STEM Graduates for a Changing World

The Opportunity and Challenge of Embedding Education for Sustainable Development in HE

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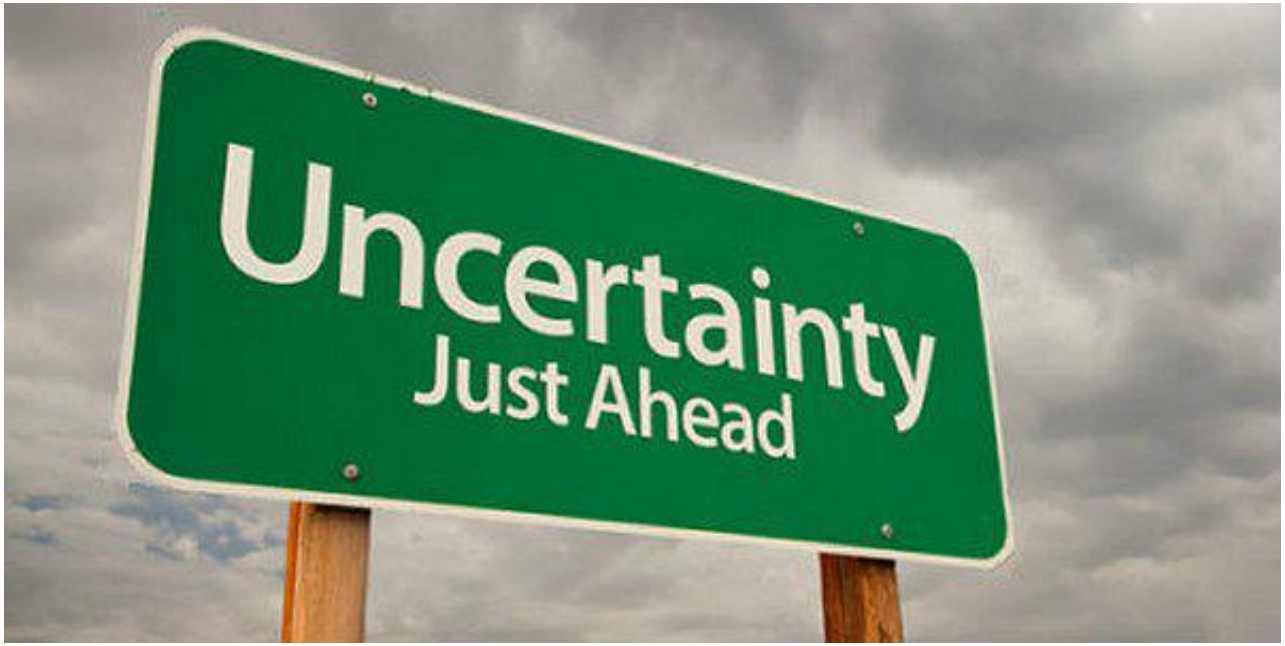
30th January 2020



https://www.shutterstock.com/image-photo/uncertainty-just-ahead-green-road-sign-57108127

Outline of Talk

- Part 1 The opportunity for the HE sector
- Part 2 The complex challenge that we face
- Part 3 A little context and background to sustainability in HE.
- Part 4 Some examples of practice.
- Part 5 The 2014 ESD Guidance.
- Part 6 Issues and challenges for the 2020 Guidance Review.
- Part 7 What is the sector already doing and what more is needed?
- Part 8 Some concluding thoughts.

5 Propositions

- Through the talk I will build an argument to address in my conclusions each of the 5 propositions that form the context of this conference.

- I will argue that the severity and nature of the issues we face mean that all graduates must be prepared through their HE experience for the climate and ecological emergency that will become increasingly manifest across their lifetime.

- According to actuary tables a typical graduate will have some 60 years of life of after graduation.

- How will their higher education equip them for treading more lightly in their professional and private lives?

http://www.leunig.com.au/works/cartoons

Part 1
The opportunity for the HE sector

The HE Sector in the UK
Appreciate the size of the entity (2017/18 data)

164 higher education institutions in the UK returning data to HESA (data includes alternate providers and HE provision in colleges).

2.34 million students at UK higher education institutions

777 005 Graduates in 2017/18 (UG PGT and PGR)

https://www.universitiesuk.ac.uk/facts-and-stats/Pages/higher-education-data.aspx

3 798 000 new graduates over the 5 year period 2013/14 – 17/18

https://www.hesa.ac.uk/news/17-01-2019/sb252-higher-education-student-statistics/qualifications

The HE Sector in the UK
Appreciate the size of the entity (2017/18 data)

429,560 staff employed at UK higher education institutions, 49% academics

Source https://www.universitiesuk.ac.uk/facts-and-stats/Pages/higher-education-data.aspx

