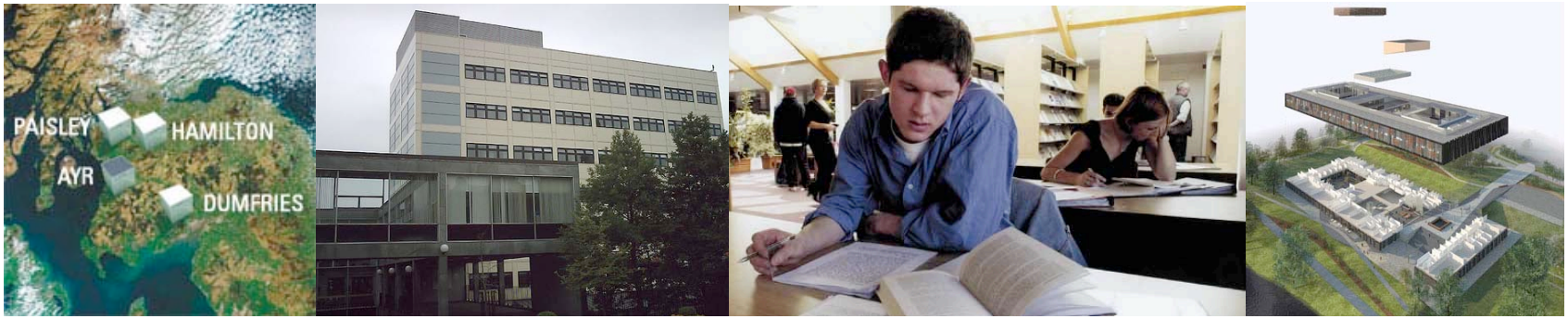
Change Management Action Plan
for sustainable educational environments



University of the West of Scotland
December 2010

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Introduction

Behaviour Change Management Pilot

Identifying how best to engage with staff and students to achieve the wide scale reductions in energy use and carbon emissions needed to protect and conserve our environment is a key challenge for educational institutions.

In recognition of this challenge the EAUC has developed a behaviour change management pilot project specifically designed to offer a package of support to signatories of the University and Colleges Climate Commitment for Scotland (UCCCfs) and benefit the sector as a whole. The pilot project is funded by the Scottish Funding Council and runs from September 2010 to February 2011.

The University of West Scotland is participating in the pilot, alongside Reid Kerr College.

About the University of West Scotland (UWS)

With approximately 20,000 students and 1,500 staff UWS is the largest modern university in Scotland.

It runs a wide range of courses in a variety of subjects across four main campuses - Paisley, Hamilton, Ayr and Dumfries.

Like many educational estates the campuses comprise a mix of old and more recently constructed buildings which presents significant challenges in terms of energy use and management.

WorkWareSUSTAIN

As part of this project AMA Alexi Marmot Associates deployed the WorkWare SUSTAIN toolkit at UWS, focusing primarily on the Paisley and Hamilton campuses.

Devised to inform behaviour change programmes to reduce energy and carbon, the objective of the toolkit is to gather evidence on attitudes and behaviors of students, staff, estates and energy managers across a range of key topics:space and energy use; environmental governance and policy; energy saving; travel; recycling and waste, catering and purchasing.

Thanks are due to Claire Roxburgh who co-ordinated input from UWS.

Methodology

The following WorkWare SUSTAIN tools were applied within the UCCCfS Behaviour Change Management Programme to assess the efficacy of the toolkit as a benchmarking system and as a robust performance improvement tool:

a) SUSTAIN questionnaire (web-based) issued to staff and students at all 4 campuses

- The survey was available over 3 weeks and was issued to all staff by email. The survey available to staff and students to complete via Blackboard.
- 267 responses were received from staff (c. 13%)
- 139 responses were received from students

b) Facilities management questionnaire

- Completed based on responses to interview questions

c) Interviews with key stakeholders in energy and carbon management

- 5 people were interviewed during a site visit

d) Collation and interpretation of available data on space and energy use

- Requested data included space and energy records, EMS statistics and the Carbon Trust Carbon Management Plan

Purpose of this report

To provide a summary of findings and a recommended change management action plan for the University of West Scotland which identifies:

a) The greatest opportunities for energy saving through behaviour change

b) The groups and behaviours most amenable to change

c) Recommended change management tools

d) Benchmarks against which future change can be evaluated.

Summary of key findings - infrastructure and attitudes

Space and Carbon emissions

- The educational estate is comprised of a wide range of building types which presents challenges in achieving efficiencies in space and energy use.
- The university is committed to achieving BREEAM excellent or very good rating for all new build projects and has identified a programme of retrofit projects to reduce building related energy and contribute towards a target 20% reduction in carbon emissions from organisational functions by 2014 (compared to a 2008/9 baseline).
- UWS maintains good records on space holdings and energy use and uses the EMS statistics to compare performance against sector benchmarks.

Environmental policy and governance

- UWS has defined a low carbon vision however only 40% of staff and students agree that sustainability is a core part of the universities vision.
- Awareness of the sustainability strategy amongst students is an issue - 60% of students report being unaware of it. Almost 70% of staff are aware of the policy which is good, however many do not know the full details.
- UWS has a well structured governance process in place including a carbon management board, campus working groups and environmental champions.
- 15% of students and 6% of staff who responded to the survey indicated that they would be willing to become environmental champions suggesting UWS has the potential to actively grow its environmental change network.
- Approximately 40% of staff do not feel that the environment is high priority at university or that enough is being done to cut carbon emissions.
- A similar number of staff and students report that the university does not provide plenty of support or sufficient learning opportunities to reduce environmental impact but planned comms activity by UWS should improve these findings.
- Staff and students share a strong belief that people should be personally responsible for acting in a more environmentally responsible way at university.
- Just under half of staff and students say they would be willing to do more if the university as an institution did more.
- 46% of students and 57% of staff say they can think lots of ways in which their department can be more environmentally friendly.

Campus facilities and environment

- The SUSTAIN facilities management questionnaire was completed for UWS. The overall score received was 34% which is adequate. More details about the questionnaire can be found on page 10 of the main report.
- Key areas where the university can improve are: feedback on energy use to building occupants; wider estate rationalisation based on occupancy patterns; reducing the number of people driving to campus; working to reduce overheating and unnecessary lighting across the estate; installing power down features on computers and reducing printer ratios.
- Evidence from questionnaires shows that more than half of staff regularly observe energy wastage across the campus - particularly in terms of overheating in classrooms and lights left on in empty rooms.
- Over 50% of students also report seeing lights left on during the day and feel that classrooms are overheated when in use.

Environmental attitudes, barriers and motivation

- Compared to national benchmarks compiled by DEFRA, UWS has proportionally more people who report doing very little to help the environment but also a greater proportion of people who would like to do a lot more.
- Compared to national averages both staff and students at UWS believe more strongly in the extent of the environmental crisis. However students are less inclined to see climate change as a solvable problem than staff.
- Nearly half of students say that they require more information on what they can do to be more environmentally friendly and over a third say an changes made to help the environment should fit with their lifestyle.
- Students are also more inclined than staff to be influenced by financial reward and peer group behaviour.
- While few staff indicate requiring more information almost 40% say that any changes should fit with their lifestyle.

Summary of key findings - behaviour and change

Saving energy and resources

- Very few people report energy wastage to the university - this is despite over 50% of staff and students report regularly witnessing excess heating and lights left on on campus.
- In general staff report regularly switching off PC's, and both groups report using stairs in preference to lifts and avoiding printing unnecessary paper.
- Key areas for behaviour change focus are alternative travel options, print behaviour, reducing energy use of shared equipment and purchasing environmental products.

Business and university related travel

- Questionnaire results provide additional data to aid the calculation of carbon emissions from business related travel and show this figure is significantly higher than Carbon Trust estimates (1866 vs. 635 tonnes CO_2 per annum).
- Car travel is the major contributor, followed by air travel.
- 42% of staff agree that some restrictions should be placed on international air travel, yet only 21% said they would avoid taking flights where alternative travel options are available.
- Feedback from a faculty report indicates that staff are not confident in the use of technology in video-conference rooms and would prefer small scale VC technology on desktops/laptops.

Commuting to campus

- UWS is currently developing travel plans for each campus.
- 70% of staff travel into campus 5 days a week. Of those who do not travel every day most others travel in between 3 to 4 days. Based on survey data staff car travel can be conservatively estimated at 1,321 tonnes of carbon per year.
- 35% of those staff who travel 2 miles or less, travel by car. For those who drive short distances, the decision not to take alternative transport is at least in part motivated by personal convenience.
- Student travel patterns are much more varied - the most typical is 3 days per week. 27% drive to campus alone equating to approximately 1,889 tonnes of carbon per year.

Waste and recycling

- Staff report very high recycling rates for loose paper and also perform reasonably well for other paper consumables, cardboard and print cartridges/toner. Recycling of cans and plastic bottles is however very low, particularly when compared to student behaviour.
- Amongst students recycling rates are high for plastic bottles and reasonable for cans and paper. Recycling of all other waste materials could be improved.

Catering and purchasing

- Available catering and purchasing choices on campus strongly reflect the environmental and social ethos on campus and can have a significant impact upon reducing global emissions.
- At UWS on average each student consumes 1.6 meals a day and each staff member 1.3 meals a day. At present less than 25% of students and 20% of staff regularly purchase meat free meals while on campus.
- In terms of purchases made on campus only a small proportion of staff and students prioritise the purchase of products which are environmentally friendly.

