The Manchester College

# Sustainability Action Plan 2011/12



# Sustainability Action Plan 2011/12

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# Introduction and context

## Introduction to the Action Plan

The Manchester College sets out its beliefs, policy and aims for sustainability in the publication entitled 'The Manchester College's Commitment to Sustainability and Meeting the Climate Challenge 2011/12'. Here, in this booklet, we look in much more detail at the College's aims, objectives and actions to promote sustainability during the year 2011/12, taking each of the many aspects of sustainability in turn. This detail is set in the legislative and regulatory context and is referenced to the College's influential role as a provider of knowledge and skills to the residents and employers of Manchester and beyond, as well as its significant presence in the Manchester built environment. The Action Plan demonstrates an integrated approach: we will address issues of sustainability in both learning and teaching and in our operations and administration. By a complete integration of these we will enable the College's internal community to understand sustainable development through practice, and to extend that understanding throughout our wider community.

This Action Plan is devised on behalf of the Principalship by the College's Sustainability Steering Group, under the leadership of the Director of Property. The Steering Group comprises individuals in a range of job roles which reflect the breadth of the College: people involved in curriculum delivery (both the part that is concerned with environmental technologies and the wider curriculum), cross-college services and media development. They devise the plan on the basis of the College's Sustainability Policy Statement, which in turn gives expression to the value statement contained in the College Strategic Plan.









## Standards, legislation and regulations

The College's commitment to sustainability is as much a part of its mission and values as every other commitment it makes to the communities we serve; it is the expression of an ethical position and a natural extension of the College's purpose. It is also a College priority because, as our Sustainability Policy Statement clearly explains

- we are in the privileged, and responsible, position of being able to have a positive and lasting influence on thousands of learners, many of them young people, and on employers
- we are one of the most substantial physical presences across the city in terms of the built environment, and thus both able and duty-bound to set a good example: what we do matters on a large scale and can influence behaviour far beyond the confines of the College
- we cannot afford to be wasteful of resources and funds
- we are in a position to develop the College's portfolio of products and services in curriculum connected directly or indirectly to sustainability, and thus create revenue-earning opportunities from our expanding expertise

No matter how much we are motivated by our mission, the way in which we respond to these clear imperatives is inevitably contextualised by a large and growing legislative and regulatory framework. This affects us

- as an education provider
- as an occupier of buildings to which the public have access
- as a public sector employer

That legislative and regulatory framework sets out our responsibilities and sets targets for us to achieve. It is outlined in the Appendix.

# The College curriculum

First and foremost we are a provider of knowledge and skills to our communities and employers, in order to improve life chances and provide the economy with the skills it needs to grow and prosper. It is important for the College to develop its curriculum

- to be in the front rank of further and higher educational institutions in the UK provision of vocationally relevant courses in environmentally sustainable technologies
- to develop The Manchester Sustainability Centre into the principal destination in Manchester for employers, communities and stakeholders, both to obtain accredited and tailored provision in environmental technologies and to share best sustainable practice through networking, exhibitions, debate, presentations and other events

However, we believe that our educational challenge goes beyond sustainable technologies and the jobs surrounding them: it is our aim that every single learner that we enrol has sustainability integrated, in a relevant and purposeful way, into their curriculum or their wider learning experience while they are with us. It is our belief that

- there is no sector of employment in which sustainability is not an issue to be addressed
- that there is no aspect of our curriculum in which sustainability cannot be integrated in some meaningful way to the advantage of all concerned: learner, ourselves, employers and society in general

We believe that there is a big job to be done in terms of awareness and empowerment, but that more often than not we will be pushing at an open door. We want all of our learners to benefit practically from this initiative, linking to their employability and capacity for progression. At the same time, we have an opportunity to help the further education sector become recognised as a major contributor to sustainability in British society through the skills and knowledge that our learners and employers put into practice.








# The College and the City of Manchester

As already stated, we are one of the most substantial physical presences across the city in terms of the built environment, and thus both able and duty-bound to set a good example: what we do matters on a large scale and can influence behaviour far beyond the confines of the College. There is so much to do. We need to

- conduct all of our affairs in a manner that safeguards the environment and puts into practice our Sustainability Policy Statement
- promote strategies to reduce, reuse, recycle
- conserve natural resources and support their sustainable use
- foster an understanding of, and responsibility for, the physical environment around us
- ensure that the people we influence are knowledgeable about the environment
- orient newcomers with regard to the College's sustainability policy and practices
- encourage sustainable development

If we are to make a positive contribution to sustainability in Manchester the first prerequisite is information: we need to know how big a physical entity we are and how big an impact on the environment we make. We are able to collate, analyse, present and put to use a mass of data on these issues, both as a whole entity and on a site-by-site basis.

## College estate – the key data

Our estate is a very substantial presence in the built environment of Manchester, stretching from Moston Campus and North Manchester Sixth Form Centre in the north of the city to the Wythenshawe campus in the south.

The College has grown organically over the years as a result of mergers and planned expansion, and this has resulted in a portfolio of buildings ranging from

- listed Victorian and Edwardian buildings which have been substantially renovated on environmental lines, at one end of the spectrum, to
- state-of-the art 21st century new builds incorporating the latest environmentally sustainable materials, design, installation and operational principles, at the other end of the spectrum

Figs 1 and 2 overleaf give an overview of the vital data about our estate.



