UNIVERSITY ENVIRONMENT AND SUSTAINABILITY STEERING GROUP

**Thursday 3rd November 2016 at 2.00 pm
in CM2.02 Claus Moser Building**

AGENDA

1.   **APOLOGIES AND ABSENCES**

2.   **Terms of Reference**

3.   **Chair's report**

4.   **Keele University Smart Energy Network Demonstrator (SEND)**
     To receive an update on SEND

5.   **The Environmental Manager's Update**
     Report attached

6.   **Energy & Carbon Management Update**
     Report attached

7.   **Energy Management Strategy**

8.   **Behaviour Change Strategy**

9.   **Sustainable Design Guide**

10. **New Accommodation Developments**

11. **Carbon Reporting – Scope 3 Addendum**

12. **People and Planet Universities League (formerly Green League) 2016**
     Summary Table attached

13. **Sustainable Food Policy**
     Action Plan attached

14. **Education for Sustainability Developments**
     To receive an update from the Director of Education for Sustainability

15. **Sustainability Research and Business Engagement report**
     To receive an update on sustainability-related research, including HyDeploy, KUSRN and
     links to Institute of Liberal Arts and Sciences, and business engagement activity

16. **Rebranding and Logo**

17. **Sustainability Staffing**

18. **International Activities**
To receive an update on recent sustainability-related international activities

19. **Any Other Business**

20. **Dates of Next Meeting**

    Wed 11 Jan - 11.00 - 13.00 - CM2.22
    Wed 5 Apr - 10.00 - 12.00 - CM2.22
    Thursday 22 June - 11.00 – CM2.22

University Environment and Sustainability Steering Group (ESSG)

Actions List
Monday 20th June 2016

Attendance:

Professor Mark Ormerod (MO) Deputy Vice Chancellor and Provost (Chair)
Phil Butters (PB) Director of Estates and Development
Jane Barker (JB) Head of Grounds
Huw Evans (HE) Environmental Manager, Estates and Development
Elliot Jones (EJ) Energy Manager, Estates and Development
Dr Zoe Robinson (ZR) Director of Education for Sustainability, School of Physical and Geographical Sciences
Howard Bell (HB) Executive Support Officer, Vice Chancellor's Office (Secretary)

Apologies:

Cathy Partington Deputy Director of E&D (Strategy & Capital Projects)
Dr Sharon George Sustainability Hub Manager

Item	Actions	Responsibility
External Recognition: Green Gown Awards 2016	To seek support of Marketing and Communications for making submissions to the Green Gown Awards.	**HE**
People and Planet University Green League	To find out how the University can take part in the People and Planet University Green League.	**HE**
Higher Education Carbon Management Plan (HECMP)	Members of the Group to provide EJ with comments on the HECMP.	**EJ**
Higher Education Carbon Management Plan (HECMP)	To amend the HECMP in line with comments from members of the group. A copy of the draft should be sent to Dr Ian Madley for comment. Final amended draft to be submitted to UEC 19th July 2016.	**EJ**
International Activities	Invite Prof Richard Luther to the next meeting of the ESSG to talk about international partnerships.	**MO**
International Activities	To look at the possibility of potential partnership with African countries re Sustainability. Talk with Michael Musgrave regarding his research experience in South Africa.	**ZR**
Environmental Manager Report - Sustainable Procurement.	To discuss with Linda Sutton the issue of applying possible sanctions for those suppliers who fail to engage with the Sustainability Supplier engagement tool.	**HE**
Environmental Manager Report - Soil association Food For Life catering mark	To work with Marketing and Communications in communicating the success being made in relation to sustainable student catering and its positive impact on the student experience.	**HE**
Environmental Manager Report- Sustainability policy framework	To review the Sustainability Policy framework and submit an updated framework to UEC.	**MO and HE**

Item	Actions	Responsibility
Environmental Manager Report - Annual Sustainability Report	To circulate to members for review the information gathered to date for inclusion in the annual report.	**ZR**
Environmental Manager Report - Annual Sustainability Report	The Action Plan arising from the Carbon Management Plan to be a standard item on future ESSG Agendas.	**MO**

Environment and Sustainability Steering Group (ESSG)

Terms of Reference

Draft

Members

- Chair – Deputy Vice-Chancellor
- Director of Estates
- Environmental Manager
- Energy Manager
- Head of Grounds
- Director of Education for sustainability
- Procurement Manager
- Head of Catering and Retail
- Deputy Director of Information Technology
- Students' Union Representative