Promoting sustainable behaviour

- AMA has conducted wide research into how to successfully engage with staff and students to promote sustainable behaviour.
- Key areas of influence upon attitudes and behaviour in educational environments can be broadly distilled into three main categories: university policies, curriculum and social influences.
- Key requirements to support behavioural change are outlined against these three categories, including top tips for recruiting champions and encouraging grass roots change.
- Findings from this study have been translated into a change management action plan which is summarised on the following page.

Change Management Action Plan

Through its carbon management plan UWS has identified a series of projects to achieve a 20% reduction in energy use related to operational activities by 2014. Key challenges going forward are to engage with staff and students bodies to help achieve these targets by motivating individual and group action.

UWS has already produced an environmental awareness and communicating sustainability strategy which includes many excellent ideas and initiatives. The following recommendations supplement these plans and should be reviewed in conjunction with the SUSTAIN change checklist on page 21 of this report.

Key areas of focus for behaviour change:

- Expanding the environmental champion network and incentivise action within role;
- Saving energy on campus - reinforcing switch off campaigns through increased visual prompts, encouraging environmental guardianship and reporting of energy wastage;
- Choosing paper saving print options and switching off shared equipment;
- Reducing business related air travel and car use (staff only);
- Reducing the number of solo car drivers who commute to university through car share incentives, reduced parking charges and possibly the introduction of parking charges;
- Promoting cycling and walking for students supported by buddy scheme and lockers;
- Increasing recycling of cans, plastic bottles and electrical electronic equipment amongst staff and increasing recycling of paper based materials amongst students.

Key messages and areas of focus for campaigns:

- Many staff and students would like to more to help the environment and believe climate change is a problem which can be solved;
- There is a strong belief that people should be more personally responsible for behaving in an environmentally friendly way;
- Gather pledges to do more / ideas for departmental initiatives
- Begin with changes that can be made without significant lifestyle change
- For staff, focus on reward and recognition instead of financial motivators; for students provide a mix of incentives;
- Promote environmental behaviours with low rates of take up by profiling behaviours with high take up (e.g. paper recycling and computer switch-offs for staff).

Engagement through policy

- Communicate the universities low carbon vision more widely and make personal to staff and student bodies. In parallel outline clearly the universities commitment to change;
- Publicise what the university has done already, future plans, what staff/students can do;
- Create a visually engaging version of the sustainability strategy and communicate widely;
- Increase visual prompts on campus - signage, recycling bins, purchasing and catering promotions (e.g.. Buy recycled, meat-free Mondays);
- Monitor business related travel and continue to work with APUC and catering providers to promote environmentally friendly options.

Engagement through curriculum

- Work with teaching staff and students to explore how sustainability can be embedded in the curriculum;
- Hold focus groups to find out what information/learning opportunities would staff and students like;
- Develop a program of extra curricula activities which explore environmental issues and solutions and encourage university wide debate.

Engagement through social influence

- Hold a series of open meetings on each campus to share ideas and encourage action ;
- Use shared noticeboards (physical or online) to promote departmental competition, collect ideas and incentive action;
- Recruit and train more environmental champions - consider using annual awards or a points scoring system based on activity to motivate action;

Space and carbon emissions

The estate at UWS is currently measured at 130,618m^2 Gross Internal Area (GIA)* and is based across four campuses - Paisley, Hamilton, Ayr and Dumfries. Like many educational estates it comprises a wide range of building types, constructed at different times and of varying condition and repair presenting challenges in achieving efficiencies in space use and energy use.

The universities recent Carbon Management Plan identifies building energy use as the primary contributor to overall carbon emissions from the delivery of organisation functions - 10,498 tonnes of CO_2 out of a total 11,498 (91%). The Carbon Management Plan identifies a target 20% reduction by 2014. Data on business and university related travel from the questionnaire increases the contribution of travel to overall carbon emissions (see page 14 for more details).

The university is committed to achieving BREEAM excellent or very good ratings for all new build projects, including the current new build campus at Ayr and new build student residences at Paisley at Ayr.

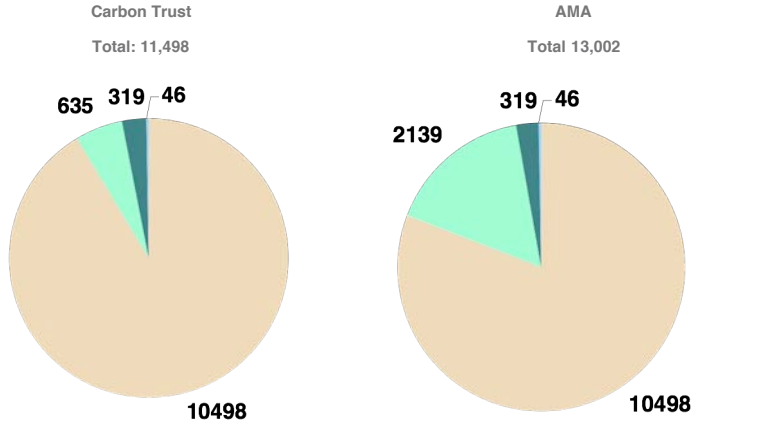
As outlined in the universities UCCCfs Climate Change Action Plan a programme of projects to reduce building related energy through new build and retrofit solutions have been identified. In parallel a series of ICT and other projects are being implemented to reduce energy demand. Ensuring appropriate funding is available for those projects where funds are not yet committed will be essential to achieving the universities low carbon vision.

UWS maintains good records on space holdings and energy use and uses the EMS statistics to compare performance against sector benchmarks. Data suggests key areas for performance improvement include reducing the amount of space per student FTE, reducing water use and increasing recycling rates - all of which are identified in the climate change action plan.

Automatic electricity meters are currently being installed at the Paisley campus and will be extended across all campuses where possible. This will improve data accuracy and enable monthly reporting on energy use and the identification of target areas for energy saving campaigns.

UWS should ensure that energy use and waste data and progress against targets are regularly shared with staff and students in an easily digestible format.

Carbon emissions (tonnes)



Space and sustainability benchmarks

Source: EMS (07/08)

% people who:	UWS	Lower quartile	Median	Upper quartile
Non-residential NIA per learner FTE	**6.9**	5.7	7.7	11.5
Space utilisation rate	**30%**	18%	26%	34%
Energy (kWh) per m2 GIA	**233**	231	266	312
Energy (kWh) per learner FTE	**2,722**	2,505	3,433	6,765
Water m3 per m2 GIA	**0.72**	0.68	0.88	1.15
Water m3 per learner FTE	**8.5**	7.5	12.6	22.7
Proportion of waste recycled	**6%**	19%	30%	40%

* Total estate including residential. Total non-residential is 107,126 m2 GIA

Environmental policy and governance

Achieving CO_2 reduction targets as set out in the universities Climate Change Action Plan will require strong commitment across the university.

The 2008-2015 strategic plan committed to the development of environmental policy and action plans, many of which are now in place including a sustainability strategy and communicating sustainability strategy. ICT, procurement and estates strategies have also been revised to include explicit sustainability objectives.

UWS has defined a low carbon vision however only 40% of staff and students agree that sustainability is a core part of the universities vision.

The universities sustainability strategy identifies action points against 11 key objectives. The policy is available to download from the university website - along with the carbon management plan and climate change action plan - although accessibility of the documents could be improved by including a direct link to sustainability from the menu bar. Ease of access to these documents via the intranet has not been tested but should be reviewed in light of findings.

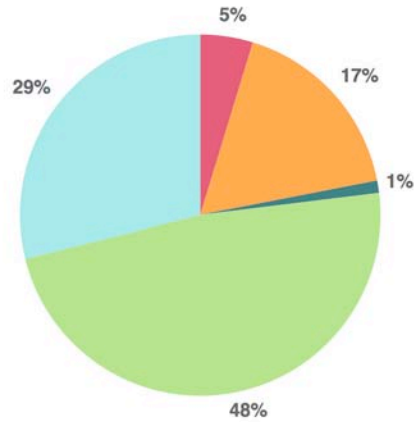
Awareness of the sustainability strategy amongst students is an issue - 60% of students report being unaware of it. Almost 70% of staff are aware of the policy which is good, however many do not know the full details. A significant minority of staff do not feel that the environmental policy is followed.

UWS has a well structured governance process in place. The Principal has voiced clear support for the development of a low carbon culture. The climate change action plan is managed by the carbon management board which includes representatives from the Sustainability team, Estates, ICT, Finance and academia. The board reports to the University Environmental Management committee which includes representatives from faculty and the university executive group.

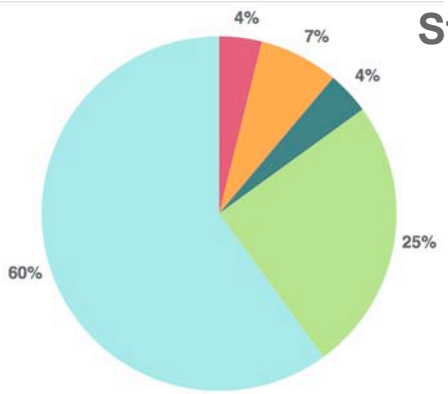
Working groups have also been formed on each campus to drive forward local activity. Each group is led by the campus director and includes environmental champions from both the staff and student bodies.

15% of students and 6% of staff who responded to the survey indicated that they would be willing to become environmental champions suggesting UWS has the potential to actively grow its environmental change network.

Staff



Students



Source: AMA Questionnaire Are you aware of your university's sustainability policy?

Yes, well implemented | Yes, not followed | Yes, not comprehensive | Yes, don't know details | No

Environmental policy and governance

In general students are slightly more positive about the universities commitment to environmental issues than staff.

Approximately 40% of staff do not feel that the environment is high priority at university or that enough is being done to cut carbon emissions. A similar number report that the university does not provide plenty of support or sufficient learning opportunities to help reduce environmental impact. Findings are similar for students although they report feeling more supported in identifying sustainable travel options.