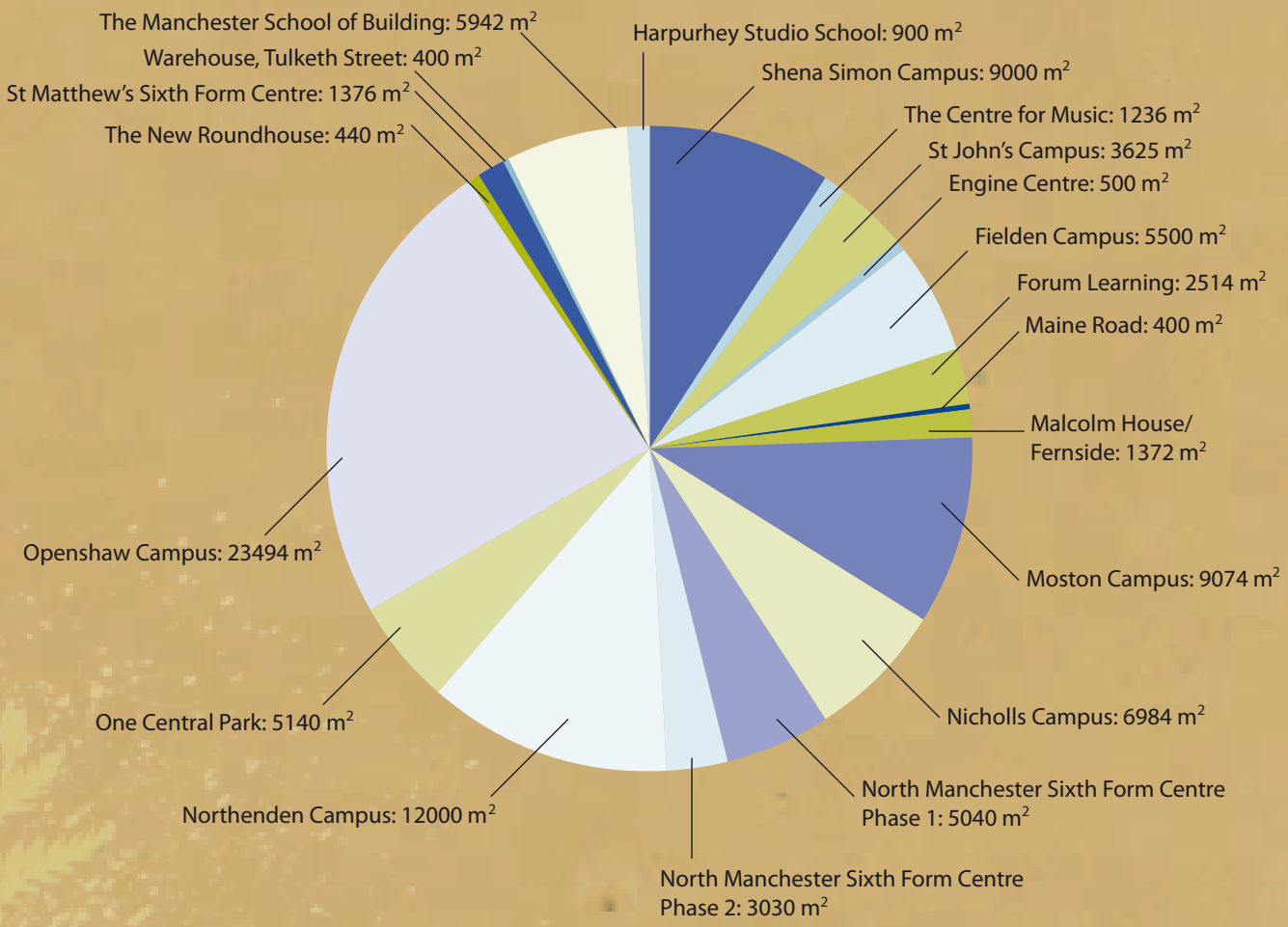



Fig. 1

| | Area $m^2$ (Total gross internal floor area) | | | General description of site | Energy performance operation rating (the lower, the better: 100 - would be typical) |
|---|---|---|---|---|---|
| **Site/Campus/Centre** | 01 Sept 09 | 01 Sept 10 | 01 Sept 11 | | |
| **City Centre/ Shena Simon** | 9000 | 9000 | 9000 | Constructed in 1850s mid Victorian, extensively refurbished recently | C-61 |
| **City Centre/ Lever Street** | 1236 | 1236 | 1236 | Constructed in 1850s-90s mid Victorian, extensively refurbished for 14-19 and adults media and music | C-61 |
| **City Centre/ St John's** | 3625 | 3625 | 3625 | Constructed in 2002 for adults curriculum | C-60 |
| **Engine Centre** | 500 | 500 | 500 | Constructed in 2002 for motor vehicle studies | Awaiting Certification |
| **Fielden** | 7500 | 5500 | 5500 | New build and recently refurbished for 16-18 and adults | Awaiting Certification |
| **Forum Learning Wythenshawe** | 2713 | 2514 | 2514 | Constructed in 2002 for 14-18 and adults | Awaiting Certification |
| **Harpurhey Studio School** | | 900 | 900 | Current conversion and refurbishment project for studio school and traditional teaching | Awaiting Certification |
| **Maine Road** | 400 | 400 | 400 | Constructed in 2002 | Awaiting Certification |
| **Malcolm House/ Fernside** | 1372 | 1372 | 1372 | Constructed in 1850 mid Victorian, used as a conference centre with accommodation | Awaiting Certification |
| **The Manchester School of Building** | 5942 | 5942 | 5942 | Various buildings used for built environment studies | D-83 |
| **Moston** | 9074 | 9074 | 9074 | Constructed in 1960s with 3 buildings on site and a land area of 13,316$m^2$ | C-53 |
| **Nicholls** | 6984 | 6984 | 6984 | Land area of 33,107$m^2$ with 5 buildings on site with a mix of Victorian and new builds | C-67 |
| **North Manchester Sixth Form Phase 1** | 5040 | 5040 | 5040 | Constructed in 2005 for 16-18 and public library | C-67 |
| **North Manchester Sixth Form Phase 2** | | 3030 | 3030 | Renovated from public baths to new facility for 16-18 curriculum 2010 | C-53 |
| **Northenden** | 12000 | 12000 | 12000 | Constructed in 2005 for 14-16 | Awaiting Certification |
| **One Central Park** | 5140 | 5140 | 5140 | Constructed in 2005 for adult curriculum | Awaiting Certification |
| **Openshaw** | 23494 | 23484 | 23494 | Land area of 44,750$m^2$ with 7 buildings on site all recently refurbished or newly built before 2002 | C-70, C-55, C-62 |
| **The New Roundhouse** | 440 | 440 | 440 | Recently constructed used as a nursery and traditional teaching | Awaiting Certification |
| **St Matthew's Sixth Form** | 1376 | 1376 | 1376 | Constructed in 2004 with a total land area of 2,448$m^2$, used as sixth form centre | Awaiting Certification |
| **Warehouse, Tulketh Street** | 400 | 400 | 400 | Warehouse for distance learning distribution | Awaiting Certification |
| **Wythenshawe Campus** | | | 8300 | New build for construction training and Sixth Form provision | A-Carbon Neutral |

Fig. 2

**College Property by Floor Area**




## Our contribution to sustainability in Manchester

The College is fully committed to partnering Manchester City Council in implementing its climate change action plan 'Manchester: a certain future', 'Manchester Climate Change Call to Action' (2009). More specifically

- we have commissioned the Greater Manchester Ecology Unit to survey and provide reports with regard to the maintenance and development of the biodiversity of the flora and fauna within the College estate
- The Manchester Sustainability Centre will be a key forum for Manchester's employers to network and share best practice on all environmental issues, as well as the centre of the College's environmental technologies curriculum offer

Of course it is not just what the College does on site that matters, but also our commitment to engaging with the communities living and working in the areas surrounding each campus. Maintaining and developing these links ensures the College makes a meaningful contribution to the changes people are making in adopting more sustainable behaviour in their everyday lives.



# Environmental Management System

After the collection and analysis of data, the next prerequisite for a successfully implemented Sustainability Policy is the setting up and use of an effective Environmental Management System (EMS) – one that meets and exceeds the standard set by ISO4001.

That system starts from the College's Sustainability Policy Statement and comprises the following elements

- environmental aspects and impacts: an analysis of the effects that our activities have on the environment
- statutory compliance: knowing exactly what obligations we are subject to from legislation and regulations
- objectives and targets: what we wish to achieve, when and how we will measure our success – the content of the rest of this booklet
- operational control: the management and other structures that we put in place to achieve our objectives and measure our success: planning, implementation, checking and corrective action, management review
- performance data: a continual stream of information telling us how well we are performing and how far we have progressed to achieve our targets
- communications and involvement: getting the messages across to all of our staff, learners, visitors and others, and getting them involved in the process

**Progressive stages of EMS**
(advancing upwards through defined steps 1-6)

| | |
|---|---|
| **Stage 6** EMS acknowledgement under EMAS | **Stage 6** EMS acknowledgement under ISO14001 |
| **Stage 5** Checking audit and management review | |
| **Stage 4** Implementation and operation of the EMS | |
| **Stage 3** Developing objectives, targets and programmes | |
| **Stage 2** Identifying and ensuring compliance with legal and other requirements | |
| **Stage 1** Commitment and establishing the baseline | |








# Action plan

## Accommodation action plan

### Rationale and foundation of the plan – the College's Accommodation Strategy

An accommodation action plan for a college the size of ours is absolutely vital, as is putting that action plan on a foundation of key principles enshrined in our Accommodation Strategy. Our accommodation is based first and foremost on the needs of learners – providing a high-quality built environment as a key factor in a high quality learning experience. On that basis we then examine the business and financial case for investment. All of these considerations are contextualised within environmental sustainability. There is no tension between these considerations; on the contrary they are mutually supportive. Accommodation that is fit for purpose for learners is positively enhanced by the inclusion of environmental principles in both practical and aesthetic terms, as well as providing direct educational added value. In turn, such an approach delivers quantifiable and substantial financial benefits.

