



Achieving Green Colleges
Sustainable Development in Further Education Colleges

February 2008

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Sustainable Development in Further Education Colleges

Introduction

There is a rapidly growing awareness of the need to live sustainably if we are to have any impact on the potentially devastating effects of climate change, reduce our dependence on our planet's finite natural resources and ensure access to environmental goods for all. The purpose of this report is to set out short (1 year), medium (4 year) and long term goals to help colleges become truly sustainable institutions.

Contents

1. About us
2. Summary
3. What is sustainable development?
4. Our vision
5. Where we are now?
 - Leadership
 - Buildings
 - Curriculum
 - Transport
6. What we need to get there?

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Section One: About Us

1. AoC (the Association of Colleges) is the representative body for colleges of further education, including general FE colleges, sixth form colleges and specialist colleges in England, Wales (through our association with *fforwm*) and Northern Ireland (through our association with ANIC). AoC was established in 1996 by the colleges themselves to provide a voice for further education at national and regional levels. Some 95% of the 400+ general FE colleges, sixth form colleges and specialist colleges in the three countries are in membership.

Section Two: Summary

2. Further education colleges recognise the importance of this agenda, are committed to making it work in their own operations and influencing the lives of their wide and far reaching audiences. Colleges employ more than 200,000 people and engage with 3.5 million students each year, including the majority of 16-18 year olds in full-time education. Colleges are in a prime position to work with employers, communities and individuals and already do so in a variety of ways. Some colleges source supplies and services locally to minimise transport costs. Some work with businesses to adopt environmental policies and develop skills in environmental technologies. Others work with students to change behaviour patterns to benefit the environment.
3. AoC's own research^{1 2} as well as highlighting the strides colleges are taking to develop the environmental sustainability agenda, also shows that colleges face barriers, some of which are financial and some of which could be overcome through changes in government policy.
4. This report uses the LSC definition of sustainable development in "From here to sustainability". It sets out a vision whereby environmental sustainable development is integrated into the whole college – college management, buildings and estates, the curriculum, policies and practices and partnership working.
5. Looking at the picture of where colleges are now in terms of sustainable development, the report considers the four areas of leadership, buildings, policies and practices, the curriculum and transport. While the findings reveal that there is much progress in all of these areas, as excellent case study examples and other research shows, there is also more that could be done to help colleges achieve the vision.

¹ Green Colleges Survey Report: the sustainability of the further education estate, AoC, May 2007

² Curriculum Survey Report, AoC, August 2007

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Sustainable Development in Further Education Colleges

6. The last section of the report looks at what will help colleges achieve the vision, setting out short term (1 year), medium term (3 year) and long term (10 year) goals to help colleges become truly sustainable institutions. Focusing on the areas of buildings and estates, the curriculum and transport.

Section Three: What is sustainable development? A definition

7. Sustainable development is defined by the LSC in their strategy "From here to sustainability" as:

"Development which meets the needs of the present without compromising the ability of future generations to meet their own needs." LSC 2005

8. Sustainable development is fundamentally about achieving economic growth and social development, while protecting and improving the environment, for now and in the future (see Figure 1 below). It is a term that has been redefined so many times and used to cover so many aspects of society-environment relationships that it is difficult to agree on one definition. Reconciling our needs with those of environmental resources on which society depends presents a huge challenge, but is one that is necessary to rise to if the alternative is a damaged environment that will hold back economic growth and lower the quality of life.
9. The areas of the economy and society in this model are fundamentally areas that colleges have direct impact upon and goals that are ingrained, into their reason for being. Now it is time to embed the third element in the same way. There are many examples³ of colleges doing this, in particular those involved in the land based sector.

