

## **SUSTAINABILITY IN CONSTRUCTION AND REFURBISHMENT POLICY**

### **Background**

The World Commission on Environment and Development defines sustainable development as “Development which meets the needs of the present without compromising the ability of future generations to meet their own needs” (Bruntland Report 1987)

The Higher Education Funding Council of England (HEFCE) in its vision statement states that “Within the next 10 years, the higher education sector in this country will be recognised as a major contributor to society’s efforts to achieve sustainability – through the skills and knowledge that its graduates learn and put into practice, and through its own strategies and operations”

HEFCE further states that “Sustainability has often been given a rather narrow financial meaning in higher education. We now regard it as a much broader issue. Yet financial sustainability remains important, because we cannot expect institutions to embrace the long-term view on which a commitment to sustainable development is founded without some confidence in their own survival.” (HEFCE 05/28).

### **Vision**

This policy will build upon the goals set out in the Environmental And Sustainability Policy,

### **Monitoring and Review**

Goldsmiths’ Sustainability Policy and its associated action plan will be monitored and reviewed annually by the College’s Environmental & Sustainability Sub-Committee. The Sub-Committee will provide information on the action plan and performance against its objectives to the Estates Committee.

### **Aims**

The College commits itself to:

- Protect natural habitats and encourage local wildlife and biological diversity of the College’s managed land;
- Refurbish and develop the College estate in a manner that seeks to avoid negative environmental impacts and enhances the local environment;
- Work with local, regional or national partners to realise environmental projects;

- Making full use of its existing buildings and, wherever possible when expansion is necessary, to the development of sites within walking or cycling distance of the remainder of the College.
- Ensure refurbishment and new build projects meet requirements of the Energy Policy.
- Ensure that any new building or refurbishment takes the widest possible consideration of environmental impacts and, in particular, is planned and carried out to ensure the greatest energy efficiency which is reasonable in the circumstances.
- To achieve a Building Research Establishment Environmental Assessment Method (BREEAM) score of 'Excellent' for every new building and at least 'Very Good' for major refurbishments
- Promote energy efficient design in all new build and refurbishment works and to ensure that as far as practicable the energy requirements of new buildings are supplied on site.
- Review opportunities and implement measures for reducing the use of water, and to progressively reduce total water usage per capita (staff and students).
- Review opportunities and implement measures to reduce the volume of waste generated and to increase the proportion of that waste which is recycled.

### **Targets for sustainable development within Capital Projects and Minor Works:**

In the delivery of major projects the following will apply:

- Consultants' selection will depend on their ability to advise on sustainable issues and their implementation.
- Option Appraisal will be on a whole life quantitative basis (financial 30 year NA) and qualitative criteria, one of which will be the achievement of Estates Management's sustainable development objectives.
- Project Briefs and scopes will consider sustainable development and define the specific issues and implications for each project.
- The designs produced by Consultants will be reviewed in accordance with the Sustainable Development Policy.
- Costs will be considered on a whole life versus capital cost basis.
- A decision-making matrix checklist describing the evaluation process will be used.
- The impact on sustainable objectives will be reviewed at three stages through out the project:
  - at the completion of the feasibility of the project
  - at the completion of the detailed design of the project
  - at the completion of the project

Project briefs will be required to be developed in line with maintenance policy objectives where maintenance aspects should be considered with respect to each individual building design and type.

A clear consideration is to be given to whole life costing in relation to maintenance issues throughout the operation of Estates Management.

The implementation of the Estates Development Framework will look towards utilising assessment methods that illustrate both good environmental design and good environmental

practice. For instance, on a case by case basis BREEAM will be considered and the appropriate target rating level set.

Projects will be assessed to ensure the design effectively minimises the building's carbon dioxide emissions by:

- measuring and monitoring how much energy is being consumed;
- reducing the energy needed to provide heating, cooling, and other services to occupants during the use phase;
- reducing materials consumption;
- reducing use of road transport by occupants through locations which enable alternative access;
- adopting low carbon construction materials; and
- assisting staff and student behavioural changes, such as switching to facilitate turning off lights and computers at the end of the day.

To achieve targets, the duty is on the design team to specify materials that will conform to the targets, as much as financially possible, in relation to environmental, maintenance and social aspects.