Sustainability is embedded within the strategy and the decision making process – from defining the strategic objectives, evaluating estate constraints and opportunities, measuring and reporting performance, and generating and appraising options. Our accommodation action plan provides a comprehensive approach to maximising efficiency, cost and carbon savings while simultaneously optimising business and operational performance.

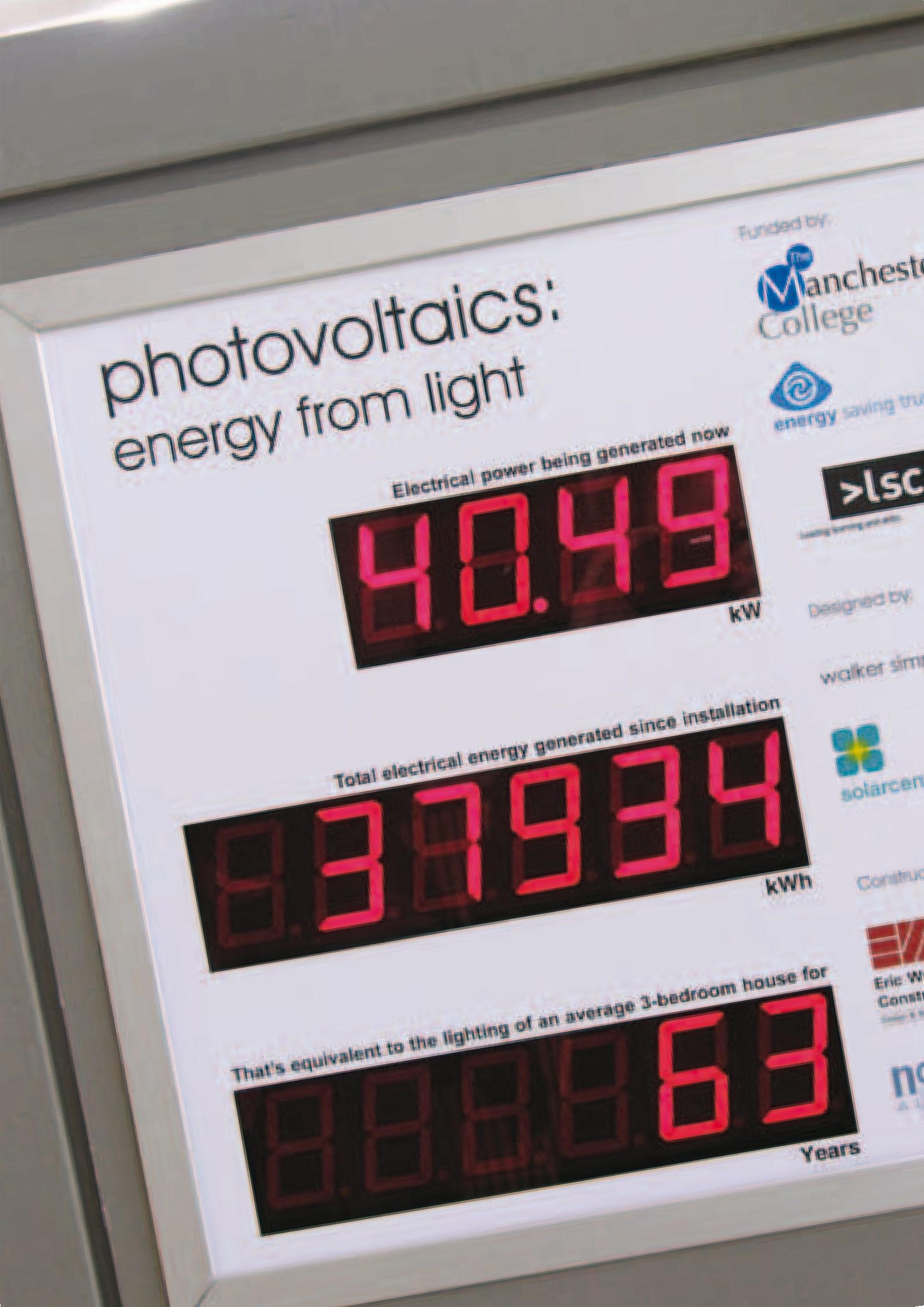
### Our accommodation action plan – an overview

In addition to creating an attractive and effective setting for learning, we also endeavour to achieve environmental sustainability by recognising the embodied energy within existing buildings. The actions that we take are to secure the biggest environmental gains in terms of carbon reduction and vastly reduce heat loss, which accounts for a large part of the energy used within our buildings.

From a design perspective, we have developed and implemented strategies to reduce, reuse and recycle the College's building stock. The College has won a string of awards for work we have carried out throughout the estate (see 'Achievements to date' section). Green building is the practice of creating structures and using processes that are environmentally responsible and resource-efficient throughout a building's lifespan; from design, construction, operation, maintenance, and renovation. Our buildings expand and complement concerns of economy, utility, durability, and comfort. Our objective is that all our buildings are designed to reduce the overall impact of the built environment on human health and the natural environment.

## Accommodation action plan – detail

| Objectives | Benefits and beneficiaries | Agreed actions | Responsible/ involved | Timescale | Success measures |
|---|---|---|---|---|---|
| Raising awareness to measures undertaken within the College estate, via displays, internet and events | Learner, stakeholder and the environment | To continue to respond to 'Green Technology' in the maintenance of the College's estate | Director of Property | Comprehensive information compiled and available 2012/13 | Reduction in energy consumption. Increase of awareness to sustainability throughout the estate |


photovoltaics:
energy from light
Electrical power being generated now
40.49
kW
Total electrical energy generated since installation
8.37934
kWh
That's equivalent to the lighting of an average 3-bedroom house for
8.88.63
Years
Funded by:
Manchest
College
energy saving tru
>lsc
Designed by:
walker sim
solarcen
Construc
Eric W
Const

## Energy

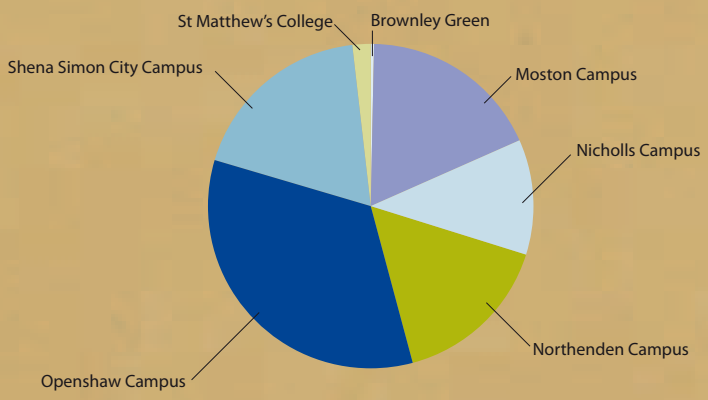
### Energy consumption and generation

We are major consumers of energy and utilities, but have implemented strategies which have significantly reduced our consumption and financial outlay. We have installed 'Powerperfector' units in many of the College sites, which have acted to reduce massively the consumption of power, thus saving money and reducing $CO^2$ . More Powerperfector units are planned for more sites at the College so that further savings can be made.

