



**The University of the West of England,
Bristol**

Presentation by

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20th October
2016

Towards a Sustainable University

Part 1. A review of progress

in UWE Bristol

International Greening

Education Event

Karlsruhe

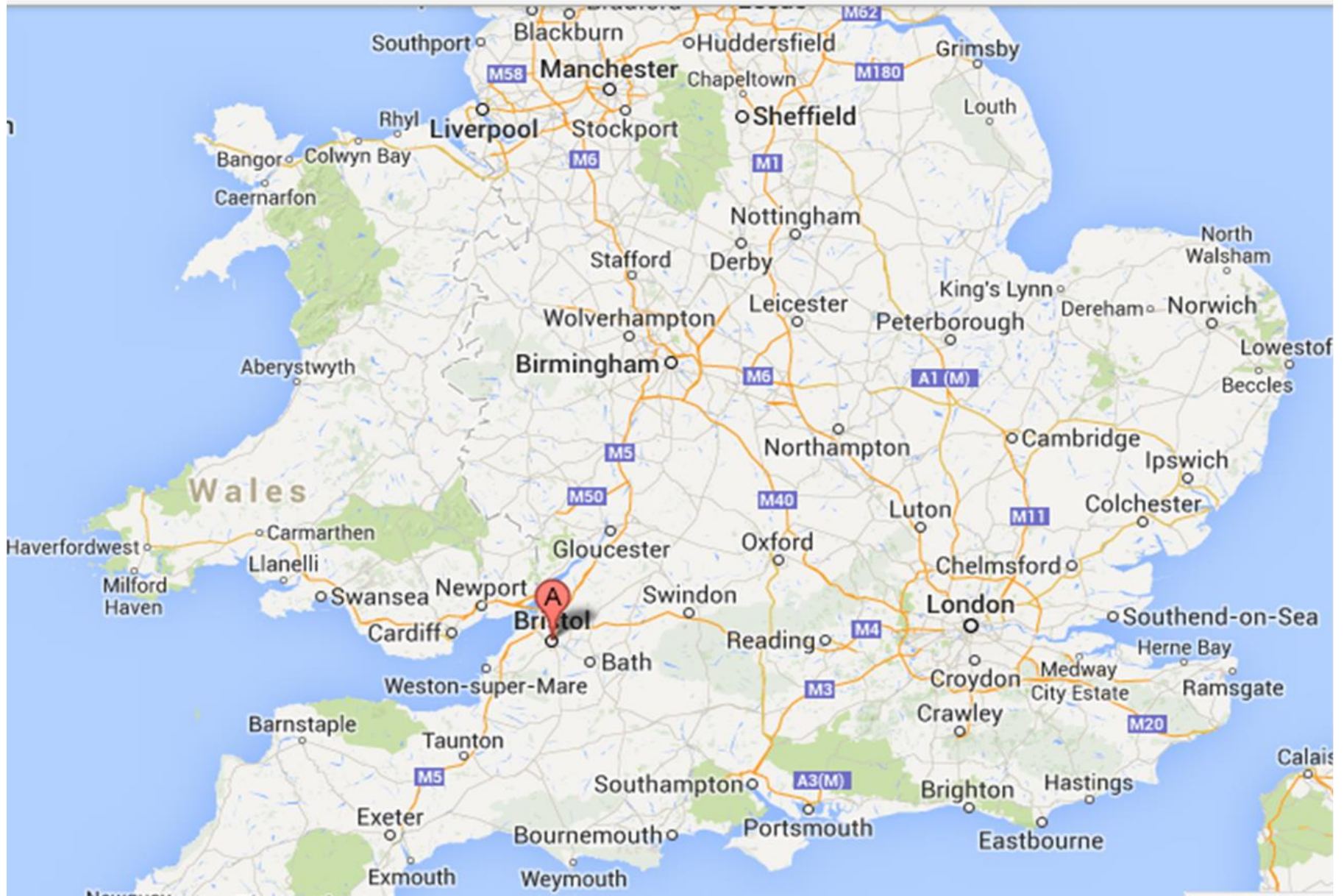
**UWE
Bristol** | University
of the
West of
England

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**Responsible
Futures**

Accredited institution

Bristol in the UK



Structure of Presentation

- Part 1.
 - Introduction to the HE challenge of sustainability and carbon management
 - UWE Bristol
 - UWE's Sustainability Plan
 - UWE's Commitments and Actions
 - Energy and Travel Initiatives
 - Education for Sustainable Development
 - Engagement Activities
 - Researching Carbon Management
 - Teaching Carbon Adaptation and Mitigation
- Part 2
 - UWE's Next Steps
 - UN Sustainable Development Goals as Organising Principles
 - Conclusions



The Challenge

- Our climate is changing adversely and we need to adapt as well as seek mitigation.
- Water, energy and food security are all growing problems for an unsustainable global population living beyond the planet's capacity to meet our demands.
- Don't for one moment pretend that environmental problems we face are simple and amenable to easy policy fixes.
- They are not.
- They are complex, often systemic, intractable and defended by powerful vested interests.
- Graduates, as citizens need to appreciate the challenges and opportunities for change and be prepared through their higher education experiences for the challenges they will encounter in the 21st century.

Education – the Problem

- David Orr, Emeritus Professor of Environmental Studies at Oberlin College, in his 1991 paper “What is Education For?” said
- *“Many things on which your future health and prosperity depend are in dire jeopardy: climate stability, the resilience and productivity of natural systems, the beauty of the natural world, and biological diversity.”*
- How did we get here? Well as Orr also said
- *“It is worth noting that this is not the work of ignorant people. It is, rather, largely the result of work by people with BAs, BScs, LLBs, MBAs, and PhDs”.*

Education: a (Partial) Solution

- So, if Education is partly the cause of our environmental misfortune might it be also a partial solution?'
- As Albert Einstein once said "*The significant problems we face today cannot be solved at the same level of thinking we were at when we created them.*" Einstein reminded us that doing the same thing over and over again and expecting different results is insanity. We must change.
- Voltaire said "*No problem can withstand the assault of sustained thinking*".
- Universities are good at thinking!

UWE Bristol

- The University of the West of England has resolved to become the most sustainable university that we can be.
- We do this not just for legislative compliance, although that is important.
- We don't do this to save money, although that is attractive and helpful.
- We do the things we do because it is the right thing to do. However, it is not easy.



UWE Bristol

- UWE Bristol has steadily increased its engagement with sustainability over many years to the point where it is now central to our institutional objectives and operations.
- Every aspect of university life and business is now undertaken with conscious consideration of sustainability.



