

# Staffordshire University Environmental Strategy 2009 – 2013



Original approved Executive: July 2009  
Revision approved Executive: March 2012  
Revision 3: March 2013

Name of document:	Environmental Strategy
Purpose of the document:	Sets out University's objectives and targets to manage its environmental impact across all core areas of activity
Approved by:	University Executive
Responsibility for Updates:	Environmental Coordinator/Energy Manager
Document Applies to:	All University employees, students, contractors and any interested public parties
Version no:	3, March 2013
Date of Approval:	March 2012
Proposed date of Review:	September 2013, for new strategy development
Related documents	Environmental Policy
Version 3 updates (if applicable):	Some initiatives revised where initial timelines have not been met, to tie in with overall strategy times.

### Equality and Diversity Statement

Staffordshire University's commitment to equality and diversity means that this policy has been screened in relation to the use of gender-neutral language, jargon-free plain English, recognition of the needs of disabled people, promotion of the positive duty in relation to race, gender and disability and avoidance of stereotypes. This document is available in alternative formats on request.

If you think we can improve the fairness of this policy please contact the individual who has responsibility for its update.



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## Carbon and Air Quality Management

### Aim

To use energy more efficiently and reduce the University's carbon emissions through efficient and responsible use of energy and water and by promoting resource efficiency associated with day-to-day activities and new developments. This in turn will contribute towards UK government targets of an 80% reduction in carbon emissions by 2050.

The University carbon management plan, approved by Executive (February 2011) and Board of Governors (March 2011) is the principle document to achieve these objectives.

### Objectives

- To monitor and progressively reduce overall utility (water, gas and electricity) consumption throughout the University
- To monitor and progressively reduce the volume of scope 1, 2 and 3 - namely air and business travel by road<sup>1</sup>, waste<sup>2</sup> and water – emissions defined as the University's carbon footprint.
- To develop an understanding of and capture other scope 3 emissions and including wider staff/student commuting and procurement, and incorporate these emissions and subsequent actions plans into the University carbon management plan by 2014.

### Key Performance Indicator(s)

Staffordshire University has set the following targets as part of its carbon management plan:

- 25% by end 2014<sup>3</sup>
- 48% by end 2019<sup>4</sup>

In accordance with HEFCE requirements, a 2005 baseline year has been recorded. As part of the Carbon Trust Carbon Management Programme, a 2008 baseline was also recorded. Between 2005-08, the University's consumption remained largely static and all future savings will be measured on a 2008 baseline year. The carbon emissions of the areas covered within the initial scope were equal to approximately 16,301 tonnes of carbon dioxide, some 253 tonnes more than the 2005 baseline.

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<sup>1</sup> Estimated data

<sup>2</sup> Estimated data

<sup>3</sup> On a 2005 baseline

<sup>4</sup> On a 2008 baseline

## Initiatives

See progress to date (below) and carbon management plan for initiatives up to 2014.

## Responsibilities

- Energy Manager
- Environmental Coordinator
- Carbon Management Implementation Team
- Carbon Management Programme Sponsor
- University Community

## Related Documents

Energy Policy – approved by Executive July 2010

Phase One Carbon and Air Quality Management Initiatives (2009 -2013)

Objective	Action	Responsibility	Monitor and Review	Progress 2010/11	Progress 2011/12 & 12/13
1. The monitoring of all carbon dioxide emissions with respect to all University owned buildings, vehicles and business related travel	Implement a phased building utility metering programme and energy management and targeting data system	Head of Estates & Buildings Environmental Coordinator	Continual monitor Continual review	Completed – 26 buildings with gas/elec meters	As previous year
	Estates will monitor fuel usage in all fleet vehicles	Campus Services Manager Business Manager	Continual monitor Annual review	Ongoing, fleet fuel data recorded EST fleet review conducted Feb '11	As previous year
	University will record separate data for all intersite and business mileage car travel and submit annual data to HSEU/Estates	Finance representative	Continual monitor Annual review	No progress	I-expenses (financial system) to be implemented/live April 13. Scope 1 & 3 emissions capturing inc.
	Calculate Staffordshire University's carbon footprint	Environmental Coordinator Finance representative Estates Business Manager	Annual review	Completed March 2011, part of the Carbon Trust/HEFCE CMP programme	As previous year
	Plan and budget for Carbon Reduction Commitment	Environmental Coordinator Finance representative Estates Business Manager	Continual monitor Annual review Investment required April 2011	Completed, CRC submission placed. Budgets sets asides	As previous year