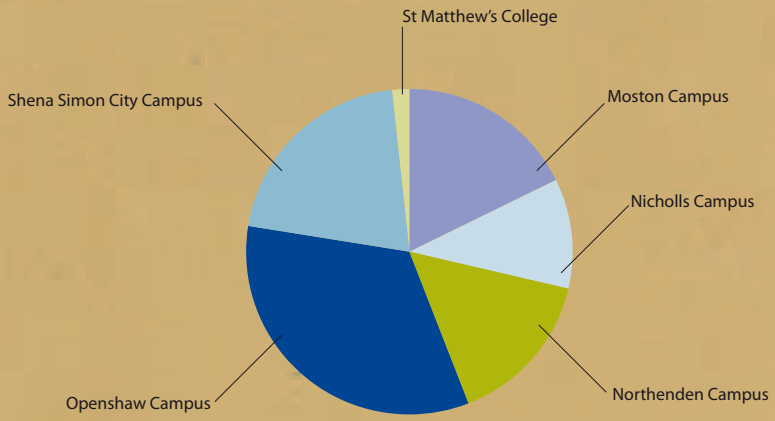
These charts and tables give you an indicative picture of energy consumption, and more detail and explanation can be obtained from the Property and Facilities Management Department.

Not only are we committed to the reduction of the consumption of energy, we have also installed photovoltaic cells, ground source heat pumps and solar collection tubes in our campuses as a means of generating our own power and heat.

**Gas Consumption Year 09/10**



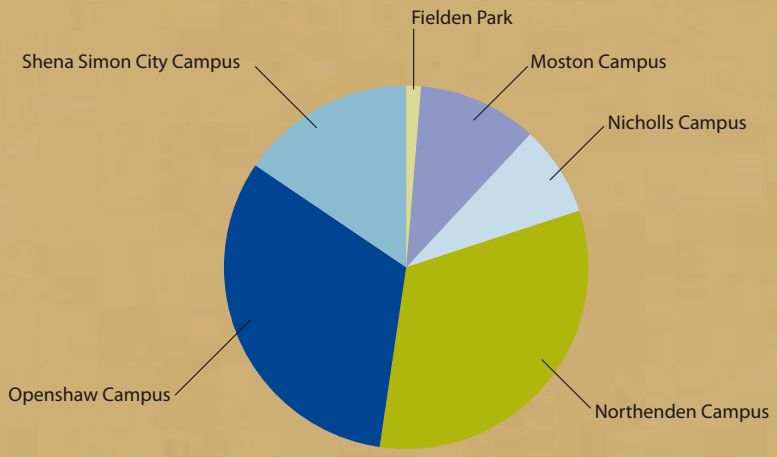

**Gas Consumption Year 10/11**



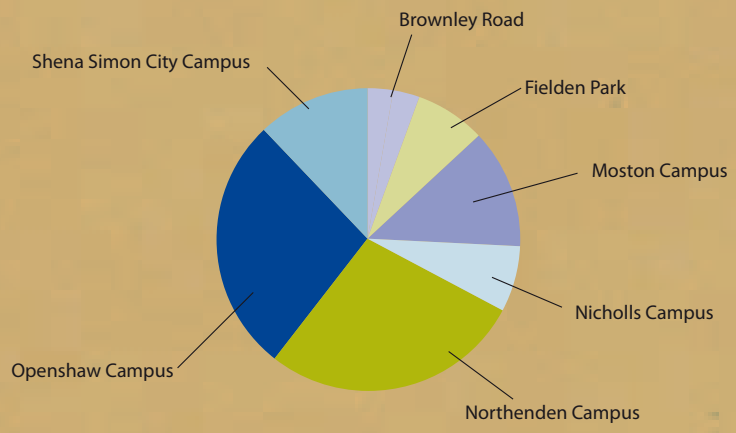

## Cumulative Gas Usage kWh

| Aug 09 - Oct 09 | Nov 09 - Jan 10 | Feb 10 - Apr 10 | May 10 - July 10 | Aug 10 - Oct 10 | Nov 10 - Jan 11 | Feb 11 - Apr 11 | May - July 11 |
|---|---|---|---|---|---|---|---|
| -31,721 | 4,082,150 | 2,792,096 | 537,467 | 672,539 | 3,827,735 | 2,029,899 | 934,174 |

**Electricity Consumption Year 09/10**



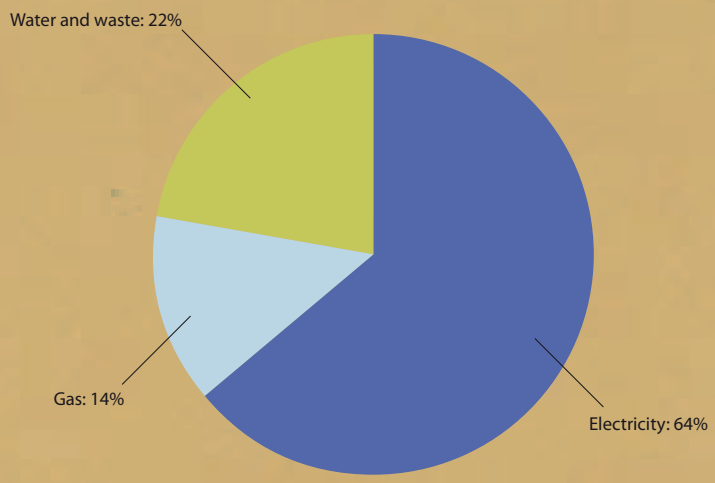

**Electricity Consumption Year 10/11**




## Cumulative Electricity Usage kWh

| Aug 09 - Oct 09 | Nov 09 - Jan 10 | Feb 10 - Apr 10 | May 10 - July 10 | Aug 10 - Oct 10 | Nov 10 - Jan 11 | Feb 11 - Apr 11 | May - July 11 |
|---|---|---|---|---|---|---|---|
| 1,990,062 | 1,848,765 | 1,851,868 | 1,600,006 | 1,794,797 | 2,052,186 | 1,877,379 | 1,806,097 |

**College's Utility Costs**





## Energy action plan

### Our energy action plan – an overview

Sustainable policies and practices on energy use are crucial to the College: the cost of energy is a substantial proportion of the College's entire financial overheads, and we are in a position to make an important contribution to sustainable energy use across the city. We believe that, in the words of Sir Nicholas Stern (Chair of the Grantham Research Institute on Climate Change and the Environment at the London School of Economics) 'taking strong action to reduce emissions must be viewed as an investment – a cost incurred now and in the coming few decades to avoid the risks of very severe consequences in the future'.

We purchase electricity through the Manchester City Council Energy Management Unit (EMU) to obtain the best price for energy and water provision, use and conservation. The service provides the framework for legislative compliance in terms of Display Energy Certificates and the Carbon Reduction Energy Efficiency Scheme.

The service includes

**Energy purchasing**

- purchasing from competitive energy supply markets for best value for money.
- handling all aspects of the competitive tendering and analysis

**Utility management**

- acting on our behalf to investigate billing, supply, data or site enquiries with suppliers
- providing budget advice on utilities expenditure











## Energy action plan – detail

| Objectives | Benefits and beneficiaries | Agreed actions | Responsible/ involved | Timescale | Success measures |
|---|---|---|---|---|---|
| **Overall aim**: to reduce absolute Scope 1 (direct - energy) and Scope 2 (indirect - energy) carbon emissions by 10% by 2012 against a 2009-10 baseline | Environmental, to the wider community; financial, to the College | Energy use audit. Awareness raising campaigns | Head of Campus | Ongoing<br><br>Review in 2012 | Year on year reduction in energy |
| **Energy use in new buildings**: to minimise operational energy use via action plan and design guide principles. Incorporate on-site or off-site renewables | Reduced energy bills, reduced carbon footprint | Retrofit with renewable energy generating technology and insulating where possible | Head of Campus | Ongoing<br><br>Review in 2012 | Year on year reduction |
| **Energy use in existing buildings**: to evaluate current energy use. Develop strategy for energy reductions building by building | Reduced energy bills, reduced carbon footprint | Installation of Powerperfector units | Director of Property | Ongoing<br><br>Review in 2012 | Reduced electricity consumption |
| **Stakeholder behaviour**: Run an awareness campaign for staff and students on cutting carbon and energy consumption; install real time display consumption meters showing a breakdown of carbon emissions by use within the building | Reduced energy bills, reduced carbon footprint, positive influence on supply chain | Timetable intra-College awareness events timed alongside National awareness weeks, eg 'Climate Week' | Head of Finance<br><br>Sustainability Steering Group | Ongoing<br><br>Review in 2012 | Awareness, more active take-up of sustainability commissions and college-wide submissions. Sustainability integrated into more curriculum areas |
| Investigation into software for remote shut-down of computers left on | Reduction in energy usage | IT Services investigation into software | IT Services/ Director of Property | 2012 | Reduced electricity consumption |
| 'Switch-off' Awareness raising campaign | Reduction in energy usage | Appraisal of current information/posters | Director of Property | 2012 | Reduced electricity consumption |

## Food action plan

### Our food action plan – an overview

Developing on from the way in which we buy our food today, to a future where we cook nutritious organic food grown by the College for the College on the College's land, will take some time. Therefore a clear strategy needs to be developed – one which remains learner-focused and phases in the incorporation of food which might not usually be seen in the College kitchens. In that way we will make best use of the land resources we already have.