### **Implementation Objectives**

- Consultant design teams will be required to provide specification list with evidence, which conforms to the policy targets.
- Final specification will be decided in consultation with Estates Management.

### ***Capital Projects Detailed Requirements:***

#### **1) Procurement**

Policy targets are to ensure that:

- The College's estate is economically efficient and sustainable in financial terms.
- Capital investment in the estate is based on a rigorous financial case for investment which is sustainable and meets the University's business needs.
- The impact of whole life versus capital cost, within the economic affordability envelope defined by the Estates Development Framework and Estates Management's budget, is considered as a primary decision making tool in each new building design or major refurbishment project.
- There is sufficient land to allowing the estate to expand and contract as dictated by the College Masterplan.
- Decisions made about the estate do not have a negative impact on the economic viability of the College.
- Operational costs are kept to a minimum but meet the service level agreements for the buildings.
- Project costs are kept within budget.
- Estate provision is flexible to react to changing business needs of the College and the value of the land and properties is monitored and maintained.

The College will review its estate annually to ensure that it is economically sustainable and adjust its plans accordingly

The Department will, where applicable and practicable, include as part of the procedure, contract specification or criteria for any purchase:

- Requirement to meet ISO 14001
- Use of EC energy labelling scheme or any other recognised equivalent.
- Use of recognised “eco labelling” of building products such as “the Green Guide to Specification” and “Green Pro”
- Use of a whole life costing matrix to take account of long-term environmental and economic factors.
- Request for environmentally friendly alternatives to be offered.
- Require identification of product areas which may have environmental and social hazards and the procedures in place to deal with such hazards
- Require proof from suppliers that policies and procedures are in place to meet all statutory and regulatory requirements so that environmental and social responsibilities are met

## **2) Biodiversity**

Biodiversity Conservation Landscape areas play a major role within the College structure by enhancing the external environment. This is demonstrated throughout all the College sites with the interacting of plants, birds, mammals and insects within the Campus sites. The development and growth of Biodiversity is continual as the College environment changes.

All construction plans will be in line with the Colleges Biodiversity Action Plan.

## **3) Materials**

Material selection is a fundamental decision in any design process whether it is a small refurbishment or major new build project. Commonly, the selection of the right materials will aim to enhance the appearance, improve the environmental performance and be durable to the ‘wear and tear’ of daily use.

The Materials policy will aim to steer the consultant, in the direction of a more sustainable choice of product. The selection of materials within the ‘sustainable learning environment’ will not only consider construction materials but additionally, operational materials such as office supplies, cleaning products, etc.

The targets set in the materials section are intended to put the onus on the consultant in the event of specifying construction materials. The important factor is to consider each choice of specification within the defined term ‘sustainable learning environment’. The final decision will be decided following consultation with Estates Management.

## Policy Targets

- To consider materials in terms of appearance, performance, low maintenance and durability
- To consider the embodied energy of all materials and cut back on high energy processed materials, where possible.
- To consider local sourcing of materials to cut down transport energy and encourage growth in local economy, where such materials are benign on health and local environment.
- To consider depletion of natural resources by avoiding virgin product materials where depletion of natural resources is not sustainable. Furthermore, to consider reuse/recycled materials sourcing.
- To consider materials in a 'Cradle to Cradle' mentality in order to address packaging waste, potential for recycling/reuse or biodegradability.
- To consider the internal environment of a building where moisture control and avoidance of toxic off-gassing, fibre release and mould growth are priorities.

## 4) Construction

Sustainable construction deals with many issues from energy to waste. Estates Management is directly involved with a construction project from feasibility to project handover. The objective of sustainable construction lies within the responsibilities of the design team, the contractor and Estates.

The build quality should give consideration to the level of finish when compared with maintenance issues. The objective of a quality construction finish should consider both the materials used and the maintenance aspects where low maintenance and a long life cycle are imperative.

Where applicable and practicable, the construction of the building must also consider its impact on resources, both natural and utilitarian. In addition consideration must be given to minimisation of onsite pollution; adequate protection of surrounding biodiversity areas; increased awareness and response to health and safety issues, as well as proper consideration of the local community, including staff, students, members of the public and residents.