HE staff and students = 4.1% of UK population

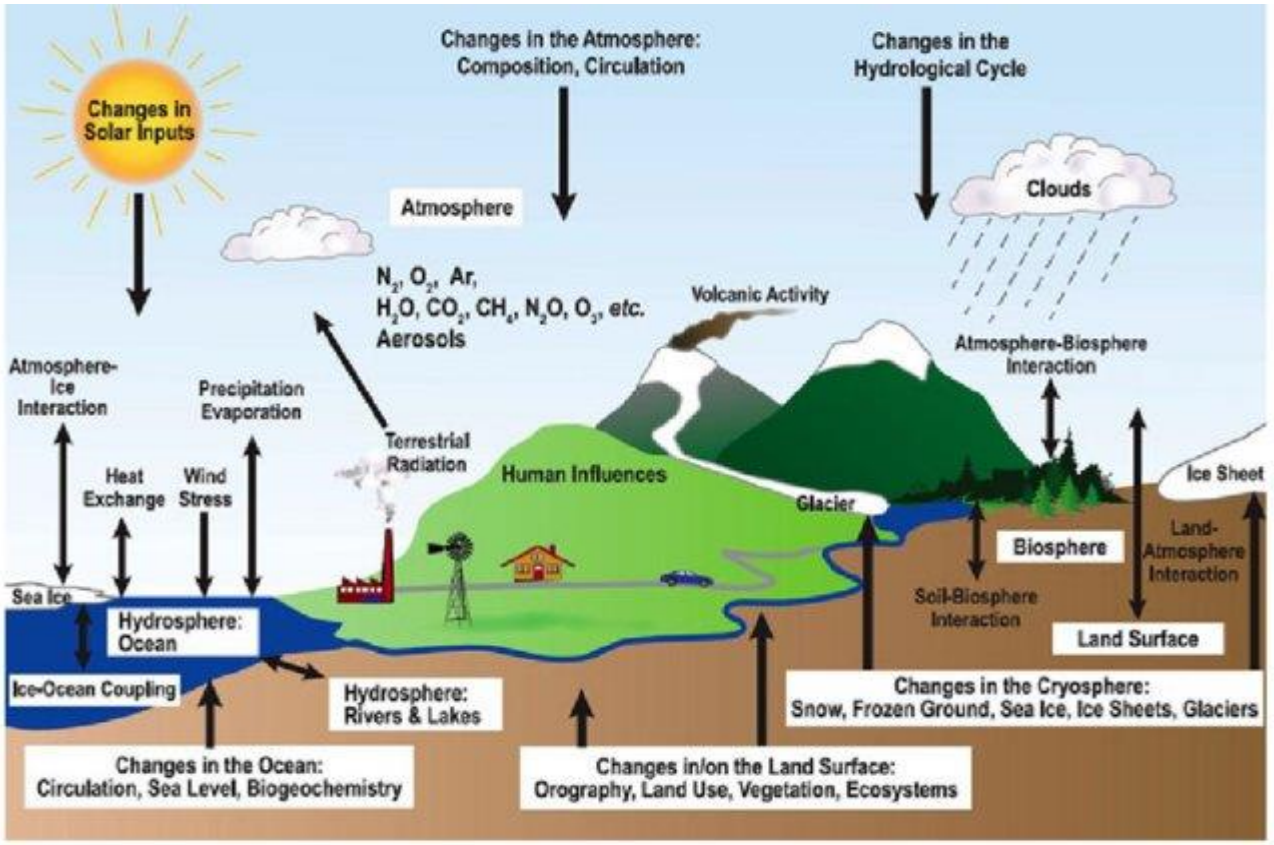
Expenditure of HE - total operating expenditure by the sector **£37.2 billion**.

Source: https://www.hesa.ac.uk/data-and-analysis/finances/income

Think of the decade to 2030 and the number of graduates the HE sector alone can influence – **could be as many as 7 million or more!**

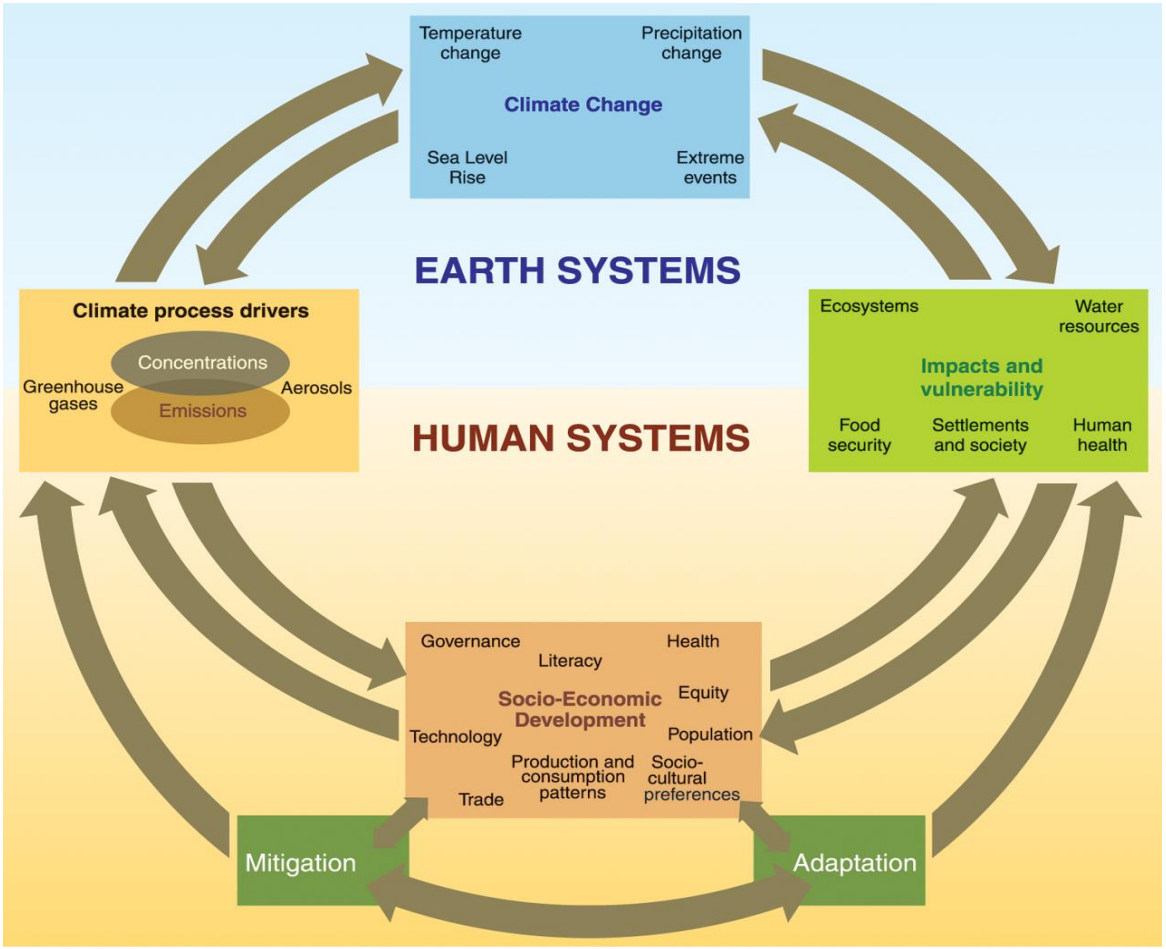
Part 2
The complex challenge that we face