Current planned activities by UWS should improve these findings. An awareness strategy has been developed to raise the profile of sustainability including a range of activities to communicate a low carbon culture through staff training and student enrolment, newsletters and social media sites. UWS is also planning to incorporate sustainability into staff job descriptions and integrate sustainability into teaching modules and extra-curricula activities. .

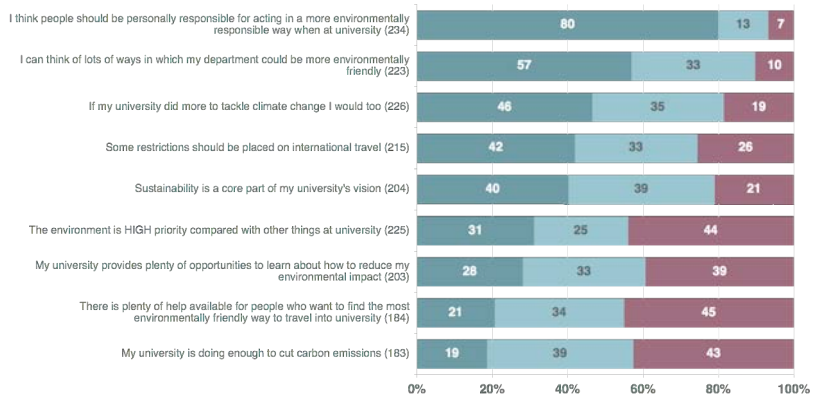
UWS should ensure that a clear vision of a low carbon culture as a collective community responsibility is communicated during training and induction sessions which identify what the university is already doing, what plans are for the future and how individuals can contribute.

Staff and students share a strong belief that people should be personally responsible for acting in a more environmentally responsible way at university.

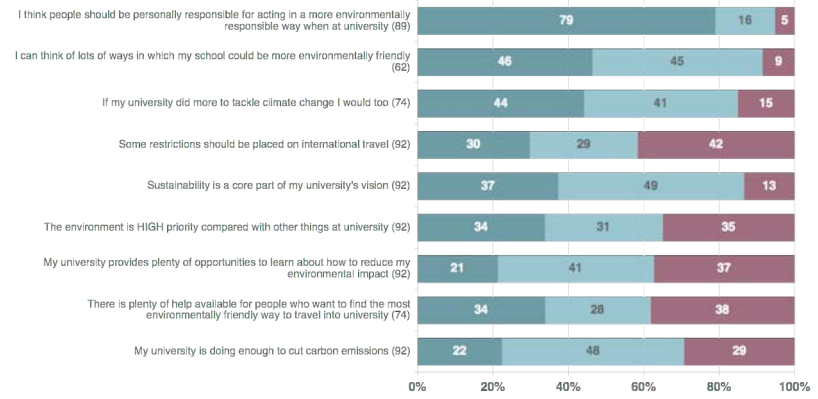
Just under half of staff and students say they would be willing to do more if the university as an institution did more. 46% of students and 57% of staff say they can think of lots of ways in which their department can be more environmentally friendly.

The university should tap into these findings by increasing efforts to work with staff and students at a departmental level to encourage and incentivise ideas and actions, through shared noticeboards and inter-departmental competitions. The NUS Green Impact programme which is currently taking place at UWS will provide an opportunity to test these ideas.

Staff



Students



Source: AMA Questionnaire How much do you agree with the following statements?

Strongly Agree/Agree Neutral Disagree/Strongly Disagree

Campus facilities and environment

The SUSTAIN facilities management questionnaire was completed for UWS based on information gathered through interviews and a review of documents provided. Scores are generated based on multiple choice questions across 7 categories.

The overall score received was 34%, which is adequate. More detailed results are shown in the appendix.

The age and quality of the buildings across the estate does present difficulties in terms of energy management. However, key areas where the university can improve are:

- feedback on energy use to building occupants
- wider estate rationalisation based on occupancy patterns
- reducing the number of people driving to campus
- working to reduce overheating and unnecessary lighting across the estate
- installing power down features on computers and reducing printer ratios

Evidence from questionnaires shows that more than half of staff regularly observe energy wastage across the campus - particularly in terms of overheating in classrooms and lights left on in empty rooms. Over 50% of students also report seeing lights left on during the day and feel that classrooms are often overheated when in use.

UWS should monitor and reduce temperatures in classrooms where possible and work with both the staff and student body to take greater responsibility to both take personal action to reduce energy wastage and report issues to the facilities team. This may be achieved through a combination of:

- increasing the number of 'prompts' to switch off/turn down - *see materials produced by Action for Sustainability on the EAUC UCCCfs website*
- publicising energy wastage at a departmental level and encouraging inter-departmental competition
- providing incentives to report energy wastage which cannot be directly controlled by building occupants (e.g. points scoring system or similar)

Score	TOPIC	Max score	% score
11	Energy Management	20	55%
2	Heating and Cooling	10	20%
3	Lighting	10	30%
5	Space efficiency and space utilisation	10	50%
5	Travel and flexible working	20	25%
6	Office supplies - procurement and waste management	20	30%
2	Equipment usage	10	20%
34	OVERALL SCORE	100	34%

% people who always/often see:	Staff	Students
Lights on in empty rooms at night	55%	35%
Lights on in empty rooms during day	65%	53%
Overheating in classrooms when in use	67%	52%
Overheating in classrooms when empty	61%	37%
Overheating in corridors and shared areas	43%	28%
Computers left on overnight	55%	n/a
Printers and copiers left on overnight	56%	n/a
Large volumes of uncollected printing	35%	n/a

Source: SUSTAIN facilities management questionnaire/ Questionnaire: How often do you see…?

Yes, well implemented | Yes, not followed | Yes, not comprehensive | Yes, don't know details | No

Attitudes towards own lifestyle and environment

In 2009 DEFRA commissioned a survey on public attitudes and behaviours towards the environment. Just over 2000 people* were surveyed via a face to face survey. A selection of questions from this survey were included in the SUSTAIN questionnaire for benchmarking purposes.

Results from the DEFRA survey show that 50% of people do a few things which are environmentally friendly, with a roughly even split between smaller groups who either do a lot and those who do very little.

At UWS lifestyle attitudes show important variations from national averages with a greater proportion of people reporting doing very little which is environmentally friendly. There is also a smaller proportion of people who report doing a lot. Both effects are more pronounced in students.

With regard to potential lifestyle changes two thirds of staff and students are more motivated to do more. Numbers of students saying they would like to do a lot more are almost twice the national average.

Therefore, while staff and students are currently doing less than the national average they are generally more motivated to increase their environmental behaviour.

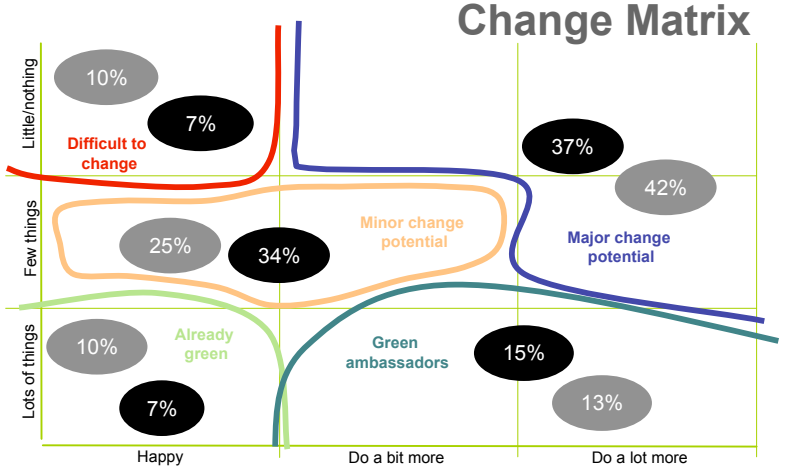
A matrix of results from both questions provides a way of quantifying opportunities for change at UWS:

- 7% of staff and 10% students are not engaged and will be **difficult to change**
- There is potential to **effect minor change** in 34% of staff and 25% of students
- There is potential to **effect major change** in 37% of staff and 42% of students
- 7% of staff and 10% of students are **already green** but don't want to do more
- 15% of staff and 13% of students are already doing lots but would like to do more and represent potential **green ambassadors****

Benchmarks

% people who:	Staff	Students	DEFRA
Do lots of things which are environmentally friendly	22%	13%	27%
do a few things which are environmentally friendly	39%	34%	49%
do very little/nothing which is environmentally friendly	39%	43%	24%
are happy with current lifestyle	24%	25%	45%
would like to do a bit more to help the environment	60%	52%	47%
would like to do a lot more to help the environment	13%	15%	8%

Change Matrix



Source: AMA Questionnaire Which of these best describes how you feel about the current impact of your current lifestyle on the environment?

*Aged 16 or over in England

**this compares to 11% of staff and 13% of students who said they were/would be interested in becoming environmental champions

Staff ● Students ●

Ecological world view, barriers and motivation

The DEFRA public attitude survey included a series of questions to establish an individuals ecological world view - the extent to which they believe there is a need to address environmental issues.

Results show that, compared to national averages both staff and students at UWS believe more strongly in the extent of environmental crisis. However students are less inclined to see climate change as a solvable problem than staff.

Data suggests that change campaigns at UWS should have employ a different focus for staff and students. For staff campaigns should emphasise positive action that can tackle climate change. While these messages are also important for students campaigns should also highlight the potential environmental and societal impact of not acting.

Change campaigns should pay close attention to the barriers and motivators of behaviour. In general students identify more barriers and show lower levels of motivation to make lifestyle changes than staff.