UWE Bristol

- UWE is a modern, growing university with over 27,000 students, 3,300 staff and an annual budget of £237 million (2014/15).
- Students come to UWE from all parts of the UK, as well as a significant and growing number of international students from over 140 countries worldwide.
- UWE is a multi-site university with three campuses in and around Bristol encompassing fourteen departments covering a wide range of disciplines and expertise. In addition, we also have an associate faculty, Hartpury College and a regional education centre, both in Gloucester.



UWE's Commitment

Why are we engaged?

- Because the purpose of the University is the generation, analysis, understanding and transmission of knowledge.

Education is our purpose.

- Society's collective purpose must be to achieve a sustainable level of development.
- **Universities have an obligation** to society to play their part through the generation and use of knowledge and the education of citizens.



UWE's Commitment

- The university outlined its commitments as part of the UNESCO initiated Higher Education Sustainability Initiative "From Rio to Paris: Higher Education for Climate Change"
- UWE, Bristol joined the World Climate Change Challenge, (<http://www.wccc-corp.com/>) a global network of university and student sustainability associations to promote and support academic research, training and scholarships aimed at addressing climate change.
- UWE added its voice to the call for governments to recognise the role that universities play in finding and implementing solutions on climate change mitigation and adaptation, and provide support for institutions to embed sustainable development education into teaching, operations and quality standards.
- UWE hopes that the WCCC will provide new opportunities for students from the global south to access higher education provision encompassing consideration of mitigation and adaptation.

UWE's Commitment

So what else have we done

- We have addressed the management of our campus and our curricula.
- We are infusing sustainable development in the curricula and ensuring sustainable management of our current and future estates.
- To do this we must get our policy and practice right.
- We have developed policy, plans and strategy to support sustainable development and implemented these into the business of the university both in our educational role and in the management of our estate.
- We support this with training and staff development. All new staff undergo sustainability training and for academic staff this is reinforced in the mandatory PG Cert in HE programme.

UWE's Sustainability Aim

- UWE, Bristol is committed to supporting the global sustainability agenda for a strong, healthy and just society living within environmental limits.
- UWE, Bristol is committed to ensuring that all its students, irrespective of their programme of study, are introduced to the ideas of sustainable development during their degree programme.
- We seek to prepare our future graduates for the sustainable development challenges of the 21st century integrating sustainability into curricula, research, campus operations and our interactions with our local communities.
- In addition, we provide many volunteering and public engagement opportunities for students to embrace the agenda.

Governance and Change Management

- Embedding sustainability is a change management process and above all a process of winning hearts and minds.
- We have been addressing this since the early 1990s.
- Actions were formerly expressed in our Environmental Strategy, then the Sustainability Strategy 2007–2012 and most recently in the Sustainability Plan 2013-2020.
- The Sustainability Plan is currently undergoing its mid point review and an updated and refreshed plan will be signed off by the Vice Chancellor's Directorate, Academic Board, the Board of Governors and the Students' Union in early 2017.
- Recognition of ownership, responsibility and accountability is critical to the success of the approach UWE has taken. Successive VC's have demonstrated leadership in this agenda, none more so than the current VC, Professor Steve West.



Building the Sustainable Campus

- We are investing £250m on projects as part of the UWE New Campus Masterplan. Projects include a new Faculty of Business and Law building, a new Student' Union building, redevelopment of the Bower Ashton Campus, acquisition of Bush House and creation of the City Campus and new student accommodation on Frenchay Campus.
- Through the breadth and quality of its teaching and research, and by providing expertise for businesses, UWE makes a major contribution to the development of Bristol and the region. We recognise that we have to do this in the most sustainable manner possible.



UWE's Sustainability Plan

- The university's Sustainability Plan sets out our ambition and the Vice Chancellor, with the Chair of the Board of Governors and the President of the Students' Union take collective responsibility to ensure that the aims and ambitions of the plan are secured.
- Progress with the plan is overseen by the University Sustainability Board and action devolved to Services and Faculties to embed sustainable development into their business decision making.



UWE's Sustainability Plan

The Plan:

- Outlines the University's sustainability aims for the period 2013 – 2020
- Defines the mechanisms by which sustainability is embedded within the University's day to day operation and effective decision making
- Contributes to UWE Bristol's 2020 Strategy ambition by advancing the health and sustainability of our locality and region
- Contributes to UWE Bristol's 2020 Strategy priorities through the delivery of ready and able sustainability literate graduates
- Guides the development of sustainable estate infrastructure.

What's in the Plan? 1

- A series of interdependent actions driving progress forward on a broad front
- **Health and Wellbeing**
 - UWE Bristol aims to provide a positive and enjoyable student, staff and visitor experience. It aims to enhance every ones health and wellbeing by creating and promoting healthier working, learning and social environments.
- **Engagement in the Sustainability Journey**
 - Supporting active citizenship and providing the opportunity to engage in sustainability issues for staff and students. Challenging routine habits and practices.
- **Education for Sustainable Development**
 - Ensuring a sustainability culture permeates our curriculum, research and the knowledge base of our staff and students.



What's in the Plan? 2

- **Sustainable Procurement and Ethical Investment**
 - To use maximise the opportunity provided by procurement to improve the sustainability of the UWE Bristol supply chain and purchasing decisions.
- **Campus Development**
 - Sustainability will be included from the outset in all construction, refurbishment and landscaping projects utilising smart design, innovation and procurement to address all relevant aspects of sustainability and in particular human and social impacts, climate change mitigation and adaptation.
- **Carbon Management**
 - Continual reduction in the carbon footprint of the University in line with the Carbon Management Plan.
- **Waste, Emissions and Discharges**
 - To reduce the amount and hazardousness of waste, emissions and discharges.
- **Water**
 - Reduce the use of supplied water.



What's in the Plan? 3

- **IT and Enabling Digital Media**

- Continually improve the sustainability of the IT infrastructure whilst maximising the wider social and environmental benefits enabled by IT.

- **Smarter Travel**

- To reduce single occupancy car journeys to the University, reduce carbon emissions associated with travel and increase the use of sustainable travel options.

- **Biodiversity**

- Deliver positive gains for biodiversity including measures to create, enhance and manage habitats, with improved access to campus green spaces.

- **Sustainable Food**

- To reduce food waste, increase the sales of Fairtrade products, increase the provision of seasonal fruit and vegetables, increase locally sourced food in restaurants and outlets, reduce meat consumption and use only free range eggs.



