

# From strategy to implementation: the second evaluation of the Green Academy programme



Dr Andrew McCoshan & Professor Stephen Martin



# Contents

<b>Section</b>	<b>Page</b>
<b>1. Introduction</b>	<b>3</b>
What sort of evaluation is this?	3
The evaluation issues	3
Structure of the report	4
<b>2. General features of implementation</b>	<b>4</b>
Continuing to impact at corporate level	4
Green Academy teams providing continuity	5
Trial and error the dominant modus operandi	5
Linking sustainability to major curriculum reforms: hostage to fortune?	5
Little use made of general management tools to implement strategy	6
Resources: small-scale compared with strategic ambition	6
<b>3. Mapping of provision</b>	<b>6</b>
<b>4. Developing modules and programmes in the formal curriculum</b>	<b>8</b>
Benefits of modules	10
Challenges	11
<b>5. Strengthening opportunities in the informal curriculum</b>	<b>12</b>
Benefits and challenges of developing co-curriculum opportunities	13
<b>6. Staff development</b>	<b>14</b>
<b>7. Conclusions</b>	<b>15</b>
Green Academy effects still being felt	15
From strategy to implementation: treading a cautious path	15
A gap needing to be filled between strategy and curriculum development	16
Achieving coherence	16
Student impacts	16
An underlying dilemma	16
Where next?	16

# I. Introduction

The Green Academy organisational change programme was launched in 2011 by the Higher Education Academy to assist universities in embedding education for sustainable development (ESD) into the overall student experience, although the work expanded into all elements of the university for many participants. The first evaluation was carried out in 2012 and identified, among other things, a significant focus for Green Academy participants on integrating sustainability into institutional strategies<sup>1</sup>. However, at the time of that first evaluation concrete examples where sustainability had been developed and implemented were rare, partly because curriculum reform was often still at the planning stage. The second evaluation was therefore conceived as a means of assessing the nature and impact curriculum developments. The evaluation was carried out in the period May-July 2013 and covered seven institutions in the first wave of the Green Academy starting in 2011: Bristol University, Canterbury Christ Church University, Keele University, University of Nottingham, University of Southampton, University of Wales Trinity Saint David, and University of Worcester<sup>2</sup>.

## What sort of evaluation is this?

Evaluating the Green Academy presents some challenges. The Green Academy approach is based upon bringing together small teams of staff, students and academics to take part in a residential meeting, along with some supporting activity for team leaders. The teams work together to develop their thinking about sustainability and come away from the residential with an action plan which they then implement. The Green Academy is about catalysing change in the complex context of higher education institutions (HEIs). The programme has been designed to work by creating ripples: relatively small-scale interventions are intended to have a large amount of leverage by creating change agents and building capacity. In this context, tracing developments back to the Green Academy can be difficult: for example, changes may take place as a result of the raised profile of sustainability due to the Green Academy but individuals implementing the changes may be unaware of the original cause. Furthermore, as effects ripple out across institutions they can be affected by numerous factors which shape the eventual outcome, so the connections to Green Academy become complex.

In addition, there is a lack of yardsticks against which to measure progress, not least because each institution should largely be judged in its own terms against its own plans. Each institution had its own definitions of both sustainable development (SD) and ESD; hence they also used different frameworks to structure their approach and activities. The evaluation necessarily took these definitions and frameworks as given.

In this context, the most reasonable approach was a formative one which sought to identify emerging themes and to generate lessons which may be useful for the Green Academy teams, both participants involved in this round of activity, and the new cohort who began their work in 2013. At the same time, the sustainability agenda itself constantly reminds us that time is running out and that speed is of the essence.

## The evaluation issues

What are the key issues that have framed the evaluation?

Overall, the main concern has been to examine the different methods used to embed sustainability into the curriculum, what has worked, what hasn't and why. By curriculum is meant both the formal curriculum and the informal curriculum (increasingly referred to as the co-curriculum). The central concern has been to understand: the degree of consolidation that may have taken place in 2012–2013 compared with 2011–2012 in terms of maintaining or building upon initial impacts; the scale of changes taking place, their width and depth.

Finally, the wider parameters set by current developments in higher education should be taken into account. These parameters framed the work of the Green Academy teams at their residential. While in many ways the sustainability agenda is consonant with many of the current winds of change in higher education – through its interdisciplinary nature, its stress on systemic and critical thinking, its focus on global issues, and its contribution to employability skills of graduates – this consonance is both a challenge and an opportunity. The parameters are

---

<sup>1</sup> McCoshan, A. and Martin, S. (2012) Evaluation of the impact of the Green Academy programme and Case Studies. <http://www.heacademy.ac.uk/assets/documents/esd/Green-Academy-Evaluation-Case-studies.pdf> date accessed 11 November 2012.

<sup>2</sup> Funding was made available by the Higher Education Academy for a second group of institutions in 2013. They were not included in the evaluation since the purpose of the evaluation was to examine impacts beyond the first year of the Green Academy.

shown in the box below. These issues have been taken into account, especially those shown in bold, as explanatory context for what has been found during the course of the evaluation.

#### Parameters for the work of Green Academy teams

(Issues relevant to the evaluation shown in bold)

- How can ESD be connected to, and support wider challenges in higher education, eg, e-learning, student engagement, graduate attributes, research and knowledge transfer?
- **How can the barriers to interdisciplinary teaching, learning and research be overcome?**
- How is sustainability marketed? Should an HEI wish to be branded as green?
- **Student engagement in campus and community sustainability issues is relatively well developed but how are students engaged in the ESD agenda (ie curriculum issues)?**
- **How are the skills and knowledge of staff addressed with regard to sustainability literacy to deliver institutions' vision and strategic plans?**
- **How are the issues of academic freedom and autonomy addressed?**
- What is the relationship between local and global engagement?
- How can we most effectively foster and strengthen partnerships between HEIs, with communities and with employers?
- **How do we map expertise across the HEI?**
- **How do we ensure effective post-change monitoring, evaluation, dissemination and momentum?**

Source: HEA Sustainable Development Advisory Group, *Supporting whole institutional approaches to embedding sustainability in the curriculum* -Green Academy: a curriculum for tomorrow.