Section Four: Vision

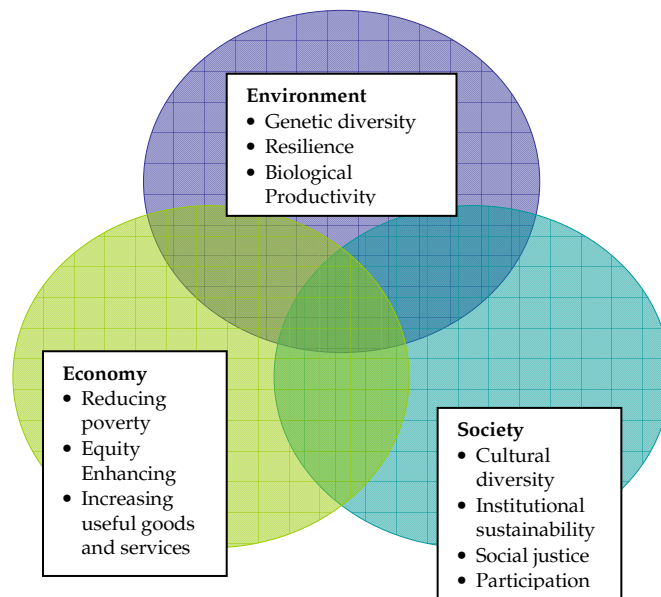
10. Colleges recognise the importance of the sustainable development agenda, are committed to making it work in their own operations and embedding it into the lives of their wide and far reaching audiences. Colleges employ more than 200,000 people and engage with 3.5 million students each year, including the majority of 16-19 year olds in full-time education and so are in a prime position to work with employers, communities and individuals on this important aspect of our lives.

³ AoC Green Colleges brochure (2007)

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Figure 1. Compiled from Barbier (1987)⁴



⁴ Barbier E. B. (1987) "The concept of sustainable economic development", Environmental Conservation, 14,2, pp 101-10

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Sustainable Development in Further Education Colleges

11. AoC's vision is:

- Governing bodies, principals and management teams take a leading role in sustainable development and embed it in all aspects of college life.
- College buildings, both new and existing, would be designed, constructed, refurbished and managed to high environmental specifications, with the long-term aim that they are carbon neutral. Research shows that a high quality learning environment is linked to an increase in participation and success rates in colleges for both 16-19 year olds and adults (LSC 2003 and 2006). College success equips learners and employers for work and life.
- Sustainable development is a guiding principle in all curriculum areas. Education is key to changing behaviour, making informed choices and providing the skills individuals need to manage resources sustainably. It is also key to enhancing the UK's skills base to ensure economic prosperity.
- A commitment to sustainable development in policies and practices adopted by further education colleges, including sustainable purchasing, recycling, encouraging use of public transport, cycling and walking.
- Both national and local working partnerships between AoC, colleges, LSCs, Local Authorities and other environmental bodies to promote sustainability.

Section Five: Where we are now

Leadership

12. College leaders recognise the importance, need to develop and lead on the sustainable development agenda. There are good examples of colleges adopting the sustainable development agenda highlighted by AoC's estates and curriculum survey's and CEL⁵. However, if colleges are to adopt a whole college, holistic, sustainable development strategy much support is needed (CEL 2007).

Buildings, policies and practices

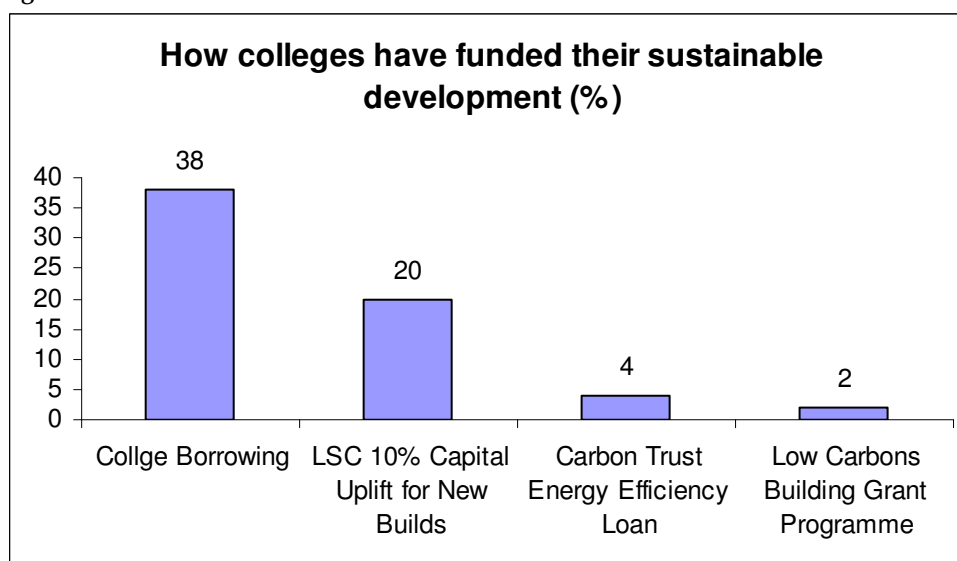
13. AoC's survey of the FE estate showed that colleges are including sustainable elements to new buildings and incorporating them into existing ones, but there is much more they would like to do, should the funds be available. Figure 2.1, below, demonstrates how the colleges have funded the sustainable elements of their new buildings.