Environmental Management Standard

- UWE, Bristol is proud to have an Institution-wide certification to the Environmental Management Standard BS: EN ISO14001:2004 accreditation.
- Perhaps uniquely this certification covers BOTH the operations of the university and our teaching and learning.
- In May 2016 the external audit of our EMS again confirmed that UWE continued to be certified to EN ISO14001:2004. We are working towards the ISO14001 2015 version from June this year.
- In our degree programmes we provide opportunities for our students to explore and research aspects of the operation of the EMS

Energy Security and Carbon Reduction

- To improve our energy security and meet carbon emission reductions UWE, Bristol is installing a 1.2MWe gas fired CHP (combined heat and power) engine to supply 45% of the Frenchay campus heat, and save in excess of 1,100 t CO₂ y⁻¹. This saving is approximately a sixth of the total University 2020 Carbon Reduction Target.
- In 2016 we have installed a 450kWp Solar PV (photo voltaic) array on our new University Enterprise Zone building. This array is the largest single roof-mounted array in the UK HE sector and will lead to carbon savings of over 200t CO₂ y⁻¹.
- UWE is committed to achieving certification to ISO 50001 by the end of 2017.
- These investments will increase our future energy security and become visible commitments to our sustainability ambitions.

100% Electricity Supply from Renewable Sources.

- All electricity supplied to the University of the West of England (UWE Bristol) from October 2016 is from a guaranteed 100% green electricity tariff with EDF under a new framework from The Energy Consortia (TEC).
- UWE Bristol spends circa £3m per year on electricity and for an uplift of less than 0.3% we have chosen to secure 100% of our electricity supply from renewable sources.
- The renewable energy status of the supply is verified by Renewable Energy Guarantees of Origin (REGO) certificates.





Low Carbon Strategy

- Renewable tariffs aren't the only aspect of our Low Carbon Strategy at UWE. We believe the central and most important aspect is reducing the demand from the buildings and their users themselves.
- We have developed low energy use features into all of our building projects over the past years, from straw bale insulation at R-Block to presence detecting and LED lighting.
- It is projects such as these that enabled us to win the 2016 Go Green award for 'Most Improved' organisation in the 'Energy and Efficiency' category.
- We are a finalist in the 2016 EAUC Green Gown awards for 'Built Environment' for our implementation of BSRIA Soft Landings on projects such as the refurbishment at the Bower Ashton Campus which achieved a 45% carbon saving on a pre-refurbished building, based on 18 months of post-occupancy data.

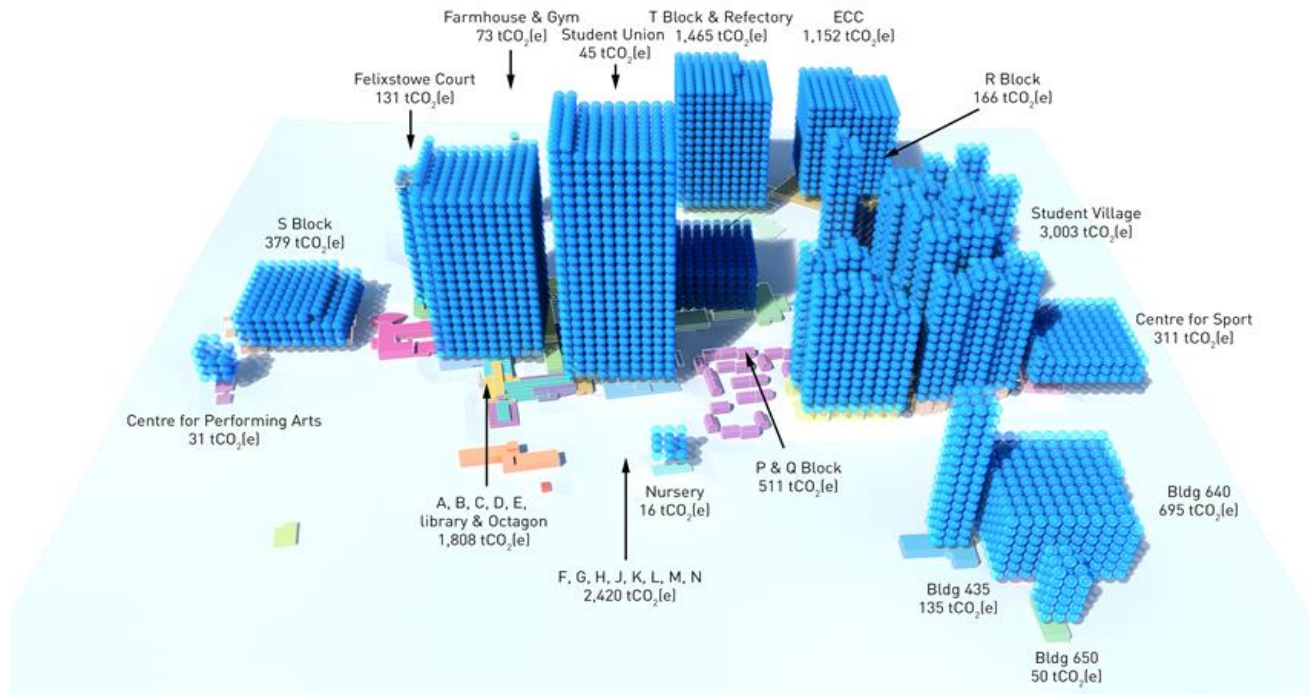


Energy Action – more than just supply

- Energy efficiency improvement is more than new energy supply initiatives. It is equally about smaller scale projects cumulatively improving overall efficiency of use.
- Specific energy efficiency projects include lighting upgrades to LED and improved lighting controls, draught-proofing, BMS Controls, insulation and heating system upgrades.
- New cutting-edge awareness projects are being initiated such as using gamification of energy data for on-campus accommodation, and individual faculty carbon budgeting to stimulate behaviour change.

Carbon emission visualisation

Frenchay Campus



UWE - Go Ultra Low Company

- UWE is to be one of the first organisations in the UK to receive the 'Go Ultra Low Company' status. This new initiative recognises businesses that are embracing electric vehicles (EVs).
- As part of the Go Ultra Low (West) city project UWE will be the venue of a showcase rapid car charging facility for 8 vehicles.
- The scheme will be evaluated by UWE's Centre for Transport and Society who are also evaluating the public acceptability of the Venturer autonomous vehicle (<https://www.venturer-cars.com/>).