## Structure of the report

The next section of the report discusses the general features of implementation, looking at modus operandi, the relationship of activities to major curriculum reforms, and to other general management tools, as well as resources available. It then moves on to look at the way in which Green Academy teams have made progress in four major areas. It shows how teams sought to understand existing activities in their institutions through various forms of **mapping** activity. The subsequent sections look at the development of modules and programmes in the **formal curriculum**, before going on to look at ways in which opportunities in **the informal curriculum** have been strengthened. The report then considers the nature of **staff development** activities, before presenting its conclusions.

## 2. General features of implementation

In this opening section we look at some of the main general characteristics of the ways in which Green Academy teams – or their successors – have gone about implementing changes in their institutions.

### Continuing to impact at corporate level

The first thing to note is that, as discussed in the first evaluation, the work of Green Academy teams has influenced corporate committee structures within the participating institutions. Indeed, this was a major achievement in the immediate period after the establishment of Green Academy teams. Getting sustainability into these structures was – and continues to be – significant for delivering the sustainability agenda. In this context, it is interesting to note that the action plans developed by Green Academy teams as part of their initial residential meetings have become absorbed into corporate documentation. There are also no separate Green Academy performance indicators.

In some cases developments such as these have been significant for the development of institutions more widely. To take just one example, at University of Wales Trinity Saint David the strategic commitment to sustainability has been a constant thread running through the development of the new University that has involved a complicated merger process. The consolidation of the strategic agenda is directly attributed to the opportunity provided by the Green Academy and this has helped to maintain the strategic commitment during several changes of the governing body.

## Green Academy teams providing continuity

Across all institutions, the individuals brought together by the Green Academy have tended to remain involved in subsequent developments. In almost all cases, individuals who played lead roles are still in place, and in some cases have had their roles recognised and embedded, such as the appointment of Keele's Green Academy lead as Director of Education for Sustainability in 2012; this is a significant appointment in terms of university backing for sustainability as there are not many such directorships.

In all institutions, Green Academy teams have remained together in one form or another, changing or expanding according to institutional priorities. To take just some examples, at Nottingham, the Green Academy team was enlarged to form the team to take forward sustainability as one of the University's Grand Challenges, comprising some 15 people, some to work across the curriculum and others to provide subject inputs<sup>3</sup>. This subsequently evolved into a smaller team as the University moved on from the Grand Challenge approach (which covered themes apart from sustainability) and the focus for sustainability work moved on to an online open module, as discussed further below. The team now comprises the original Green Academy lead, the Head of Learning Technology, members of the Learning Technology team and postgraduates involved in supporting delivery of the module. Elsewhere, such as at Canterbury Christ Church, the Green Academy core team continues to work together, now supported by two sessional academics and one or two student interns and now called the Futures Initiative team, reflecting the incorporation of sustainability into the corporate agenda. At Worcester the brand Green Academy still carries weight and recognition at a senior level.

Continuity such as this is valuable and has ensured the existence of an organisational memory relating to the Green Academy. It also helps to ensure that the universities involved can carry forward the learning they are developing about how to embed sustainability.

## Trial and error the dominant modus operandi

Across all institutions involved, the dominant modus operandi is trial and error. Sustainability teams are acutely aware of the leading edge and experimental nature of many of the changes they are trying to introduce. The curriculum and pedagogical innovations are therefore subject to review and re-engineering as a matter of course. Related to this, sustainability teams tend to be opportunistic. This is a necessary part of their position within institutions and their small resources. The high degree of autonomy inherent in British universities means that change across a broad front comes about by acting as a catalyst, as an influence on hearts and minds. And, in turn, sustainability teams therefore seize almost any opportunity they can to influence developments. Significantly, it is recognised by the Green Academy teams that it is the Green Academy which has put them in the position of being able to take advantage of convenient conjunctions of events as they arise. At Nottingham, for example, the position of sustainability in the University's strategic thinking, and the developing role of the co-curriculum Nottingham Advantage Award<sup>4</sup> meant that sustainability was a perfect choice for piloting a new approach to open educational resources (OER). Another consequence of these characteristics is that the path or trajectory of developing sustainability within institutions continues to be unpredictable and by no means linear. New routes open up unexpectedly, as others close off. As the team at Nottingham indicates, no one would have predicted their current focus on online learning. This is an oft repeated refrain.

## Linking sustainability to major curriculum reforms: hostage to fortune?

In some institutions sustainability has become part and parcel of major curriculum reform, such as programmes associated with the introduction of graduate attributes. At the time of the first evaluation, this appeared to be a major opportunity for taking forward sustainability. However, with the benefit of a longer time period it is evident that attaching sustainability to major vehicles for curriculum reform at an institutional level can be a double-edged sword, although this is by no means always the case. Sustainability is at the mercy of the general success of such interventions. In one case, the advent of a new pro-vice-chancellor led to one major teaching and learning reform

---

<sup>3</sup> The Grand Challenges were an already-established institutional change process in the university. The Grand Challenges set a strategic challenge to every school to participate in a broadly-based change process related to teaching and learning. The sustainability Grand Challenge was one of a number of challenges set.

<sup>4</sup> The Award is an employability scheme designed to improve students' personal and professional development. The modules that make up the Award can help to develop new skills, recognise extra-curricular activity and enhance employability. Students need to complete three modules to achieve the Award. Modules feature on students' degree transcripts.

<http://www.nottingham.ac.uk/Careers/Students/AdvantageAward/Index.aspx> date accessed 11 November 2013.

process being dropped. In some cases institution-wide curriculum change processes are reported to have had a lukewarm reception with staff and students, thereby failing to provide fertile ground for the introduction of sustainability principles.

### **Little use made of general management tools to implement strategy**

In most cases - despite the significant impact of Green Academy on corporate strategies noted above - comparatively little use appears to be made of the general tools through which strategic objectives can be delivered. By this we mean the processes of establishing appropriate means of assessing progress and setting objectives related to outcomes (eg staff and student perceptions) rather than activities (eg courses developed) or outputs (eg numbers of students enrolled), along with the use of systematic monitoring and evaluation processes or other tools such as quality assurance mechanisms.

These deficiencies were mentioned in the first evaluation and little progress appears to have been made since, with one or two notable exceptions. This is curious since one of the major achievements of Green Academy teams in their first years was to embed sustainability within university strategies and also committee and other decision-making structures (as noted above). However, since then they do not appear to have sought to use the general management mechanisms available for ensuring that strategy becomes reality.

