GREEN COLLEGES SURVEY REPORT

In May this year AoC surveyed colleges about the sustainability of their estates by way of a short questionnaire. Participation in this survey was high, making the response a strong representation of sustainability in all AoC member colleges.

The survey is the first in a series of initiatives in the AoC Green Colleges campaign to promote the work of colleges in developing the sustainable development agenda, spread best practice and influence Government policy in this area.

The survey covered five areas of the college estate management:

- Buildings
- Energy
- Environmental/energy policies
- Recycling facilities, and
- Transport

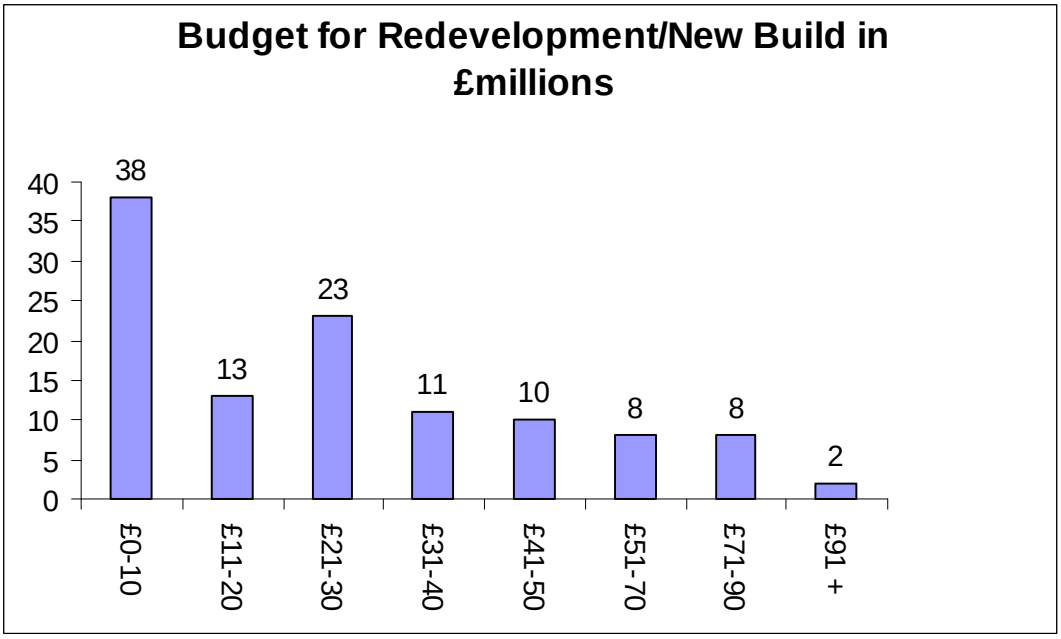
1 BUILDINGS

This section of the survey aimed to find out the proportion of colleges that have undergone or are in the midst of planning a redevelopment or new build, the sustainable features they are incorporating, how this is paid for and whether they had been able to include all the sustainable features they would have liked to.

All of the colleges that responded to the survey had undergone or are planning new builds, redevelopments or both.

Figure 1.1 refers to colleges' budget for redevelopment/new builds in £millions.

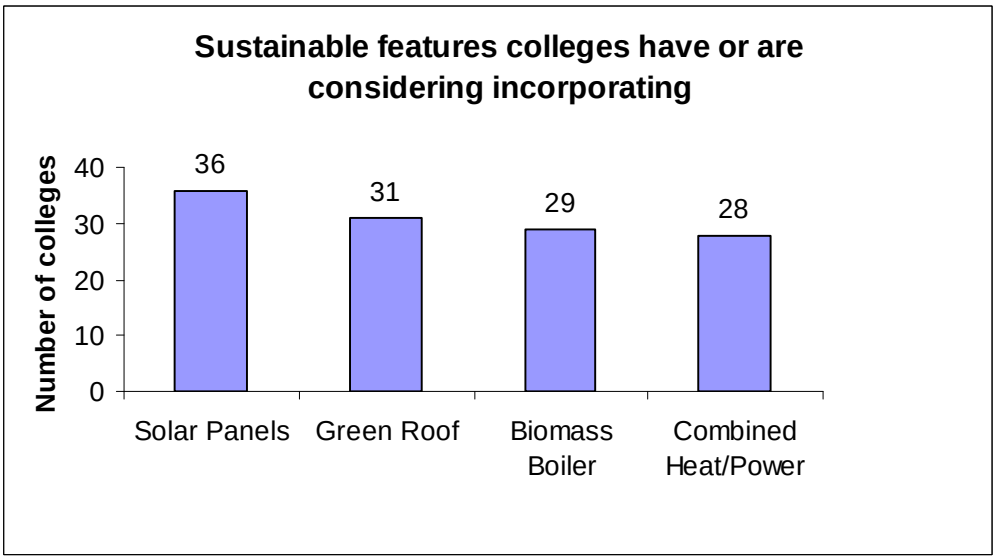
Figure 1.1



Sustainable Features

Figure 1.2 below shows the number of colleges surveyed that have included or are in the process of including solar panels, green roofs, biomass boilers and combined heat and power systems to their buildings.