<p>2. Progressively reduce overall utility consumption throughout the University</p>	<p>Implement a phased programme to improve energy efficiency standards and energy management in existing building stock</p> <p>Approval will be consider for any energy efficiency standard programme/investment where a payback of at least 15 years or renewable systems with 20 years can be demonstrated</p>	<p>Head of Estates &amp; Buildings Environmental Coordinator Finance / IAP</p>	<p>Continual Monitor and target</p>	<p>On-going, 12% reduction in footprint during 10/11, financed through SEELS to value of £800k</p>	<p>Figure for March 13 showing 15% reductions</p>
	<p>New build and major refurbishments will be designed to minimise energy demand and consumption with high levels of insulation and design/construction practice</p>	<p>Director of Estates through Design Project Team Head of Estates &amp; Buildings Environmental Coordinator</p>	<p>In line with capital development</p>	<p>Ongoing, University Quarter Science building to be designed as BREEAM excellent</p>	<p>On-going</p>
	<p>Implement an energy awareness campaign. The University will require all its employees and students to adopt best practice that will aid energy conservation</p>	<p>Entire University community</p>		<p>Complete, Help us STOP campaign ran Spring 09-11,</p>	<p>Five Green a Day campaign ran 11/12</p>

3. Develop a carbon reduction programme and associated carbon reduction initiatives	Energy procurement policy for electricity supply will favour renewable tariffs wherever these do not incur significant increased cost. Procurement method be periodically market-tested to ensure value for money	Head of Buildings & Estates Environmental Coordinator Procurement Officer	At contract renewal	Complete, current 2-yr electric tariff (to April 11) has 35% renewable energy	Current contract is 100% renewables to Sept 2014
	Develop, implement and monitor a space heating policy	Head of Estates & Buildings Environmental Coordinator	Continual monitor Continual review	Ongoing	On-going
	Develop strict control of use policy for all portable heating appliances in accordance with genuine need & space heating policy, with eventual phasing out/removal of all portable heating appliances	Head of Estates & Buildings Campus Services	Continual monitor Continual review	Ongoing, 2010 drafted space heating policy, due for approval	Policy not approved. Local management through Green Impact.
	Develop and implement energy efficiency and emission standards as essential criteria to be used in the procurement of goods and services	Purchasing / Finance Environmental Coordinator	Continual monitor Continual review	Complete, WLC criteria included in investment process	As previous year

	Control of car based mileage with a requirement for all management staff to actively manage business mileage of staff under their control, seek to eliminate unnecessary journeys and promote sustainable alternatives	Deans/Directors Line Managers Business Managers	Continual monitor Continual review	Reviewed but no progress	Reviewed but no progress
	Better promote existing video conferencing technologies to eliminate need for travel and investigate technologies to provide individual work-station facilities	Information Services	Continual monitor Continual review	On-going	On-going
	Achieve the Carbon Trust Standard and re-new certification every 2 years	Head of Estates & Buildings Environmental Coordinator	No later than 31/03/2011	Not achievable	As previous year
	Appoint Energy Manager to Estates	Director of Estates	2009	Complete, April 2010	As previous year
	Explore governmental grant funding / assistance for any applicable energy efficiency projects	Environmental Coordinator	Continual monitor Continual review	Complete, awarded circa £800k salix funding	Other salix funders secured during (12/13) and RGF submitted



## Water Efficiency

### Aim

Reducing the University's carbon emissions through efficient and responsible use of (energy and) water, by promoting resource efficiency associated with day-to-day activities and new developments.