Evidently there are challenges involved. Measuring the types of impacts related to embedding sustainability is by no means straightforward. As one informant commented, "It's not about getting impact Y from spending X." In addition, the focus for many has been on getting activities up and running. Nonetheless, measuring impact on hearts and minds, although difficult, is not impossible. Bristol provides a noteworthy example of how quality assurance processes can be used. Here, the Green Academy team has developed qualitative criteria to measure continuous improvement for ESD along with developing protocols to include ESD in Annual Programme Reviews. The team has also piloted the introduction of ESD assessment criteria for Faculty Quality Enhancement teams, enabling the annual assessment of progress on the embedding of ESD against the baseline review.

Without appropriate measures of outcomes it will become increasingly difficult to assess progress. Perhaps it is also necessary to look again at university targets and processes through the lens of sustainability in order to develop appropriate tools.

### **Resources: small-scale compared with strategic ambition**

In relation to resources, it is important to note – particularly as context for the following sections – that most often these continue to be either small scale and intended to release staff time or part-time appointments. There is still much reliance on enthusiastic individuals undertaking work on sustainability in the margins of their normal activity, fitting it in around existing work. However, each university has resourced the Green Academy-inspired agenda in different ways. For example, at Southampton, a full-time Sustainability Action Officer is now employed.

In the first evaluation, it was noted that the small scale of resources probably reflected the difficult financial circumstances of the time. Certainly these difficulties have continued. Nonetheless, there remains a stark contrast between universities' strategic ambitions in respect of sustainability and the resources actually devoted to it. This may reflect the fact that sustainability concerns the winning of hearts and minds and that universities perceive the embedding of sustainability as proceeding through catalysing change at the micro level, supported by strategic objectives at the highest level. On this line of reasoning, even if we were in economically buoyant times, the resources released for sustainability might still be a drop in the ocean compared with university budgets as a whole. However, it is difficult not to judge there to be a gap between the resources available and the ambition of universities in relation to implementing the Green Academy agenda.

## **3. Mapping of provision**

The first evaluation found that many institutions had been stimulated by the Green Academy to try to obtain a more systematic understanding of the incidence of sustainability within the curriculum through a variety of mapping procedures. However, at that point most institutions were either in the early stages of implementation of mapping procedures or still at the planning stage. One year on, it is possible to obtain a clearer picture of the type of mapping processes used and the purposes to which they are put.

A number of features stand out. Firstly, a wide variety of mapping techniques is used; this is particularly striking in view of the small number of institutions involved.

- At Worcester the STAUNCH (sustainability tool for auditing curricula in higher education) software developed by BRASS Research Unit within Cardiff University's Sustainable Places Research Institute was used. Data from the module description are graded according to their strength in cross-disciplinary contribution in a number of categories. The software then conducts the analyses of each module and summarises the results.
- At Nottingham a keyword search was made of the University module catalogue. Words such as the following were included: sustainability, sustainable development, environmental, green, citizenship, recycle, inter-cultural and problem solving. In other words, a variety of keywords was selected to cover the richness of the sustainability agenda.
- At Keele a light touch approach was used to provide data as a starting point and as an appropriate approach given the size of the institution. Through the process a judgement was made as to whether modules within programmes embodied a transformative process, ie whether the curriculum was 'deep green' in nature. The analysis differentiated between specific environment and sustainability courses, modules available to students undertaking degrees in Biology, Geography and Environmental Studies (established subjects that are most likely to focus on SD), and modules provided to students outside these subjects.
- At Southampton, all of the University's module documents have been examined firstly for the occurrence of any one or more of the five capitals which Forum for the Future<sup>5</sup> argues are necessary prerequisites for sustainability. The second examination involved identifying modules that addressed each of the three economic (manufactured and/or financial), social (human and/or social), and environmental (natural) elements, collectively termed as the 'sustainability capital' by the Southampton team, considered a more accurate representation of true ESD in a curriculum.

The second notable feature is the use made of the findings of mapping processes. At Southampton, the sustainability capital survey found that 33% of undergraduate courses addressed all three elements of sustainability compared with only 19% of postgraduate provision. However, the survey has also highlighted the variability in the incidence of sustainability across faculties with Natural and Environmental Sciences showing the greatest representation of sustainability in modules, approaching nearly 75% of its undergraduate provision and all of its postgraduate provision. Sustainability is least common in modules in the faculties of Business and Law, and Health and Medicine. The survey has been used, among other things, to target meetings at key individuals, and to provide bespoke support to programme leaders to embed sustainability in their curriculum; a pilot has also been launched in the Faculty of Social & Human Sciences.

At Nottingham, the keyword analysis provided two important general indications: that in general provision at undergraduate level was underdeveloped compared with postgraduate level; and that there was a predominant focus on environmental rather than economic and social issues. These findings have supported the subsequent focus at the institution on developing an online sustainability module available to all undergraduates with support provided by postgraduates.

At Worcester, use of STAUNCH software (see above) has enabled comparisons over time. The results indicate that 34% of all modules for the 2013-2014 academic years are related to SD, compared with 24% in 2010. The SD contribution has also become more widely spread across all four aspects of sustainability: cross-cutting, social, environmental and economic, with 24%, 52%, 11% 13% respectively.

It is evident from the activities of one institution that mapping exercises have the potential to provide a solid basis for action, as shown in the box below.

---

<sup>5</sup> The 5 capitals are: manufactured, financial, social, human and natural capital. <http://www.forumforthefuture.org/project/five-capitals/overview> date accessed 11 November 2013.

### Bristol University: integrating mapping with action

The University Green Academy team has made substantial progress in facilitating the implementation of a wide range of ESD-related curriculum reforms based on a rigorous and systematic University-wide baseline review which was completed in June 2012. The review is based on an analysis of current undergraduate and postgraduate taught provision using the UNESCO definition of ESD as an analytical/evaluation framework, ie:

- respect for the dignity and human rights of all people throughout the world and a commitment to social and economic justice for all;
- respect for cultural diversity and a commitment to build locally and globally a culture of tolerance, non-violence and peace;
- respect for the human rights of future generations and a commitment to inter-generational responsibility;
- respect and care for the greater community of life in all its diversity which involves the protection and restoration of the Earth's ecosystems.