Smarter Travel

- Travel accounts for approximately half of our overall carbon emissions at UWE Bristol.
- Our actions are directed at enabling staff, students and visitors to make sustainable travel choices to get to UWE Bristol by walking, cycling, public transport and car sharing.
- Improving cycling facilities – route information, bike parks, showers lockers and a cycle loan scheme.
- Electric and hybrid pool cars available for Frenchay Campus staff with 12 free electric charging points at Frenchay Campus.
- Electric charging plate for hybrid buses – the only one in Bristol.
- Free bikes to borrow for two weeks at a time from our Centre for Sport .
- Behaviour change initiatives and campaigns



Researching Carbon Management

- The recent RCUK grant for the **Bristol Urban Area Diagnostics Pilot** (<http://www.bristol.ac.uk/cabot/research/urban-id/>) supports collaboration between the University of Bristol, the University of the West of England, Bristol City Council, South Gloucestershire Council, the Bristol Green Capital Partnership and 11 other partners to help implement a low carbon city with a high quality of life for all.
- UWE investigated Future Bristol 2050, an exploration of what 2050 may look like as a low carbon future and how we might journey to that future.
- UWE is working with Bristol City Council and other city partners to help develop the Bristol Resilience Plan, 2065. Funded by the Rockefeller 100 Resilient Cities Project <http://www.100resilientcities.org/>

Future Bristol 2050



UWE researchers consulted a large group of key local stakeholders about how Bristol might meet its 80% carbon reduction target in 2050, producing 2 different scenarios for the city.

To communicate the results in an engaging way to the Bristol public, Rose Bailey worked with local street artist Andy Council to produce visual interpretations of these two different scenarios. Novel engagement tools allowed citizens to express their views on individual elements of the scenarios and vote for their overall preference

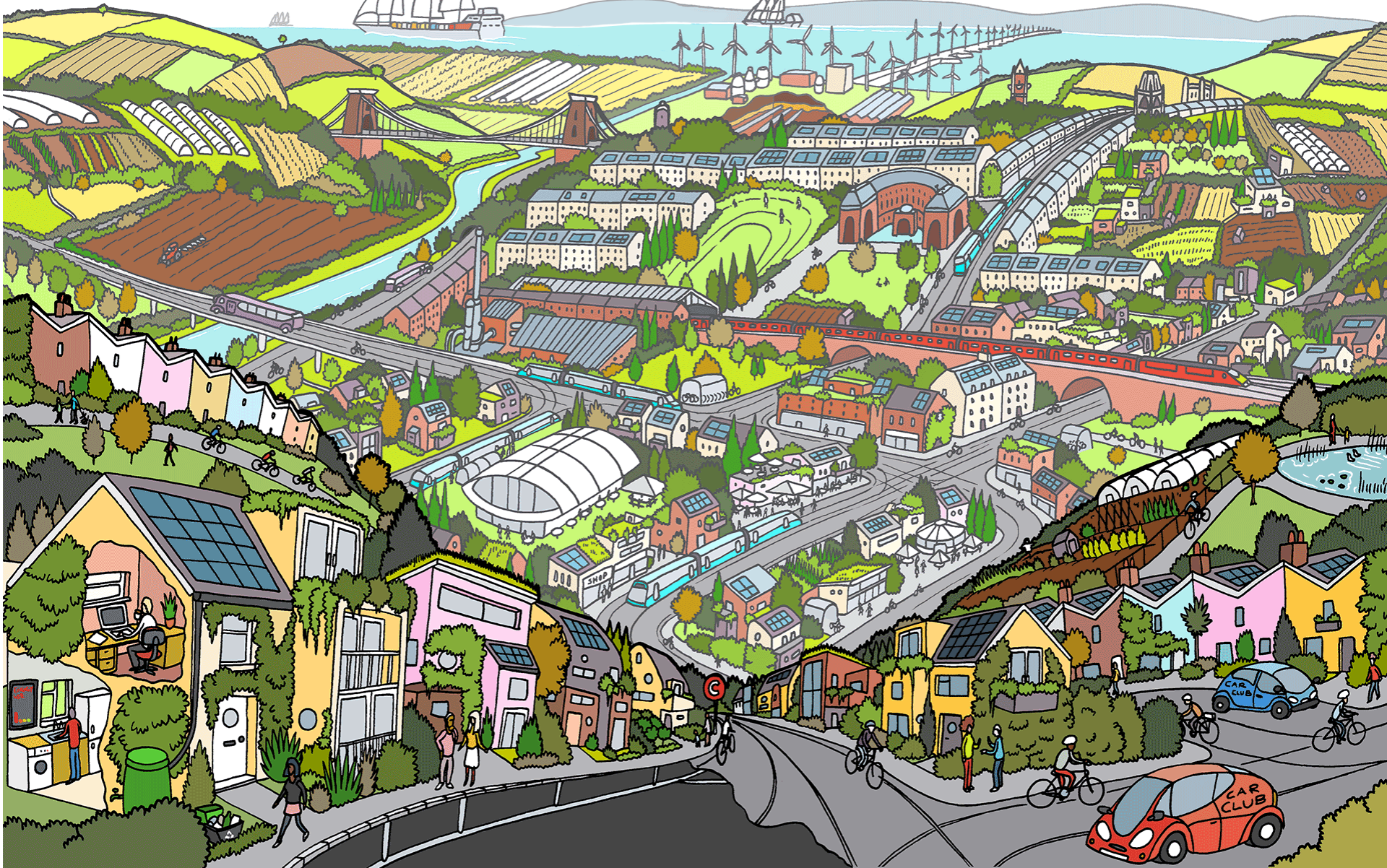
Future Bristol <http://www.futurebristol.co.uk/>



"Scenario X": Bristol 2050 a globalised, high-tech big-tech, 'low carbon business as usual' future.



"Scenario Y": Bristol 2050 a re-localised, high-tech, small-tech, 'resilient restructured community' future.



Research in Carbon Mitigation and Adaptation

- University staff conduct a wide range of research in the fields of climate change adaptation and mitigation.
- Research centres and groups contributing to this university mission include: Air Quality Management Resource Centre, Applied Statistics Group , Centre for Floods, Communities and Resilience, Centre for Research in Biosciences, Centre for the Study of Behaviour Change, Centre for Sustainable Planning and Environments, Centre for Transport and Society , Construction and Property Research Centre, Engineering Modelling and Simulation Group, Environment Law Unit, Public Health and Wellbeing Group and the Science Communication Unit.
- In addition the university is proud to host the WHO Collaborating Centre for Healthy Urban Environments.
- The University led the multi-agency Environmental Technologies Innovation Network supporting small and medium size businesses develop low carbon technologies.