### Objectives

- Develop, manage and reduce the University's associated water carbon footprint at a building level
- Where appropriate, install water saving and waterless technologies in new builds and major refurbishments
- Work in partnership with the water supplier to trace and repair water leakages on site

### Initiatives

- Manually read all water meters (in DEC complaint buildings) on a monthly basis.
- Develop a phased sub metering programme for the majority of the non residential Estate (DEC complaint buildings) so that each building has a separate water (and electricity/gas meter) by 2013
- Develop a phased sub metering programme for the majority of the residential Estate (to a flat/block level) so that each residential building has a separate water (and electricity/gas meter) by 2013

### Key Performance Indicator(s)

- Reduce total water consumption ( $m^3$ ) by 8% by 2013 on 2008/9 levels
- Prior to the building water meter programme, Estates Management Statistics will be used as global indicators, as follows:
  - Water consumption  $m^3$  / FTE
  - Water consumption  $m^3$  / GIA ( $m^2$ )

### Responsibilities

- Energy Manager  
Environmental Coordinator

## Sustainable Travel

### Aim

Ease traffic and parking congestion at the University and reduce the environmental impact through a reduction in single occupancy car use, achieved by creating opportunities for staff, students and visitors to travel by alternative means of transport to the private vehicle.

### Objectives

- Develop and implement a University wide sustainable travel plan
- Encourage a reduction in the number of single occupancy car journeys to the University by staff, students and visitors
- Improve the management of and encourage a reduction of business related travel, especially intersite car travel and associated mileage claims
- The specification of fleet vehicles, with respect to restrictive targets on fuel consumption and emissions

### Initiatives

- Promote and encourage the use of sustainable transport, through the better provision and marketing of relevant travel information
- Make specific public transport information available to staff and students through partnership approaches with all Public Transport Providers and the provision of transport information points around the University and financial incentive schemes for public transport tickets
- Encourage car sharing, through the continual promotion of a specific car sharing database for staff and students and associated initiatives
- Encourage walking, through improved and better maintained footpaths in and around the University campuses and through the provision of locker and shower facilities for walkers
- Encourage cycling, through an improved provision of cycle parking, showers, locker facilities, bicycle user groups and financial incentive schemes for cycle purchases
- Implement a car parking management system
- Review and revise current business related travel policies and modes of travel between campuses, especially Stoke and Stafford

### Key Performance Indicator(s)

- Reduce the proportion of staff single occupancy car journeys to Staffordshire University to no more than 50% by 2013
  - Achieved as a 4% year on year reduction
- Reduce the proportion of student single occupancy car journeys to Staffordshire University to no more than 27% by 2013



- Achieved as a 1% year on year reduction

These target are regarded as the most appropriate means of effectively articulating all of the University's policies with regard to the promotion of alternative transport modes and will be achieved through a series of annual continual improvement programmes.

#### Responsibilities

- Environmental Coordinator
- Head of Campus Services

Continual Improvement Programme – Phase I (December 2009)

There is no single solution to all of the University's travel needs – different individuals will respond to different measures and some may not respond to any. Various combinations of measures are required to allow individuals to make an informed decision on how they intend to travel to and from the University. Furthermore, the Travel Plan should be seen as a dynamic process – a continuous cycle of action-monitor-review.

<i>Encourage Cycling – create financial incentives to encourage individuals to cycle</i>				
Ref	Initiative	Target Date	By Whom	Progress 2010/11
CY1	To introduce the salary sacrifice scheme for staff to purchase cycles and cycle related equipment for travel to work	Nov 2009	Estates, Finance & Salaries	Complete, November 2009
CY1.1	Introduce incentive package staff ongoing cycle maintenance/servicing package with local mobile cycle maintenance company	As above	HSEU / Estates	Complete/Ongoing

<i>Encourage Cycling – improve infrastructure to facilitate cycling – showers and changing facilities</i>				
Ref	Initiative	Target Date	By Whom	Comments
CY2	Install shower / change facilities at Stoke College Road site to encourage cycling to work	Sept 2009	HSEU / Estates	Reviewed, no progress due to space constraints. Facilities available at Leek Rd site

