
Vice Chancellor

Date: 11.3.16

APPENDIX 2

ENVIRONMENTAL ASPECTS AND ASPECT OWNERS

Aspect	Owner
Academic Development	Dean of Learning and Teaching
Research into Environmental subjects	Director of Research and Graduate Studies
Emissions and Effluents	Maintenance Operations and Space Manager
Energy and Utilities	Energy Manager, Estates and Facilities
Environmental Awareness	Environmental Performance Manager
Operational Health and Safety	Health and Safety Advisor
Paper	Commercial Services Manager
Sustainable Estate	Head of Property Services and Deputy Director
Student Union and Fairtrade	Chief Executive, Cardiff Metropolitan University Student Union
Sustainable Procurement	Head of Procurement
Sustainable Food	Hospitality & Catering Manager
Travel and Transport	Travel Plan Manager, Estates and Facilities
Waste Management	Facilities Manager, Estates and Facilities

APPENDIX 3

MAJOR INCIDENT PLAN



Above: The Major Incident Plan Z-Card Wallet leaflet distributed to all Senior Managers.

APPENDIX 4- L&TDU SUSTAINABILITY QUESTIONS

Q1

To what extent is education for sustainable development embedded in the programme curriculum?

- a) SD is fully integrated into all aspects of the programme.
- b) SD is mentioned in a particular module of the programme.
- c) SD is not mentioned in the programme but I can see where it might fit.
- d) SD cannot be easily integrated within the programme curriculum.

Q2

Does programme content address sustainability-related issues? (Including environmental, economic & social sustainability).

- a) Yes, all aspects of sustainability are addressed within the programme.
- b) Some areas of sustainability are addressed within the programme, but not all.
- c) No aspects of sustainable development are addressed within the programme.

Q3

Does the programme help students to make linkages between their own behaviours (e.g. use of resources including food, water, transport, trade and materials) and their economic, social and environmental impacts?

- a) Yes, the programme makes students aware of the impacts of their own actions on sustainable development.
- b) The programme occasionally makes reference to the impacts of students' own actions on sustainable development.

- c) The programme does nothing to help make students aware of the impacts of their own actions on sustainable development.

Q4

Does the programme explicitly address ethical issues within the discipline?

- a) Yes, ethical issues are addressed throughout the programme curriculum.
- b) Ethical issues are occasionally addressed within the programme curriculum.
- c) No, ethical issues are not addressed within the programme.

Q5

Does the programme illustrate and promote social responsibility and global citizenship by integrating internationalisation, gender and sexuality, or other issues relating to equality and diversity into the curriculum?

- a) Yes, the programme curriculum provides consistent opportunities for students to engage with issues relating to social responsibility and global citizenship.
- b) The programme occasionally provides opportunities for students to engage with issues relating to social responsibility and global citizenship.
- c) The programme does not provide students with opportunities to engage with issues relating to social responsibility and global citizenship.

Q6

Does the programme promote a sustainability perspective by, for example, using discipline related real-world

examples that enable students to explore sustainability concepts in a meaningful way? (e.g. case or comparative studies, articles or texts).

- a) Yes, real world examples that promote a sustainability perspective are fully embedded throughout the programme.
- b) Real world examples that address sustainability are used occasionally in the programme.
- c) No real world examples are used within the programme to address sustainability.

Q7

Does the programme delivery involve participatory learning and teaching methods that support the development of students' knowledge, skills and attitudes in relation to sustainability? For example, are problem-solving approaches used?

- a) Yes, participatory teaching methods are used throughout the programme to support the development of students' sustainability literacy.
- b) Participatory teaching methods are occasionally used in the programme to support the development of students' sustainability literacy.
- c) No participatory teaching methods are used within the programme.

Q8

Are sustainability principles clearly documented in the programme objectives, including the learning outcomes, course handbook, course descriptors and employability information for the programme?

- a) Yes, sustainability principles are evident throughout programme documentation.

- b) Sustainability principles are mentioned in some course documentation.
- c) Sustainability is not evident in any course documentation.

Q9

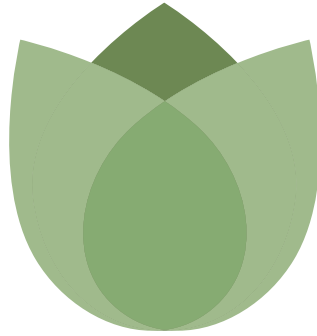
Does the programme provide opportunities for students to reflect critically on how their discipline and future professional practice can contribute to sustainable development? (i.e. supports learners' employability and professional identity in relation to sustainability).

- a) Yes, students have frequent opportunities to critically reflect on the links between ESD and employability/professional practice.
- b) Students have some opportunities to explore the links between ESD and employability/professional practice but do not critically reflect on these.
- c) No, students do not have any opportunities to critically reflect on the links between ESD and employability/professional practice.

Q10

Are staff teaching on the programme encouraged and supported to develop their own sustainability awareness and skills? (e.g. they are given appropriate time, resources and training opportunities).

- a) Yes, staff are encouraged and supported to develop their own sustainability awareness and skills.
- b) Staff are encouraged to develop their understanding and skills in ESD but are not fully supported in doing so (i.e. not allocated appropriate time or resource).
- c) No, staff are not supported in developing their understanding and skills in ESD.



Sustainable Thinking Meddwl Cynaliadwy

Cardiff Metropolitan University
Prifysgol Metropolitan Caerdydd

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Certificate Number 9685