The team has identified a set of clearly specified priorities which are set out in a current (2012-2014) ESD action plan which is the subject of routine and regular updates and is signed off by the University's education committee.

From the baseline review the Green Academy team was able to identify key gaps in taught provision across all six faculties and has set in train a specifically tailored and supported action plan for at least two schools annually; all of which is targeted for completion by February 2014.

The final notable feature is that views differ on the value of mapping exercises. It is already evident from the preceding descriptions of universities' mapping activities that institutions have committed varying levels of resources, but it is also true that some institutions question the value of them in general. As one informant commented, "You can spend a lot on this without achieving anything." At another institution, mapping has not been carried out because "it is not clear what to do with the data". In this case, the approach adopted has been to get a feel for academic interest/research which may help to understand how to embed sustainability. Most but not all of the first Green Academy participating institutions have mapped provision to date.

## 4. Developing modules and programmes in the formal curriculum

In this section we look at the development of sustainability modules and programmes in the formal curriculum. It is interesting to note that of these two forms of curriculum innovation, modules have been developed in all institutions, whereas programmes are notable by their absence in terms of an impact of the Green Academy. Hence we focus here on modules, although as informants at Keele pointed out, programmes, modules and the informal curriculum (which we discuss in the next section) are all needed since they engage different groups of students with different interests (see box below).

### Understanding the roles of different types of provision at Keele University

The relationship between different types of provision is seen as critical to successfully embedding sustainability at Keele. The Environment and Sustainability BSc has a core of committed students who are regarded as highly significant: the University had its second cohort of graduates completing in 2013 and students from the programmes have been "incredibly important" in capitalising student activity and at bringing passionate students together. Indeed, students who come to study sustainability are "the real change agents" since they have the time, "it's their subject". The Greening Business module (described on page 10) gets a different group of students interested and then provides opportunities in the informal curriculum, including the student sustainability society (Think:Green) led by students from the Environment and Sustainability degree course, give something for newly interested students to get involved with in order to maintain interest and involvement.

The development of modules within the formal curriculum has been a significant part of activities since the Green Academy. Indeed, although practices vary between institutions, an important role of all of the sustainability teams now working within the universities has been to support the development of new modules. Significantly, it is universally emphasised that the new modules now coming on stream have a strong focus not just on content but also on new forms of teaching and learning.

Modules can take two forms: free electives open to all students and modules developed within individual programmes. While all institutions have encouraged and supported in various ways the development of modules within individual programmes, not all have decided to put in place free electives open to all students. Context is an important factor. For Worcester the introduction of a free elective has been a central focus of activities since the Green Academy. Bristol's Open Unit 10001 Sustainable Development was put in place as long ago as 2002 and is multidisciplinary, being taught by staff and taken by students in all faculties. At Southampton the introduction of a new module called Sustainability in the Local and Global Environment has also been an important part of activities. At Nottingham the development of an online module called Perspectives on Sustainability<sup>2</sup> has become the central focus and is seen as a major vehicle for changing teaching and learning, as discussed further below. At University of Wales Trinity Saint David an innovative intra-faculty approach has been adopted that exposes all students to sustainability, as described below.

#### An intra-faculty approach to embedding sustainability: Humanities at University of Wales Trinity Saint David

At University of Wales Trinity Saint David the Faculty of Humanities introduced an innovative intra-faculty approach when it redesigned the research skills and methods module that is taken by all level 5 students in the Faculty. The goal of the redesign was to enhance and embed ESD priorities into the broader curriculum in an area where sustainability issues were less evident or thought to be less accessible. The aim of the research methods module is to equip students with the skills they need to undertake independent research at level 6 but this needs to be balanced with content relevant to individual students' subject specialisms. To achieve this balance, research methods are taught and assessed through the use of case studies that explore various sustainability issues relevant to a student's own subject. Each school within the Faculty delivers the sustainability element of the module through its own area/subject but all the students are brought together at the end of the module for a student conference. The module was introduced in the 2011–2012 academic year and using staff and student feedback was further developed for 2012–2013, the final student conference being turned into an inter-subject competition by asking each subject to present an argument that their subject was of most relevance and importance to sustainability issues. Through this approach all students within the Faculty of Humanities are now exposed to sustainability principles via a core part of their courses. Student feedback indicates that the new model has been well received and effectively develops understanding of generic sustainability issues and research skills while remaining rooted in subject disciplines.

Some institutions have chosen not to develop generic modules open to all. Canterbury Christ Church had an open module prior to Green Academy and was considering the introduction of a compulsory programme but changed course as a result of the Green Academy residential on the basis that doing so would not win hearts and minds. University of Wales Trinity Saint David plans for generic, cross-discipline modules to be developed which can be tailored by individual schools/faculties to suit their students and wider programmes. Increasingly there is a bank of modules within different faculties that could be adapted for a range of audiences. The Early Childhood module in the School of Early Childhood has been developed from a generic module on sustainability called Paradise Lost which was originally taught within the Tourism degree.

In parallel with the development of open modules, encouragement and support has been given to faculties to develop their own modules. Sometimes this is part of a specific programme of support, as at Bristol and Canterbury Christ Church where the Futures Initiative provides seedcorn funding for individual faculties to develop their own approaches to sustainability. At University Wales Trinity Saint David sustainability strategies have been developed by faculties according to parameters which are set at university level but allow individual faculty interpretation. Faculties do not have a completely free hand and the Senate, following recommendations by the Sustainability Committee, can, and have, sought further work on faculty strategies before approval. In June 2012, the Faculty of Humanities submitted its first sustainability strategy, which it developed drawing upon its experience of a pilot module introduced in 2011, and which has subsequently been revised following evaluation. It is based on 11 key ESD concepts including heritage and conservation, uncertainty and change, needs and rights, ethics, equity and social justice, and health and wellbeing.

In the context of such activity, there are increasing numbers of discipline-specific sustainability modules appearing. At Keele three or four new modules have been developed in the last 18 months, including a new history module entitled Nature, society and the past: an environmental history of the western world 1800–2000. Interestingly, this has been attributed to the increasing prominence of sustainability in the University narrative as much as any specific encouragement that may have been given.

At this point we should also mention programmes. As noted, they are in the main notable by their absence in

terms of a consequence of the Green Academy. A significant exception is shown in the box below where at Southampton the Sustainability Minor Programme is a direct output of the Green Academy team and the wider Curriculum Innovation Programme introduced by the University.