The Global System – System thinking needed



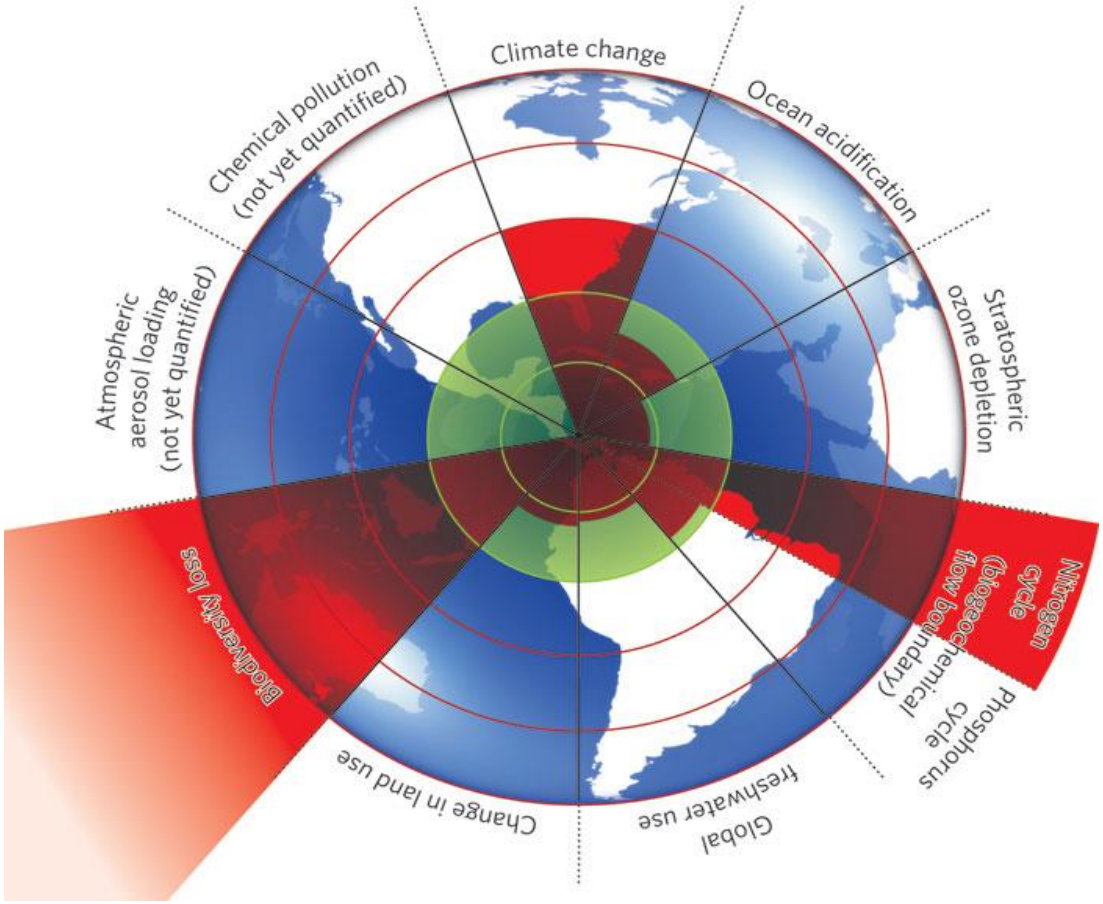
Global climate system. AR4 Climate Change 2007: The Physical Science Basis IPCC (2007)