Figure 1.2



Other features that a number of colleges named in this section were grey water recycling, ground source pumps, wind turbines, natural ventilation energy efficient boilers, building energy management systems and light control sensors.

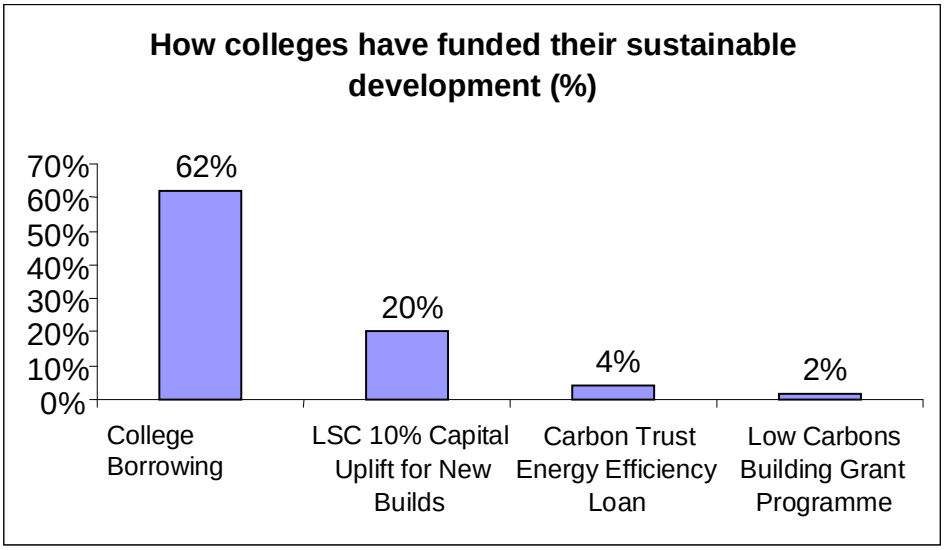
On a smaller scale, straw bale and rammed earth walls, locally sourced materials and waterless urinals are other examples of how colleges have incorporated or are incorporating sustainability into their buildings.

Funding Sustainable Development

The vast majority have funded or part-funded their buildings, which include sustainable elements using their own funds and funding from the LSC earmarked for capital projects (see figure 1.3).

In some cases the colleges raised their own funds through the sale of land and/or other assets.

Figure 1.3



A few colleges had also managed to secure grants from the European Union, energy companies and funding from local authorities and Regional Development Agencies (RDA). One college stated that they had been able to fund features through money saved by becoming more energy efficient.

There are a number of cases where colleges had plans to include sustainable features but had to abandon these at some stage during the planning process. These included grey water recycling, boilers, wind turbines and solar energy. In many cases this was because the payback time was too great, for example the payback time on solar panels is estimated in the region of 20 years.

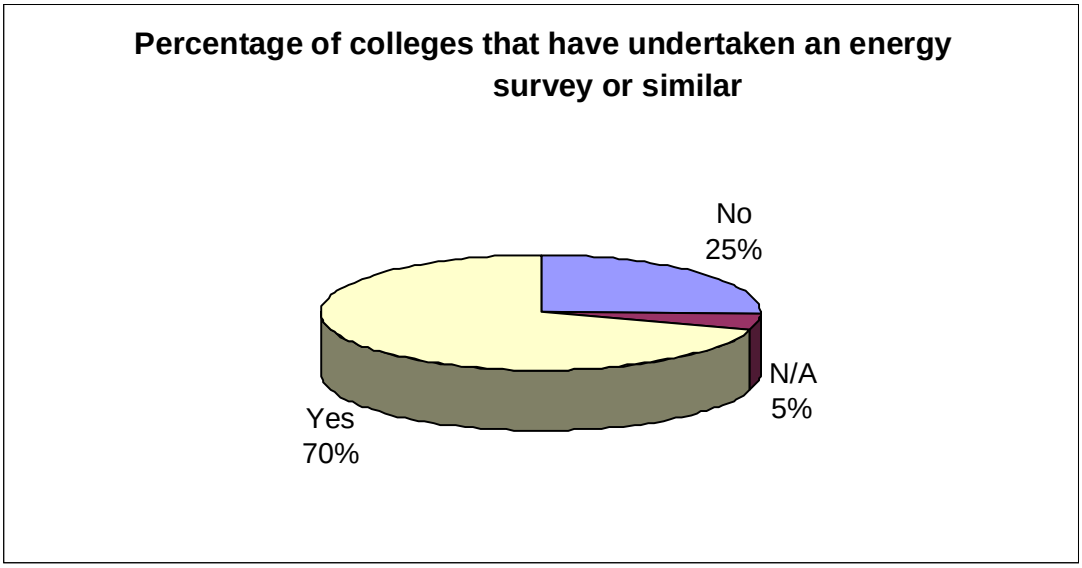
In terms of funding sustainable development projects, the LSC has changed its project approval rules to encourage sustainable development which applies to new build projects over £100,000. However, many of the sustainable features colleges named that they would like to incorporate into their current buildings, such as solar panels, which cost less than this amount.