Terms of reference

1) Provide co-ordination of the Sustainability agenda across the University.
2) To develop and implement the sustainability strategy 2015-2020.
3) Produce, monitor and review objectives and targets set out in the Carbon Management Plan and the Environmental & Energy Policy.
4) Publicise the University's performance against the University's Carbon Management Plan and Environmental Policy and other relevant benchmarks.
5) Provide an annual report to the Executive Committee on progress made.
6) To support and continually review policies and plans which will enable the Policy/strategy to be met within key development areas:

   - Learning, Teaching and Research
   - Leadership & Governance
   - Estates and Operations
   - Partnership & Engagement

7) Establish, disestablish and oversee membership of any necessary sub-group e.g. a Biodiversity Sub-Group.
8) To review progress in the 'Green League' and propose actions associated with it and other matrices.

Reporting

The Group will report, via the Chair, to the University's Executive Committee, and budget resources group as appropriate. The Minutes of the meetings will be circulated to the Senior Policy and Strategy Manager.

The Group will produce an Annual Report to be submitted to Executive Committee.

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Meetings

The Group will meet four times a year.

Standard Agenda items:

- **Chair's report**

- **Key Projects**

- **Learning, Teaching and Research**
    - Education for Sustainable Development Report

- **Leadership & Governance**

- **Estates and Operations**
- Environmental Management Report
- Energy and carbon Management

- **Partnership & Engagement**
    - Green Gown Awards
    - People and Planet's Universities League (Green League) / AUDE Green metric
    - International Activities
    - Sustainability HUB

ESSG

Environmental Manager's update

November 2016

Contents

Estates and Operations

1. Behaviour Change Strategy
2. Green Impact
3. Sustainable Design Guide
4. Carbon Reporting – Scope 3
5. Travel & Transport
   - Electric Vehicles and Charging points
6. Sustainable Catering
   - Food for Life catering Mark
   - Sustainable food policy

Partnership & Engagement

7. Green Gown Awards
8. People & Planet Universities League (Formerly Green League)

Estates and Operations

1. Behaviour Change Strategy

The P+P Universities League criteria require a written strategy for staff and student engagement. A draft strategy has been developed for the Green league assessment but requires further development and will be presented at the next ESSG meeting.

The strategy and supporting action plan aims to focus staff and students engagement activity that supports the University's environmental policy. An annual implementation action plan will be created to coordinate activity such as Green Week, Student Switch off, Green Impact, waste recycling initiatives, energy awareness campaigns etc. Many of the initiatives are already well established but not recorded within a plan.

2. Green Impact

The following teams have completed this year's Green Impact scheme;

- Institute of Liberal Arts and Sciences (ILAS)
- Learning and Professional Development Centre (LPDC)
- Sustainability HUB
- Learning Language Unit (LLU)
- Vice Chancellor's office
- Laboratories workbook:
- Lennard Jones
- Excellence project
- University Library

Audits of the Green Impact workbooks are being coordinated in late October/early November and the awards ceremony will take place on the 22nd of November 2016. The awards ceremony will also include other non-Green Impact initiatives such as the conferencing teams Green Tourism award and Catering Services Food for Life standard.

3. Sustainable Design Guide

Keele University has used BREEAM as the standard guide to achieve its sustainability goal for new builds and major refurbishments. BREEAM credits provide a universal measurement of the efficiency and environmental impacts of a development.

Although BREEAM has proved successful as an indicator of how environmentally friendly a new development is, there are number of sections in the BREEAM assessment that present much smaller benefits, especially considering the context of the entire campus.

A bespoke sustainable design guide would allow Keele to keep the benefits of the relevant BREEAM standard criteria whilst reducing the burden of 'point scoring' and providing more focus on achieving real sustainability benefits, allowing new developments to consider the entire Keele campus within their plans.

The sustainable design guide will set criteria for future developments to adhere to, ensuring the university's commitment to its environmental sustainability ethos. The guide will detail how new and refurbishment developments must demonstrate the following standard methods for;

- Energy and carbon emissions,
- energy management,
- materials and waste,
- commissioning and handover,
- water consumption and management,
- pollution,
- health, and
- ecology

A draft sustainable design guide will be presented at ESSG meeting.