<i>Encourage Cycling – improve infrastructure to facilitate cycling – installation of additional cycle parking</i>				
Ref	Initiative	Target Date	By Whom	Comments
CY3	Ongoing identification of suitable locations at the Stoke and Stafford sites for cycle parking	Ongoing	HSEU / Estates	Complete/ Ongoing, spaces increased to over 400 on site
CY3.1	Through Cycle England funding, install dry secure residential student cycle parking at Leek Road residences	Sept 2009	HSEU / Estates	Complete, 2 x secure shelters housing 44 cycles via pin code access

<i>Encourage Cycling – University support for National Bike2Work week</i>				
Ref	Initiative	Target Date	By Whom	Comments
CY4 CP2	Implement University student pool cycle scheme	Nov 2009	HSEU / Admin - H&L Services (Residential Services)	Complete

<i>Awareness Raising – Provide comprehensive travel information detailing sustainable alternatives to the car</i>				
Ref	Initiative	Target Date	By Whom	Comments
AR1	Provide and improve the accessibility of information to allow staff and visitors to make a 'better informed' choice of sustainable travel to / from the University	June 2009	HSEU/ Web team	Completed Ongoing review

<i>Encourage use of Public Transport – create financial incentives to encourage individuals to commute via Public Transport</i>				
Ref	Initiative	Target Date	By Whom	Comments
PT1	To investigate the possibility of a salary sacrifice scheme for staff to purchase annual season tickets for travel on public transport and developed staff/student discounted travel scheme with bus/train operating companies	2009	Estates, Finance & Salaries	Complete, Rail loan scheme implemented March 2011

<i>Support use of car sharing by staff – introduce a guaranteed lift home scheme for staff</i>				
Ref	Initiative	Target Date	By Whom	Comments
CR1	Provide a guaranteed lift home scheme for staff whom are let down (due to unforeseen circumstances) by their car sharer	July 2009	Estates / Finance	Complete

<i>Encouraging walking – improved infrastructures to facilitate walking – showers and changing facilities</i>				
Ref	Initiative	Target Date	By Whom	Comments
WL1 /CY2	Install shower / change facilities at Stoke College Road site to encourage cycling to work	Sept 2009	HSEU / Estates	Reviewed, no progress due to space constraints. Facilities available at Leek Rd site

<i>Encourage walking – offer support mechanisms for current and new walkers</i>				
Ref	Initiative	Target Date	By Whom	Comments
WL2	Promote walking groups / walking buddy schemes	Aug 2009	HSEU / Estates / Sports	Ongoing

<i>Minimise the impact of business travel – encourage the use of cycling for local business trips / inter-site commuting</i>				
Ref	Initiative	Target Date	By Whom	Comments
BT1	Provide a 20p cycle business mileage allowance to staff	Nov 2009	Finance	Complete, Nov 2010

<i>Minimise the impact of business travel</i>				
Ref	Initiative	Target Date	By Whom	Comments
BT2	Amend relocation expenses policy to reflect sustainable travel alternatives, so that new employees are, at the least, made to consider their desired living location, taking into consideration: distance from place of employment, provision of local public transport and location of schools (if applicable)	Aug 2009	HSEU / Finance	Relocation expenses withdrawn from Financial regulations.

<i>Minimise the impact of intersite business travel – introduction of half-hourly X1 bus service (Stoke-Stafford)</i>				
Ref	Initiative	Target Date	By Whom	Comments
BT3	With introduction of half-hourly service, develop/implement intersite travel policy with reduced travel expenses claims between Stoke-Stafford to the cost of a return bus ticket	Sept 2009	HSEU / Finance	Reviewed, not implemented by Executive

<i>Minimise the impact of intersite business travel – better promotion of existing video conferencing facilities</i>				
Ref	Initiative	Target Date	By Whom	Comments
BT4	Better promote benefits of existing video conferencing facilities to reduce the need for intersite travel	Ongoing	HSEU / IS	Ongoing