Nearly half of students say that they require more information on what they can do to be more environmentally friendly and over a third say that any changes made to help the environment should fit with their lifestyle.They are also more inclined than staff to be influenced by financial reward and peer group behaviour.

While few staff require more information almost 40% say that any changes should fit with their lifestyle.

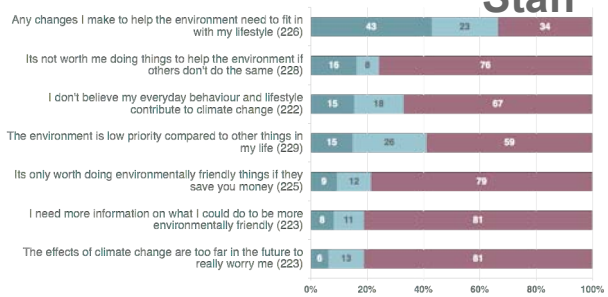
UWS should begin by working with representative student bodies to identify ways to increase information available to students and create change campaigns which identify simple lifestyle changes for both students and staff.

For behaviors where significant change is required (e.g. commute to work) initiatives should explore how changes might improve rather than detract from current lifestyles. This may require changes to organisational policy.

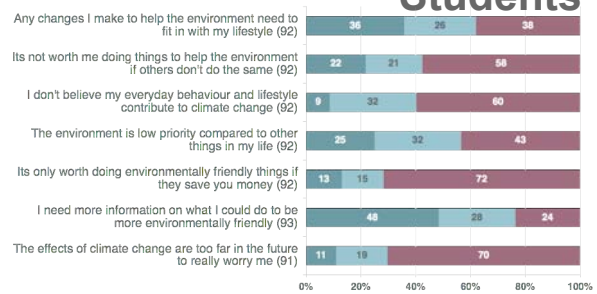
Benchmarks

% of people who believe that:	Staff	Students	DEFRA
Environmental crisis is not an exaggeration	71%	66%	46%
It's not too late to solve climate change	79%	57%	68%
Earth is close to people capacity	46%	53%	70%
Ecological world view score	**66%**	**59%**	**61%**
Motivation score	**68%**	**52%**	**48%**

Staff



Students



Source: AMA Questionnaire How much do you agree or disagree with the following statements?

Strongly Agree/Agree **Neutral** **Disagree/Strongly Disagree**

Behaviour - Saving energy and resources

Staff and students were asked how frequently they engaged in certain environmentally conscious behaviors. Results are quite varied for each group.

In general staff report regularly switching off PC's, and both groups report using stairs in preference to lifts and avoiding printing unnecessary paper.

Very few people report energy wastage to the university - this is despite over 50% of staff and students responding that they regularly witness excess heating and lights left on on campus.

UWS should encourage staff and students to act as environmental guardians and encourage them to report issues to the facilities team.

For students other key areas where UWS may wish to focus on encouraging behaviour change are:

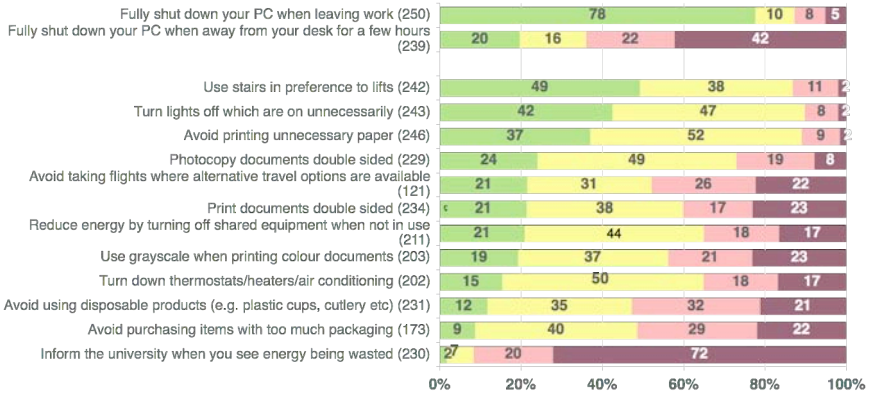
- choosing print and copy options which save paper
- printing in grayscale not colour where possible
- avoiding disposable products and those with too much packaging

For staff key areas are:

- exploring alternative travel options
- purchasing of non-disposable items with those with low packaging
- printing double sided and grayscale as default
- turning off shared equipment when not in use
- avoiding disposable products and those with too much packaging

Enabling the successful uptake of these behaviours may require some infrastructure changes.

Staff



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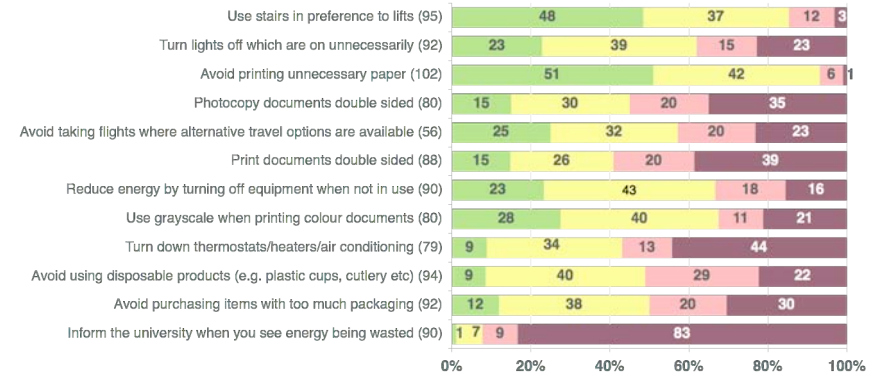


Source: AMA Questionnaire While on campus, how often do you personally?

Always | Very often/Often | Occasionally | Never

Behaviour - Business and university related travel

The Carbon Management Plan prepared by the Carbon Trust included an estimated figure of 635 tonnes per year for carbon emissions relating to business travel whilst acknowledging that UWS was planning to implement measures to improve the ease of gathering data.

Results from the questionnaire provide additional data to aid the calculation of carbon emissions from business related travel and show that this figure is significantly higher than original estimates.

Extrapolations from staff reports on annual air travel and weekly business travel using cars, trains and buses generates an estimated total of 1,399 tonnes of CO_2 per annum (0.9 per staff member). Car travel is the major contributor, followed by air travel.

42% of staff agree that some restrictions should be placed on international air travel, yet only 21% said they always avoid taking flights where alternative travel options are available.

UWS should consider implement guidelines for staff business travel, including criteria for assessing the necessity of the journey and the most appropriate means of travel.

Feedback from a report by the Faculty of Business and Creative Industries indicates that staff are not confident in the use of technology in video-conference rooms and would prefer small scale VC technology on desktops/laptops.

Student university related travel is not included as part of operational activities but does have a significant carbon implication. Extrapolated data from survey responses suggest student travel to and from UWS and study related travel accounts for 2,718 tonnes of CO_2 per annum (0.14 per student).

To help reduce this figure UWS could publish guidance for current and prospective students on sustainable travel options when travelling to and from campus at the beginning and end of term, promoting ferries, trains and coaches where practical.

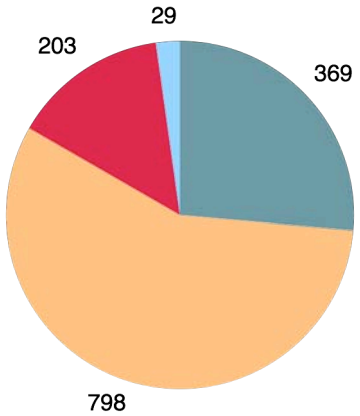
Carbon calculation assumptions:

Figures calculated for 550 staff and 13,000 students (18,000 - 5,000 virtual students) using DEFRA 10 conversion factors:

Plane: 0.09797 kg of CO_2 per passenger kilometer (average short haul international); Car: 0.20825 kg of CO_2 per mile (average car, fuel unknown); Train: 0.0773 kg of CO_2 per passenger kilometer (average local train/tram); Bus: 0.0773 kg of CO_2 per passenger kilometer (average local bus - not London).

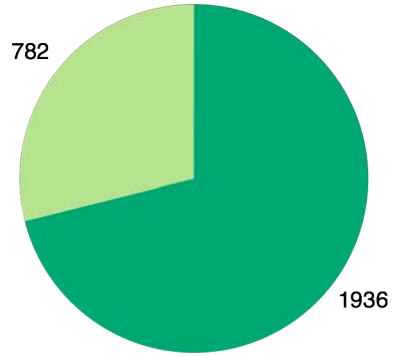
Staff

tonnes of CO_2 per year



Students

tonnes of CO_2 per year



Source: AMA Questionnaire How many hours per week/year do you?

Staff: Air travel | Car travel | Train travel | Bus travel **Students:** Air travel - to/from UWS | Air travel - study related

Behaviour - Commuting to campus

While commuting to university is not counted as part of the CO_2 emissions for the delivery of organisation functions, it has a very significant contribution to an individuals' carbon emissions.

UWS is currently developing travel plans for each campus which will be informed based on questionnaire findings in this report.

70% of staff travel to campus 5 days per week, with most others travelling in for 3-4 days. The average commute is 11.6 miles each way. 60% of staff drive to work alone, travelling an average of 13 miles each way.

Based on these data staff car travel to and from UWS can be conservatively estimated at 991 tonnes of carbon per year (or 0.7 tonnes per staff member).

Of those staff members who travel to less than 2 miles 35% of staff travel by car. Of those who travel 2-5 miles 60% of staff travel by car.

Student travel patterns are much more varied - the most typical is 3 days per week (45%). The average commute is 7 miles each way. 27% drive to campus alone, travelling an average of 6.9 miles.