System Thinking Must Include Human Interactions with the Environment



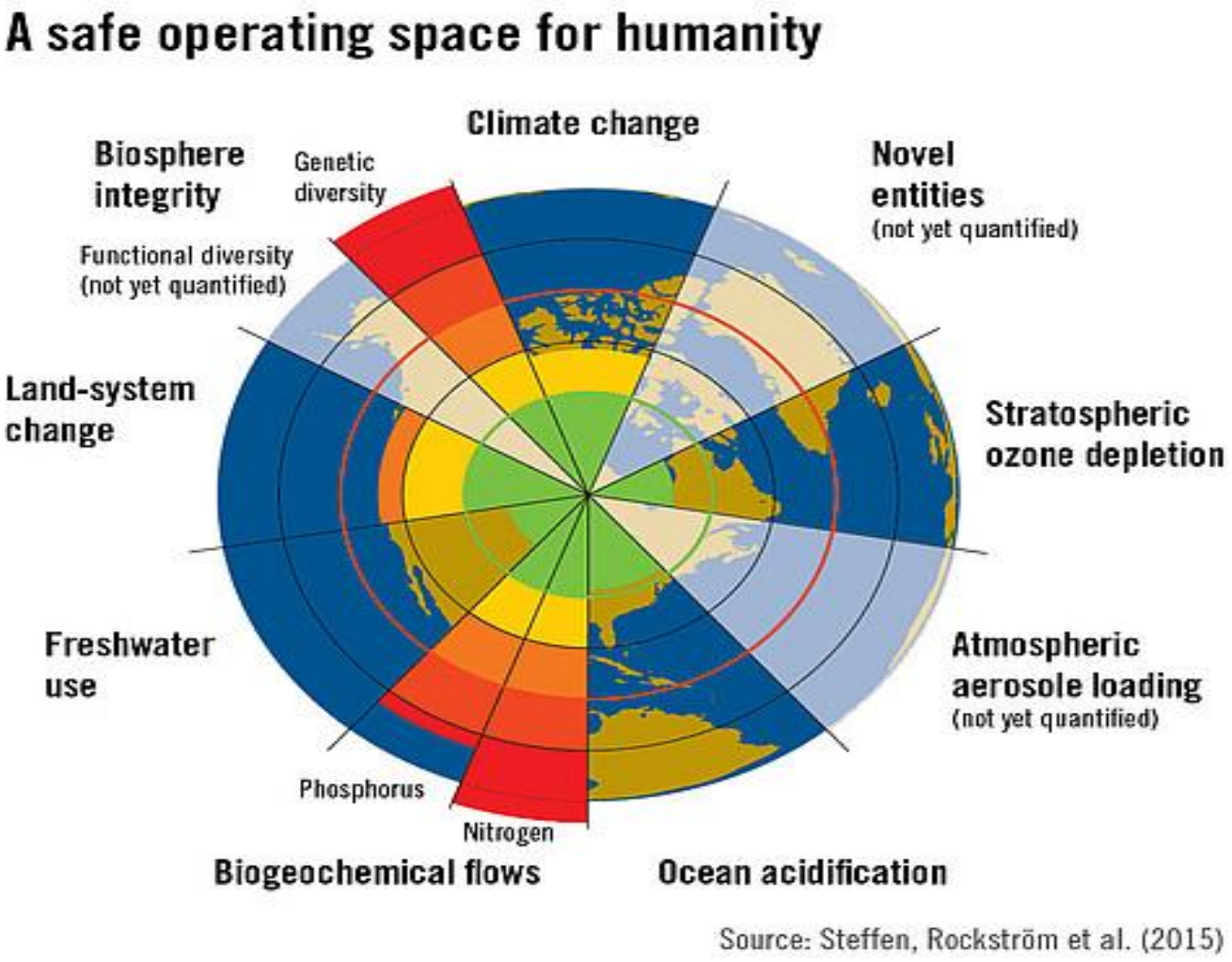
IPCC AR4 Synthesis Report (2007). Simplified representation of systems components and interactions

Conceptualising the problem
'A safe operating space for humanity'



Rockström, J., etal 2009. Planetary Boundaries: Exploring the Safe Operating Space for Humanity. Ecology and Society 14(2): 32. [online] URL: http://www.ecologyandsociety.org/vol14/iss2/art32/

Environmental Limits



Planetary boundaries: Guiding human development on a changing planet
Steffen et al (2015) Science Vol. 347, Issue 6223, DOI: 10.1126/science.1259855

Stewardship

IPBES Chair, Sir Robert Watson. 7/5/19

"The health of ecosystems on which we and all other species depend is deteriorating more rapidly than ever. We are eroding the very foundations of our economies, livelihoods, food security, health and quality of life worldwide."

"The overwhelming evidence… from a wide range of different fields of knowledge, presents an ominous picture"

Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) https://ipbes.net/news/Media-Release-Global-Assessment

Extinction Risk

20-30% of the species on Earth may be at risk of extinction if the climate warms by an average of 1.5°C.

Most ecosystems will struggle if the planet warms by more than 2°C.

Climate change is happening too quickly for many species to adapt.

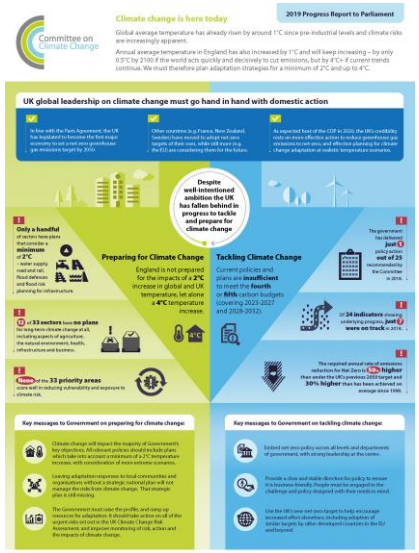
Intergovernmental Panel on Climate Change
https://www.ipcc.ch/sr15/

Challenging times

Keeping within 1.5°C to 2°C of warming is extremely challenging.

The Committee on Climate Change 2019 Progress Report to Parliament noted that the UK government is currently *"under-prepared for even the most optimistic predictions of temperature increase, let alone the trajectory".*

https://www.theccc.org.uk/publication/reducing-uk-emissions-2019-progress-report-to-parliament/



Significant Global Challenges

Living with the climate and ecological challenges of the 21st Century will require graduates to be

Resilient

Adaptable

Think systemically

Have a future facing outlook

Be aware of stewardship responsibilities

Have a global perspective recognising the inter-connectedness of the world

Part 3
A little context and background to sustainability in HE.

David Orr

"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."

'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'.