<i>Improved car parking management – barrier access and control</i>				
Ref	Initiative	Target Date	By Whom	Comments
CP1	Implement access controlled barriers for all main car park entrances, with Leek Road site being given priority	Sept 2009	Estates (Campus Services) / IS	Complete, February 2010

<i>Improved car parking management – restrictions to onsite residential parking</i>				
Ref	Initiative	Target Date	By Whom	Comments
CP2 CY3. 1	Feasibility study into the potential to either restrict or prohibitively charge first residential students for car parking	Dec 2009	HSEU / Student Office	Reviewed with no progress to date

## Waste

### Aim

Staffordshire University is committed to the responsible management of its waste and will operate efficiently and legally in its purchasing, use and disposal of waste materials.

### Objectives

- Preventing pollution whenever possible and minimising waste production as far as is practicable through the waste management hierarchy as appropriate

### Initiatives

- Implement best practice waste management to facilitate the waste management hierarchy of prevention & minimisation, re-use, recycle, energy recovery and disposal
- Improve procedures to record waste management information including waste composition and management information and legal documentation
- Investigate options for increasing recycling and reducing landfill, especially in residential halls for academic year 2010/11
- Continually improve general waste management and recycling awareness
- Segregate and recycle catering preparation and end wastes by 2011

### Key Performance Indicator(s)

#### Key Performance Indicators

Waste management procedures are improving year-on-year, and the University aims to:

- Reduce total waste to landfill by 3% annually relative to 2009/10 levels by 2013

### Responsibilities

- Head of Campus Services
- Retail Hospitality Managers
- Environmental Coordinator



## Sustainable Procurement

### Aim

Staffordshire University is committed to seeking to influence its suppliers and contractors through the development and implementation of a sustainable procurement policy, an objective of which will require sustainable issues to be considered in the procurement of all goods and services supplied to the University.

### Objective

Minimise the environmental impact of core goods and services procured by the University and improve the whole life costing culture when purchasing goods and services.

### Initiatives

By July 2012, as part of the carbon management plan, the University will have:-

- considered goods and services which can be manufactured, used and disposed of in an environmentally aware way
- given preference, where items are of a similar standard and cost, to those that are manufactured with a high recycled content
- wherever possible, specified items that can be recycled or reused
- considered the energy usage and associated costs of operating equipment prior to purchase
- favoured suppliers that are committed to environmental improvement
- considered whole life costs and implications when assessing equipment for purchase
- reviewed and revised where appropriate the 'Introduction to Sustainable Purchasing Guidelines' issued to all staff

Furthermore, the University will include:

- Whole Life Costing criteria, assessed by the University energy manager, into the University funding process for non-budgetary items during 2011
- Continually promote Fairtrade and ethical purchasing across all service provisions, thus maintaining University Fairtrade status

### Key Performance Indicator(s)

- Retention of annual University Fairtrade status

### Responsibility

- Purchasing Officer
- Environmental Coordinator
- Energy Manager



## Emissions & Discharges

### Aim

Staffordshire University is committed to preventing pollution whenever possible by reducing emissions & discharges in relation to direct<sup>5</sup> to air and water emissions and discharges from on campus consumption/activities e.g. water disposal or boiler operations.

### Objectives

- Prevent direct pollution by reducing discharges and avoiding or limiting, wherever practical, the use of environmentally damaging substances, materials and processes

### Initiatives

- Continue annual boiler maintenance checks to ensure emissions do not exceed current air emission standards
- Identify and create a monitoring framework for discharges to air and water by end 2013
- Prepare Emergency Plan to deal with abnormal conditions where spillages occur or emissions are exceeded by end 2011, in line with environmental management system development
- Continue to monitor/implement University moratorium on new HVAC installations, (particularly cooling purposes) which has been in place since May 2010, with the appointment of a energy manager and the development of a carbon management plan

### Key Performance Indicator(s)

To be determined

### Responsibilities

- Head of Buildings & Estates
- Energy Manager
- Environmental Coordinator

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<sup>5</sup> Emissions associated with waste, carbon and travel are detailed in the relevant sections of this Environmental Strategy.