### University of Southampton's Sustainability Minor Programme

Southampton's Sustainability Minor Programme is available as part of the University's new major/minor degree programme structure which allows students in Humanities or a single honours programme in Social Sciences, Geography or Education to take a minor subject alongside their major degree. For students who complete a minor, their degrees appear on their transcript as, for example, Economics with a minor in Sustainability.

The Sustainability Minor comprises a mix of compulsory and optional modules. In each year, students take one compulsory module as follows:

Year one: Global challenges

Year two: Sustainability in the local and global environment

Year three: Living with environmental change

In addition, students are required to select two from the following optional modules - one in year two, one in year three:

- Social enterprise (recommended)
- Health policy and economics
- Globalisation: economics, politics, culture and nation state
- Ethics in a complex world
- Global health
- Jekyll and Hyde: science as hero and villain
- Environmental law and management
- Energy in the environment

The three core modules are clearly defined within the focus and scope of sustainability, with the first-year compulsory module providing the initial grounding. All the optional modules cover either broad sustainability, or focus on one of the three pillars of environment, society, and economy while also providing an appropriately interdisciplinary approach.

### Benefits of modules

Modules are seen as an important way of introducing sustainability into the curriculum. They also have a symbolic and strategic importance. This is especially the case with electives available to all students across institutions, which signal the importance of sustainability and are part of the development of institutional narrative. Equally, for sustainability teams, in subjects which are not traditionally seen as being linked to sustainability the development of modules can provide a valuable demonstration effect across the university.

Modules can also have ripple effects far beyond their immediate impact. Keele's Greening Business module was introduced as a vehicle for ESD so that all students could immediately see the practical relevance of sustainability skills. Introduced in 2008, the module was designed to give students the skills and motivation to push forward sustainability change within organisations. It is seen as having a significant transformative effect on participants and is taken by students from across a wide variety of disciplines. In 2012, it galvanised students to transform Keele Environment Group into Think:Green which has played an important role in improving student engagement in sustainability. Arguably, this may not have been possible without the step up in profile given to sustainability as a consequence of the Green Academy.

In some cases, the modules being introduced are seen as having wide-reaching impacts within institutions on teaching and learning. This is well exemplified by the case of Nottingham, shown in the box below.

## Pioneering sustainable teaching and learning: the University of Nottingham online module

At Nottingham, the focus of activity since Green Academy has been the development of a module, Perspectives on Sustainability, which is available entirely online and to everyone with a University access code. It is the first of its type at Nottingham, being based on a Moodle platform. It meets the desire of the University to develop OER online and also helps to tackle the problem of opening up space for the introduction of electives. Jisc funding has been used, first to develop high-quality resources and then to structure an interdisciplinary course around them. Green Academy made it possible to take advantage of the opportunity presented by the University's goals for OER on the one hand and the availability of funds on the other. The module was up and running in three months in order to maintain momentum and make it available in the 2012–2013 academic year.

The course runs for ten weeks. Students are involved in, among other things, waste audits, debates, critiquing the University sustainability strategy, taking part in three synchronous webinars (one of which involved the Vice Chancellor) and making a poster presentation on a given issue. Postgraduates are involved in assessment and providing support. Peer assessment is also a feature. Face-to-face support/tuition is offered. Content is genuinely open since it can be downloaded by users.

A total of 850 individuals have enrolled and about 20% to 25% are active, taking at least some of the course. The module has provided a unique opportunity for students on all three Nottingham campuses – in the UK, China and Malaysia – to interact. The course has also been deliberately opened to staff, and 13% of those enrolled are staff members.

For the University, the module has provided an opportunity to pilot ways of learning online and to pioneer sustainable teaching and learning in the institution. Currently part of the Nottingham Advantage Award which sits alongside credit-bearing programmes, it is hoped to make the module itself credit bearing, although this will entail consideration of appropriate assessment methods since currently the module is based on interaction/engagement.

## Challenges

There are some important challenges related to modules. First, with the increasing general trend to introduce electives as part of the drive to make degree courses more flexible and to enhance student choice, sustainability modules face a competitive environment.

The second challenge - related to this competitive environment - is the number of students taking sustainability modules. This is, by any measure, small, notwithstanding the quality of the modules themselves. With one or two exceptions, numbers of students on individual modules are counted in tens rather than hundreds. Such numbers can add up. At Southampton, for example, the three core sustainability modules specifically developed with sustainability in mind recruited over 300 students between them in their first year, and to these numbers can be added the students on other interdisciplinary sustainability modules which brings the total to over 900. Despite such progress, however, it remains the case that the proportion of students taking sustainability modules remains a small fraction of the total numbers of students enrolled in the institutions.

Thirdly, getting it right can be difficult and complex. In one institution, a new discipline-specific module was offered in 2012–2013 but no student opted to take it. It was found that the module was outside the comfort zones of students and was perceived as too risky since it did not build on existing knowledge. It was offered in the final year and represented a high proportion of the course, and sat alongside other modules which were seen as core rather than as nice to do. As a result, students were unsure how successful they might be and preferred established modules. The module has now been redesigned and built into year two of the degree course as one of a number of foundation options. The module is a scaled-down version of the original module and the focus is on creative teaching and learning. Repositioned and redesigned in this way, and sitting alongside a range of other redesigned modules with fewer options than in the final year, staff are optimistic that there will be take-up.

Such learning from experience is commonplace and to be expected where curricula and pedagogy are venturing into new territory, an example of which is shown in the box below. Sustainability teams have built in feedback mechanisms to gather the views of students. In one institution, a new discipline-specific module attracted criticism from students in terms of its relevance to them and their disciplinary programmes of study, and the need for more visits and more effective community and environmental content.

## Developing an open elective at University of Worcester: good design and effective review

In 2012 the University of Worcester introduced a well-designed 30 credit module available to all undergraduates from all six institutes (faculties) within the University. It introduces the key concepts of sustainability and SD and particularly and appropriately focuses on what these terms mean in practice to students from whatever disciplinary tradition.

The Green Academy team has been actively involved in its design and now in its delivery and review. Its emphasis on problem solving and community engagement is noteworthy as are its intended outcomes “to permit students to evaluate their own sustainability practices and develop their own position on sustainability.”