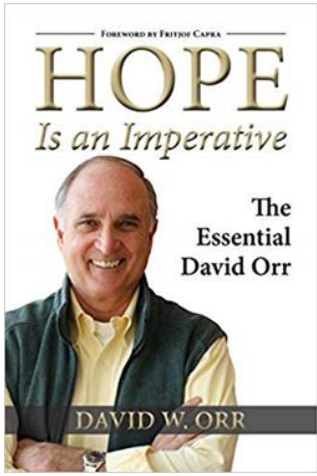
David Orr (1991) What is Education For? Six myths about the foundations of modern education, and six new principles to replace them.

Available in

David W Orr (2011) Hope Is an Imperative. The Essential David Orr.

Island Press/Centre for Resource Economics 372pp.

eBook ISBN 978-1-61091-017-0



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!

Sustainable development

'*Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs'.*

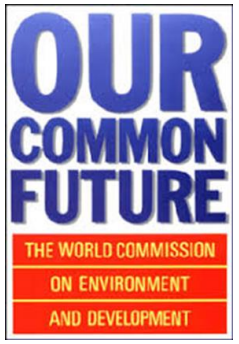
It contains within it two key concepts:

the concept of 'needs', in particular the essential needs of the world's poor, to which priority should be given; and

the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs.

Chapter 2 http://www.un-documents.net/our-common-future.pdf

Brundtland Report (1987) World Commission on Environment and Development,



Sustainable Development

'*Sustainable Development aims to promote harmony amongst human beings and between humanity and nature* '

Brundtland Report (World Commission on Environment and Development, 1987)

'*Sustainable development means improving the quality of life while living within the carrying capacity of supporting ecosystems*'

World Conservation Union, UN Environmental Programme and World Wide Fund for Nature (1991)

The 2030 UN Sustainable Development Goals

UN. (2015). Sustainable Development Goals. United Nations, New York. https://sustainabledevelopment.un.org/?menu=1300

Education for Sustainable Development

"*ESD extends the scope (of SD) to deal with the complex amalgamation of issues relevant to environment, society and economy. ESD prepares people to cope with and find solutions to problems that threaten the sustainability of the planet.*"

UNESCO (2007) United Nations Decade of Education for Sustainable Development 2005-2014: The first two years. Pp6

ESD is about the contribution that can be made to sustainable development through learning and teaching.

Key to this is the development of skills, knowledge and values that promote behaviour and approaches that support the goal of reconciling human needs with the environmental limits of the planet.

UNESCO, 2014 ESD Definition

"*Education for Sustainable Development allows every human being to acquire the knowledge, skills, attitudes and values necessary to shape a sustainable future.*"

"*Education for Sustainable Development requires far-reaching changes in the way education is often practised today*."

http://www.unesco.org/new/en/unesco-world-conference-on-esd-2014/resources/what-is-esd/

Part 4
Some examples of practice.

SDGs and UWE programmes

ESD in UK HEIs

- The UK has a relatively long engagement with the ideas of ESD.
- HEIs have developed under- and postgraduate degree programmes and specific modules to address some or all of the curriculum challenges posed by sustainable development.
- More recently, some HEIs have considered the position of sustainable development within the institutional mission stimulated by internal recognition of the opportunity, in response to student concerns or positioning of competitor institutions
- Such institutions will walk a fine line between “green wash” and being able to demonstrate prioritisation of actions and systemic engagement with education for sustainable development.

Examples of ESD good practice

– from my own visits and experiences

1. **Worcester** https://www.worcester.ac.uk/about/sustainability/what-we-do/education-and-learning.aspx
2. **Winchester** https://www.winchester.ac.uk/about-us/sustainability-and-social-justice/education-for-sustainable-development/
3. **University of the West of England** https://www1.uwe.ac.uk/about/corporateinformation/sustainability/education.aspx
4. **University of the Arts** https://www.arts.ac.uk/about-ual/sustainability#education
5. **Southampton** https://www.southampton.ac.uk/sustainabilityaction/curriculum/index.page
6. **Plymouth** https://www.plymouth.ac.uk/students-and-family/sustainability/sustainability-education/esd
7. **Nottingham Trent** https://www.ntu.ac.uk/about-us/sustainability/sustainable-learning

Z-A list no ranking implied

Examples continued

1. **Manchester Metropolitan** https://www.celt.mmu.ac.uk/esd/index.php?section=esd
2. **Manchester** http://www.sustainability.manchester.ac.uk/teaching/
3. **Keele** https://www.keele.ac.uk/greenkeele/educationforsustainability/
4. **Gloucester** https://sustainability.glos.ac.uk/staff/education-for-sustainability/
5. **Edinburgh** https://www.ed.ac.uk/sustainability/what-we-do/research
6. **Canterbury Christ Church** https://www.canterbury.ac.uk/education/our-work/exploring-sustainability/education.aspx
7. **Bristol** http://www.bristol.ac.uk/green/doing/sustainability-courses/

Z-A list - no ranking implied

SDGs and UWE programmes

UWE Bristol | University of the West of England

1 NO POVERTY

IT enabling access to resources e.g. financial services, land registries and supporting resilience.

Modules:
Induction Sustainable Technology team project
UFCF6X-30-2 eBusiness
UFCFP6-30-3 The Information Practitioner 3
and 6 other modules

2 ZERO HUNGER

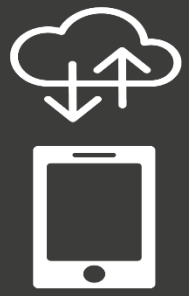
Role of logistics systems in food distribution. Productivity improvement through Smart agriculture.