## Biodiversity

### Aim

Staffordshire University is committed to protecting natural habitats and local wildlife and conserving biological diversity.

### Objective

- Maintain and improve biodiversity within the University's estate and nature reserve.

### Initiatives

- Continue to implement the actions plans of the University Nature Reserve Management Plan
- Develop a biodiversity action plan for the wider University estates and implement from September 2013
- As part of the campus master plan for Stoke Campus, implement green wall<sup>6</sup> infrastructures during 2013
- Where appropriate, plant native species on campus as part of the campus master plan developments

### Key performance Indicator(s)

To be determined following biodiversity action plan

### Responsibilities

- Director of Estates
- Head of Grounds Maintenance
- Environmental Coordinator

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<sup>6</sup> University Quarter campus master plans have identified 13 opportunities for green wall infrastructures, to be delivered during the 2011 programme.

## Sustainable Construction

### Aim

The University's Environmental Policy (2013) states that the University will seek to:

*"Minimise any adverse environmental impacts of the University's capital development programme by ensuring that new developments take into account sustainable construction principles".*

As part of this policy, the University also recognises that the impact refurbishment of buildings can have, and will therefore assess all new developments and major refurbishments against recognised best practice.

### Objectives

The University will endeavour to incorporate the following design principles into all new developments and major refurbishment projects:

- All new building projects will aspire to achieve BREEAM 'Excellent' and, as a minimum, will achieve 'Very Good' accreditation, while all major refurbishment projects will aim for at least BREEAM 'Good'. Equivalent standards including a minimum code 3 rating will be achieved for residential accommodation using the code for Sustainable Homes
- All projects will look to maximise energy efficiency and will, where appropriate, investigate the use of renewable energy technologies
- Construction techniques and building materials will be used to maximise the use of post-consumer waste or recyclable materials as detailed in the BRE Green Guide to Specification. At least 10% of the total value of materials used should derive from recycled and reused content in the products and materials selected
- Financial assessments of any project should consider the building's Whole Life Costs, including its design, construction, running and eventual deconstruction, rather than focusing purely on initial design and construction costs. Sustainability/energy efficient technologies with a payback of at least 15 years or renewable systems with 20 years should be considered. Excellence in this area should not be compromised unless it jeopardises the overall viability of the build/ refurbishment project
- All new construction and major refurbishment plans will incorporate a client led Site Waste Management Plan developed at the design stage. All construction sites will be managed under the 'Considerate Constructors' scheme and should achieve a scoring of >31 by the end of the construction process
- All projects will be consistent with the University's principles of sustainable travel

## Initiatives

- The application of BREEAM/Code for Sustainable Homes methodology at the design stage for all new and refurbished building projects in relation to capital development programmes, e.g. new Science & Technology building April 2012
- Application of Green Guide to Specification for material specification
- Long term whole life costing to be applied at the design stage to minimise value engineering of sustainable design elements
- Application of 'Sustainable Construction Considerations' document to all new and refurbishment projects, as outlined in appendix one

## Key Performance Indicator(s)

- Reduce carbon dioxide emissions by 10% above current building regulations for new builds and 7% for refurbishments
- Provide 10% of energy requirements from renewable and low carbon energy sources for all new build projects

## Responsibilities

- UQ project management team
- Environmental Coordinator
- All external design/construction agencies

## Community involvement on Environmental Issues

### Aim

To ensure that all staff, students and internal/external stakeholders have an opportunity to contribute towards and have an understanding of their own responsibilities in helping achieve an improvement in Staffordshire University's environmental performance.