Critical thinking and reflective practice and enquiry-based learning are dominant pedagogic themes. The first-year review has been rigorous, comprehensive. Interviews with student participants indicated a good understanding of the critical systemic issues which makes the anthropocentric resolution of issues such as climate change, genetically modified organisms more grounded. Good use of internal and external witnesses offer alternative perspectives on sustainability issues.

That said, it is also evident that systematic assessment of outcomes for learners from the new modules is underdeveloped. In light of the innovative nature of the curriculum and pedagogy being introduced, this currently represents a missed opportunity to learn fully from new practice and to ensure that the lessons are widely disseminated across institutions.

Finally, there are a number of institutional barriers which can stand in the way of module development. Prime among these is the general position of electives. In one institution, the school which manages the module receives the income, and this acts as a disincentive for schools to promote modules developed by others. In another university, many schools limit the opportunities for students to take electives outside of their core discipline. Such silo-ing also raises the general issue of trying to develop modules which are truly interdisciplinary, both in terms of academic approach but also being taken by students from multiple context/disciplines. ‘Scaffolding’ frameworks are needed to help to develop this interdisciplinarity. However, the development of appropriate interdisciplinary frameworks or ‘scaffolding’ such as appropriate pedagogical tools and techniques which facilitate and support interdisciplinary learning and engagement by students from different disciplines is a key barrier to progress at this time.

## 5. Strengthening opportunities in the informal curriculum

It is well established, and was noted in the first Green Academy evaluation, that the informal curriculum plays a very important part in the student experience of sustainability while at university, and in students' acquisition of competences related to sustainability. This feature of ESD resonates with the general trend in recent years within higher education to recognise students' activities outside the formal curriculum. Indeed, this has gone so far as to begin to change our understanding of the informal curriculum so that it is now common to talk about the co-curriculum<sup>6</sup>. Awards for students' extra-curricular activities are becoming the norm, introduced predominantly for employability reasons and to help give students a competitive edge in the labour market.

Developments in the informal curriculum continue to be important. For example, in 2012 Southampton University and Southampton University Students' Union (SUSU) organised Blackout which saw staff and students giving up their evening to turn off all office equipment unnecessarily left on before the weekend. The event raised awareness of energy waste across the University and enabled students to develop skills in energy auditing and evaluation. Blackout won the Vice Chancellor's award and was highly commended in the Environmental Association for Universities and Colleges (EAUC) Green Gown Awards. It was repeated in April 2013, this time covering even more of the University estate. Some 255 students and 72 staff took part, and it was the biggest switch off and energy audit of its kind in the sector. It is now being rolled out to all Welsh HEIs for 2014, with the aim of being run on the same night across the UK HE sector in 2015.

With regard to the co-curriculum, at the time of the first evaluation developments as a result of Green Academy were, in the main, still on the drawing board. Since then, in five of the seven Green Academy institutions, efforts to

<sup>6</sup> eg Andrews, M. (2013) Why our students need co-curricular, not extra-curricular, activities. <http://www.guardian.co.uk/higher-education-network/blog/2013/jan/22/student-development-university-curriculum-design> date accessed 11 November 2013.

develop some form of sustainability pathway within these new awards has been a significant part of activity. In the case of Keele, the Distinctive Keele Curriculum seeks to offer students a much more integrated approach to the formal and informal curriculum than hitherto and comprises the academic curriculum, a development strand and the co-curriculum all of which are intended to contribute to graduates achieving a set of ten attributes<sup>7</sup>. As a direct result of the Green Academy, sustainability was added as a theme alongside employability and internationalisation running throughout the whole of the Distinctive Keele Curriculum. One of the ten attributes is about appreciating the social, environmental and global implications of studies and other activities. Sustainability should therefore be articulated in all programmes as well as in the informal curriculum. Sustainability is also being piloted with three programmes (Physiotherapy, Politics, and Chemistry) as the topic to deliver core skills in away days being delivered by central services as part of the development strand. The Distinctive Keele Curriculum was run for the first time in 2012–2013 and so it is too early yet to judge the outcomes with respect to sustainability.

Within co-curriculum awards, a common approach is to identify a separate strand or pathway devoted to sustainability or to develop modules as at Nottingham. At Canterbury Christ Church, the Futures Initiative, which was a result of the Green Academy, is now about to enter its third year, and has supported the development by the Employability and Careers Service of the University skills award. Year one funding was used to carry out initial research, and year two funding to pilot a suite of certificates. Initial experiences showed that certificates were siloing the focus of students rather than integrating it, so a more integrated approach is now to be followed. The Graduate Plus award will be based on 100 hours of community engagement and students can build up their hours under one or more of the following headings: skills for work, enterprise, Student Union recognition of engagement, community engagement and sustainability. The Sustainability Skills Certificate involves attending a 60-minute induction and then a minimum of 50 hours of activities and can include full-time or part-time work as well as voluntary activity. In order to evidence their activity and the competences they have developed, students must submit reflections on three skills obtained and their wider application, and write a 450-word business case on the adoption of a sustainability practice into an organisation.

## Benefits and challenges of developing co-curriculum opportunities

Systematising the recognition of activities in the informal curriculum is a significant opportunity for embedding sustainability. The informal curriculum is often where students gain tangible experiences and change or develop deep-rooted sustainability perspectives. Indeed, informants at one institution commented that the focus had shifted from modules in the formal curriculum to how to produce graduates with sustainability attributes, a perspective which automatically embraces in equal measure formal and informal opportunities for learning. Some go further and argue that opportunities in the informal curriculum have the greatest potential to create change agents among the mass of the student body.

A good example of how developments can take place to move sustainability from the informal into the co-curriculum is provided by the experience of Bristol, as shown in the box below.

### Developing a sustainability pathway in the co-curriculum at Bristol University

The Bristol Plus Sustainability Award was introduced in 2011–2012. It sits alongside the general Bristol Plus Award and two other specialist streams (covering sports and engineering). To obtain the award students have to complete 50 hours work/life experience (at least 25 hours of which must be in a sustainability-related role or environment), four employability-related workshops, at least seven hours of an intensive skills activity related to sustainability, and a 300-word reflective report. It is also possible for students to obtain a Bristol Plus Outstanding Achievement award in sustainability once they have achieved the Bristol Plus Award. Significantly, starting in 2013–2014 sustainability will be essential for *all* Bristol Plus Award students. They will have to demonstrate sustainability literacy in an applied context, eg showing what sustainability issues arose during work or voluntary activity, how they were tackled and potential future choices. An online tutorial/assessment tool is currently being developed which will enable students to demonstrate their sustainability literacy levels.