Modules:
Induction Sustainable Technology team project
UFCF6X-30-2 eBusiness
UFCFP6-30-3 The Information Practitioner 3
and 6 other modules

BSc(Hons) Information Technology Management for Business (ITMB)

Issues of relevance

Place in the ITMB Programme



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3 GOOD HEALTH AND WELL-BEING

Use of telehealth to widen healthcare coverage and App-supported healthy behaviour change

Modules:
UFCF6X-30-2 eBusiness
UFCFP6-30-3 The Information Practitioner 3
UMSD7T-15-3 Strategic Management
And 7 other modules

4 QUALITY EDUCATION

ITMB students have extensive learning in Entrepreneurship. Importance of lifelong learning in information systems. Changing nature of skills. Broadening access to education through online learning.

Modules:
UMSD87-15-3 Business Innovation and Growth
UFCF6X-30-2 eBusiness
UFCFP6-30-3 The Information Practitioner 3
And 10 other modules

5 GENDER EQUALITY

Learning about leadership, gender and diversity. Role of IT in enabling work opportunities which improve gender equality e.g. working from home

Modules:
UFCF6X-30-2 eBusiness
UFCFP6-30-3 The Information Practitioner 3
UMSD7T-15-3 Strategic Management
UMOD6F-15-3 Organisational Leadership
And 7 other modules

6 CLEAN WATER AND SANITATION

Role of IT in Integrated Water Resource Management. IT systems for running Water companies.

Modules:
Induction Sustainable Technology team project
UFCF6X-30-2 eBusiness
UFCFP6-30-3 The Information Practitioner 3
and 6 other modules

7 AFFORDABLE AND CLEAN ENERGY

Carbon footprint arising from IT use of electricity (about 3% of global GHG emissions). Imperative to decarbonise IT. Smart Grids.

Modules:
Induction Sustainable Technology team project
UFCF6X-30-2 eBusiness
UFCFP6-30-3 The Information Practitioner 3
and 6 other modules

8 DECENT WORK AND ECONOMIC GROWTH

Impact of technology on work. Role of entrepreneurship in creating work and growth.

Modules:
UMSD87-15-3 Business Innovation and Growth
UFCFA5-15-3 Information Networks and Society
UFCFE6-15-3 Professional Experience
And 15 other modules

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Guru lectures on areas of IT driven innovation. Role of IT in disrupting old business models and creating new value. Importance of IT infrastructure in enabling innovation.

Modules:
UFCFP3-30-1 Business Applications
UMSD7T-15-3 Strategic Management
UFCF6X-30-2 eBusiness
And 13 other modules

10 REDUCED INEQUALITIES

Key issues raised by ICTs that give rise to ethical concerns. Impact of disruptive technologies on wealth distribution. Precarious work. Use of IT to widen equality of opportunity.

Modules:
UFCFP6-30-3 The Information Practitioner 3
UMSD7T-15-3 Strategic Management
UFCFB5-15-3 Ethical and Professional Issues In Computing and Digital Media
And 7 other modules

11 SUSTAINABLE CITIES AND COMMUNITIES

Smart City systems. IT in management of city traffic. Role of IT in supporting citizen engagement in urban planning.

Modules:
Induction Sustainable Technology team project
UFCF6X-30-2 eBusiness
UMODDP-15-1 Understanding Organisations and people
and 8 other modules

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Role of IT in supply chain. Guru lectures on areas of IT driven innovation. Food waste reduction. IT in business sustainability reporting.

Modules:
Induction Sustainable Technology team project
UFCF6X-30-2 eBusiness
UFCFP3-30-1 Business Applications
UFCFP6-30-3 The Information Practitioner 3
and 9 other modules

13 CLIMATE ACTION

Key role of IT in carbon reduction (required for 20% of GHG reductions by 2030). Reducing the carbon footprint arising from IT use of electricity (about 3% of global GHG emissions).

Modules:
Induction Sustainable Technology team project
UFCF6X-30-2 eBusiness
UFCFP6-30-3 The Information Practitioner 3
and 7 other modules

14 LIFE BELOW WATER

Responsible management of eWaste to reduce water pollution. Use of remote sensing for fisheries management / protection.

Modules:
Induction Sustainable Technology team project
UFCF6X-30-2 eBusiness
UFCFP6-30-3 The Information Practitioner 3
and 6 other modules

15 LIFE ON LAND

IT in sharing benefits of genetic resources. Remote sensing for conservation.

Modules:
Induction Sustainable Technology team project
UFCF6X-30-2 eBusiness
UFCFP6-30-3 The Information Practitioner 3
and 6 other modules

16 PEACE AND JUSTICE STRONG INSTITUTIONS

Social consequences of technological innovation. Issues of surveillance and cybercrime. Socio-technical hybrid nature of information practice.

Modules:
UFCFA5-15-3 Information Networks and Society
UFCFB5-15-3 Ethical and Professional Issues in Computing and Digital Media
UMODDP-15-1 Understanding Organisations and people
And 12 other modules

17 PARTNERSHIPS FOR THE GOALS

Ability to adapt to different academic and cultural settings. Technology sharing and cooperation. Role of the Technology Bank.

Modules:
UFCFWJ-15-3 International Experience
UFCF6X-30-2 eBusiness
UFCFP6-30-3 The Information Practitioner 3
and 9 other modules

SDGs and UWE programmes

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Midwifery at UWE and the Sustainable Development Goals

- What UWE teaches
  - *The issues to be tackled*

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*

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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*

Challenges

1. Responding to student demand and expectation.
2. Agility and speed of response.
3. Business as usual response.
4. Focus on skills and employment opportunities from the old economy.
5. Recognising the scale and complexity of the new reality - can leadership teams grasp the scale of the issues they confront?

The Climate and Ecological Emergency

Responding to the urgency of the challenge.