### Objectives

- New staff and student induction programmes (during welcome week) be amended to include information about environmental issues
- Continued support and awareness raising of the Staff Sustainability Awards as part of the Celebrating Staff Success programme
  - Consideration be given to the development of a Student Sustainability Award
- Working parties (consisting of Faculties/Services and other individuals) be convened, as appropriate, to develop and implement Strategy objectives. These groups will be facilitated by the Environmental Coordinator and will report into the Executive Environmental working group
- Environmental activities/initiatives will be shared with the wider community and higher education sector
- Deliver staff and student environmental awareness training as part of the Health, Safety & Environmental training programme
- Continued support be given to Faculty/Service green group and energy champion networks
- Investigate the implementation of a University wide environmental performance accreditation scheme to empower Faculty/Service champions
- Implement a staff/student environmental suggestion scheme with small contribution funding to initiatives that help achieve Strategy objectives

### Key Performance Indicator(s)

- Develop a Welcome Week student environmental induction programme for new students by/for implementation of start of academic year 2011/12
- By academic year 2010/2011, all Faculty/Services will have a nominated individual/working group participating in a University wide environmental performance accreditation scheme.
  - This process will continue for a minimum of two years, up to academic year 2011/12
- By academic year 2013, a staff and student environmental awareness suggestion scheme will be made available linked with a small investment fund for implementation of viable suggestions.
  - Link in suggestions with submissions to the annual Celebrating Staff Success Awards to recognise and reward staff/student participation



- By January 2010, all staff and students be aware of Staffordshire University's environmental strategy and how they can contribute

#### Responsibilities

- Executive
- Finance Director
- Director of Human Resources
- Dean of Faculties (or nominees)
- Heads of Services (or nominees)
- Environmental Coordinator

## Appendix One Sustainable Construction Considerations

Project management teams should take into consideration the following principles during design/construction of new and refurbished buildings:

### Materials

- Materials should be sourced locally where possible
- Major building elements should achieve an 'A' rating as detailed in the 'Green Guide to Specification' (BRE 2002). The Green Guide to Specification provides clear and easy to use guidance to allow designers to reduce the environmental impact from construction projects used in buildings. Elements in particular include, but not limited to:
  - Hard Landscaping
  - Upper floor slab
  - External and internal walls
  - Roof
  - Windows
  - Floor coverings
- Timber used during construction, including structural cladding, carcassing, internal joinery and panel products should be supplied from sustainably managed forests (e.g. FSC certified or equivalent)
- Paints/ wall coverings should be water based where possible and/ or contain low concentrations of VOCs (Volatile Organic Compounds)
- No insulants/ materials should contain Ozone Depleting Substances (ODS). Materials containing CFCs/ HCFCs should be avoided wherever possible

### Water management/ conservation

- Water efficient fittings
- Low flush toilets
- Collection and use of rainwater for non-potable applications
- Sustainable Urban Drainage Systems (UDS)
- Water leak detection systems for mains supplies
- Drainage in laboratory waste water systems should include adequate facilities to allow sampling of discharges by regulatory bodies

### Pollution prevention

- Low NOx emitting boilers should be specified



- All oils/ chemicals stored on site must be fully bunded and control procedures in place for decanting etc.
- Adequate facilities should be provided for the storage and collection of segregated recyclable wastes

#### Construction waste management

- Waste arising from demolition activities should be either reused or segregated for recycling where possible
- Waste recyclable material arising during construction should be segregated and recycled where possible i.e. packaging (cardboard, plastic), wood
- Formal Site Waste Management Plans should be in place during construction

#### Biodiversity

- Protection of existing ecological features
- Tree protection zones during construction
- Avoid damage to existing hedges, bedding etc.
- Enhancement of ecological value as a result of development:
  - Planting schemes - where possible encourage planting of native tree species
  - flowers/ plants that promote wildlife enhancement
  - flowers/ plants that require little or any watering

#### Sustainable Travel/ Transport

- Ensure good and direct cycle route/access to building entrances
- Sufficient secure covered 'Sheffield' cycle racks should be provided close to the building entrance
- Centralised shower and changing facilities should be provided for walkers/cyclists
- Ensure video conferencing facilities are included within developments
- Consideration should be given to parking spaces adjacent to buildings that have capabilities to charge electric vehicles