⁵ Leadership for sustainability: Making sustainable development a reality for leaders, CEL September 2007

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Figure 2.1



14. The LSC has introduced a requirement that new college buildings meet certain sustainability criteria to qualify for capital funds. The criteria from September 2007 are:
 - Meeting and preferably exceeding the requirements of Part L of the Building regulations
 - Ensuring completed developments meet the criteria to achieve excellent BREEAM ratings
 - Maximising the use of natural lighting and ventilation
 - Embedding the principles of sustainability in design of buildings and their systems
15. The LSC allows an additional 10% of building costs to be ringfenced and used for sustainable development. There is broad support for this initiative but some concern as to whether the 10% cost limit is enough for large projects. The similarity in the qualifying criteria to access the additional 10% fund and the main capital funds is also of some concern.
16. AoC's survey of colleges also identified concerns about the funding of small scale projects to improve energy efficiency. 84% of colleges who responded to AoC's survey said they would welcome financial support for projects which can be justified on environmental grounds but which may only be financially viable over the long-term.
17. Following a successful AoC campaign the LSC has announced a £20 million fund for a pilot grant aimed at encouraging colleges to implement projects that reduce energy consumption and carbon emissions. AoC would like to see this rolled out on a permanent basis and its success monitored.

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CASE STUDY

The Genesis Centre, Somerset College – Sustainable New Building

At a cost of £2.5 million, Somerset College's Genesis Centre is green through and through.

Built on the recycled material from the demolition of a Dutch barn and the college's 1970's Metric building, it includes a series of earth, straw; timber and clay pavilions. The walls are plaster made of earth and lime, with llama or horsehair binding, and surfaces either flax boarded, finished with non-toxic paints or polished with beeswax.

Local specialists were engaged in the construction, and materials were locally grown or sourced wherever possible.

The floor coverings are marmoleum (a natural product made from linseed oil, wood flour, rosin, limestone and jute) and carpet tiles made from recycled materials including car tyres.

The toilets incorporate the systems and devices for water conservation and the surfaces around the hand basins made from recycled yoghurt pots.

Rubble and sedum roofs provide a habitat for wildlife and reduce the speed at which rainwater enters the watercourse.

Renewable energy systems include photovoltaics providing electrical energy, and solar panels to heat water. Waste wood and wood dust from the College's own carpentry and joinery workshops help fuel the wood pellet biomass boiler.

Insulation includes recycled newspaper, wood, and cotton denim jeans. There is even a sustainable urban drainage system.

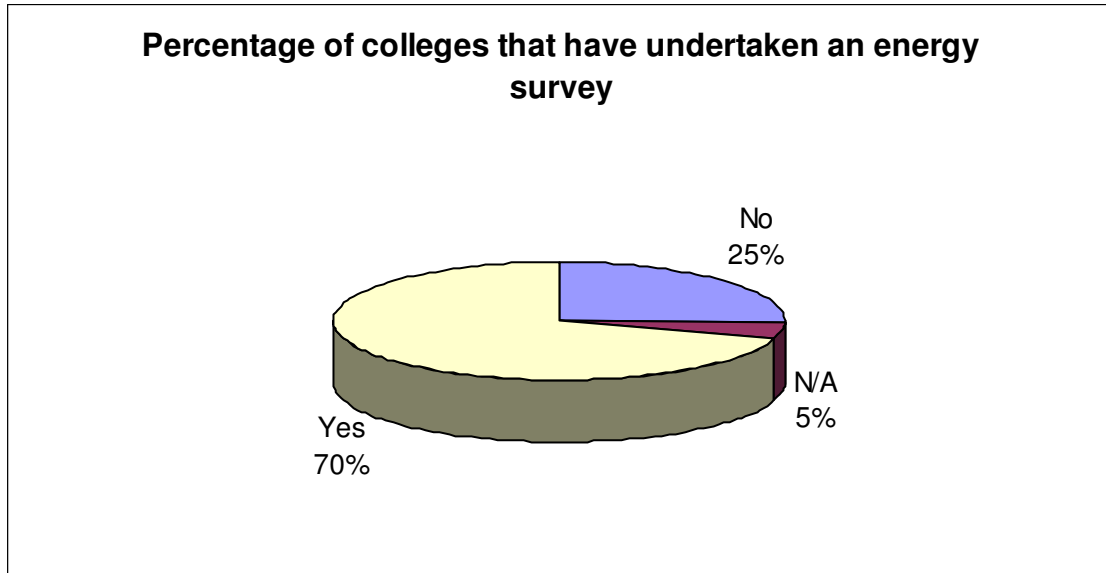
18. 70% of colleges responding to the AoC estates survey have undertaken and are taking action on the recommendations from Carbon Trust energy surveys, or similar. A further 19% of those responding had plans to do so (see figure 2.2 below).
19. The help offered by the Carbon Trust is welcomed by colleges and they are taking action accordingly. However energy use is only one part of the sustainability agenda. The LSC's strategy for sustainable development "From here to sustainability" suggests colleges should assess the environmental performance of their buildings and undertake a review of the social, economic and environmental aspects of their organisations and identify areas for action. Action the LSC suggests includes addressing procurement, biodiversity and travel as well as energy, water, waste, building and design.