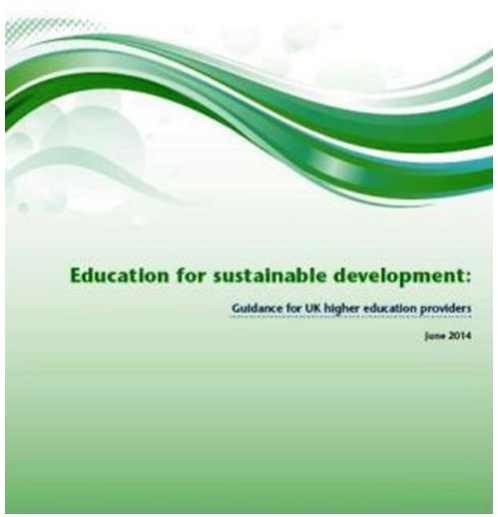
Demands new thinking by HEIs.

Requires more than a simple declaration.

It is green wash if a declaration is not immediately followed by a root and branch review of institutional culture, policies, processes, and incentives.

In turn, followed by strategy, plans and policy directed towards solutions not continuation of business as usual.

Part 5
The 2014 ESD Guidance



The ESD Guidance

The Guidance was prepared by representatives of the UK higher education community with expertise in education and sustainable development. Importantly it included student representatives.

It was facilitated via a collaboration between the Quality Assurance Agency for Higher Education (QAA) and the Higher Education Academy (HEA).

The guidance was released in June 2014.

The initial idea emerged from the work of the former Higher Education Academy's Education for Sustainable Development Advisory Group in 2012.

The Guidance

- Higher Education Academy and Quality Assurance Agency (2014) Education for Sustainable Development: Guidance for UK higher education providers, QAA, Gloucester.

- Available at:
- https://www.qaa.ac.uk/docs/qaa/quality-code/education-sustainable-development-guidance-june-14.pdf?sfvrsn=1c46f981_8

- The Guidance is now over 6 years old and in need of review and updating.

- Fortunately, both QAA and Advance HE have agreed to do this in 2020.

The QAA- HEA Guidance defines ESD as

- *"Education for sustainable development means enabling students to develop the knowledge and understanding, skills and attributes needed to work and live in a way that safeguards environmental, social and economic wellbeing, both in the present and for future generations."*

Guidance Purpose

- It is not about dictating practice, setting curricula or forcing change.
- It is about responding to contemporary influences and supporting providers in preparing graduates for the 21st century.
- It should operate across disciplines; represent a consensus view; enable rather than constrain innovation.

The Guidance - outcomes-based framework

- The guidance provides an outcomes-based framework, and general guidance on approaches to teaching, learning and assessment.
- The guidance is intended to be relevant to educators in all disciplines wishing to embed or include learning about sustainable development across their curricula.
- It includes signposts to additional information and resources.
- The Guidance is intended to serve an enhancement function.

Guidance Themes

The Guidance encourages students to:

- consider what the concept of **global citizenship** means in the context of their own discipline and in their future professional and personal lives
- consider what the concept of **environmental stewardship** means in the context of their own discipline and in their future professional and personal lives
- think about issues of **social justice, ethics and wellbeing**, and how these relate to ecological and economic factors
- develop a **future-facing outlook**; learning to think about the **consequences of actions**, and how systems and societies can be adapted to ensure **sustainable futures**.

Intended Outcomes

- The Guidance sets out the expectations that a graduate with ESD skills, knowledge, capabilities and competencies will be able to demonstrate.
- HE should provide the opportunity for all students to experience formal and informal learning which together allows a student, a future graduate, to demonstrate the achievement of graduate outcomes relevant to ESD.
- The outcomes should not be used as a rigid checklist, but rather as a helpful guide to assist in module or programme design or enhancement.

The Guidance – don’t forget extra curricular activities

- While the guidance is focused on curricular activities, it recognises that students may also learn through extra curricular activities, both on and off campus, such as volunteering or participation in community-based projects.
- ESD encourages students to develop critical thinking and to take a wide-ranging, systemic and self-reflective approach, adapting to novel situations that can arise from complexity.
- An ability to anticipate and prepare for predictable outcomes and be ready to adapt to unexpected ones is an important goal.

Part 6
Issues and challenges for the 2020 Guidance Review

Review of the 2014 guidance

On behalf of Advance HE and the QAA a review team will commence work next month to review and update the guidance.

This task will be completed by June 2020.

I welcome your views on this review.

Dr Gough and I will be available during the breaks to hear your views on structure, approach and content of the revised Guidance.

The Review

Should it be framed around Graduate Outcomes?

How much attention should be given to teaching and learning approaches or to extra curricula opportunities?

How, if at all, should the Guidance address questions relating to the climate and ecological emergency?

How should the Guidance deal with the Sustainable Development Goals?