4. **Carbon Reporting- Scope 3**

We measure the University's carbon emissions every year to help us monitor our impact on the environment. This is separated into three different categories, or 'scopes' (defined by the Greenhouse Gas Protocol);

Scope 1: These are emissions that arise directly from sources that are owned or controlled by the University, for example from fuels used in our boilers or the vehicles that departments and Estate Management own;

Scope 2: These are the emissions generated by purchased electricity consumed by the University;

Scope 3: These emissions are consequences of the activities of an organisation but occur from sources not owned or controlled by the organisation. This includes emissions associated with waste, water, business travel, commuting and procurement.

Work is underway to produce a scope 3 carbon report which will be an addendum to the University Carbon management plan. The scope 3 categories below will set a carbon emissions baseline and reduction target where possible and set out the strategy on how the University will reduce the emissions in each area;

- Waste
- Water
- Business Travel
- Employee/student commuting
- Purchased Goods and Services
- Electricity Transmission & Distribution Losses
- Domestic Housing and Commercial
- Fugitive emissions

5. Travel and transport

Electric Vehicles and Charging points

Estates Operations are replacing two vehicles with the 100% electric E-NV200 Vans. Charging points have been installed at the Estates yard for Estates use only.

The 'Pod Point' electric charging points have consumed 1,830kWh over the last 12 months, saving 1 Tonne of CO_2 when compared to the average conventional vehicle emissions.

6. Sustainable Catering

Food for Life Catering Mark

University Catering have been working with the Soil association to implement changes to their processes and procedures in order to improve sustainability of the food served on campus.

The Food for life Bronze standard has been achieved for both the Chancellor's refractory and the Day Nursery.

https://www.soilassociation.org/certification/the-food-for-life-catering-mark/

Sustainable Food Policy

The Sustainable Food Policy has been updated and is being presented to ESSG for approval.

The supporting action plan is currently under development and will be presented to ESSG at the next meeting.

Partnership + Engagement

7. Green Gown Awards

Keele University have four entries in finals of the prestigious the Green Gown Awards. These are in the following categories;

- Learning and Skills
- Carbon Reduction
- Sustainability Champion, staff (David Emley)
- Sustainability Champion, student (Ulrich Pohanka)

The 'Carbon Reduction' entry is centred on the University's annual carbon reduction program that has been funded through the Salix revolving green fund. Over the last 6 years more than £1million has been spent on energy saving projects saving around 2,500 Tonnes of CO_2.

8.   **People and Planet Universities League (formerly Green League)**

This year's table is based on information made public on Universities webpages as well as information collected by the Higher Education statistics Agency (HESA), with an additional audit on some questions.

People and Planet have undertaken an assessment of Universities and sent each individual institution their provisional score in the policy section. We've appealed on two sections which we expect to be successful. Improving the scoring is challenging as People and Planet change the criteria each year. However, a slight improvement is expected on the policy criteria and a significant improvement expected in the performance section due to good performance on carbon/energy and the introduction of the CHP unit at Horwood energy centre.

Keele University were positioned at 48th in the 2015 league table. The overall score expected for the 2016 league table would have positioned Keele within the top 30 in the previous year, however it is difficult to predict as it depends how other Universities have performed.

An assessment of the scoring for Keel is provided within the appendices.

Further details on the People and Planet Universities League 2016 methodology can be found on their website:

https://peopleandplanet.org/university-league/methodology-2016

# Environment and Sustainability Steering Group (ESSG)

Energy & Carbon Management Update Report

November 2016

1. 2015/16 Energy & Carbon Performance

Carbon Management Plan

The total carbon emissions for 2015/16 as calculated using the HEFCE methodology were 10,704tCO2e. The trend against the 1990 baseline is shown in the graph below including a trace of a linear route to the 2020 target (34% against 1990). The current performance against the 1990 baseline is showing a 17.1% decrease.
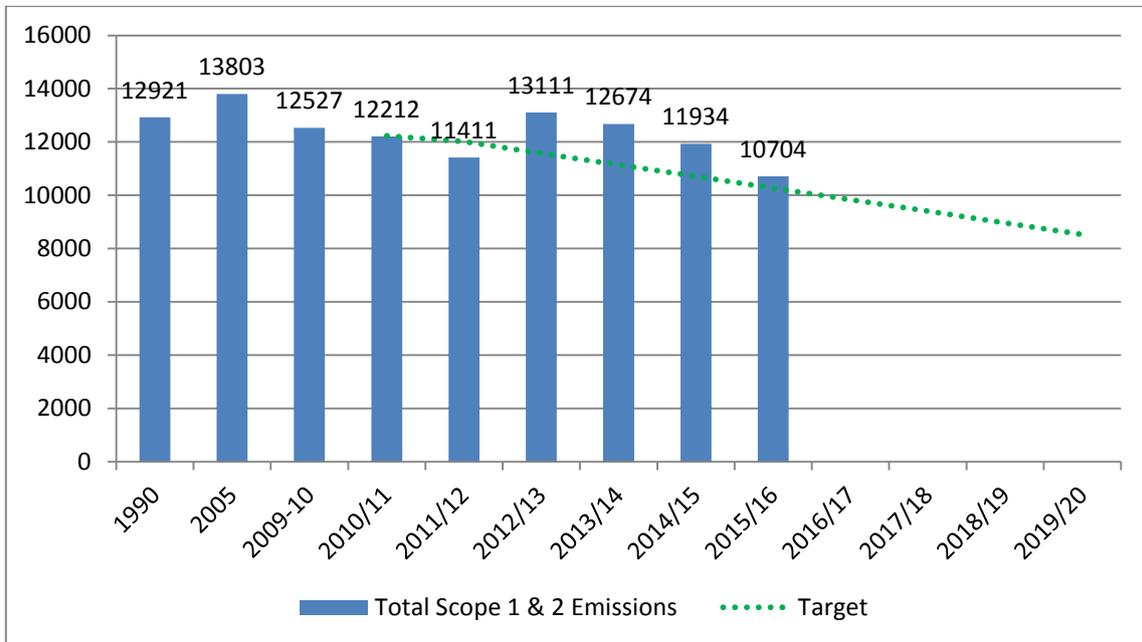
Energy

The 2015/16 consumption figures for the main campus including Innovation Centres and the Science Park (excluding staff housing) are shown below in comparison to the forecast.

	Forecast	Actual	Variance
Gas	31,031,056[1]	30,568,491	-1.51%
Electricity	12,195,794	11,222,203	-7.98%

Gas – The forecast, based primarily on the four year average has been adjusted to account for the weather variation and shows an annual reduction of 1.51%.

[1] Weather corrected to allow for better year on year comparison

The reduction is despite an increase in gas consumption from the Horwood CHP which experienced its first full year of operation this year. The CHP consumed more than 8% of the site gas in 15/16, creating both electricity and hot water for heating systems. As the CHP is a more efficient form of power generation as it allows the recovery of waste heat, it avoided the emission of approximately 200tCO$_2$ in 2015/16.

The overall gas performance against the forecast is the result of controlling a range of delivered energy saving initiatives including valve/duct insulation, boiler replacements, control improvements and minor changes to the building stock.

Electricity – Consumption was down by almost 8% last year although this is largely the result of an increase to on-site generation from the Combined Heat & Power unit at the Horwood Energy Centre. This has delivered 774,391kWh – accounting for the vast majority (80%) of the total reduction.

2. Carbon Reduction Commitment – Reporting Year 2015/16

The annual report for the CRC was submitted to the Environment Agency on the 6th July 2016. This utilises a different metric to the Carbon Management Plan and results in a higher figure, primarily due to how it deals with the commercial units as well as the CHP and solar panel electricity generation. The total emissions reported were 12,284tCO$_2$ down against the previous year by 8%. This is due to an extensive review of reporting procedures which resulted in the exclusion of domestic properties, revisions to carbon factors and is despite a modest increase from a reassessment of how the commercial tenants are accounted for.
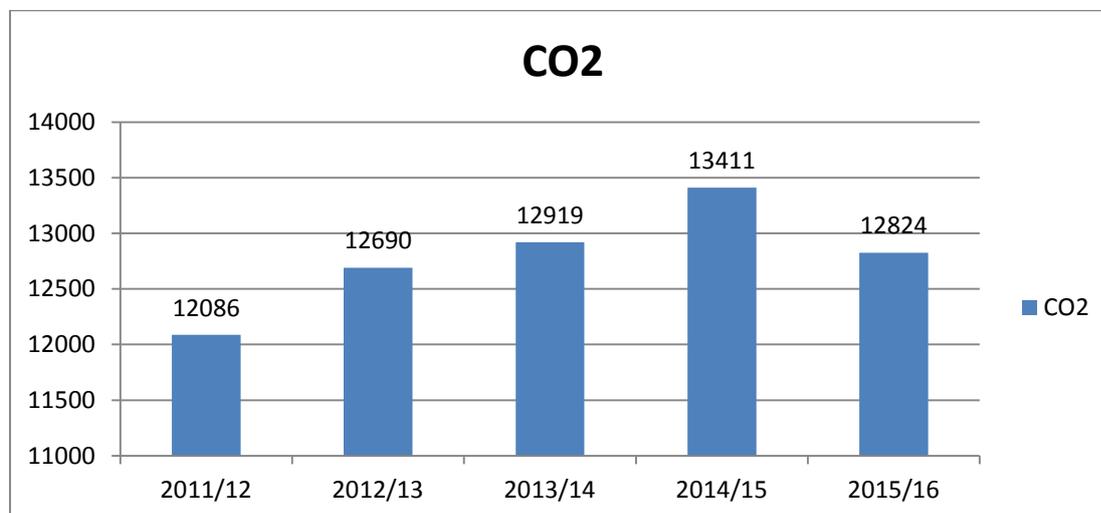
3. ISO 50001 Energy Management System