Researching Carbon Sequestration

- Research by UWE for the John Pontin Charitable Trust and The Converging World charity (<http://www.theconvergingworld.org/>) .
 - Provides encouraging evidence that carbon sequestration in tropical dry evergreen forests (TDEF) is a highly cost-effective carbon management option.
 - The Converging World charity operates wind turbines in Tamil Nadu and hypothecates the profit to purchase degraded former TDEF land.
 - A combination of carbon averted via the turbines and carbon sequestration through regeneration of TDEF, the indigenous forest of the coastal seaboard of SE India, allied to a wide range of ecosystem service benefits makes this an attractive option for further investment by the Trust and the charity.
-
- Everard, M., Longhurst, J.W.S., Pontin, J., Stephenson, W. and Brooks, J. (In press). Developed-developing world partnerships for sustainable development (1): an ecosystem services perspective. Ecosystem Services.
 - Everard, M., Longhurst, J.W.S., Pontin, J., Stephenson, W. and Brooks, J. (In press). Developed-developing world partnerships for sustainable development (2): the payments for ecosystem services (PES) case. Ecosystem Services.

Teaching Carbon Mitigation and Adaptation

- The university offers degrees in a wide range of relevant subjects that consider issues of mitigation of greenhouse gases and /or adaptation to a changing climate. Relevant undergraduate degrees include Architecture, Architecture and Environmental Engineering, Architecture and Planning, Biology, Building Services Engineering, Civil and Environmental Engineering, Environmental Resource Management, Environmental Science, Geography, River and Coastal Management, Urban Planning, Wildlife Ecology and Conservation Science.
- Our postgraduate provision addresses mitigation and /or adaptation as part of Masters provision in Architecture, Construction, Urban Planning, Environmental Management, Environmental Consultancy and Sustainable Development in Practice.
- The university's programmes are accredited by UK professional bodies including RIBA, RICS, JBM, RTPI, IES and IEMA amongst others.

UWE as a Living Laboratory

Since summer 2012, UWE estates department and academics have been working with Bristol Water to undertake joint research on demand management.

Using the UWE Student Village as a laboratory for studying the effects of different sorts of interventions on water consumption



NUS Responsible Futures

- The University and the SU at UWE, working in partnership, became the first, post pilot phase, institution in the country to be accredited by the NUS to the new Responsible Futures mark.
- This accreditation recognises the partnership working by the Students' Union at UWE Bristol and the University to promote and embed education for sustainable development (ESD) in its curricula, to help students to understand the sustainability challenge facing society and preparing them to contribute to the green and low-carbon economy.
- This accreditation represents external recognition of the difficulty and impact of the work being undertaken to help every UWE Bristol student become a globally responsible and future-facing graduate.
- Together we achieved the highest score ever under the scheme.



Achieving the Primary ESD Goal

- As part of the Responsible Futures accreditation process we were able to confirm, and then have external verification of the claim, that in Academic Year 2014/15 all our UG and PGT programmes of study provided the opportunity for students to engage with the idea of sustainability in the context of their discipline.
- This is a major achievement and UWE may well be the only university in the United Kingdom in which this claim can be verified.
- UWE's annual Quality Management and Enhancement Framework, and annual progress meetings with Academic Departments provide the mechanisms through which we audit and track progress with ESD in the curricula. The cross university staff group, Knowledge Exchange for Sustainability Education, is critical to the success of our ESD initiatives.

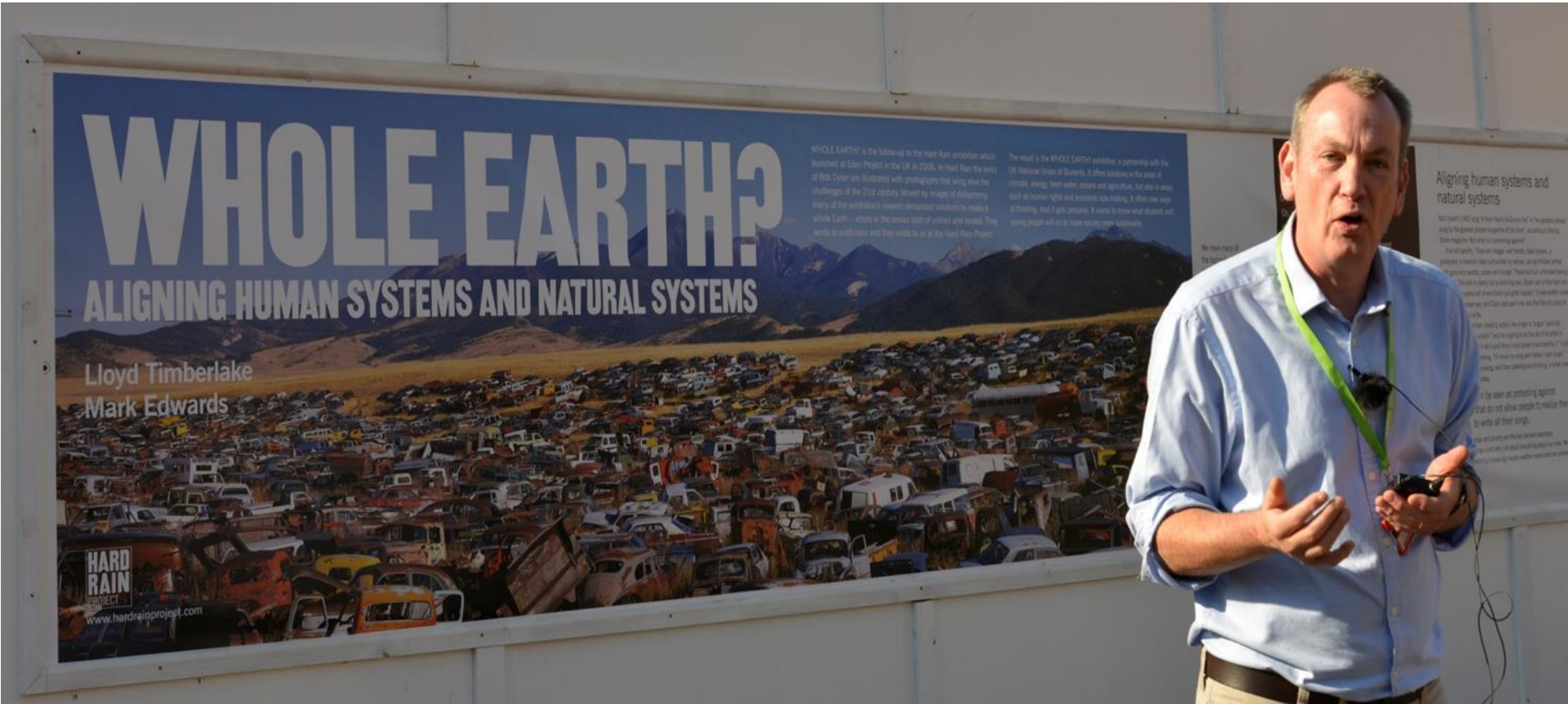


The Green Team in the SU

- The Green Team are a group of students that have a shared interest in sustainability and are passionate about exploring ways to create positive change on campus and in the Bristol Community.
- Being part of the Green Team allows students to be involved with an exciting programme of events, training, activities, talks, workshops and volunteering.
- The Green Team is part of the Students' Union and a full time SU employee coordinates the organisation and delivery of Green Team initiatives.
- The SU has an elected Sustainability Officer who sits on the Sustainability Board alongside the President and Vice President, Societies and Communication.
- Students are powerful and articulate advocates for change. We expect the Green Team to challenge us and to push us to do better in meeting our Sustainability Plan's aims and objectives.
- We want them to be passionate, critical noisy friends.