Turning the land surrounding the College into a viable state will take sensitivity to both land and climate. It will require

- investigation into plant species that yield greatest benefit with minimal attention
- research into companion plants which provide 'pest' control without the need for polluting sprays
- an appraisal of organic systems that continuously benefit the life and nutrition held within the soil and the nutrition of the other plant life

These measures will support the commitment the College has made for our development towards a more sustainable future.

Environmentally-sustainable practices with food are entirely compatible with and supportive of practices which promote health and well-being. There are compelling reasons to follow such practices with the food that we serve at the College, from the point of view of its effect on the natural environment, health and emissions. The price we pay for food is reflected by the cost of processing and transportation. For example, for every one calorie of food that reaches our plates, the transportation and processing of that food has consumed, on average an additional nine calories.

In this country our consumption habits in recent times have militated against locally and organically produced food, and towards food that is both processed, produced and distributed in ways that do enormous harm to our health and to the environment. Habits are changing, and we are doing all we can to accelerate that change. On average, market gardens that thrived prior to the 1950s supplied around 75 % of the produce consumed within a 40 mile radius. Returning to an infrastructure that promotes and increases the popularity of locally produced food will help to reduce the associated financial, health and environmental costs currently paid.

There are two prongs to our actions

- raising awareness and changing behaviour among students and staff
- increasing the availability of environmentally sustainable options, sourced wherever possible from local, organic producers

Currently, we purchase from local growers, where possible, to sustain local farming and aid in the economic growth of the community. Doing this will reinforce the development of an infrastructure of local food growers. We are also in the process of developing a catering waste survey across all our refectories to obtain views from our stakeholders and to see where further improvements can be made.

Since August 2008, we have made great inroads into improving the recycling and management of food waste. A site 'Waste Stream Model' has been developed and a 'Guide to Recycling' produced to show where our waste is generated. There are now only a few waste streams that are not susceptible to recycling, mainly due to low quantities.






## Food action plan – detail

| Objectives | Benefits and beneficiaries | Agreed actions | Responsible/ involved | Timescale | Success measures |
|---|---|---|---|---|---|
| **Overall aim:** | | | | | |
| Awareness raising campaign on the benefits of local and organic food | Students, staff, local growers | Awareness raising events – commissioning brief to be issued | Sustainability Projects Group | 2012/13 and ongoing | To be confirmed |
| Implement 'green' procurement procedures | Students, staff, local business | Commissioning brief to be issued | Sustainability Projects Group | 2012/13 and ongoing | Using PAS 2050 (see Appendix) |
| Further develop on-site food production and composting | Students, staff and local community | Appraisal of land, land use and viability. Commissioning brief to be issued | Sustainability Projects Group | 2012/13 and ongoing | On-site food production |



## Land, habitat and wildlife action plan

### Our land, habitat and wildlife action plan – an overview

The Manchester College estate includes around 13 hectares of land that has not been built upon. The landscape is wide and varied, from post-industrial in the north to semi-rural in the south. Building relationships with the Greater Manchester Ecology Unit will help us to develop our estate in conjunction with the Manchester City Council wider Strategy for Biodiversity.

We find ourselves in a situation of change. The majority of the population of Manchester was involved with industrial rather than agricultural processes during the 200 or so years from the industrial revolution. The age of heavy industry in Manchester has passed, and the children of people who worked in the mills and factories of Manchester now need new skills in order to support themselves and their families. With the departure of traditional heavy industry, there are many opportunities to reclaim land for nature as well as local food production.

Methods of gardening, such as permaculture, for growing healthy and nutritious food on a small scale in back gardens and small plots of land in the urban landscape, have been proven to encourage biodiversity and wildlife. We are in the individual position of being able to bring such skills to our local communities to enable them to grow their own produce in the limited amounts of land available. This will bring positive changes to the health and well-being of Manchester's population and encourage the biodiversity of plants and wildlife in the process.

To put that into effect, we have a biodiversity action plan for land, habitat and wildlife.











## Land, habitat and wildlife action plan – detail

| Objectives | Benefits and beneficiaries | Agreed actions | Responsible/ involved | Timescale | Success measures |
|---|---|---|---|---|---|
| **Overall aim:** | | | | | |
| Appraisal of species of plants in College grounds that provide nutrition for the soil and nutrition for neighbouring plants, and the development of 'guilds' | Benefits to the soil, and resulting benefits to the quality and nutrition of plants | Commissioning brief to be issued | To be confirmed | 2012 and ongoing | To be confirmed |
| Planting of herbs and other plants and development of small, shallow ponds to encourage frogs and newts to keep pests off plants intended for human consumption and to provide micro-climates for a variety of plant species | Edible herbs for use in the College kitchen. Herbs for cosmetic use. Maintaining an organic ethos and using natural and living resources as defence against pests. Providing food for the wildlife food chain | Commissioning brief to be issued | To be confirmed | 2012 and ongoing | To be confirmed |
| Development of College gardens to demonstrate varieties of edible foods, including herbs, which allow and support the development of insect and wildlife habitat | A College-wide, locally resilient approach to changing the way in which we currently live to show how we can develop towards a less resource/ energy intensive way of living | Commissioning brief to be issued | To be confirmed | 2012 and ongoing | To be confirmed |
| Liaison with and the commissioning of Greater Manchester Ecology Unit for advice and strategy over the ecology throughout the College estate | Benefits to the ecology of the estate. Benefits to the communities. Greater scope for biodiversity | Commissioning GMEU | To be confirmed | 2012 and ongoing | To be confirmed |

## Resources and materials action plan

### Our resources and materials action plan – an overview

The College is a large consumer of resources and materials of all kinds – from paper to hardware, from furniture to print cartridges – all of which have created their own carbon footprint by the time they arrive on our premises. We can therefore make two positive environmental impacts in our purchasing and use of resources and materials

- purchase from suppliers with accredited sustainable sources and sustainability policies
- put those products to use in sustainable ways: by using them to optimal efficiency, reusing wherever possible and recycling where not, disposing of them in environmentally-friendly ways

This requires a series of inter-connected awareness and behaviour-changing campaigns with our supply chain and ourselves – staff and students.

We use local, sustainable materials for all refurbishment projects, return excessive packaging to suppliers and do all we can to increase the awareness among suppliers of the benefits of using sustainable materials. We manage all our process and activities in a manner that minimises waste creation and energy consumption. We have adopted all best processes in procurement and now only use practicable environmental options. We have started to review, monitor and audit statutory compliance to standards and guidelines that are environmentally focused. We are always on the lookout for new ideas and technology that will assist us to strive for continued improvements.