A two day external audit of the energy management processes took place in August to determine the suitability to make recommendations for improvement where appropriate. The audit resulted in the University being approved for recertification against the 15001 Energy Management System. The certification will now last until 2019, although there will be bi-annual interim audits during this period.

One major recommendation which was identified is that a specific energy reduction/efficiency target is required, rather than a carbon based target as is currently in place. This supports the development and implementation of the Energy Management Strategy which is currently in draft form.

4. Energy Management Projects

Several energy conservation measures have been implemented over the last year including:

- Lighting in Sports Centre – 42tCO_2 and 80,500kWh p/a
- David Weatherall lighting – 23tCO_2 and 30,500kWh p/a
- Valve/pipe lagging projects in various buildings – 48tCO_2 and 250,000kWh p/a
- Water saving project at Lennard Jones – 24tCO_2 and 22,852m^3 p/a

A number of projects have been identified and resourced for the current academic year including:

- Installation of efficient water distillation equipment at Lennard Jones – 5.5 tCO_2 and 12,470 kWh p/a
- LED lighting at the Library PC suite – 33.75 tCO_2 and 68,847 kWh p/a
- LED lighting in presentation areas of Chancellors A – 14.37 tCO_2 and 29,324 kWh p/a
- LED lighting in communal areas of Chancellors B – 6.42 tCO_2 and 13,094 kWh p/a

An extensive list of potential projects is being compiled to ensure that all opportunities are documented and that as resource becomes available the most advantageous projects are taken forward.

In the coming weeks we will be refreshing the Energy & Environment website and will be uploading case studies for projects completed.

5. Procurement

The procurement of the new gas, electricity and water contracts is underway to be implemented in time for April 2017. A tender for a Third Party Intermediary (TPI) is currently out and subsequent to approval will be followed closely by the actual supply contracts.

Once returns have been obtained there will need to be a decision made on the requirements of the University to purchase 100% green electricity and/or gas. The impact on price is not yet determined however changes to the National Government policy on green tariffs mean that it will no longer be cost neutral.

People and Planet's Universities League 2016

	Criteria	Section weighting (last year's weighting)	Expected score If no action had been taken against criteria	Action taken	Expected score	Action to consider for next year	Provisional Score (including successful appeals)	Comments
Policy Section	1.Environmental Policy	4% (4.5%)	2%	Environment and Energy Policy approved at UEC	4%	n/a	4%* (2% appealed)	Full score expected
	2.Human Resources	8.5% (8.5%)	5%	Update DVC role description on University webpages to include strategic lead for sustainability	6.375%	n/a	8.5%	Full score achieved
	3.Environmental Audits & EMS	10% (10%)	5%		5%	Consider progressing to next phase of environmental management system (EMS)	6%	4% not achieved- however full ISO 14001 system would be required
	4.Ethical Investment	7% (4%)	0.7%	Information added to webpage	2.1%		1.4%	5.6% not acheived

	5.Carbon Management	7% (8%)	2.45%		2.45%	Scope 3 emissions to be included into Carbon Management Plan	4.9%	Scope 3 plan to be produced which would achieve full score
	6.Workers Rights	5% (4%)	0.75%	No further action deemed appropriate	0.75%		0.75%	4.25% not acheived
	7.Sustainable Food	4.5% (4.5%)	1.125%		2.475%		1.8%	Additional score will be achieved when soil association certification is issued
	8.Staff & Student Engagement	5% (4%)	1%	Developed a Student and staff sustainability strategy	4.5%		4.5%* (2% appealed)	Staff and student engagement strategy to be developed
	9.Education	10% (9%)	10%		10%		10%	Full score
	Total	**61%**	**28.025%**		**36.25%**		**41.85%* (4% appealed)**	