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Sustainable Development in Further Education Colleges

The LSC also suggest that the Eco-Management and Audit Scheme (EMAS) and the Environmental Management Standard ISO 14001 are good tools to improve an organisations environmental performance.

Figure 2.2



20. Colleges also indicated in the AoC estates survey that help in the form of access to resources so they can adopt appropriate environmental policies and practices would be useful. 74% of colleges surveyed said they would welcome these. These would help achieve the objectives set out in "From here to sustainability", contribute to the sustainability of their local communities and could influence sustainability in other businesses. Examples of these could be purchasing policies promoting citizenship activities, minimising waste, the adoption of a sustainability policy, management frameworks that integrate sustainability issues into the core processes and mainstream decision making.
21. AoC welcomes the introduction of SORTED, the free resource bank being compiled by the Environmental Association of Universities and Colleges (EAUC), sponsored by LSC. This useful resource will help colleges to share and adopt best environmental policies and practices so they can become more sustainable.

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CASE STUDY

Energy Efficiency - Manchester College of Arts and Technology (Mancat)

"MANCAT has made significant savings through developing and implementing an energy management policy across the college including an agreement with United Utilities, its energy provider, whereby surplus energy may be sold back to the National Grid. Energy savings have funded further energy saving initiatives including the installation of secondary glazing.

In 2006 MANCAT began making its buildings more energy efficient through initiatives such as installing heat control panels and control valves on radiators thereby establishing heating control zones, refurbishing control panels to heating systems to provide increased efficiencies, fitting light sensors, using energy efficient control lamps and light fittings, fitting secondary glazing and increasing insulation to roof voids.

Managing its sites with an energy efficient focus has required the college to look at the utilisation of its buildings. In this way the college is able to ensure that space is effectively occupied and that energy outputs are appropriate within the context of space use. Temperature forecasts are checked on a weekly basis to enable the prediction of heating requirements for the week ahead.

A key to the success of MANCAT's environmental policy is the constant and consistent messages given to encourage all staff and students to switch off lights, computers and other electrical equipment in the bid to become more energy efficient. "Doing something as simple as switching off your computer and all accessories attached to it can save around £19 per year. With more than 1,000 staff using PCs in the college, this could save up to £19,000 per year" says Principal, Peter Tavernor.

MANCAT's commitment to energy efficiency initiatives is further confirmed through the commissioning of the Carbon Trust to undertake an energy audit of its main campuses during August 2007. The recommendations made by the carbon Trust confirm the good practice being developed and implemented within the college and provides the opportunity to develop further its energy efficiency programme. This should see a further saving of over 2,500,000 KWh p.a. with an associated further reduction in CO2 output of over 750 tonnes p.a. for the college.

The curriculum

22. Education is key to changing behaviour – road safety, responsible drinking and healthy eating campaigns all have a strong educational element. If sustainability is to be second nature to us then this also requires education.

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Sustainable Development in Further Education Colleges

Sustainable Curriculum/Extra Curricula Activities – South Nottingham College

“Balls to Poverty” is a football based project that links the curriculum with related extra-curricula activities to foster personal development in individuals through the concepts of sustainable development both in an individual’s home community and from an international perspective.

The project takes individuals with an interest in football from inner city areas of Nottingham and develops their academic, football performance and personal skills & abilities. Learners complete a level 1 football coaching course and over the course of a year deliver a variety of coaching sessions to young children in schools and inner city areas. These sessions are used as fund raising activities in conjunction with a range of other community based activities to fund the international dimension of the project.