Should the Guidance continue to focus attention on

- Systemic thinking and analysis
- Participatory and Collaborative learning
- Development of a future facing outlook
- Critical reflection

The Review

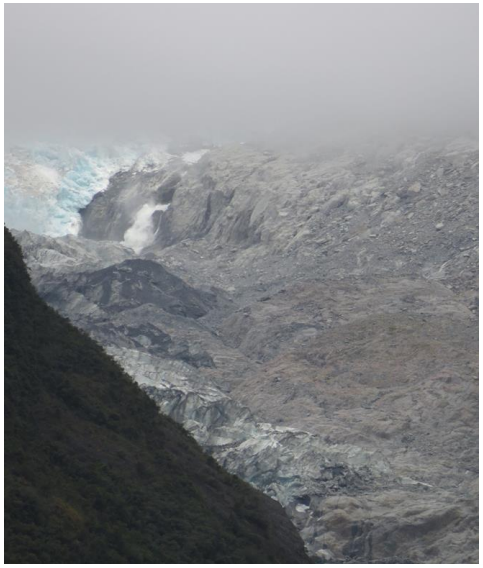
How, if at all, should the Guidance relate to

- The revised UK Quality Code for Higher Education (2018) https://www.qaa.ac.uk/quality-code
- Advice and Guidance for the Code https://www.qaa.ac.uk/quality-code/advice-and-guidance
- Annex D: outcome classification descriptions for FHEQ L6 and FQHEIS L10 degrees (2019): https://www.qaa.ac.uk/quality-code/qualifications-and-credit-frameworks
- Subject Benchmark Statements which describe the nature of study and the academic standards expected of graduates in specific subject areas. https://www.qaa.ac.uk/quality-code/subject-benchmark-statements

The UN Sustainable Development Goals

UN. (2015). Sustainable Development Goals. United Nations, New York. https://sustainabledevelopment.un.org/?menu=1300

Part 7
What is the sector already doing and what more is needed?



What Can the Sector Do?

- Mobilise energy, enthusiasm, financial resources and intellectual capabilities to help society align with the SDGs.
- Listen to the student voice
- Redirect research strategies to support SDG attainment.
- Teach all students how to tread lightly on the planet.
- Engage with civil society to build capacity and capability to minimise impacts and help adaptation to a changing climate
- Manage our estates sustainability, use financial resources for good and provide exemplars for how society can transition to a lower carbon, more equitable future.
- Build a sector wide alliance for change.

SDG Accord

https://www.sdgaccord.org/

- *"This Accord calls upon we, the world's universities and colleges to embed the Sustainable Development Goals into our education, research, leadership, operations, administration and engagement activities."*

Climate Emergency Letter

https://www.sdgaccord.org/climateletter

An initiative of

- Higher Education Sustainability Initiative (HESI)
- Global Alliance
- EAUC - The Alliance for Sustainability Leadership in Education
- Second Nature
- Letter presented to the UN

  and CoP 25

Climate Emergency Letter

Calls upon signatories to commit to a three-point plan :

1. Mobilizing more resources for action-oriented climate change research and skills creation;
2. Committing to going carbon neutral by 2030 or 2050 at the very latest;
3. Increasing the delivery of environmental and sustainability education across curriculum, campus and community outreach programmes.

We call on governments and other education institutions to join us in declaring a Climate Emergency and back this up with actions that will help create a better future for both people and our planet.

The Climate Commission

The Association of Colleges, EAUC, GuildHE and Universities UK have partnered to establish a Climate Commission for UK Higher and Further Education.

https://www.eauc.org.uk/climate_commission

ASSOCIATION OF COLLEGES

Distinction and Diversity in Higher Education

GuildHE

Universities UK

eauc

The Alliance for Sustainability Leadership in Education

Climate Commission Target Statement

1. Further and higher educational institutions should aim for net-zero Greenhouse Gas (GHG) emissions for Scope 1 and 2 by 2030, as per IPCC recommendations, as a minimum.

2. There should be significant sector action towards reducing Scope 3 emissions within this timeframe. A first step should be to understand sector Scope 3 emissions and develop a framework that can be used as a basis for understanding the current baseline and establishing a meaningful target that is in line with the ambition set out above.

3. Scope 3 net-zero GHG emissions should be achieved no later than 2050.

Climate Commission Priorities

The Climate Commission has identified five areas that the sector needs focused support on to ensure there is a clear and feasible pathway to reach targets

1. **Mobilising the Further and Higher Education voice** for influence and impact
2. **Research and innovation**– the funding and scope of research and innovation and maximising its impact
3. **Scope 3 emissions** – profiling work underway, developing sector understanding of Scope 3 emissions, and supporting the sector to make significant progress in addressing these
4. **Deep adaptation** – including governance, risk, mitigation and adaptation for the future of our campuses and operations
5. **Education and the student experience** – curriculum development and the climate emergency

Climate Commission Evidence Gathering Events

1. Friday 6th March 1300-1430: Priority 1 - Mobilising the Further and Higher Education voice for influence and impact
2. Tuesday 24th March 1300-1430: Priority 2 – Research and Innovation
3. Wednesday 29th April 1300-1430: Priority 3 – Scope 3
4. Tuesday 19th May 1000-1130: Priority 4 – Deep Adaptation
5. Tuesday 2nd June 1500-1630: Priority 5 – Education and Student Experience

Book at https://www.eauc.org.uk/climate_commission

Part 8
Some concluding thoughts.

The Challenge for HE

- Responding to the Climate and Ecological Emergency
- A key role for HE
- Demonstrating leadership and mobilising our capabilities and capacity to support change in

the curricula,

in research

in estate management

in civic engagement

To Conclude.
The 5 Propositions (with a few tweaks)

- STEM graduates must develop the knowledge, skills, values and behaviours that will enable then to contribute to a more sustainable future.
- Curricula must foster students' understanding of how their discipline intersects with the Sustainable Development Goals (SDGs). The SDGs should be seen as an interrelated group and not cherry picked.
- STEM graduates must develop cross-cultural competency and understand how human rights, gender equality and global citizenship impact on the global workplace. These are critical parts of the SDGs and need to be integrated into a STEM education.

To Conclude.
The 5 Propositions (with major tweaks)

- The changing world will require STEM (and all) graduates to adopt resilient and flexible approaches across their life course.
- In order to thrive in a changing world students should have the opportunity to develop and evaluate their personal leadership styles in a range of settings.

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