Whole Earth - a University Engagement Tool



Engagement and Culture Change

European Green Capital

- UWE played a very full part in Bristol's year as European Green Capital which provided a wide range of opportunities for thousands of staff and students to engage in, learn from and enjoy the year.
- Now we are working closely with the Bristol Green Capital Partnership CIC to ensure that in 2016 the sustainability advances made in the Green Capital year continue.



In Conclusion

- UWE will continue our journey, working in partnership with the Students' Union and external partners, to ensure that we
 - provide our graduates with the skills, knowledge and attributes that they need to thrive in the 21st century
 - continue to create new knowledge to support attainment of a sustainable future
 - manage our current and future estate in the most sustainable manner
 - Work with local partners to help achieve a sustainable Bristol city-region.



Progress at a Glance



Presentation by

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UWE's Next Steps

How do we incorporate the Sustainable Development Goals into UWE, Bristol Business Decision Making?

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Overview

- What are...?
- What could/should...?
- How might you...?
- What is...?
- How have we...?
- What does...?
- What next?



What are the Sustainable Development Goals?

1 NO POVERTY 	2 NO HUNGER 	3 GOOD HEALTH 	4 QUALITY EDUCATION 	5 GENDER EQUALITY 	6 CLEAN WATER AND SANITATION 
7 RENEWABLE ENERGY 	8 GOOD JOBS AND ECONOMIC GROWTH 	9 INNOVATION AND INFRASTRUCTURE 	10 REDUCED INEQUALITIES 	11 SUSTAINABLE CITIES AND COMMUNITIES 	12 RESPONSIBLE CONSUMPTION 
13 CLIMATE ACTION 	14 LIFE BELOW WATER 	15 LIFE ON LAND 	16 PEACE AND JUSTICE 	17 PARTNERSHIPS FOR THE GOALS 	 THE GLOBAL GOALS For Sustainable Development

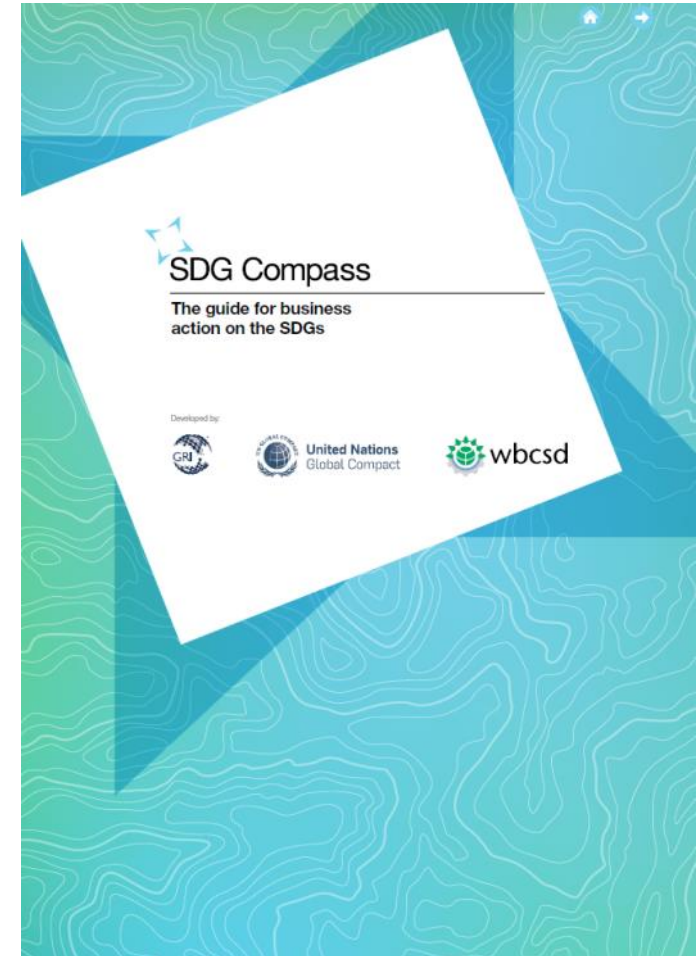
What is the
current global
status of these
issues?

The Sustainable Development Goals Report
2016



What should an organisation contribute towards meeting the SDGs?

Baseline responsibilities for business include “recognition of the **responsibility of all companies** – regardless of their size, sector or where they operate – to comply with all relevant legislation, **uphold internationally recognized minimum standards** and **to respect universal rights**”



Managing contribution to the SDGs

Defining priorities

- Map the value chain to identify impact areas
- Select indicators and collect data
- Define priorities

Setting goals

- Define scope of goals and select KPIs
- Define baseline and select goal type
- Set level of ambition
- Announce commitment to SDGs

Integrating

- Anchoring sustainability goals within the business
- Embed sustainability across all functions
- Engage in partnerships