The culmination of the project is a two week trip to South Africa where, in conjunction with the South African Government, the learners visit a number of Townships delivering coaching sessions to 7000 youngsters and leaving them with a football as a souvenir. They also take part in an under 19s football tournament.

The work of the project, the way it challenges and changes individuals aspirations and its positive life-changing effects, underpinned by the concept of sustainability was recognised through an AoC Beacon Award in 2007.

23. In July 2007 AoC surveyed member colleges on the extent to which environmental sustainability is incorporated into the college curriculum, and what more could be done. Figures 2.3 and 2.4 below show the areas colleges are currently incorporating sustainability into the curricula.
24. 88% of colleges responding to the AoC curriculum survey said that they believe sustainability should feature in all curriculum areas. Responses also reveal that currently, whether it does or not is often dependent on tutor’s interest. Responding colleges also said that sustainable development should be incorporated into initial teacher training and that qualifications should be mapped for sustainable development opportunities. In their document “From Here to Sustainability” the LSC states their view is that integrating sustainable development into the curriculum is important and that for this to happen the “support and involvement of all the bodies involved in teacher and lecturer training, curriculum design, accreditation and inspection” is essential. AoC are pleased with the start that has been made in this area through Ofsted’s good practice survey in agriculture, horticulture and animal care, which in several cases included environmental sustainability issues, and look forward to further progress.

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Sustainable Development in Further Education Colleges

Sustainability in the curriculum – Bedford College

In January 2006 Bedford college was awarded Centre of Vocational Excellence (CoVE) status in Skills for Energy.

Since September 2003, Bedford College has been proactive in developing training provision in renewable energy systems and sustainability. Training on offer and under development includes:

- Domestic solar hot water systems
- Photovoltaic systems (solar electricity)
- Developing environmental awareness
- Certificate in sustainable development
- Sustainability in construction
- Energy utilisation and efficiency
- Warm water under floor heating
- Biomass technology (under development)
- Foundation degree in sustainable construction (to start in September 2008)
- Foundation degree in building services & sustainability (to start in September 2008)
- Foundation degree in alternative transport technologies (under development)

In addition to the above, much work has gone into incorporating sustainability into mainstream provision. Learners on many full time courses study the Certificate in Sustainable Development or Environmental Awareness courses. Solar Domestic Hot Water training is offered to Level 3 Plumbing students. Level 3 Electrical Installation students have the opportunity to train Photovoltaic Systems installation. Motor Vehicle students learn about alternative transport technologies such as bio-fuels, electric and hybrid vehicles. Sustainability is also incorporated into students' projects.

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Sustainable Development in Further Education Colleges

Examples of the Sustainable College Curriculum

City College Plymouth offers a course to businesses from across the city to identify ways to save money via improved environmental practices. The three-day environmental management systems workshop aims to help companies develop a greater understanding of environmental management, identify and assess environmental opportunities and risks, set environmental objectives and targets and understand the environmental legislation that affects their business.

South Nottingham College has introduced an NVQ in Recycling Operations as part of the national Train to Gain service, which covers developing a useable recycling practice.

Easton College's Centre of Vocational Excellence in Land Management works in partnership with the Norfolk Broads Authority to train reed and sedge cutters.

Craven College's curricula includes sustainable land management, countryside management, horticulture, environmental conservation, animal management, equine management and heritage craft skills such as dry stone walling and hedge laying.

Park Lane College, Leeds runs a 'reduce your carbon footprint' course. The course is run by a team of conservation and environmental tutors who lead learners through practical energy saving techniques and the science behind climate change.

Examples of Colleges' Sustainable Extra Curricula Activities

Worcester College of Technology has an Eco-Campus Group that seeks to develop an awareness of sustainability amongst students and staff through extra curricula activities. The group is seeking to develop and deliver curricula aspects of sustainability practice in the future.

Ealing Hammersmith and West London College ran an Aimhigher event about sustainability for students providing workshops run by businesses and the Council's recycling team to cover a number of issues concerning the environment. Their students are also working with students from state and private schools on improving the world around us.