Another benefit of developments in the informal or co-curriculum is the possibility for building strong two-way relationships with teaching and learning practice. Some interesting examples stand out. At Bristol, the Bristol Plus Award can include training in waste auditing which was set up a number of years ago by the University's

<sup>7</sup> The development strand sits outside the formal curriculum and is designed to provide students with a number of development opportunities to improve their performance and achieve their full potential. Some of these are embedded into their academic programmes (but delivered by central services) and others are available as opt-in workshops.

Sustainability Department (part of the Estates Office); although not credit bearing, the course is externally certified by the Chartered Institute of Waste Management and the University of Northampton. At Southampton, a Waste Wars event has run for seven consecutive years and the data for this are analysed in a Masters Waste Management Module. Blackout (see box above) is covered in the University's sustainability module, and the data are also analysed in a first-year undergraduate module called Environmental Science: Research and Applications. Another example is provided by the online module developed by Nottingham University mentioned above.

A major challenge involved in these developments is having to rely on institution-wide processes, although evidently this is also a major opportunity. This can make sustainability a hostage to fortune. Where student uptake of co-curriculum awards is poor, so too will be recognition of sustainability activities. The dilemma then opens up of perhaps not being able to introduce some form of sustainability certificate independently. In some cases, the structure of the co-curriculum award may make it difficult to introduce a sustainability pathway in a straightforward manner. Indeed, it is notable that, since the Green Academy, informants have tended to be most optimistic about sustainability pathways where it has been possible to differentiate them clearly and simply from a small number of other pathways, although it is too early to judge the success or otherwise of any of these awards.

## 6. Staff development

The introduction and running of staff development activities has been an important part of the work of Green Academy teams in the last year. In some cases, the establishment of such activities has been supported by a staff survey. For example, this has been an important impact of the Green Academy programme at University of Wales Trinity Saint David, where the sustainability agenda is seen as a vital part of forging an identity for the new institution which is to emerge from the merger of several major higher and further education providers. In May 2012 the institution completed a wide-ranging and detailed survey of sustainability skills of all academic and non-academic staff. In total over 600 staff responded, a response rate of 30%. The survey revealed an extensive range of expertise and competences in sustainability and this led to a number of requests to the University Senate, including:

- supporting the organisation of staff development sessions to help build capacity, raise awareness and further engage staff on how to take the agenda forward in partnership with Faculties;
- approving sessions for academic and support staff during staff development week to allow ideas for embedding sustainability into the curriculum and research to be debated.

The institution now provides a specific induction day for new staff at the end of August and there are three days of engagement (one on each campus) with all staff concerning the strategic and operational planning agenda for the coming academic year which includes inputs from senior staff on sustainability so that the strategic importance of the subject is demonstrated.

In relation to staff development programmes themselves, these are increasingly common. At Keele training in ESD was incorporated into the training of all new lecturers from 2011–2012 and made available to all academic staff. At Bristol, the action plan sets out a cascade of staff development activities for new and existing staff. At Southampton, by the end of the 2012–2013 academic year, staff induction programmes (online and induction day) had been revised and delivered, making sustainability training available to all staff. In addition, training for Southampton University Students' Union (SUSU) sabbatical officers had also been carried out, with the result that the Students' Union has been restructured with one of its eight new operational zones being the sustainability zone, a change led by the 2012 Green Academy Student Intern. At Worcester there is a generic clause in all staff job descriptions related to sustainability, much like health and safety and diversity, and a basic online course is made available to all new starters.

At some institutions, staff development is the central focus of attention, as shown in the box below.

## Focusing on staff and developing a community of practice: Canterbury Christ Church University

At Canterbury Christ Church, the Futures Initiative is the main vehicle for embedding sustainability, and is, in effect, a long-term staff transformation programme, providing small sums of money to release staff time at faculty/school level. The Initiative gives staff space to think about how to develop their curricula, teaching and learning, and is backed up by an annual residential course held at the end of the academic year which focuses on sustainability as a transformative process. Evidence from members of staff who have taken part in the residential highlights the personal impact made on them. A community of practice is starting to develop among staff in the institution, and to support this a web-based platform is being developed based on the University's existing global learning and inter-cultural learning websites.

Along with running programmes, a variety of tools are being introduced to help staff to develop their understanding of sustainability and to develop their skills. At Bristol the team has trialled and implemented ESD self-assessment tools to help staff to reflect on progress and support the development of new ideas as well as incrementally encouraging the sharing of good practice from internal examples and from national and international sources. At Canterbury Christ Church, the Health and Social Care Faculty has developed a sustainability audit tool to help staff consider how sustainability might be introduced to their curriculum. Although the original intention had been to develop a postal questionnaire, realisation of the limitations of that method mean that the tool is now based on a structured one-to-one interview carried out by a senior member of staff. This has the advantage of being able to raise awareness about sustainability as well as evaluating the current knowledge of the academics concerned. It also allows for a richer level of response and for the clarification of issues.

## 7. Conclusions

### Green Academy effects still being felt

As noted in the introduction, it can be difficult to isolate precisely the ways in which Green Academy may still be influencing developments. This is inevitable given the two-year period between this report and the original Green Academy residential. It is also an inevitable consequence of the approach embodied in Green Academy which is to arm small groups of individuals with confidence and fresh perspectives to make strategic interventions in their institutions.

Nonetheless, it is clear from the feedback from Green Academy participants that the effects are still felt and acknowledged, and that institutions are proceeding at different rates and in different ways. Some Green Academy participants are still implementing their action plans, although others have either abandoned or forgotten their original content owing to changing circumstances. But in some ways this is not important. In the longer term, what really matters are two long-lasting and inter-related effects of Green Academy which it is possible to identify. First, Green Academy has enabled institutions to put in place resilient platforms, giving sustainability greater legitimacy and longevity, upon which many activities have been – and continue to be – built. Secondly, Green Academy has placed the teams leading sustainability implementation in a position to respond positively to events as they unfold. Together, these factors provide a critical underpinning to the activities taking place to embed sustainability.