Students are much more likely than staff to walk or take the bus for short commutes.

Based on this data student car travel to and from UWS can be conservatively estimated at 1,889 tonnes of carbon per year (or 0.1 tonnes per student).

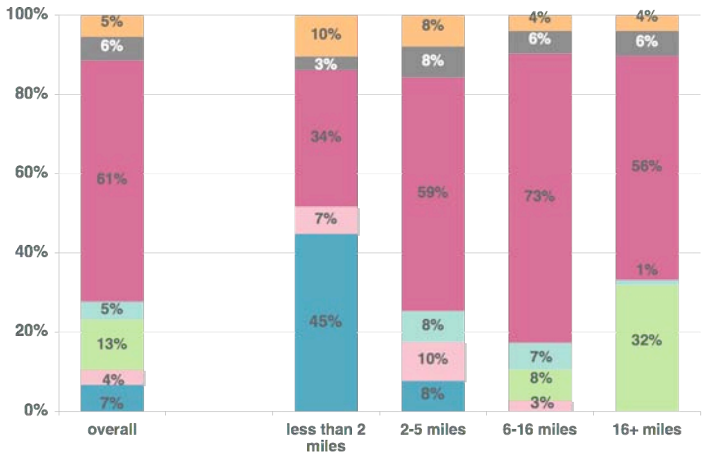
Parking is currently free for staff across all campuses. For students parking is available for at the Hamilton but not the Paisley campus.

The planned reduction of parking spaces at the Paisley campus to accommodate new student residences should be used as an opportunity to incentivise alternative travel options, particularly for those staff members who live locally.

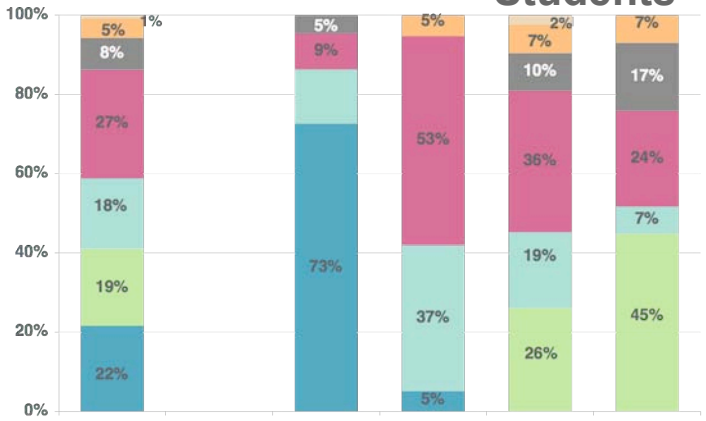
Carbon calculation assumptions:

Figures calculated for solo car drivers only; 0.20825 kg of CO_2 per mile (DEFRA 2010, average car, unknown fuel); 550 staff and 13,000 students (18,000 - 5,000 virtual students

Staff



Students



Source: AMA Questionnaire What is the main form of transport you use to travel to the campus where you are normally based?

Motor bike / Scooter | Car passenger | Car (w/passenger) | Car (on own) | Bus | Train | Cycle | Walk

Encouraging lower carbon commutes

The biggest potential for change is for those people who drive to university despite living five miles or less away. Data was analysed to explore the reasons why those who have short commutes choose to drive and how this differed from those who live further away.

For those who drive short distances the decision not to take alternative transport is at least in part motivated by personal convenience.

A quarter of staff who drive short distances also use the car to drop off or collect dependents and the practicalities of this responsibility would need to be explored if the university seeks to significantly reduce car use.

For those who live further away cost and the lack of direct public transport are barriers to the use of alternative transport.

Only 7% of staff and 19% of students who drive said parking charges would discourage them from driving, while a further 40-55% said it would depend on price.

For staff help in finding a car share partner and a guaranteed ride home in emergencies were identified as more important than dedicated parking spaces for car sharers. For students dedicated parking spaces were most important.

36% of staff who drive said they would be encouraged to travel by public transport by discounted fares which was far more popular than salary sacrifice. Almost half of student drivers would be more likely to use public transport if travel discounts were available.

Two thirds of staff and student drivers indicated that they would not cycle or walk to campus. Of those who would consider it improved infrastructure and shower facilities were considered important. For students lockers and buddies on routes were also important.

UWS is in the process of setting up cycle user groups and have recently increased the number of cycle racks. Creating space (and a shared toolbox) where minor bike repairs can be done and clothes dried may be appreciated by those who do opt to cycle.

Staff

barriers to using alternative transport	overall	< 5 miles	6+ miles
car is quicker	56%	54%	58%
personal convenience	44%	60%	39%
no direct public transport	41%	12%	53%
car is cheaper	27%	20%	31%
infrequent public transport	26%	14%	31%
car essential for work	22%	12%	27%
dropping off/collecting dependants	18%	24%	16%
health/disability reasons	5%	10%	4%
insufficient cycle parking/lockers/security	4%	4%	5%
lack of information on alternative modes of transport	2%	4%	2%
other (please specify)	1%	2%	1%
Total (n)	**187**	**50**	**137**

Students

barriers to using alternative transport	overall	< 5 miles	6+ miles
car is quicker	60%	64%	59%
personal convenience	63%	64%	62%
no direct public transport	31%	21%	35%
car is cheaper	35%	29%	38%
infrequent public transport	27%	21%	29%
car essential for placement	8%	21%	3%
dropping off/collecting dependants	21%	14%	24%
health/disability reasons	15%	7%	18%
insufficient cycle parking/lockers/security	2%	0%	3%
lack of information on alternative modes of transport	4%	0%	6%
other (please specify)	0%	0%	0%
Total (n)	48	**14**	**34**

Source: AMA Questionnaire What are the barriers to you using alternative transport?

Behaviour - Waste and recycling

UWS has a waste management guidance document which has been updated to include a focus on sustainable waste management, providing information on minimising and recycling waste as well as disposal. A central procurement tender for waste management contracts is in process and waste quantities are regularly monitored.

Recycling behaviour is significantly different between staff and students.

Staff report very high recycling rates for loose paper and also perform reasonably well for other paper consumables, cardboard and print cartridges/toner. Recycling of cans and plastic bottles is however very low, particularly when compared to student behaviour.

Staff campaigns should recognise the excellent performance in paper recycling and focus attention on other consumables. In particular staff should be encourages to recycle all print consumables and electronic equipment (the latter being a legal requirement).

Amongst students recycling rates are high for plastic bottles and reasonable for cans and paper. Recycling of all other waste materials could be improved.

The planned introduction of recycling bins in classrooms should be promoted (ideally by lecturers) Recycling of paper and other paper consumables should be reinforced in social and work areas including the library, computer rooms, cafeterias and common rooms.

The quantity and location of recycling bins should be reviewed to ensure there are plenty located in prominent locations (e.g. in highly visible areas in canteen, by door entrances, busy thorough-fares. Best practice advice suggests a 1:1 ratio of waste bins to recycling bins.

	% who regularly recycle:	
Materials:	Staff	Students
loose paper	96%	65%
brochures/newspapers/magazines	68%	26%
cardboard	61%	14%
cans	23%	64%
plastic bottles	27%	84%
electrical electronic equipment	12%	n/a
print cartridges/toner	58%	n/a

Source: AMA Questionnaire Which of the following do you regularly recycle while on campus?

Behaviour - Catering

One of the major purchases made by staff and students on campus on a daily basis is food. At UWS on average each student consumes 1.6 meals a day and each staff member 1.3 meals a day.

While not currently factored into institutional carbon reduction targets alterations to catering policies can have a significant impact on reducing global emissions by reducing food miles, encouraging diets with a lower meat content* and improve the environment by supporting reduced use chemicals in farming and non-biodegradable/recyclable packaging.

The university is currently progressing through the Fairtrade accreditation scheme and at the Hamilton campus (where catering is managed in-house) some foods are procured from local producers. The extent of local procurement is however limited by the APUC framework.

While greater cost may be attached to more environmentally friendly catering options, they often align with socially positive purchasing and healthy eating agendas and should be explored where possible and costs reviewed on a regular basis. In addition canteen areas are prominent places on campus and present an opportunity to spread messages about environmental concern e.g. Fairtrade or local/seasonal food) and promotional campaigns (e.g. Autumn Harvests, Local dairy products).

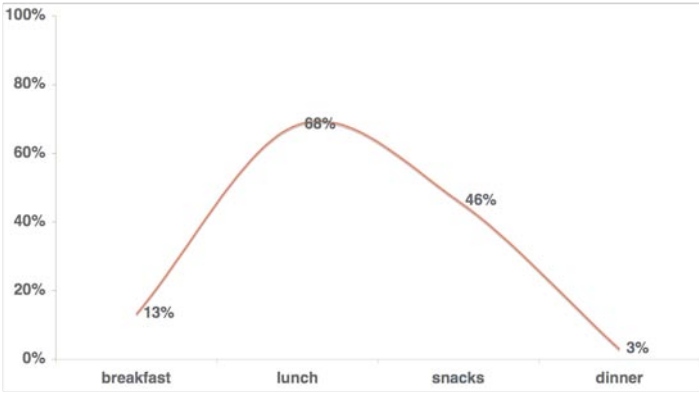
Current government advice suggests reducing consumption of meat and dairy products is likely to have the most significant and immediate effective on making diets more sustainable*.

At present more than 50% of staff and students rarely purchase meat free meals while on campus.