We have remedied the inefficiencies and very high reprographics costs that resulted from our previous fragmented reprographics system. All print jobs are now redirected to the right machines, and control limits have been imposed. All printers have been set to double-sided, and we are in the process of replacing all old and inefficient machines, thereby greatly cutting down costs and improving print quality. Successful initiatives regarding the reduction of paper consumption have been put into practice at a local level, and the strategies developed will be adopted at a wider College level to reduce consumption even further.



## Resources and materials action plan – detail

| Objectives | Benefits and beneficiaries | Agreed actions | Responsible/ involved | Timescale | Success measures |
|---|---|---|---|---|---|
| **Overall aim**: Percentage increase in use of sustainable materials by specified date, PAS 2050 (see Appendix), percentage materials sent back to manufacturer | | | | | |
| Creation of a product supply pipeline that demonstrates (PAS 2050), eg:<br>• Carbon outlay for manufacture<br>• Usage – (kWh, impact on health, eg nutrition, projected lifespan of the product, availability of replacement parts, ease of replacement)<br>• Disposal – scrap value – breaking or parts and value – will the product biodegrade – (composting) | Environment, College, wider community, reduction in $CO^2$ emissions | Liaison with Head of Finance | To be confirmed | 2012 and ongoing | Waste reduction. Cohesive procurement process |
| Reduction in overall paper consumption throughout The Manchester College | The environment, the College | • Investigation into methods for the reduction in paper consumption on a site by site basis<br>• Awareness raising campaign to staff and learners<br>• Reduction in the amount of paper actually available | Identified Vice Principals | 2012/13 | Reduction in paper consumption |






## Transport action plan

### Our transport action plan – an overview

We are a college based on many sites covering a large metropolitan area, serving communities that are dispersed throughout Manchester and the city region. Our workforce is also drawn from in and around Greater Manchester. Our action to reduce the reliance on travel by car is both necessary and capable of having a substantial positive effect on carbon emissions. To do this, we need to liaise with public transport providers to present our staff and students with a number of alternatives to driving to and from our campuses. Our aim is to minimise the use of resource-intensive methods of transportation by encouraging walking, cycling, use of public transport, and car sharing.

Situating our College buildings near public transport links, for example bus and tram networks, gives the College community the option to travel to College by more sustainable means. The College is part of the 'Cycle to Work' scheme, a Government-led initiative to encourage people to commit to using a bike bought at a reduced cost through the scheme as a means of travelling to work. Currently, about 175 members of staff have used the scheme to buy bikes and the number is set to increase.

The College will be running a transport audit to investigate the travel habits of students and staff commuting to work and college, the results of which will be used to inform further carbon reduction strategies.



### Transport action plan – detail

| Objectives | Benefits and beneficiaries | Agreed actions | Responsible/ involved | Timescale | Success measures |
|---|---|---|---|---|---|
| **Overall aim:** | | | | | |
| Transport audit | A broad analysis of transport habits to inform the College transport strategy | Actions to be agreed following data capture | Sustainability Steering Group. Sustainability Project Group | 2012 – 2015 | Development of carbon reduction strategies associated with transport |

## Waste action plan

### Our waste action plan – an overview

We aim to minimise the waste that results from all of the College's activities. Those activities can be

- construction and fit-out of new estate
- adaptation and improvement of existing estate
- sourcing and purchasing
- everyday operational activities, including those involving staff, students and visitors

By 'waste' we include all solid, liquid and gas waste that is a by-product of these activities. This involves a very wide range of actions and involves the behaviour of

- our own staff
- our students
- our architects and consultants
- our suppliers and contractors

Segregating our waste prior to collection is more cost effective, and for this reason we have different bins for different types of waste throughout the College estate. As a consequence of segregating our waste, 64% is recoverable which means that a lesser portion of our waste ends up in landfill.

We will

- 'design in' minimum waste principles into our new builds
- minimise operational waste in all buildings
- select suppliers whose products come with minimal packaging and waste, and so influence the supply chain in a positive direction

### Waste action plan – detail

| Objectives | Benefits and beneficiaries | Agreed actions | Responsible/ involved | Timescale | Success measures |
|---|---|---|---|---|---|
| **Overall aim:** minimise waste by waste stream management | | | | | |
| Reduce percentage of waste sent to landfill by specified date (tie in with Landfill Tax levies) | Direct positive environmental impact | Implement management monitoring | To be confirmed | 2012/13 and ongoing | To be confirmed |
| Recycle percentage of packaging | Direct positive environmental impact | Commissioning brief to be issued | To be confirmed | 2012/13 and ongoing | To be confirmed |
| Increase accessibility and visibility of bins to encourage sorting and reduce the amount of 'general' waste collected from each site | Efficiency, pre-sorting waste has a direct cost benefit to the College | Commissioning brief to be issued | To be confirmed | 2012/13 | To be confirmed |
| Appraisal of 'Rocket Composter' for food waste | Direct benefit to food waste being taken out of the waste stream, therefore reducing cost | Commissioning brief to be issued | To be confirmed | 2012/13 | To be confirmed |











## Water action plan

### Our water action plan – an overview

We view water as a precious resource, and our action plan is designed to use it appropriately and sparingly. In our new estate, we incorporate design principles that minimise potable water use and make maximum appropriate use of rainwater and recycled grey water. In existing buildings, we measure and evaluate our water use and develop strategies for the reduction of potable water use on a building-by-building basis. For our staff and students, we make potable tap water available in all areas and raise awareness of the environmental impacts of bottled water.

The College is one of Manchester's 250 biggest consumers of water: we use 40,000 cubic metres (8,800,000 gallons) of water a year, primarily to supply our taps, toilets, laboratories and workshops. It is important to be a considerate and responsible consumer: we have reduced annual consumption by more than 10,000 cubic metres over the last two years. This has been achieved by regular leakage surveys and the fitting of conservation devices.

Waste of water is reduced considerably by early intervention to repair losses and leaks. Currently the meters on site do not read the consumption of water at the College as accurately as we would like. The College will be installing 'pulse transmitters' which will accurately read the flow of water in 'real-time'. Having detailed information about the flow of water at the College will help us to identify water usage peaks and detect and repair leaks more quickly to stop waste and damage. Waste water doesn't simply vanish down the plug hole, it has to be managed. The Manchester College Facilities and Property Management Department handles the removal of surface water from roofs and car parks as well as sinks and drains. The retro-fitting of a sedum roof, water harvesting at more than one of the sites and the use of rainwater to flush toilets at The Manchester Sustainability Centre demonstrates the College's commitment to developing and incorporating more sustainable practices within the estate.



## Water action plan – detail

| Objectives | Benefits and beneficiaries | Agreed actions | Responsible/ involved | Timescale | Success measures |
|---|---|---|---|---|---|
| **Overall aim:** To reduce absolute water consumption by 10 % by 2012 against a 2009 baseline | | | | | |
| % reduction in potable water usage for operational activities – such as flushing toilets | Expenditure reduction. Environmental benefits | Commissioning brief to be issued | To be confirmed | 2012/2015 | To be confirmed |
| SUDS included in all landscaped areas | Sustainable usage of water | Commissioning brief to be issued | To be confirmed | 2012/2015 | To be confirmed |
| Install automatic make-up switches and sensors to all sites with high consumption figures | Consumption figures have direct relationship to cost – both in terms of water damage to the College estate and water consumption | Commissioning brief to be issued | To be confirmed | 2012/2015 | To be confirmed |
| % of reduced volume of potable water use met by rainwater harvesting | Rainwater harvesting reduces College's metered water usage | Commissioning brief to be issued | To be confirmed | 2012/2015 | To be confirmed |
| Improved understanding of the water demand requirements with a view to reducing both the water currently being drawn and to ensure an efficient and accurate constant supply pressure is maintained | Reduce water cost and outlay | Commissioning brief to be issued | To be confirmed | 2012/2015 | To be confirmed |
| Make fresh drinking water available to staff and students at all sites to reduce dependence on bottled water | Stakeholder and environmental benefits | Installation of mains fed water machines available at each site | To be confirmed | 2012/2015 | To be confirmed |






## Health and well-being action plan

### Our health and well-being action plan – an overview

Education plays a major part in how we influence life chances and will continue to do so into the future. For that reason, issues affecting human lives such as health and well-being are threaded throughout this document. From a dietary and curriculum point of view they feature in

- improving life chances and knowledge of nutrition through education
- the demonstration of working systems that support both human health and local resources

In addition to health, a more holistic strategy for the improvement of the well-being for everyone involved with the College can be addressed which incorporates exercise and a sense of well-being. Finding places for moments of peace is important for our mental and physical well-being. Embodied within our estate are pockets of tranquillity, places for sport, recreation and exercise.