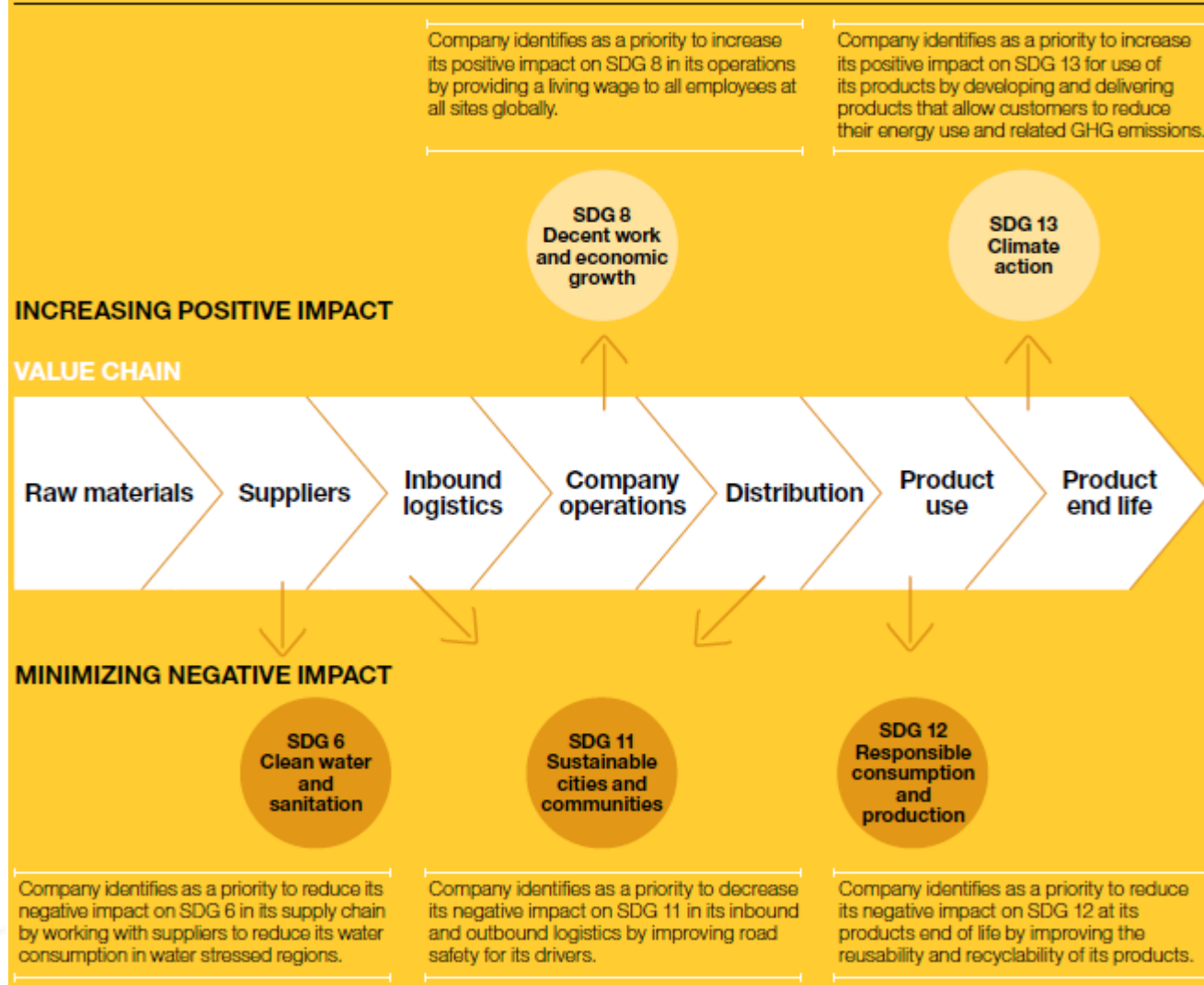
Reporting and communicating

- Effective reporting and communication
- Communicating on SDG performance

Map the value chain to identify impact areas

How can
this be
applied to
an HEI?

In action: Mapping the SDGs against the value chain



What could an HEI contribute towards achieving the SDGs?

- Estate management
- Operations
- Education
- Research and knowledge creation
- Influencing others
- Institutional alignment?
- Purpose for being?



How might you assess the extent to which an HEI is helping to meet the SDGs?

TOOLS

1. GRI
2. ISO 14001
3. Corporate responsibility reporting
4. IRIS Metrics
5. Responsible Futures
6. Awards



Social Impact Objectives

Describes the social impact objectives pursued by the organization.

- Access to clean water and sanitation
- Access to education
- Access to energy
- Access to financial services
- Access to information
- Affordable housing
- Agricultural productivity
- Capacity building
- Community development
- Conflict resolution
- Disease-specific prevention and mitigation
- Employment generation
- Equality and empowerment
- Food security
- Generate funds for charitable giving
- Health improvement
- Human rights protection or expansion
- Income/productivity growth

Sector to Influence

Describes the sector(s) in which the organization focuses and seeks to influence

- Agriculture
- Artisanal
- Culture
- Education
- Energy
- Environment
- Financial Services
- Health
- Housing and Community Development
- Information and Communication Technologies (ICT)
- Infrastructure/ Facilities Development
- Land Conservation
- Microinsurance
- Supply Chain Services
- Technical Assistance Services
- Tourism
- Water
- Other

How might you assess the extent to which an HEI is helping to meet the SDGs?

INDICATORS

1. ***Flexible working***
2. ***Mitigation of environmental impacts*** of products and services
3. ***Inclusive decision making:***
4. Average ***hours of training*** per year per employee by gender, and by employee category

How might you assess the extent to which an HEI is helping to meet the SDGs?

1. Nature and extent of ***knowledge transfer*** of best practice, and lessons learned
2. Report the measures taken to develop and enhance the highest ***governance body's collective knowledge of economic, environmental and social topics***
- 3. Number, type and impact of sustainability initiatives designed to raise awareness, share knowledge and impact behavior change, and results achieved**

How have we begun to assess UWE's contribution to achieving the SDGs?

- Defining priorities***
 - **Strategy 2020**
 - **Sustainability Plan**
 - **ISO 14001**

- Setting goals***
 - **ISO 14001**
 - **Risk register**
 - **Sustainability Plan**
 - **Strategy 2020**
 - **Localised goal setting**

- Integrating***
 - **Internal and external presentations**
 - **Roles and responsibilities**
 - **Terms of reference and reporting templates**
 - **Graduate attributes**
 - **Working with others**

- Reporting and communicating***
 - **Internal and external reporting**
 - **Standards**
 - **Sharing and listening**

What does UWE do that potentially contributes to the achievement of the SDGs?

1. Institutional strategy
2. Faculty activity
3. Graduate attributes
4. Curriculum activity
5. Extra curricula activity
6. Research
7. Estates management
8. Students' Union activity
9. Partnerships
10. 'Community' activity



SDGs and UWE programmes/disciplines

No poverty

- Ensuring access to midwife services & care by the poor
- Models of healthcare toward a more flexible & integrated maternity service

- Holistic assessment of needs: emotional, physical, spiritual, social



Zero hunger

- Nutrition for pregnant & lactating women
- Breastfeeding
- Effect of modern agricultural practices on maternal & newborn health

- Government schemes
- Responsive feeding local, seasonal & organic food
- Environmental toxins



Good health and wellbeing

- Wellbeing
- Mental Health
- Neonatal & maternal health
- Preventable disease

- Maternity & Paternity leave
- Continuity of care
- Natural Birth
- HIV & Hepatitis in mothers



Quality education

- Training of midwives
- Models of education
- Education of families
- Technology & healthcare