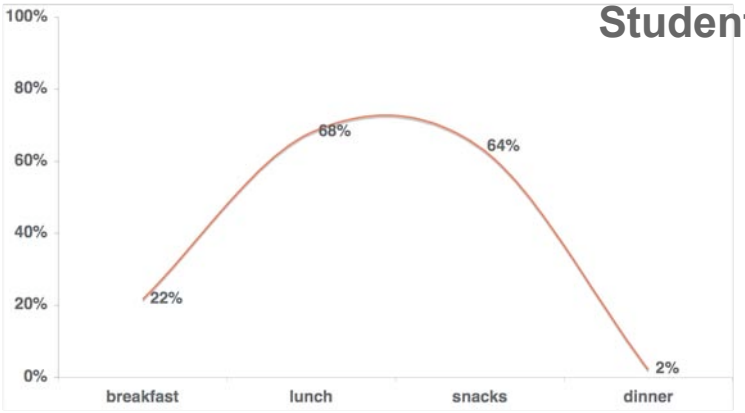
This suggests there significant potential to support government initiatives by promoting ‘meat free’ days (e.g. Meat Free Monday campaign).

% meals purchased on campus

Staff



Students



Source: AMA Questionnaire Which meals do you purchase from catering outlets on campus during a typical day?

• see ‘Setting the Table’ by the Sustainable Development Commission - notes 18% greenhouse gases related to food production and consumption

Behaviour - Purchasing

UWS has a procurement policy in place which requires that due consideration is given to environmental impact, that wherever possible procurement is open and fair to small local suppliers and that tenderers provide information on their environmental compliance and credentials.

A central procurement team manage all tenders for goods and services in excess of £50,000 will lower value tenders managed by individual departments. Existing contracts through APUC are used wherever possible.

UWS should consider running training sessions for staff who make regular purchases within their departments to provide more detailed information on how to incorporate sustainability into purchasing decisions.

In terms of purchases made on campus, only a small proportion of staff and students prioritise the purchase of products which are environmentally friendly.

UWS should work to ensure that, where cost effective, environmentally friendly products are available to purchase on campus and promoted at point of sale.

Guidance on what labels to look for can also be helpful and can be easily obtained from DEFRA's website and publicised within the university.

Staff

Students

Source: AMA Questionnaire When shopping on campus how often do you consciously choose the following sorts of products?

Whenever I can Sometimes Never

Promoting sustainable behaviour

Establishing how to successfully engage with staff and students to promote sustainable behaviour is a challenge facing many institutions.

AMA has conducted wide research into this issue drawing on literature and research within psychology, change management, communication and marketing combined with evidence from case studies from across the education sector.

Based on this research key areas of influence upon attitudes and behaviour in educational environments can be broadly distilled into three main categories - policies, curriculum and social environment. These have been usefully illustrated by Sjerp-Jones (2007) as part of a CETL funded research project into student engagement for sustainability (see diagram).

Policies
A fundamental success criterion for effecting change within any organisation is a clear vision and strategy which is visibly supported by senior leadership and clearly communicated across the organisation. The vision should be reinforced through the physical environment and relevant information about what individuals or groups need to do to and how they can do it must be easily accessible and engaging. Findings from the questionnaire on tools for communication illustrate that quite different means of communication will be required for students who make far more use of virtual learning environments but currently make very little use of social networking tools beyond Facebook.

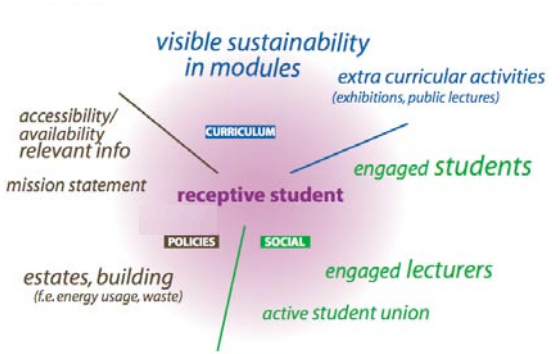
Curriculum
Embedding sustainability within the curriculum is essential for success. Lecturers play a key role in engaging students and communicating the relevance of sustainability both in terms of citizenship and future employment opportunities. The university must support this process by working with teaching staff to develop curriculum content and providing training and extra curriculum activities for all staff and students.

Social influences
Attitudes, opinions and behaviour are significantly influenced by those with whom we spend time. Appropriate infrastructure must be provided to allow engaged students, lecturers and staff members to have a voice and to encourage action.

These topics are outlined in more detail on the following page.

Areas of influence

from Sjerp-Jones (2007)



Communication methods

preferred method of communication	Staff	Students
Email	91%	73%
University Website	36%	49%
Staff portal	35%	n/a
Posters	21%	18%
Virtual Learning Environments (eg Blackboard, Moodle)	14%	49%
Facebook Groups	8%	36%
Other social networking sites	3%	1%
Twitter	2%	4%

Source: AMA Questionnaire How would you prefer to receive communications about university related activities?

SUSTAIN change checklist

POLICY: Set a vision that inspires
- create a holistic, coherent and desirable vision (which clearly defines sustainability)
- consider brand and vocabulary carefully to create a positive and compelling message
- support with a clear delivery strategy which is visibly supported by senior leadership
- make room for both top down and bottom up (grass roots) ideas and campaigns

POLICY: Make it visible
- make visible what the university is doing already and that policy is being put into practice
- provide visual prompts to act - noticeable, simple and located where desired behaviour should take place
- integrate into performance objectives and provide feedback and recognition - reward and celebrate success
- make it easy for people to obtain relevant information

CURRICULUM: Embed sustainability into education
- give lecturers incentives to include sustainability in teaching and identify sources for content development
- clarify to students how sustainability is linked to success inside and outside the classroom
- provide extra-curricula learning opportunities

SOCIAL: Create networks of social influence
- establish a pool of engaged champions (using incentives, reward where appropriate) to motivate peer groups
- encourage and facilitate debate and discussion (e.g. open forums, world café, pecha kucha events)
- build social norms by communicating positive figures for numbers of people who engage in desired behaviour (e.g. numbers of people who recycle waste, or report switching off lights)
- look for opportunities to foster social diffusion (adoption of new behaviours due to influence of others) e.g. by advertising names of people who have committed to a new behaviour
- try to link internal events to local or national events

SOCIAL: Emphasise action (and make it easy)
- Ask for public and group (voluntary) commitments and emphasise written over verbal communications
- Use incentives (either financial or social), particularly where motivation to change is low
- Identify any external barriers (real or perceived) and try to reduce them (e.g. by getting people to try a new behaviour or making an undesirable activity less convenient or more expensive)

SOCIAL: Run targeted campaigns utilising effective communication
- Research the attitudes and behaviours relating to targeted behaviour before developing the campaign
- Use messages which are clear, vivid, personal and which use inclusive language (us, we)
- Use trusted individuals to deliver messages (ideally in person)

Top tips for… recruiting champions

- clarify scope and time commitments
- be clear about the benefits of involvement
- provide training (consider paying for time) and support with regular communications
- encourage staff and student champions to work together to explore how to embed sustainability in curriculum
- consider league tables and incentives e.g. prizes for recruiting most people or accumulating the most points based on activity

encouraging grass roots change

- hold open meetings - one per term per campus
- try an open agenda but facilitate meetings well and ensure minutes go to UWS management
- If possible provide a supporting fund (e.g. max £100 per application) to translate ideas into actions
- celebrate success with annual event/awards
- link in with other bodies - e.g. people and planet ‘go green’, NUS Green Impact, NUS Scotland Student Footprints, Transition Scotland

Appendices

Attitudes towards policies

	AVERAGE SCORES		% who AGREE with statement	
Statement	Staff	Students	Staff	Students
If my university did more to tackle climate change I would too	3.3	3.3	46%	44%
I can think of lots of ways in which my school could be more environmentally friendly	3.6	2.5	57%	46%
The environment is high priority compared with other things at university	2.8	3.0	31%	34%
Sustainability is a core part of my university's vision	3.2	3.2	40%	37%
My university is doing enough to cut carbon emissions	2.7	2.8	19%	22%
Some restrictions should be placed on international travel	3.2	2.8	42%	30%
My university provides plenty of opportunities to learn about how to reduce my environmental impact	2.8	2.8	28%	21%
There is plenty of information available for people who want to find the most environmentally friendly way to travel into university	2.7	2.9	21%	34%
I think people should be personally responsible for acting in a more environmentally responsible way when at university	3.9	4.0	80%	79%
Policy attitude score	**3.2**	**3.1**	**42%**	**24%**

Facilities Management Questionnaire

Energy Management

- ✓ Targets have been set for reduction of waste, water, electricity and fuel
- ✓ Carbon emissions from operational activities calculated
- ✓ Named person responsible for energy management
- ✓ Guidance available on saving energy available through posters, displays
- × Information on energy not consistently fed back to building occupants
- × Few buildings are sub-metered or have BREEAM excellent rating

Heating and cooling

- ✓ Most buildings are naturally ventilated
- × Not known if conforms to CIBSE/BCO temperature settings
- × Some parts of the building have excessively high/ low temperatures
- × No zoned controls for heating/cooling

Lighting

- ✓ Over 60% of people within 7m of a window
- ✓ Windows cleaned every 3-6 months
- × No movement sensors or additional lighting sensors installed

Space efficiency and space utilisation

- ✓ Utilisation of teaching rooms between 30-50%
- × Workstations occupied less than 70% over week
- × NIA per workstation not known
- × % utilisation of teaching rooms not known
- × Linear metres of storage per desk not known

Travel and flexible working

- ✓ Campus well served by public transport
- ✓ Travel surveys conducted and green travel plans in development
- × Parking available for more than 50% of employees
- × Bicycle spaces less than 5% of employee headcount
- × Business travel is not offset

Office supplies (procurement and waste)