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Sustainable Development in Further Education Colleges

Figure 2.3 Breakdown of qualification areas in which sustainability is addressed by colleges responding to the AoC survey

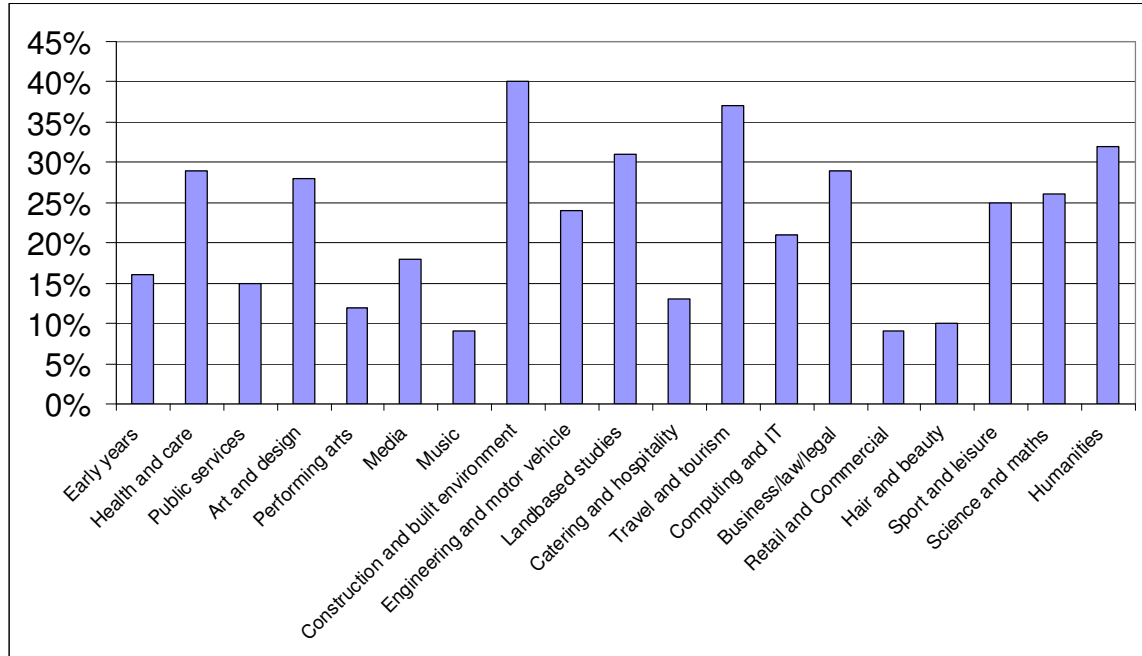
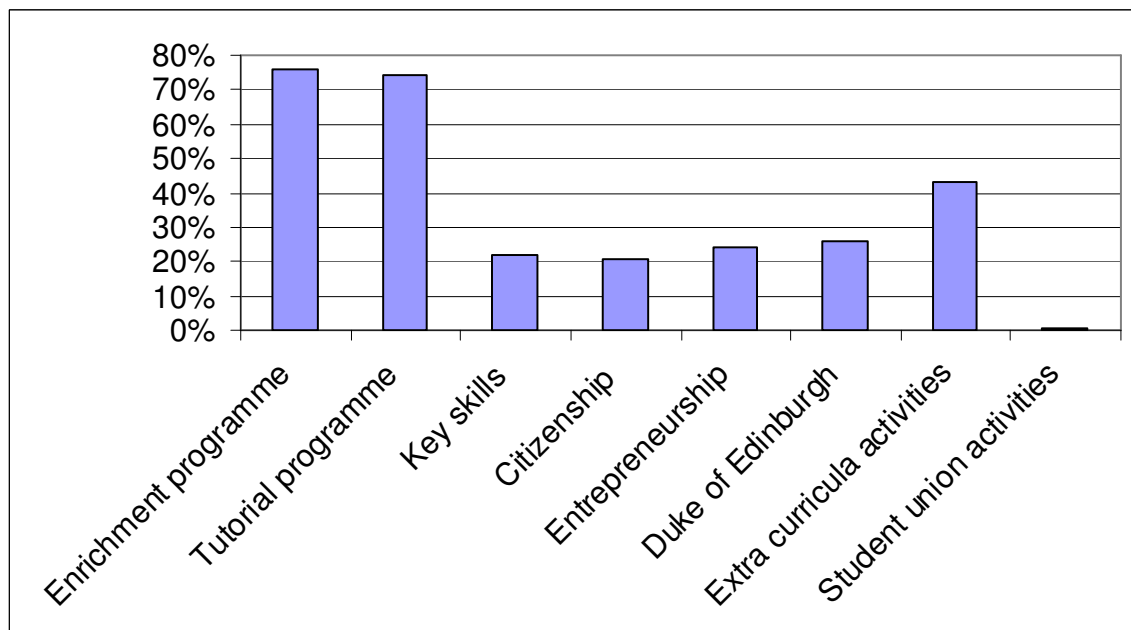