				Based on last year's score		Estimated score*	Comments
Performance section (all based on Estates Management Record data)	10.Energy Sources	8%	N/a	N/a	2.8%		8%	Horwood energy centre- CHP worth 45% of section score
	11.Waste and Recycling	8%	N/a	N/a	4%		4%	
	12.Carbon Reduction	15%	N/a	N/a	3.75%		7.5%	
	13.Water Reduction	8%	N/a	N/a	1%		1%	
	Total	39%	N/a	N/a	11.55%		20.5%	
							Estimated score	
	Total Score	**100%**			**47.8%**		**62.35%**	

2015 total score 50.4%

Sustainable Food Policy

Keele University commits to providing healthy sustainable food that:

- Contributes to our local economy and sustainable livelihoods
- Enhances animal welfare
- Minimises damage to the planet
- Provides measurable social benefits

We will implement the following:

SOURCING	ENVIRONMENT	COMMUNITY
We will prioritise ethical and responsible sourcing.	**We will actively manage the resources that our business consumes, from cradle to grave.**	**We will respond to the diverse food requirements of our community, and promote the benefits of healthy eating and well-being.**

SOURCING

- Engage with local initiatives to develop a 'whole systems' approach to food sustainability across Staffordshire.

- Purchase high-welfare meat and dairy to help combat animal cruelty, protect the environment, and promote healthier options to customers.

- Promote meat free meals to maintain a healthy diet.

- Source sustainable seafood to help reduce the negative impacts on fish stocks, protect our marine environment, and give customers better seafood choices.

- Prioritise the sourcing of fairly-traded food, drink and other products for our operations.

ENVIRONMENT

- Engage with our supply chain to affect positive economic, environmental and social change.

- Reduce our environmental impact by improving our energy efficiency year-on-year.

- Use water responsibly by raising awareness of our staff and monitoring our water consumption.

- Manage our waste effectively, prioritising the waste hierarchy.

COMMUNITY

- Ensure our menus are well-balanced, offering a diverse range of food options to promote a nutritious and healthy diet.

- Engage with the community to influence a positive culture change towards healthy eating (eg by providing cooking demonstrations) using healthy recipes and sustainable food options.

- Respond positively to customer feedback, and be open to introducing new ideas.

- Implement a comprehensive and externally verified framework for continual improvement in sustainable food and catering.

Keele University Sustainable Food Action Plan

Aim 1- Sourcing: We will prioritise ethical and responsible sourcing					
Objective	**Action/s**	**Responsibility**	**Target Achievement date**	**Update (date)**	**KPI**
A) Engage with Local initiatives to develop a 'whole systems' approach to food sustainability across Staffordshire.	Be an active member of the Staffordshire Food Partnership	Susan Warrender, Head of Catering	August 2016	Susan Warrender is a member of the group. Huw Evans, Environmental Manager attending meeting 4th October.	To attend at least one event per calendar year
B) Purchase high welfare meat and dairy to help combat animal cruelty, protect the environment, and promote healthier options to customers.	To look at the additional annual cost to the catering budget of purchasing Red Tractor meat across all of catering	Peter Walters, Executive Chef	December 2016		
	To determine the current percentage of meat that is being	Peter Walters, Executive Chef	December 2016		

	purchased as Red Tractor meat based on current purchases of meat across all units.				
C) Remind people how little meat they need to maintain a healthy diet.	To increase the number of non meat choices on the menu on a weekly basis.	Karen Barratt, Student Catering Manager. Dominic Faulke Head Chef.	January 2017		
	To actively promote the benefits of non meat choices each semester, working with Marketing.	Karen Barratt, Student Catering Manager. Peter Walters	January 2017		
D) Source sustainable seafood to help reduce the negative impacts on fish stocks, protect our marine environment, and give customers better seafood choices.	To continue purchasing 100% MSC fish for student catering.	Peter Walters, Executive Chef	At all times		
E) Prioritise the sourcing of fairly-traded food, drink and other products for our operations.	Maintain Fairtrade status	University Fairtrade Steering Group	Reaccreditation due April 2016		
	To update the	University	In February each		

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Keele University Sustainable Food Action Plan

	Fairtrade Policy	Fairtrade Steering Group	year		
	To hold at least two Steering group meetings a year	University Fairtrade Steering Group	November and March each Year		
	To maintain and preferably increase the purchase of ethically sourced products.	Karen Barratt, Student Catering Manager. Peter Walters, Executive Chef.	Throughout the year.		