- ✓ Water saving initiatives being installed
- ✓ Take back schemes in operation
- ✓ Procurement policy includes sustainability criteria
- × Water wastage not monitored
- × Mainly plastic/polystyrene used in catering packaging
- × Less than 50% of waste materials recycled

Equipment usage

- ✓ Mainly desktop computers with flat screens
- × Power down features not yet enabled on all computers for night time
- × Most printers are desktop rather than MFD
- × High ratio of printers (1 for every 5 people or less)

Attitudes towards facilities

	AVERAGE SCORES		% who AGREE with statement	
Statement	Staff	Students	Staff	Students
There are plenty of recycling facilities on campus	3.0	3.2	40%	51%
There is not a lot of energy wasted in university buildings	1.9	2.3	6%	11%
My university provides excellent facilities for cyclists	1.9	3.3	25%	40%
While on campus I am able to purchase products with a low carbon footprint (recycled, low packaging, recyclable)	2.9	3.3	29%	42%
There are enough local/seasonal catering options available on campus	2.7	2.7	29%	27%
There are enough vegetarian/vegan catering options available on campus	2.9	2.9	27%	35%
Facility attitude score	**3.0**	**2.9**	**26%**	**37%**

Ecological world view, barriers and motivation

		AVERAGE SCORES			% who DISAGREE with statement		
	Statement	Staff	Students	DEFRA	Staff	Students	DEFRA
ECO WORLD VIEW	Climate change is beyond control - its too late to do anything about it	4.0	3.8	3.9	79%	66%	14%
	The so-called 'environmental crisis' facing humanity has been greatly exaggerated	3.8	3.4	3.5	71%	57%	25%
	We are not close to the limit of the number of people the earth can support	3.3	3.4	3.6	46%	53%	14%
	Ecological world view score	3.7	3.6	3.7	66%	59%	18%
BARRIERS AND MOTIVATION	The effects of climate change are too far in the future to really worry me	4.1	3.9	3.7	81%	70%	21%
	Its only worth doing environmentally friendly things if they save you money	3.9	3.8	3.6	79%	72%	22%
	Its not worth me doing things to help the environment if others don't do the same	3.7	3.6	3.7	76%	58%	22%
	I don't believe my everyday behaviour and lifestyle contribute to climate change	3.6	3.7	3.3	67%	60%	26%
	The environment is low priority compared to other things in my life	3.5	3.3	3.3	59%	43%	28%
	Any changes I make to help the environment need to fit in with my lifestyle	2.9	3.1	2.8	34%	38%	48%
	I need more information on what I could do to be more environmentally friendly	4.0	2.8	2.6	81%	24%	54%
	Motivation score	3.7	3.4	3.3	68%	52%	31%

Campus behaviour

	AVERAGE SCORES		% who do this ALWAYS/OFTEN		AMA Benchmark
Statement	Staff	Students	Staff	Students	
Inform the university when you see energy being wasted	1.4	1.3	8%	8%	
Avoid printing unnecessary paper	3.9	4.2	89%	93%	43%
Use grayscale when printing colour documents	3.0	3.2	56%	68%	
Photocopy documents double sided	3.4	2.6	73%	45%	44%
Print documents double sided	3.0	2.5	60%	41%	42%
Avoid using disposable products (e.g. plastic cups, cutlery etc)	2.7	2.6	47%	49%	27%
Avoid taking flights where alternative travel options are available	2.9	3.0	52%	57%	
Reduce energy by turning off equipment when not in use	3.1	3.3	65%	67%	
Fully shut down your PC when leaving work	4.4	n/a	87%	n/a	76%
Fully shut down your PC when away from your desk for a few hours	2.4	n/a	36%	n/a	
Turn lights off which are on unnecessarily	4.0	3.1	90%	62%	
Turn down thermostats/heaters/air conditioning	3.1	2.4	65%	43%	
Avoid purchasing items with too much packaging	2.6	2.7	49%	50%	
Use stairs in preference to lifts	4.0	4.1	87%	85%	37%
Environmental behaviour on campus score	3.2	2.9	63%	56%	

Student behaviour

Topic	Overall	Campus Residence	Rented/Own flat or house	Parental flat or house
no. of respondents	120	16	66	32
Environmental behaviour at home	3.6	3.7	3.7	3.3
Environmental behaviour on campus	2.9	3.2	3.0	2.7

Topic	Overall	Business	Computing	Creative & Cultural Industries	Education	Engineering	Health, Nursing & Midwifery	Science	Social Sciences
no. of respondents	120	23	19	9	2	7	13	34	11
Environmental behaviour at home	3.6	3.5	3.5	4.0	4.1	3.8	3.5	3.6	3.5
Environmental behaviour on campus	2.9	2.3	3.2	3.0	3.3	3.5	2.7	2.8	2.8

Student residential behaviour

Statement	AVERAGE SCORE	% who do this ALWAYS/ OFTEN
Switch appliances off rather than leaving them on standby	3.7	79%
Switch lights off when you leave the room	4.3	93%
Switch the heating off before opening windows	3.9	83%
Put warmer clothes on before turning on the heating	3.9	80%
Use energy-efficient lightbulbs	4.0	90%
Plan your meals to avoid throwing food way	3.7	82%
Buy local/seasonal produce	2.9	58%
Wash clothes at 40 degrees or less	4.4	95%
Look for second hand items before buying something brand new	2.5	40%
Set default print options to save paper	3.3	66%
Monitor your electricity consumption	2.9	58%
Environmental behaviour at home score	**3.6**	**75%**

Attitudes towards own lifestyle and environment

Staff

Topic	Aver. score	I'm happy with what I do	I'd like to do a bit more	I'd like to do a lot more	Don't Know
no. of respondents	250	54	138	33	6
Environmental behaviour on campus	**3.2**	**3.3**	**3.2**	**3.5**	**3.7**
Energy wasted on campus (as observed)	**2.8**	**2.9**	**2.8**	**3.0**	**2.9**
Facilities, policy and behaviour on campus					
Physical facilities on campus	2.5	2.6	2.5	2.4	2.5
University policy	3.2	3.0	3.2	3.2	3.0
Ecological Worldview	**3.7**	**3.4**	**3.8**	**4.1**	**3.4**
Barriers and motivation	**3.7**	**3.4**	**3.7**	**4.0**	**3.4**

Students

Topic	Aver. score	I'm happy with what I do	I'd like to do a bit more	I'd like to do a lot more	Don't know
no. of respondents	117	28	51	19	13
Environmental behaviour on campus	**2.9**	**3.0**	**2.8**	**3.2**	**2.6**
Energy wasted on campus (as observed)	**2.4**	**2.1**	**2.5**	**2.6**	**2.4**
Facilities, policy and behaviour on campus					
Physical facilities on campus	2.9	3.3	3.3	2.9	3.1
University policy	3.1	2.9	3.1	3.1	2.9
Environmental behaviour at home	**3.6**	**3.8**	**3.5**	**3.7**	**3.1**
Environmental Worldview	**3.6**	**3.5**	**3.6**	**4.1**	**3.5**
Barriers and motivation	**3.4**	**3.4**	**3.4**	**3.8**	**3.4**

Observed energy wastage on campus

	AVERAGE SCORES		% who see this ALWAYS/ OFTEN	
Statement	Staff	Students	Staff	Students
Lights on in empty rooms at night	2.9	2.2	55%	35%
Lights on in empty rooms during the day	3.1	2.6	65%	53%
Overheating in classrooms when in use	3.2	2.7	67%	52%
Overheating in classrooms when empty	3.0	2.3	61%	37%
Overheating in corridors and other shared areas	2.6	2.0	43%	28%
Computers left on overnight	2.9	n/a	55%	n/a
Printers and copiers left on overnight	2.9	n/a	56%	n/a
Large volumes of paper uncollected from print machines	2.2	n/a	35%	n/a
Observed energy wastage score	**2.8**	**2.4**	**54%**	**41%**

Distance and Frequency of Commute

Staff

distance journey from home to campus	n	% Total
I live on campus	3	1%
Less than 2 miles	29	11%
2-5 miles	51	19%
6-16 miles	103	39%
16-25 miles	39	15%
26-50 miles	34	13%
More than 50 miles	6	2%
Total	**265**	**100%**

travel days/week to campus	n	% Total
1	0	0%
2	7	3%
3	34	13%
4	33	13%
5	186	70%
6	0	0%
7	1	0%
None	3	1%
Total	**264**	**100%**

The average staff member travels 14.1 miles to campus each way; car users average 12.9 miles each way

Students

distance journey from home to campus	n	% Total
I live on campus	12	10%
Less than 2 miles	22	18%
2-5 miles	19	15%
6-16 miles	42	34%
16-25 miles	15	12%
26-50 miles	10	8%
More than 50 miles	4	3%
Total (n)	**124**	**100%**

travel days/week to campus	n	% Total
1	5	4%
2	13	11%
3	55	45%
4	26	21%
5	9	7%
6	0	0%
7	1	1%
None	13	11%
Total (n)	**122**	**100%**

The average student travels 11.6 miles to campus each way; car users average 13.9 miles each way

Encouraging lower carbon commutes

Staff

items that would encourage using Public Transport	n	% TOTAL
timetable and route information	14	8%
discounted bus/train fares	60	36%
salary sacrifice for annual ticket	14	8%
No I would not travel to campus by public transport	102	61%
Total	**166**	

items that would encourage car sharing	n	% TOTAL
already car share	24	24%
help in finding a car share partner	52	51%
dedicated parking spaces for car sharers	37	36%
guaranteed ride home in emergencies	41	40%
other (please specify)	1	1%
Total	**102**	