### From strategy to implementation: treading a cautious path

In terms of how Green Academy teams have gone about implementing these activities, it is evident that the nature of sustainability has conditioned to some degree the chosen modus operandi. Ultimately, successfully embedding sustainability requires changing people's hearts and minds and allowing them to experiment. Combined with the inherent autonomy of university faculties and departments, this factor means that teams have been acutely aware of the necessity to proceed, in the words of one informant, "softly, softly" and to permit trial and error. Trying to be too directive means that "walls will go up", in the words of another. But, in this respect, embedding sustainability does not seem to be any different from other cross-institution changes within higher education.

After two years we can observe the following broad pattern. In the first year of Green Academy-inspired activity there was a strong focus on getting top-level support within universities for sustainability. In year two, depending upon the institutional context, there has either been a burgeoning of innovations at the level of faculties/departments in terms of sustainability modules or an extension or building on an already established base of formal curriculum work, coupled to the development of open access modules and/or of the co-curriculum at

institutional level.

## A gap needing to be filled between strategy and curriculum development

Although there is a risk of over-generalisation, and notwithstanding the value and quality of activities in the curriculum, this pattern suggests the emergence of a gap between the ambitions of strategic plans and the excellent work at programme level. This is the gap where there has been a relative lack of engagement with putting in place objectives in terms of outcomes (actual effects on students and staff) rather than activities (eg module developed) or outputs (eg staff/student participation). Monitoring processes and using quality assurance procedures as tools to embed sustainability in the curriculum are also part of this gap. This may also explain why the development of new modules has been the main way in which the Green Academy has impacted on the formal curriculum rather than embedding sustainability into existing programmes. Putting in place systematic management approaches could form a logical part of activities in year three.

## Achieving coherence

It is also notable that in the case of some institutions, especially Keele and Bristol, a key success factor is not simply the breadth and depth of activities but the coherence already being achieved between them. The contributions of different activities are clearly understood and activities are mutually supportive. Both institutions have comparatively long track records in sustainability and have now generated a wide range of inter-related activities and a good level of student engagement, given a stimulus given by the Green Academy. In the other Green Academy institutions, plans are being implemented with the aim of achieving a similar degree of integration. As one informant commented, the lessons being generated in their institution need to be integrated into strategy. Institutions like Keele and Bristol provide good examples of what can be achieved.

## Student impacts

The lack of systematic assessment of the effects of new activities has made it hard for us to draw evaluative conclusions about the impact on students. However, it is clear from the numbers of students taking up the opportunities in the formal curriculum that there is a gap between students' interest and enthusiasm for sustainability<sup>8</sup> and the uptake of formal opportunities that might count towards their degrees. To be sure, the development of opportunities in the co-curriculum helps to address this gap to some degree, but again we are stymied by lack of numerical data in trying to assess the success of sustainability pathways in co-curriculum awards. A vital issue for institutions is to understand better how to bridge the gap between students' enthusiasm and their take-up of opportunities. Are the opportunities relevant enough to students or are other factors at play?

## An underlying dilemma

This is evidently a dilemma at the heart of trying to embed sustainability in the university context: time is running out to respond to environmental pressures and yet Green Academy teams must operate through persuasion. Judged against the pace of climate change, it is legitimate to ask whether we are proceeding far enough at a fast enough rate. The dominant modus operandi currently in use makes pathways and progress unpredictable and nonlinear. The small amount of resources allocated by universities to their sustainability teams makes it hard to see how the ambitions of the Green Academy will be realised any time soon.

## Where next?

Nonetheless, the wide range of activities initiated by Green Academy continues to accumulate and the successes continue to be registered. Embedding sustainability is not a quick fix. If the current base of work is coupled to a more systematic use of the management tools available within universities, if the connections between different activities continue to be made, then there is no reason to think the ripples created by the Green Academy will not continue to spread.

---

<sup>8</sup> As evidenced, for example, by the student survey commissioned by the Higher Education Academy: [http://www.heacademy.ac.uk/resources/detail/sustainability/2013\\_student\\_skills\\_final\\_report](http://www.heacademy.ac.uk/resources/detail/sustainability/2013_student_skills_final_report) - full report  
[http://www.heacademy.ac.uk/assets/documents/sustainability/Executive\\_summary\\_2013-4.pdf](http://www.heacademy.ac.uk/assets/documents/sustainability/Executive_summary_2013-4.pdf) - 2 page executive summary. date accessed 11 November 2013

---

## Contact us

**The Higher Education Academy**  
**Innovation Way**  
**York Science Park**  
**Heslington**  
**York**  
**YO10 5BR**

**+44 (0)1904 717500**  
**[enquiries@heacademy.ac.uk](mailto:enquiries@heacademy.ac.uk)**

**ISBN: 000-0-0000000-00-0**

© The Higher Education Academy, 2014

The Higher Education Academy (HEA) is a national body for learning and teaching in higher education. We work with universities and other higher education providers to bring about change in learning and teaching. We do this to improve the experience that students have while they are studying, and to support and develop those who teach them. Our activities focus on rewarding and recognising excellence in teaching, bringing together people and resources to research and share best practice, and by helping to influence, shape and implement policy - locally, nationally, and internationally.

The HEA supports staff in higher education throughout their careers, from those who are new to teaching through to senior management. We offer services at a generic learning and teaching level as well as in 28 different disciplines. Through our partnership managers we work directly with HE providers to understand individual circumstances and priorities, and bring together resources to meet them.

The HEA has knowledge, experience and expertise in higher education. Our service and product range is broader than any other competitor.

[www.heacademy.ac.uk](http://www.heacademy.ac.uk) | [www.twitter.com/heacademy](https://www.twitter.com/heacademy)

---

The views expressed in this publication are those of the author/s and not necessarily those of the Higher Education Academy. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any storage and retrieval system without the written permission of the Editor. Such permission will normally be granted for educational purposes provided that due acknowledgement is given.

To request copies of this report in large print or in a different format, please contact the communications office at the Higher Education Academy: 01904 717500 or [pressoffice@heacademy.ac.uk](mailto:pressoffice@heacademy.ac.uk)

The Higher Education Academy is a company limited by guarantee registered in England and Wales no. 04931031. Registered as a charity in England and Wales no. 1101607. Registered as a charity in Scotland no. SC043946.

The Higher Education Academy and its logo are registered trademarks and should not be used without our permission.