84% of the colleges surveyed would like the LSC to set up a fund for smaller sustainability projects that would improve energy efficiency. Replacing old boilers, installing light and heat sensors, building energy management systems, grey water recycling and solar panels were among the most common projects colleges would like to use this money for.

2 ENERGY

70% of responding colleges have already undertaken an energy survey (Figure 2.1). A further 19% have taken real steps in plans to do so.

Figure 2.1



As a result of the energy survey, or similar, colleges are implementing energy saving measures. These include:

- Turning off lights and computers
- Poster campaigns around the buildings informing people of the measures they can take in the quest to become more energy efficient
- Carbon Trust road shows
- New boilers
- More efficient use of boilers and heating controls
- The use of energy efficient light bulbs
- Light and heat controls.

The majority of the colleges that have not undertaken an energy survey or similar have plans for a rebuild, redevelopment or relocating, and are looking at energy efficiency within these.

3 ENVIRONMENTAL/ENERGY POLICIES

94% of colleges that responded to the survey either have an environmental/ energy policy or are considering adopting one. 58% of colleges surveyed already have one in place.

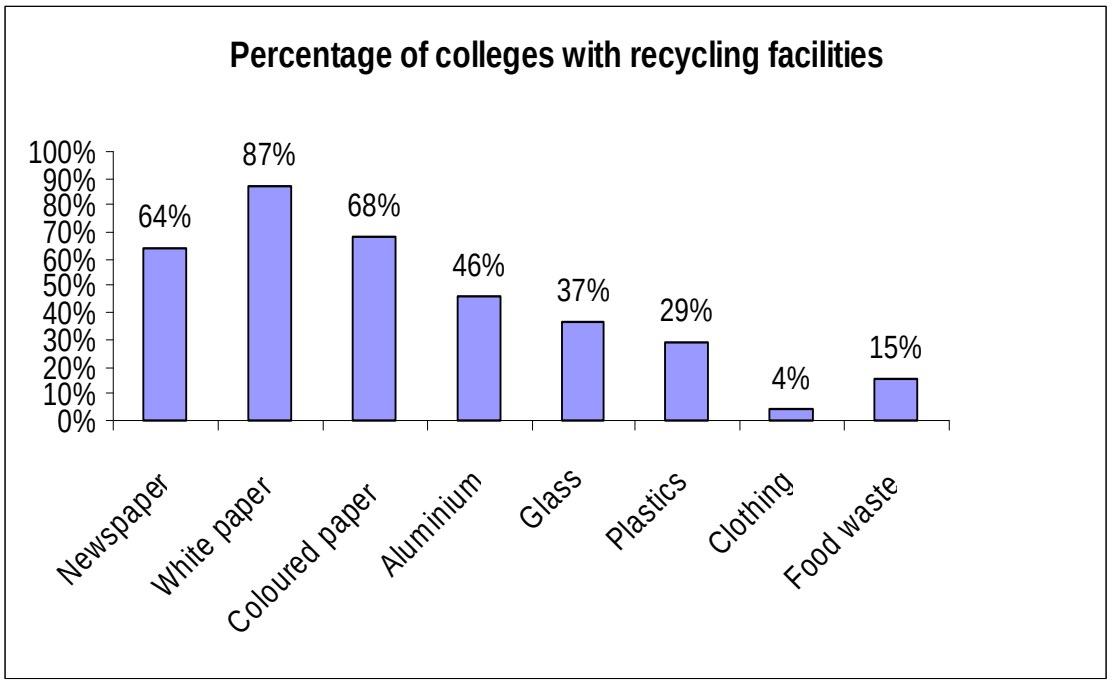
If there was a model environmental/energy policy 74% of colleges would consider adopting it. It may be that the new web environmental resources that the LSC is involved in working on with other organisations will include examples of best practice policies and guidelines in this area from colleges that others could adopt.