Figure 2.4 Extent to which colleges responding to the AoC address environmental sustainability in other curricula areas



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Transport

25. 77% of colleges completing the AoC 2007 estates survey encourage their staff and students to travel “green”. This ranges from encouraging taking public transport, to showers for those who cycle, walk or even run into college. Colleges are also working with local transport providers on new bus routes and other initiatives. AoC believes that this would be greatly aided by Government policy to put in place cycling lanes, safe pedestrian and bus routes to all colleges from the nearest towns and other public transport facilities within a 10 mile radius. AoC believes local transport issues would benefit from partnership working between colleges and local authorities.

Green Travel Plan - Kingston Maurward College

To reduce the number of cars on site has led to the development of four green travel initiatives as part of their green travel plan.

Working with Dorset County Council and Nordcat (North Dorset Community Accessible Transport), a new bus route to the college was developed, linking with all major public transport networks in the area and through the town centre.

The college has set up three other projects, the first of which promotes a car sharing scheme and the second of which is a cycle and walk to work initiative. The third, which is currently under way, involves a partnership with the local council to develop a park and ride scheme.

26. As well as beneficial for the environment, easy and cost effective travel to a place of study attracts new learners and helps retain existing ones. Evidence from the TUC⁶ shows that the pressure of rising travel costs largely affects young people and those on low incomes, making it difficult for these groups to access education and training opportunities. Further evidence from the ODPM⁷ states that six per cent of all 16-24 year olds turn down training or further education opportunities because of problems with transport.
27. Educating and training the majority of 16 to 19 year olds, colleges have a major contribution to make in the area of transport. Habits developed when young stay with many people for the rest of their lives. Offering attractive options for cycling and public transport will encourage some young people away from private car use.

⁶ Unfare: Young people and transport costs, TUC Young Members’ Conference Report, 2007

⁷ Making the Connections, ODPM, February 2003.

<http://archive.cabinetoffice.gov.uk/seu/publications7790.html?did=229>

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Sustainable Development in Further Education Colleges

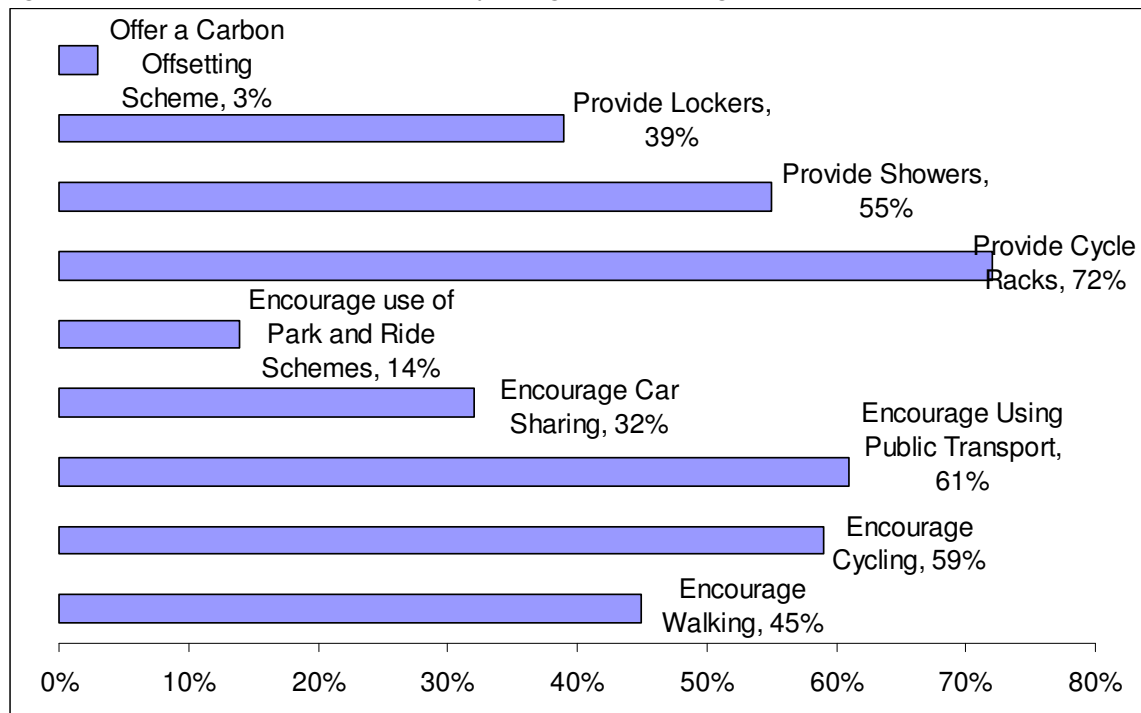
Green Travel Plan – South Nottingham College