Aim 2- Environment: We will actively manage the resources that our business consumes, from cradle to grave.					
Objective	**Action/s**	**Responsibility**	**Target Achievement date**	**Update**	**KPI**
A) Engage with our supply chain to affect positive economic, environmental and social change.	Request all University catering suppliers complete a sustainability action plan (net positives engagement tool)	Linda Sutton, Procurement Manager	30th of November 2016	**NetPostiive Supplier Engagement Tool issued to 74 food suppliers via email 20/10/16. Contact details required for 29, email Susan 24/10 for assistance**	
B) Reduce our environmental impact by improving our energy efficiency year-on-year.					

Objective	Action/s	Responsibility	Target Achievement date	Update	KPI
C) Use water responsibly by raising awareness of our staff, and monitoring our water consumption.					
D) Manage our waste effectively, prioritising the waste hierarchy.	Provide clearer signage for the segregation of waste	Huw Evans, Environmental Manager			
	Adopt best practice principles from the TUCO waste report.				

Aim 3- Community: We will respond to the diverse food requirements of our community, and promote the benefits of healthy eating and well-being.

Objective	Action/s	Responsibility	Target Achievement date	Update	KPI
A) Ensure our menus are well-balanced, offering a diverse range of food options to promote a nutritious and healthy diet.	Review and update menus each semester to ensure appropriate balance and range of items	Karen Barratt, Student Catering Manager. Peter Walters, Executive Chef	August and January each year.		

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	are available.				
B) Engage with the community to influence a positive culture change towards healthy eating (eg by providing cooking demonstrations) using healthy recipes and sustainable food options.	Promote the healthy recipes cook book on the Food and Drink web page	Karen Barratt, Student Catering Manager. Peter Walters, Executive Chef	In September each year.		
	Ensure that the Nutritional advice on the Food and Drink web page has appropriate content and is reviewed on an annual basis	Susan Warrender, Head of Catering. Peter Walters, Executive Chef	August each year.		
C) Respond positively to customer feedback, and be open to introducing new ideas.	To review feedback on a quarterly basis and look for changes introduced.	Susan Warrender, Head of Catering	November, February, May and August each year		
	To promote changes in a "You said, we listened" type campaign.	Karen Barratt, Student Catering Manager. Peter Walters, Executive Chef	August and February each year.		
D) Implement a comprehensive and externally verified framework for continual improvement in sustainable	Gain accreditation to the Soil Association Food For	Susan Warrender, Head of Catering	September 2016	Assessment completed. Confirmation	

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food and catering.	Life Catering Standard			of Bronze Accreditation received.	

The Keele Sustainability Minor

Background

The University's Strategic aim of promoting environmental sustainability 'in all that we do' includes providing 'opportunities for all our students to learn about environmental sustainability', while our Education for Sustainability strategy aims to embed sustainability in all programmes. Although there are some pockets of excellent practice across the University, meaning many students are exposed to sustainability issues through their formal curriculum, as well as through the wide range of co-curriculum sustainability activities that there are, there is still more that is needed, in particular in relation to embedding sustainability in the formal curriculum, in order to meet our strategic goals, and to retain our reputation as a leader in Education for Sustainability in the UK HEI sector.

The time seems right to explore opportunities to 'mainstream' the sustainability curriculum offerings at Keele. The changes in the University's provision as proposed through the Portfolio and Curriculum Development project may provide opportunities, as could a mirroring of the Language Learning Units additional 'with Language competence' award on degree title. This paper explores a model to allow students to follow a stream of sustainability-focussed learning that will develop significant depth in understanding and competence in this area, while increasing the embedding of sustainability within disciplines and sustainability learning opportunities.

Five consecutive years of surveys of higher education students by the NUS and HEA have demonstrated consistently that over two-thirds of respondents believe that sustainable development should be incorporated into all university courses, while over 60% of domestic students and three quarters of international students would like to learn more about sustainable development (Drayson, 2015). Alongside the student-facing research, the NUS have also conducted research into employer's attitudes towards, and the skills needs for, sustainable development. One in five organisational leaders identified significant skills gaps in the ability of their organisation to participate in a sustainable economy; while two-thirds are supportive of an obligation to develop students' social and environmental skills during their time in higher education (Drayson, 2015). This demonstrates both student and employer demand for greater coverage of sustainability within University curriculum.

Proposal

Students complete 60 credits of sustainability-badged modules throughout their three years of studies. There are three different types of modules that could comprise this 60-credits: 1) modules within a discipline which have been audited as having sufficient sustainability-related component to be badged as 'sustainability-related'; 2) modules which are focussed on sustainability from a non-disciplinary perspective – 'sustainability-bespoke' modules (ie Greening Business: Sustainability and Employability); 3) a module which has been designed specifically for the sustainability minor as a 'capstone' module - 'sustainability capstone' module.