4 RECYCLING FACILITIES

All colleges that returned the survey had recycling facilities/procedures of some sort. Figure 4.1 below shows the percentage of colleges that recycle newspaper, white paper, coloured paper, aluminium, glass, plastics, clothing and food waste.

Colleges were asked to list other products that they recycled. The main products included were: IT equipment (including ink cartridges), fluorescent tubes, cardboard, metals and wood.

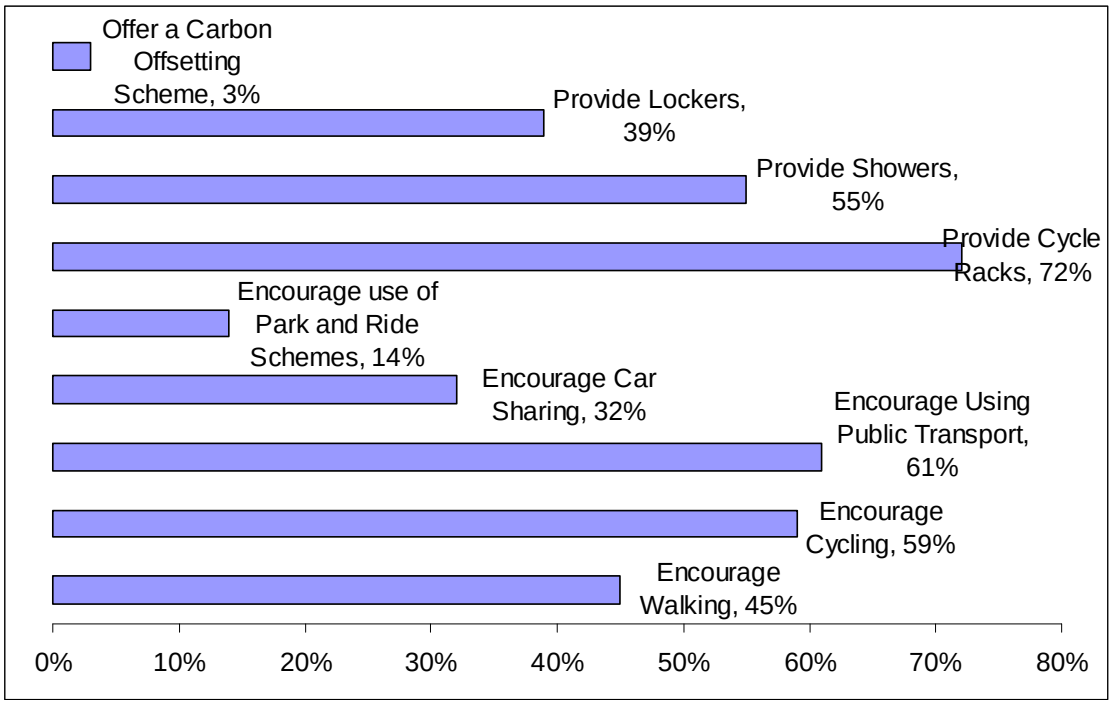
Figure 4.1



5 TRANSPORT

77% of colleges that returned the survey encourage their staff and students to travel "green". This ranges from encouraging taking public transport to college, to showers for those who cycle, walk or even run into college. Some colleges offer carbon offsetting schemes. Figure 5.1 below details the findings of the survey.

Figure 5.1



CONCLUSION

The survey shows that colleges are already delivering on the sustainability agenda in terms of managing their estates. New buildings are incorporating sustainable features, the majority of colleges have undertaken and are acting on the results of energy surveys and those that do not already have environmental/energy policies have plans to adopt them which would take the percentage of colleges with these policies to 94%. All colleges recycle to some extent and the majority encourage green modes of transport, facilities to make this possible and even offer carbon offsetting schemes.

Incorporating sustainability into the FE estate not only has a less damaging effect on the environment, it can have benefits for colleges in terms of reduced running costs. There are also further reaching effects beneficial to colleges, individuals, business and the country as a whole. Research (LSC 2003 and 2006, Herschong Mahone Group 1999, Mendell and Heath 2005) has shown that there is a link between a high quality learning environment and participation and success rates for both 16-19 year olds and adults.

The AoC is currently implementing initiatives to take this work forward and welcomes the forthcoming web resource bank to include sustainability policies and guidance in this area which the LSC and Environmental Association of Universities and Colleges (EAUC) are involved in compiling.

CASE STUDY

SUSTAINABLE CONSTRUCTION - SOMERSET COLLEGE

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 their students' cotton denim jeans. There is even a sustainable urban drainage system.

Ian Moore, Genesis Operations Director explains that "from the outside, the building looks conventional, even concrete. But when you get inside you can see what it's really made of. Many, such as the planners and construction students who visit, are becoming inspired to think more sustainably about the way they work with buildings."

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.