In order to achieve this, Estates Management will look towards recognised validation of construction companies such as "The Considerate Contractors Scheme".

In addition to this, Estates Management will require evidence of skills that ensure delivery of its aspirations.

### Policy Targets:

- To consider methods of construction that will minimise onsite energy consumption
- To consider the method of construction and look to prefabrication / modularisation where possible
- To consider build-ability in relation to the site specification and environment, where this is consistent with reduction in adverse impacts.

- To consider appointment of contractor and, where possible, to consider contractors who employ a multi-skilled workforce and have a dedicated supply chain that demonstrates sustainability principles in its selection process.
- To consider contractors who are experienced in construction with relevant materials.
- To coordinate and audit trail sustainable checklist for each stage of design process from feasibility to completion
- To ensure that Contractor's waste management policies include a strategy for maximizing recycling

## 5) General Design Principles

Maintaining a clear and coherent visual identity which respects its surrounding landscape or built community is challenging in the context of operational, climatic and regulatory demands. The overall feel and look of the campus impacts on aspects of desirability in attracting both employees and students and should not be undervalued.

Before embarking upon design proposals, the following should be considered:

- ensure that the design, scale and materials of any extensions or adaptation of buildings complements neighbouring buildings, whilst retaining simplicity in design and detail.
- where existing buildings are being joined to make a larger space, consider the character of the area to avoid disruption to the original urban form;
- consider using traditional materials that are locally sourced as these require less energy for transport, contribute to the local economy and help to maintain cultural heritage;
- consider how to adapt aspects of building performance to higher sustainability while respecting existing fabric and surrounding sense of place;
- consider adapting the size of guttering and other rainwater collection goods to allow for higher rainfall than at the time of original design;
- prioritise maintenance of traditional design features, for example, string courses, (a valuable technique to keep lingering water off of building facades to reduce material deterioration)
- consider how local and community groups may benefit from access to existing, perhaps under-utilised, buildings to support their activities and to reduce the need for new construction.

## 6) Sustainability within the estate strategy

Sustainable development is not limited to large scale, new build capital projects. The principles also apply to the smaller scale developments that constitute routine estate and facilities management, such as maintenance, change of use or conversions, extensions, internal refit works or demolition.

The following should be considered when planning estate maintenance, refurbishment or development projects:

- Biodiversity;
- Building layout and flexible design;

- Building materials, including reclamation and recycling and the re-use of buildings;
- Water management, including drainage;
- Pollution and toxicity;
- Energy performance certificates;
- Minimising energy consumption, including insulation and natural ventilation;
- Renewable energy sources, including passive solar energy;
- Waste management and recycling;
- Site waste and site management plans; and
- Transportation and travel plan development.

## **7) Reuse of buildings**

Considered reuse of a building is intrinsically a sustainable activity. Upgrading whilst converting existing buildings on campus, reduces the environmental impact of using new resources and the need to dispose of demolition waste. It increases the building's asset value and improvements to insulation, lighting, and ventilation can bring better health and quality of life to the occupants.

Before considering the substantive re-use and upgrade of any building, a full survey should be undertaken. Once a survey has been conducted and the College has decided to restore or refurbish the building, the following points should be considered:

- using non-toxic methods to treat rot and other structural problems;
- designing to retain as much existing fabric as possible while reducing waste;
- retaining or selling components, such as doors and traditional fittings to salvage markets;
- whether the proposed changes, for example, altering internal layouts, are reversible and how they may affect potential uses of the building in the future;
- the benefits of restoring original systems and fabric, especially where original provision for natural lighting or ventilation has been undermined by later changes to the design, for example, where partitions have been added or windows sealed; and
- the desirability of traditional construction methods and materials that match the original fabric, balanced with any other environmental, social and financial implications such as toxicity, support for local business or transport costs.

## **8) Historic buildings**

The College has 3 listed buildings on the campus. Wherever possible and where appropriate the historic character and features of the listed building should be respected and enhanced. Minimal intervention and care must be taken to preserve and enhance any historic and culturally significant features. Where it is possible, traditional repair techniques and the use of natural or matching materials should be used.

Approved by Estates Committee  
6 July 2010