## Health and well-being action plan – detail

| Objectives | Benefits and beneficiaries | Agreed actions | Responsible/ involved | Timescale | Success measures |
|---|---|---|---|---|---|
| Information and principles regarding the College ethos towards sustainability to be incorporated into all College induction procedures | Holistic effect of embedding sustainable working practices | To be confirmed | To be confirmed | 2012/13 | To be confirmed |
| Sustainability training to be devolved to all staff to ensure that sustainable practices are embedded throughout. Teaching staff to be asked to think about how they can integrate sustainability into the curriculum | Holistic effect of embedding sustainable working practices | To be confirmed | To be confirmed | 2012/13 | To be confirmed |
| Development of 'green gyms' (eg gardening to get fit), to encourage the engagement of stakeholders to develop and learn about sustainability at the College, and beyond | Holistic effect of embedding sustainable working practices | To be confirmed | To be confirmed | 2012/13 | To be confirmed |








# Achievements to date

In our drive to achieve institutional and academic excellence in the area of campus sustainability, we seek to glean knowledge from multiple sources and, through reflection, develop greater understanding from the experience, successes and failures of ourselves and others, and apply our wisdom to continually improve both what we do and how we do it. In turn, if we are to achieve global sustainability, it is incumbent upon us to share the lessons we have learned freely and widely with all the members of our campus community, with our neighbours in the city of Manchester and Northwest regions, with our peers and colleagues within higher education, and to anyone else willing to listen and learn with us.

The College through its commitment to sustainability through the built environment has been awarded accolades and industry awards. These are, to date:

- **North Manchester Sixth Form College, Phase 1**

  A 5,100m$^2$ development, completed at a cost of £7.2m.

  - RIBA-LSC Education Design Excellence Awards 2006 - National Winner
  - Roses Design Awards 2006, Best Public Building category - Silver Award
  - Manchester Society of Architects Awards 2006 - Commendation
  - North West Business Environment Awards 2007 - Winner
  - International Green Apple Awards 2008 - National Gold Winner

- **North Manchester Sixth Form College, Phase 2**

  A 3,000m$^2$ development, completed at a cost of £6.2m.

  - RIBA Award 2011 - Shortlisted
  - Roses Design Awards 2011, Regeneration category - Bronze Award
  - Manchester Society of Architects Awards 2011 - Commendation
  - 3Rs (Rethink, Refurb, Retrofit) Awards 2011 - Shortlisted nationally

- **Fielden Campus**

  A 6,100m$^2$ development, completed at a cost of £7.1m.

  - RICS Awards 2011, Design and Innovation category - Winner
  - Roses Design Awards 2011, Lighting Design category - Silver Award
  - Manchester Society of Architects Awards 2011, Reuse category - Winner
  - 3Rs (Rethink, Refurb, Retrofit) Awards 2011 - Shortlisted nationally

- **New Roundhouse**

  A 1,000m$^2$ development, completed at a cost of £1.57m.

  - RIBA Award 2010
  - Roses Design Awards 2009, Public Building Category - Bronze Award

The College is also a member of the Environmental Association of Universities and Colleges (EAUC).

A display depicting the various sustainable measures undertaken throughout the College is currently being designed by the College. The development of sustainable practice within the College is a constantly and continually changing and improving process, and therefore takes a great deal of interest to track.

# Appendix – legislative and regulatory framework

## BREEAM

BREEAM stands for the Building Research Establishment Environmental Assessment Method, and is a world-recognised environmental assessment method and rating system for buildings. It was launched in 1990 and, since then, has set the standard for best practice in sustainable building design, construction and operation.

A BREEAM assessment uses recognised measures of performance to evaluate a building's specification, design, construction and use. The measures used include criteria for

- energy and water use
- the internal environment (health and well-being)
- pollution
- transport
- materials
- waste
- ecology
- management processes

A Certificated BREEAM assessment can only be delivered by a licensed organisation and can take place at various stages in a building's life cycle. BREEAM assessment provides us and the architects and consultants with whom we work with

- market recognition for low environmental impact buildings
- confidence that tried and tested environmental practice is incorporated in the building
- inspiration to find innovative solutions that minimise the environmental impact
- a benchmark that is higher than regulation
- a system to help reduce running costs, improve working and living environments
- a standard that demonstrates progress towards corporate and organisational environmental objectives

## Carbon Reduction Commitment (CRC)

The Carbon Reduction Commitment Energy Efficiency Scheme (CRC) is a mandatory carbon emissions reporting and pricing scheme which covers all organisations using more than 6,000MWh per year of electricity (equivalent to an annual electricity bill of about £500,000). The College comes within that catchment. The CRC came into force in April 2010 and aims at significant reductions in UK carbon emissions not covered by other pieces of legislation. The primary focus is to reduce emissions in non-energy intensive sectors in the UK. This complements the role of Climate Change Agreements and the EU Emissions Trading Scheme, which are directed primarily at energy-intensive organisations. In October 2010, the Government announced significant changes to the CRC as a part of the Comprehensive Spending Review.

- integrated pollution prevention and control (IPPC)
- The Environmental Damage (Prevention and Remediation) Regulations 2009 provide new powers to the Environment Agency (EA) to clean-up any pollution and recharge those costs to the polluting site
- Carbon Reduction Commitment (CRC) liabilities from 2012
- BREEAM (BRE Environmental Assessment Method) is the leading and most widely used environmental assessment method for buildings. It sets the standard for best practice in sustainable design and has become the de facto measure used to describe a building's environmental performance

## Carbon reduction 'scopes'

Measuring the carbon footprint of an organisation as big as The Manchester College is a complex matter. Fortunately, it is aided by the Greenhouse Gas (GHG) Protocol, which was established ten years ago by the World Business Council for Sustainable Development and World Resources Institute. That protocol provides a common accounting and categorisation framework for measuring a carbon footprint. It enables like to be compared with like and enables organisations such as our own to benchmark themselves in a clear and consistent way.

The framework is basically divided into three 'scopes'

- Scope 1 covers our direct emissions, for example from our own boilers
- Scope 2 covers our indirect emissions, ie those emissions that result from the electricity we purchase
- Scope 3 is the most difficult to pin down – it covers the carbon emissions that are caused by all of our other activities, eg procurement of all our goods and services, travel to the College and between sites and so on.

## Eco Campus Platinum Accreditation

EcoCampus is a national Environmental Management System (EMS) and award scheme, based on ISO4001 and set up by HEFCE in 2005 for the higher and further education sectors. The scheme enables us as a college systematically to identify, evaluate, manage and improve our environmental performance and practices. Using the guidance provided by EcoCampus ('A Guide to Good Practice - Carbon Management Strategies and Plans') we aim to achieve Eco Campus Platinum accreditation by 2012 along with ISO 4001 accreditation. By doing so we will respond positively to numerous external influences on the College, including the People and Planet Green League Table, CIF1 and 2, and the Carbon Reduction Commitment.