- Evidence based practice
- Interdisciplinary
- Inquiry-based learning
- Case based education
- Digital literacy standards



Gender equality

- Migration
- Understanding role of woman in different cultures
- Respecting individuals

- Models of care/delivery of care
- Individual care plans for women
- Learning from service users and carers
- Digital literacy standards
- FGM - Female genetic mutilation
- Promoting advocacy
- Reflection on Practice



Clean water and sanitation

- Breastfeeding
- Preventable disease
- Role of freshwater in lives of women

- Hygiene
- Vaccinations
- Eco Parenting



Affordable and clean energy

- Low carbon midwifery practice
- Transportation within practice
- Energy availability for families

- Use of gases in theatre/surgery
- Eco Parenting
- Natural Birth



Decent work and economic growth

- Funding for healthcare
- Joined up healthcare system
- Interagency working
- Health implications of unemployment
- Inclusion of midwife care in Aid for Trade Initiatives

- Efficiency in midwife practice
- Differences between consideration of social demographic group



Industry, innovation and infrastructure

- Healthcare infrastructure
- Scientific research for healthcare
- Use of digital technology

- Overseas Working & Learning experience opportunities
- Communication, transport and healthcare e.g. telemedicine/telehealth



Reduced inequalities

- Vulnerability of women
- Disability
- Midwifery care for migrants

- Prison & Traveling community contexts
- Learning & physical disability
- International perspectives
- Reflection on Practice
- Working with vulnerable



Sustainable cities and communities

- Access to healthcare facilities
- Models of healthcare

- Social, medical & biomedical considerations in urban and rural contexts



Responsible consumption and production

- Sustainability healthcare practice
- Living in harmony with nature
- Procurement of healthcare equipment

- Nappies
- Use of Medical Equipment



Climate action

- Resistance
- Transport
- Emergency midwife care in disasters stricken areas

- Health as a core component of human resilience
- Clients to professional and vice versa



Life below water

- Waste reduction
- Healthcare links to marine environments

- Awareness of waste minimisation & waste disposal
- Waste Minimisation in clinical training
- Eco-parenting
- NHS Sustainable development Strategy
- Reflection on Practice



Life on land

- Waste reduction
- Green Space and health
- Healthcare links to terrestrial environments

- Mental wellbeing
- Reflection on Practice
- Eco-parenting



Peace, justice and strong institutions

- Holistic assessment
- Community Care
- Healthcare systems

- Family centred care
- Community Care
- Respecting Individuals
- Reflection on Practice



Partnerships for the goals

- National health policy
- International health partnerships
- Public/private healthcare provision

- Responsive endorsement of sustainability
- Global learning
- International perspectives
- NHS manager shadowing



Midwifery at UWE and the Sustainable Development Goals

- What UWE teaches
- The issues to be tackled



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No poverty

Sustainable development linked to environmental issues particularly climate change risks, vulnerability and economic progress

Modules:

Level 1 *Environment and Society*;
Level 2 *People and Environmental Change*



Zero hunger

Ecosystem services; vertical farming; biofuels; genetic technology; local farming

Modules:

Level 1 *Environment and Society*;
Level 2 *People and Environmental Change*



BSc Environmental Science (HONS)

Solutions

Professional practice

Good health and wellbeing

Human health and the environment; pollution pathways and prevention; sustainable agriculture; climate mitigation

Modules:

Level 1 *Environment and Society*;
Level 2 *People and Environmental Change*



Quality education

Field and laboratory skills; applied management skills; philosophy of sustainability; Outreach – Madagascar

Modules:

Level 1 *Environment and Society*;
Field Skills
Level 2 *People and Environmental Change*
Level 3 *Tropical Field Expedition*



Gender equality

Education; family planning; legislation and policy

Modules:

Level 1 *Environment and Society*;
Level 2 *People and Environmental Change*
Level 3 *Resource security and Sustainability (RSS)*



Clean water and sanitation

Historical case studies of pollution; Arsenic poisoning; Waste water recycling research; Microbial fuel cells; Wetland restoration

Modules:

Level 1 *Environment and Society*;
Level 2 *People and Environmental Change*
Research: Waste water recycling research; Microbial fuel cells.



Affordable and clean energy

No single solution to climate/energy crisis. All technological developments relevant; Life cycle analysis; broad range energy restoration

Modules:

Level 1 *Environment and Society*;
Level 2 *People and Environmental Change*
Level 3 *Energy technologies*



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Decent work and economic growth

Economic growth not sustainable – movement towards a steady-state economy; creativity and innovation; field trips and job market

Modules:

Level 1 *Environment and Society*;
Level 2 *People and Environmental Change*
Level 3 *Scientific Frontiers and Enterprise*



Industry, innovation and infrastructure

Climate change and economic development; planning and policy; carbon and energy; green economy

Modules:

Level 2 *People and Environmental Change*
Level 3 *Energy Technologies*;
Level 3 *Scientific Frontiers and Enterprise + RSS*



Reduced inequalities

Sustainable development linked to environmental issues particularly climate change risks, vulnerability and economic progress

Modules:

Level 1 *Environment and Society*;
Level 2 *People and Environmental Change*
Level 3 *Tropical expedition - field trips to tropics*



Sustainable cities and communities

Climate change; planning and policy; carbon and energy; green economy change matters/ green capital award; Voluntary award

Modules:

Level 1 *Environment and Society*;
Level 2 *People and Environmental Change*
Level 3 *Energy Technologies*



Responsible consumption and production

Food and farming; waste management; life cycle assessment; local pollution; energy from waste; anaerobic digestion; biofuels

Modules:

Level 1 *Environment and Society*;
Level 2 *People and Environmental Change*
Level 3 *Energy technologies; RSS*



Climate action

Physical science; impact, vulnerability and adaptation; mitigation; energy technologies; land use change; agricultural interventions; steady-state economy; resilience and risk

Modules:

Level 1 *Environment and Society*;
Level 2 *People and Environmental Change*
Level 3 *Energy Technologies*



Life below water

Biogeochemistry; ocean acidification; marine ecosystems; marine waste disposal; micro-plastics; sustainable fisheries management

Modules:

Level 2 *Earth System Science: People and Environmental Change*;
Level 3 *Resource and Sustainability: Marine ecosystems*
NERC research



Life on land

Biogeochemistry; soils; ecosystems; agriculture; biodiversity loss; ecosystem services; land management and restoration; agricultural technologies

Modules:

Level 1 *The Earth: Environment and Society*
Level 2 *Earth System Science: People and Environmental Change: Ecology + Ecosystems*
Level 3 *Forests and Agricultural Systems*



Peace, justice and strong institutions



Partnerships for the goals



What next?



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