Students

items that would encourage using Public Transport	n	% TOTAL
timetable and route information	7	15%
discounted bus/train fares	23	49%
No I would not travel to campus by public transport	20	43%
Total	**47**	

items that would encourage car sharing	n	% TOTAL
already car share	12	33%
help in finding a car share partner	15	42%
dedicated parking spaces for car sharers	19	53%
guaranteed ride home in emergencies	12	33%
other (please specify)	0	0%
Total	**36**	

Encouraging lower carbon commutes

Staff

would parking charges discourage car use?	n	% TOTAL
yes	12	7%
no	96	54%
depends on price	69	39%
Total	**177**	**100%**

items that would encourage cycling/ walking	n	% TOTAL
info on paths/routes	11	5%
buddy (company on route)	17	8%
information on health benefits	4	2%
bike loan scheme	28	13%
lockers	25	11%
shower facilities	50	23%
cycle training	6	3%
infrastructure (cycle paths/lanes)	43	20%
No I would not cycle/walk to campus	143	65%
Total	**219**	

Students

would parking charges discourage car use?	n	% TOTAL
yes	9	19%
no	18	38%
depends on price	21	44%
Total	**48**	**100%**

items that would encourage cycling/walking	n	% TOTAL
info on paths/routes	11	12%
buddy (company on route)	15	17%
information on health benefits	2	2%
lockers	16	18%
shower facilities	13	14%
cycle training	2	2%
infrastructure (cycle paths/lanes)	16	18%
No I would not cycle/walk to campus	54	60%
Total	**90**	

Travel between campuses

Staff

Do you travel between campuses on a regular basis?	n	% TOTAL
yes by car	86	34%
yes by car share	5	2%
yes by pool car	4	2%
yes by public transport	28	11%
no	130	51%
other mode (please specify)	0	0%
Total	**253**	**100%**

Students

Do you travel between campuses on a regular basis?	n	% TOTAL
yes by car	5	4%
yes by car share	1	1%
yes by pool car	0	0%
yes by public transport	14	12%
no	98	83%
other mode (please specify)	0	0%
Total	**118**	**100%**

Business and Air Travel

Staff

During your last working week how long did you spend using the following forms of transport for work reasons?	Total (n)	None	< 1 hr	1-3 hrs	3-5 hrs	6-15 hrs	16-25 hrs	25+ hrs
car/motorbike	235	46%	12%	23%	10%	9%	0%	1%
train	177	76%	5%	14%	5%	2%	0%	0%
bus	157	91%	4%	3%	1%	1%	0%	0%

How many hours ... spent travelling by air?	Total (n)	None	< 3 hrs	3-5 hrs	6-15 hrs	16-25 hrs	25+ hrs
for work	224	75%	4%	5%	8%	4%	5%
for personal reasons	232	38%	5%	13%	28%	7%	9%

Students

How many hours ... spent travelling by air?	Total (n)	None	< 3hrs	3-5 hrs	6-15 hrs	16-25 hrs	25+ hrs
between home and college/univ.	98	84%	3%	2%	11%	0%	0%
for study purposes	91	92%	1%	2%	4%	0%	0%
for holidays	116	47%	4%	14%	24%	7%	4%

Behaviour - Purchasing

Staff

Conscious choice of environmentally friendly products	average score	Happy with what I do	Like to do a bit more	Like to do a lot more	Don't know
(no. of respondents)	**194**	**42**	**102**	**25**	**5**
fairtrade products	2.1	2.0	2.2	2.2	2.0
organic products	1.9	1.7	2.0	2.0	1.8
durable products	1.9	1.6	1.9	2.1	1.3
recycled products	2.0	1.7	2.1	2.3	1.8
recyclable products	2.1	1.9	2.1	2.3	1.8
low packaging products	2.2	2.0	2.2	2.4	2.0
Environmentally friendly purchasing	**2.0**	**1.8**	**2.1**	**2.2**	**1.8**

Students

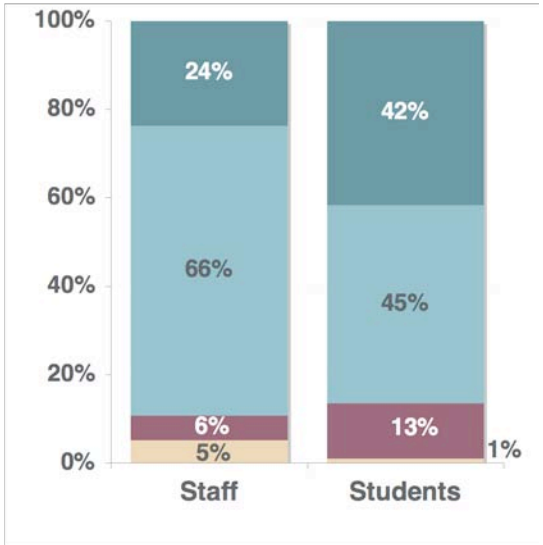
Conscious choice of environmentally friendly products	average score	Happy with what I do	Like to do a bit more	Like to do a lot more	Don't know
(no. of respondents)	**96**	**25**	**42**	**17**	**12**
fairtrade products	2.0	2.0	2.0	2.4	1.9
organic products	1.8	1.7	1.7	2.0	1.7
durable products	1.9	2.0	1.9	2.5	1.9
recycled products	2.0	1.9	1.9	2.4	1.8
recyclable products	2.0	1.9	1.9	2.3	1.8
low packaging products	2.0	2.0	2.0	2.1	1.7
Environmentally friendly purchasing	**2.0**	**1.9**	**1.9**	**2.3**	**1.8**

Communication & Sustainability Champions

Preferred communication about campus events and initiatives

preferred method of communication	Staff	Students
Email	91%	73%
University Website	36%	49%
Staff portal	35%	n/a
Posters	21%	18%
Virtual Learning Environments (eg Blackboard, Moodle)	14%	49%
Facebook Groups	8%	36%
Other social networking sites	3%	1%
Twitter	2%	4%

Willingness to be a sustainability champion



Use of remote work/study mechanisms

use of remote work/study mechanisms	YES		NO		I WOULD LIKE TO	
	Staff	Students	Staff	Students	Staff	Students
video/phone conferencing / skype	22%	13%	60%	79%	18%	8%
webinars	10%	4%	79%	87%	11%	10%
remote PC access	46%	n/a	35%	n/a	19%	n/a

Don't Know No Yes Already am

Demographics

Staff

main campus	n	% Total
Ayr	31	12%
Dumfries	17	6%
Hamilton	57	22%
Paisley	160	60%
Total	**265**	**100%**

working time arrangement	n	% Total
Full time	229	86%
Part-time/Fractional	36	14%
Hourly/Ad hoc/Contractor	1	0%
Total	**266**	**100%**

Students

main campus	n	% Total
Ayr	15	12%
Dumfries	6	5%
Hamilton	20	16%
Paisley	82	67%
Total	**123**	**100%**

study mode	n	% Total
Full time	117	84%
Part time	18	13%
Distance learning	4	3%
Total	**139**	**100%**

Demographics

Staff

Department	n	% Total
Business	18	7%
Computing	19	7%
Creative & Cultural Industries	11	4%
Education	4	1%
Engineering	17	6%
Health, Nursing & Midwifery	34	13%
Science	21	8%
Social sciences	20	7%
Other non academic departments	123	46%
Total	**267**	**100%**

Job role	n	% Total
Senior Management	4	2%
Director/Head of School	10	4%
Academic	90	35%
Research	14	5%
Administrative/Facilities support	72	28%
Support services	47	18%
Technical and IT	20	8%
Total	**257**	**100%**

Students

Department	n	% Total
Business	25	18%
Computing	22	16%
Creative & Cultural Industries	10	7%
Education	2	1%
Engineering	8	6%
Health, Nursing & Midwifery	17	12%
Science	40	29%
Social sciences	15	11%
	0	0%
Total	**139**	**100%**

Course	n	% Total
Scottish Highers	0	0%
SVQ	1	1%
HNC/HND	1	1%
Undergraduate degree	116	84%
Postgraduate degree	20	14%
Total	**138**	**100%**

Demographics

Staff

Age	n	% Total
16-24	5	2%
25-34	28	12%
35-44	55	24%
45-54	83	36%
55-64	59	26%
65	1	0%
Total	**231**	**100%**

typical diet	n	% Total
I am vegetarian/vegan	20	11%
Most of the meals I purchase on campus are vegetarian/vegan	13	7%
Some of the meals I purchase on campus are vegetarian/vegan	53	28%
Very few of the meals I purchase on campus are vegetarian/vegan	100	54%
Total	**186**	**100%**

Students

Age	n	% Total
16-24	44	45%
25-34	20	21%
35-44	21	22%
45-54	10	10%
55-64	1	1%
65	1	1%
Total	**97**	**100%**

typical diet	n	% TOTAL
I am vegetarian/vegan	16	15%
Most of the meals I purchase on campus are vegetarian/vegan	7	7%
Some of the meals I purchase on campus are vegetarian/vegan	19	18%
Very few of the meals I purchase on campus are vegetarian/vegan	63	60%
Total	**105**	**100%**

Change Management Action Plan
for sustainable educational environments

Contact:

Felicity Swaffer

AMA Alexi Marmot Associates

felicity@aleximarmot.com

+44 (0)20 7284 5888

Behaviour Change Management Programme

facilitated by: eauc The Environmental Association for Universities and Colleges

supported by: UCCCS Universities and Colleges Climate Commitment for Scotland

funded by: Scottish Funding Council Promoting further and higher education

In partnership with:

Action for Sustainability

AMA Alexi Marmot Associates

esd consulting

Delaney & Hart

nus national union of students

Sustainability Insight