## ISO4001

The International Organisation, for Standardisation, commonly known as ISO, is the internationally recognised organisation for standard-setting in all walks of life. ISO4001 is the international standard for environmental management. Our objective to meet and, where possible, exceed that standard overarches all our other objectives. As well as its core significance, the standard shows how we are addressing other issues such as sustainable development and corporate responsibility. We have now started to reap the benefits of effective environmental management in terms of the cost savings that can be made – for example, the savings that we can achieve through effective waste and energy management initiatives. Our trend towards integrating environmental management practices into everyday management has created opportunities for the development of our environmental sustainability. We are developing, implementing and maintaining a recognised Environmental Management System and our objective is to achieve ISO4001 accreditation by 2012.

## PAS 2050

PAS 2050 helps to assess the supply chain GHG emissions, which include those associated with processes not controlled by the company itself. These can be measured at either the company level or the level of an individual product. There are benefits to both company-level and product-level supply chain emissions assessment; however, PAS 2050 focuses on product-level emissions only.

Measuring the carbon footprint of products across their full life cycle is a powerful way for companies to collect the information they need to

- reduce GHG emissions
- identify cost savings opportunities
- incorporate emissions impact into decision making on suppliers, materials, product design, manufacturing processes, etc.
- demonstrate environmental/ corporate responsibility/leadership
- meet customer demands for information on product carbon footprints
- differentiate and meet demands from 'green' consumers

## People and Planet

### Student action on world poverty and the environment

People and Planet is the UK's largest student network campaigning on human rights, poverty and the environment. It aims to create effective campaigns and to empower active global citizens with student-led groups in over 130 universities, schools and colleges throughout the UK. People and Planet are also responsible for the Green League Table which shows university green credentials by order of rank.

## SuDS – Sustainable Drainage Standards

The Government is currently working closely with the Environment Agency, Local Authorities and House Builders to develop a set of National Standards for sustainable drainage. The standards will reflect the need to reduce flood risk from surface water, improve water quality, improve the environment, and also ensure that the SuDS systems are robust, safe, and affordable and that requirements are predictable. The National Standards will set out the requirement for the design, construction operation and maintenance of SuDS in England and Wales. The standards will apply to domestic and commercial developments and redevelopments which require approval by the SAB. They will set out guiding principles that will help developers and local authorities. These principles include

- considering drainage at the earliest stages of site design
- SuDS can be multifunctional spaces
- SuDS should follow the management train
- rainwater should be managed as close to its source as possible
- connection to foul sewer is not permitted

### Overview of relevant legislation

| Legislation/regulation | Overview | Significance to the College |
|---|---|---|
| Environmental Protection Act 1990 Part 2 | Section 33 makes it an offence to treat, keep or dispose of controlled waste without a waste management license, or 'in a manner likely to cause pollution of the environment or harm to human health'. Section 34 introduces a statutory duty of care for all those producing or dealing with waste | As a waste producer The Manchester College has regard for this section of the EPA |
| Environmental Protection (Duty of Care) Regs 1991 | Require anyone who produces, receives, holds, carries, treats or disposes of controlled waste or who, as a broker, has control of such waste, to prepare and retain a written description of waste and transfer notes and to furnish copies on request. The transfer notes should contain a description of the waste and all parties in the transaction and be kept for minimum of two years. Waste should only be transferred to an authorised person | Waste transfer notes are retained by the College and the contracted business partner and are available for inspection at all times |
| The Waste Management Licensing Regs 1994, as amended 1995, 1996, 1997, 1998, 2002, 2004, 2005) | The Waste Management Licensing Regs. 1994 (as amended) cover the whole of the waste management licensing system. Contain provisions relating to waste management licensing and the exemption therefrom | Our general waste is collected by a registered contractor |
| Hazardous Waste Regulations 2005 Replacing Special Waste Regs, 1996 (as amended) | Producers of special waste are required to register with the Environmental Agency. However there are exemptions for certain facilities, eg schools if they store less than 200kgs | As a provision of science taught subjects with special waste, eg radioactive waste |
| Finance Act 1996 Part 111, Landfill Tax Regs (as amended) | Tax of currently £18 per tonne on waste going to landfill | As a producer of landfill waste |
| Landfill Directive | Sets challenging targets for the reduction of biodegradable municipal waste to land fill, introduces classification for landfill sites, specifies that only treated wastes will be accepted and bans the disposal of special wastes, eg liquids, tyres, as well as co-disposal. Implementation of latter commenced in July 2004 | As a producer of treated waste |
| Regulations on Substances that Deplete the Ozone Layer 1994 (EEC 3093/94) | Places controls and phase out dates on the manufacture and supply of substances including CFCs, halons, carbon tetrachloride, 1,1,1-dichloromethane, HBFCs and HCFCs, and control on the manufacture and supply of methyl bromide. A total ban on the use of HCFCs came into force in 2004 | As a provider of curriculum activities that produce controlled substances as wastes |

| Legislation/regulation | Overview | Significance to the College |
|---|---|---|
| Water Resources Act 1991 | The Water Resources Act 1991 (WRA 1991) was amended by the Environmental Act 1995, but remains the principal legislation regarding discharging to controlled waters. It is an offence to cause or knowingly permit any poisonous noxious or polluting matter to enter controlled waters | As a commercial establishment |
| Anti Pollution Waste Regs 1991 | Enable Environment Agency to serve notice on a polluter or potential polluter to remedy or prevent water pollution | As a producer of waste |
| Water Act 2003 | Procedures relating to applications for abstraction licenses | As a consumer of water at commercial capacity |
| The Environmental Protection Act 1990 Part 11A ( as amended as part 11 of The Environmental Protection Act 1995) | Provides statutory framework for contaminated land. Local authorities are required to identify contaminated land within their areas with 'Special Sites' being regulated by the EA. Identified sites are to be cleaned to a 'suitable for use' standard, with remediation notices being served on the person who originally caused contamination, advocating the 'Polluter Pays Principal'. If this person cannot be found, then the owner/occupier will be held responsible | As a landlord |
| Environmental Protection Act 1990 Part 2 Noise and Statutory Nuisance Act 1993 | Enables local authorities and private individuals to take action to secure abatement of nuisance such as noise, odours, dust etc. Connected with the street noise from sources such as vehicles, equipment, machinery, burglar alarms. Also deals with the recovery of expenses incurred by the local authority in arbitrating statutory nuisance | As an education establishment |
| The Town and Country Planning (Listed Buildings and Conservation Areas) Act 1990 | Conditions on type of development permitted eg visual aspects (appearance of buildings) etc and noise etc. Requires completion of a list of building of special interest (historical or architectural). Specific consent is required to demolish, alter or extend such buildings. Provides for creation of conservation areas of special historic interest (cities, towns or villages) and that such status is taken into account in the assessment of planning applications | Conservation areas, Listed Building etc |
| Health and Safety at Work Act (Control of Substances Hazardous to Health) (COSHH) Regs | Provides a comprehensive integrated regulatory system to protect Health, Safety and Welfare of workers. Safe handling/ storage/use and transportation of substances hazardous to health | As an employer |
| Climate Change Levy | Introduced in 2001 as a tax on energy use in industry, commerce and the public sector, with offset cuts in National Insurance contributions and with additional support for energy efficiency schemes and renewable sources | As a commercial consumer of energy |
| Waste Electrical and Electronic Goods (WEE) Directive | Proposed to require manufacturers to bear the cost of recovery and treatment of such goods now split into two separate directives on waste recovery and restrictions on the use of hazardous substances, with a third directive dealing with standards for design and manufacture of the equipment | As a producer of waste |



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