Below are outlined several different models by which a 'Sustainability Minor' could be achieved, based on a 60-credit assumption:

- 45 credits x sustainability-related; + 15 credits sustainability-capstone
- 30 credits x sustainability-related; + 15 credits sustainability-bespoke; + 15 credits sustainability-capstone
- 15 credits x sustainability-related; + 30 credits sustainability-bespoke; + 15 credits sustainability-capstone
- 45 credits x sustainability-bespoke; +15 credits sustainability-capstone

The 'sustainability capstone' module aims to be an interdisciplinary group research module which allows students to develop their understanding of sustainability from different perspectives, to develop skills in interdisciplinary

working, seen as a key sustainability 'competence', and to link their sustainability understanding directly to employability through engagement with employers.

Students completing the required credits will receive this recognition within their degree award through the addition of 'with Sustainability' on their degree title. This mirrors the route already approved for students who study 60 credits of a language at an appropriate level.

In the same way that the University offers the opportunity for students to study one language module a year for free alongside 120 credits of their discipline, this opportunity should be offered for students to take up to one additional sustainability module each year outside of their programme (sustainability-bespoke and sustainability-capstone modules).

The same option could easily be made available for PGT and PGR students if the Level 6 'sustainability capstone' module is available at Level 7 (as is already practiced in many parts of the University). PGT modules and PGR training could be audited and allocated a sustainability categorisation in the same way as undergraduate modules.

Questions:

Double counting. It may appear in some of the models above, that there is the potential for modules to be 'double-counted' where students do 'sustainability-related' modules as part of their core degree, and these modules also feed into the Sustainability minor. However, this is the case with the already approved model for Languages where students are awarded 'with language competence' as part of their degree title, even where the majority of these language modules may also have been taken as part of the 120 credits required for each year of undergraduate study.

Naming of award. We propose the term 'Sustainability minor' as this give significant weight to the qualification, and shows that it is an academic qualification rather than a co-curriculum award. Although there is the potential for confusion with the current use of Major/Minor routes at Keele we believe that this terminology is being phased out for the traditional Major/minor structure as part of the PCD project, leaving it open to be used for this sort of focussed route.

Number of credits. 60 approved credits are proposed for the awarding of the 'Sustainability Minor', this matches the number of credits required for the 'with Language competency'. This number of credits will allow sufficient depth of engagement with sustainability concepts, while being attainable for a large number of students.

Relevance to 'Sustainability degree' students. Students studying for BSc Environment & Sustainability and MSc Environmental Sustainability and Green Technology will not be able to complete the Sustainability minor. BSc students will already do the 'capstone' module as a core part of their BSc degree.

Relevance to Health students. It is understood that students on many health programmes do not complete credited modules in the same way. A way to adapt this model to health students will be explored with the Faculty of Medicine Health

Benefits of proposal

This proposal fits with the University's aims around both sustainability and interdisciplinarity, and has the potential to also integrate with the Institute of Liberal Arts and Sciences. Depending on which model is followed, in the beginning the Sustainability minor may not be available to all students where there are disciplines with no sustainability-related modules (although the opportunity for students to take sustainability modules outside of their 120 credits will address this in part). However, it is anticipated that over time, this will increase pressure on programmes to ensure that they develop sustainability-related modules within their disciplinary offerings.

Therefore this may serve the purpose of also enhancing the embedding of sustainability within the curriculum for all students, which is one of the targets of the Sustainability and Education for Sustainability Strategies, and part of the Keele Approach to Education.

Work required:

- Devise criteria for determining a 'sustainability-related' module; and carry out auditing of modules across programmes (building on auditing from 2014)
- Modules across the University need to be audited and registered through the records system as 'sustainability modules'
- The records system needs to be adapted to allow modules to be badged as 'sustainability' modules, and so that students who have acquired the required number of sustainability credits are flagged
- Marketing and Communication strategy
- A new free-standing interdisciplinary sustainability elective at Level 6/7 is necessary
- Staffing is required for the administration and teaching of the level 6/7 module (there is already a commitment to further Sustainability staffing, and this proposal may influence that recruitment process)
- A new free-standing sustainability elective at Level 5 would be advantageous, potentially working with KMS, to develop the current Level 4 Greening Business into a more business-perspective Level 5 module.