One strand of the college's drive towards sustainability has been the creation of a Travel Plan for the college; this was driven by the desire to reduce the number of car journeys that the college created each year.

The college worked with the Local Authorities and Nottingham City Transport on these issues and it has resulted in the 'single-decker' service to its West Bridgford Centre being replaced by a 'double-decker' service and an increased frequency of service to its Charnwood Centre from every 30 minutes to every 15-minutes. The improved service has encouraged more learners to travel by bus and reduced the number of car journeys to the college.

The above was carried out in conjunction with an innovative 'green cycle' scheme. The college provides 20 bike lockers for the safe storage of learners' bikes, along with 20 bikes, which the college loans out to staff and students, for journeys to and from college.

Figure 2.5. Schemes and facilities offered by colleges to promote green travel



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Sustainable Development in Further Education Colleges

28. AoC is currently campaigning for affordable public transport for students aged 16-19 and as part of this is pushing for Government to introduce a national concessionary pass for them to use on all local public transport services. These exist on a county basis in Somerset, South Yorkshire and Tyne and Wear and in these areas have encouraged more young people to use buses and which makes it easier for them to get to their place of study. In other parts of the country, however, councils have taken a more short-sighted view and have cut transport subsidies.

Section Six: What will help colleges get there?

29. The biggest challenge for governing bodies and colleges is to fit sustainable development into a busy agenda already taken up with the business of running a college and helping learners succeed. Our experience is that colleges learn best from each other and we therefore agree with CEL that the sector needs to develop “sustainable development champions” in the same way as it had “ICT champions”¹⁰ and support their work in this area. This may require external investment. The LSC funding for the Sustainable Agenda in Further Education (SAFE) project has successfully implemented this model in Staffordshire may be a good model. Our other proposals are listed below:

Short term (by the end of 2008)

30. Regional LSC offices have funds to develop sustainability in the financial year 2007-08. Colleges need to work with LSC on practical proposals to use this money sensibly.
31. AoC to support the FE Improvement Body in their work to develop sustainable development champions.
32. AoC to continue discussions with the LSC practical ways to develop the LSC’s new £20 million pilot grant programme for energy efficiency into a permanent programme.
33. Government policy to commit Local Authorities to providing affordable and accessible public transport to students 16-19 years of age and serious consideration of introducing a national concessionary pass to do this, in the interests of the environment, safety and educational choice.
34. Colleges will have implemented the new requirements relating to Energy Performance Certificates (EPCs) and Display Energy Certificates.
35. A series of sustainability Beacon Awards, organised with the AoC Charitable Trust.

¹⁰ CEL (2007). Leadership for Sustainability: Making sustainable development a reality for leaders. September 2007. pp 45

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Sustainable Development in Further Education Colleges

Medium term (by 2011)

36. Sustainability should be promoted and incorporated as standard into initial teacher training as well as all other qualification and curriculum areas. AoC also believes that qualifications should be mapped for environmental sustainability opportunities in the same way they are mapped for opportunities to deliver key skills.
37. All colleges should have undertaken a full baseline audit of sustainable development within their institutions to enable them to develop further along the recommended lines.
38. Colleges have started to reduce their energy use and carbon emissions. The largest colleges will be participating in the carbon trading scheme for large organisations (assuming this is implemented).
39. Colleges working with Local Authorities to create safe routes for students, whether travelling by public transport, bicycle or on foot.
40. A review should be undertaken of the extent to which LSC's new approach to capital funding has delivered sustainable objectives.
41. A fully comprehensive "SORTED" resource bank should be available for colleges. AoC will work with EAUC on this.

Long -term

42. Colleges have significantly reduced their resource and energy use and have made good progress on the goal towards becoming carbon neutral.