

Design Brief for Sustainable Development

University of the Arts London

Version 2

The University is committed to environmental sustainability issues and has a growing number of policies that aim to reduce its impact on the environment. The University intends to show leadership to the rest of the higher education community in demonstrating good environmental practice and therefore the incorporation of sustainable design and construction practices are vital.

Below is a list of the sustainability criteria that the University will be working towards. The Energy & Environmental Manager within the Estates department will also be able to provide further assistance to the appointed consultants if required.

In developing the Design Brief for Sustainable Development, particular attention has been given to opportunities that utilise and expand existing decentralised energy supply systems, and fostering the development of new opportunities for decentralised energy from renewable and low-carbon energy sources to supply proposed and existing developments. The University wishes to ensure that a significant proportion of the energy supply of substantial new development is gained on-site and renewably and/or from a decentralised, renewable or low-carbon, energy supply. With regard to new-build developments the University seeks to drive down in-use energy demand, preferring to set reduction targets based on how a building performs when fully occupied. Satisfying statutory design obligations such as Part L of the Building Regulations only tells half the story. Detailed energy modeling will be required to ensure the carbon emissions (and associated costs) are managed accordingly for the life of the asset.

The University has recently set a carbon reduction target of 22% to be achieved by 2015/16, based on a 2011/12 baseline. Newly built assets or assets which are retained but refurbished must consider this target as part of the design. To assist the Estates department, consultants appointed by the University will issue a tool that has been specifically produced to allow reductions Scope 1, 2 and 3 emissions to be designed in. Failure to manage carbon emissions in-line with current targets will result in reputational damage to the University and associated Colleges, loss of the funding from the Higher Education Funding Council and increased revenue costs. All developments will be subject to a 12-month review following occupancy to determine if the approved design matches in-use energy consumption.

New-build projects design objectives

In design terms, proposals for each development should seek to:

- Incorporate the latest thinking on sustainable design and construction to deliver a BREEAM standard of 'Outstanding' and to meet the requirements of the University's Carbon Management Plan. The University requires the development to achieve an "Outstanding" rating for the offices and the homes as defined and assessed using BREEAM. It is essential therefore that the selected design team can demonstrate a proven track record and capability to achieve optimised, cost effective design solutions on projects of similar type. The design team will be required to work closely with the University and shortlisted operators/developers to develop appropriate solutions that embrace the policies to mitigate the impact upon the environment.
- Architects and designers must ensure that the development is designed to emit very low levels of carbon dioxide through excellent passive solar and energy efficient design, incorporation of communal heating and integrated renewable energy technologies.
- To provide appropriate facilities in order to encourage cycling to and from the site (storage and shower facilities).
- To use external materials that are high in quality and as maintenance free as possible. 50% of construction materials to be sourced by mass from a factory/plant, quarry, wharf, railhead or recycling centre within 35 miles of site wherever feasible. 12.5% of construction materials by value to be recycled or reclaimed. At least 50% timber products to be sourced from a Forest Stewardship University (FSC) source with chain of custody certification or equivalent scheme. 80% of basic building elements by volume to be 'A' rated according to BRE's Green Guide to Specifications. Majority of the remaining basic building materials elements to be Green Guide B rated. Basic building elements refer to walls –external and internal walls and partitions -, floors – upper and suspended ground floor -, roofs and ceilings (suspended ceilings and ceiling finishes).
- No peat or weathered limestone to be used in buildings or landscaping.
- Paints and finishes used for decorating the interior of the extensions must be low-VOC or preferably zero –VOC (Volatile Organic Compounds).

Energy

- Some existing UAL sites are located near or within the Greater London Authorities 'Energy Action Areas' and developments in this area are expected to incorporate high levels of energy efficiency and renewable energy. An energy assessment of the building needs to outline how a) passive solar design and energy efficiency measures and b) Combined Heat and Power (CHP) and renewable energy will reduce CO2 emissions by a minimum of 22%. The University agreed the Carbon Management Plan in December 2012. This sets out a strategy for reducing carbon dioxide emissions generated across all building assets. This strategy is based on new developments connecting to a low carbon community heating network - where possible - and installing on-site electricity generating renewable energy technologies.
- Passive solar design is often the most inexpensive way of reducing energy demand. Passive solar design features can be used for heating, lighting and cooling a building.
- The building should incorporate natural ventilation and cooling. The cooling load can be reduced through effective shading and window selection while cross ventilation techniques capture cooling, flow-through breezes.
- Energy efficient lighting and sensors for the lights - both occupancy (movement) sensors and day lighting controls that dim or turn-off lights in response to natural daylight levels. The second is particularly important as the design should have a lot of natural lighting which can reduce energy consumption for lighting. The contractor may consider U-value of insulation and air-tightness levels which exceeds current building regulation requirements to ensure further energy efficiency. All energy consuming appliances provided must be 'Energy Saving Recommended'.
- Carbon emissions should be reduced by 10% from on-site renewable energy generation. Ideally these should be electricity generating renewables as heat generating renewables offer little benefit, especially when used in conjunction with CHP.

Water Resources

- All water devices to be efficient such as spray taps, low-flow shower heads and dual or low flush toilets.

Rainwater collection

- The building should make provisions for rainwater collection. Rainwater harvesting systems can provide water supply for all non-potable consumption such as for WCs. Space for storage tanks must be provided in the roof or underground, with down pipes located appropriately.

Green Roofs

- The building and site should increase opportunities for biodiversity. A Green roof should be considered — for information on Green Roofs, please refer to the London Borough of Barking & Dagenham Planning Advice Note 1 on Green Roofs (recognised as good practice). If a green roof is determined not feasible, the following measures could be taken:
 - provision of roost sites for bats
 - tree planting, planting of wildlife encouraging plants and wall climbers
 - providing nesting boxes and/or swift bricks to encourage new populations of birds
 - supplying feeding areas for birds and/or bats as part of the landscaping

Internal objectives

- To deliver an adequate standard of internal sound-proofing.
- To give flexible access to power, telecommunications and data services.
- To give consideration to the use of raised accessible floor boxes to help give greater flexibility to office design.
- To maximise the opportunity for using natural daylight and ventilation - where offices are not served by a external building wall then this objective could be achieved by using glazing panels rather than solid partitioning to internal corridor walls.

Building Services

- The University is committed to using resources efficiently and to reduce carbon emissions and water consumption and requires a pragmatic solution that provides a low maintenance, healthy working environment throughout the life of the building, including ventilation, air quality, daylight and sound proofing. The architects should create space that is inspiring and supportive for the users using best practice in design and construction. Technologies

should be incorporated in a cost effective and sensitive way and natural passive ventilation should be used wherever appropriate.

Refurbishment projects

Recently featured in the UK Government's Low Carbon Action Plan, Ska Rating is an environmental assessment method, benchmark and standard for non-domestic fit-outs, led and owned by RICS. The Ska rating is the preferred method of the University of the Arts London.

The Energy & Environmental Manager is the University's nominated Ska assessor and will undertake assessments for all refurbishment projects. **It is therefore necessary that the Energy & Environmental Manager is notified as soon as possible regarding a refurbishment project.** The Energy & Environmental Manager will notify RICS that a Ska assessment is being undertaken and brief the design team concerning the requirements the organisation is expected to achieve. The University seeks a design stage assessment, handover assessment and occupancy stage assessment for each refurbishment to ensure the delivered design is fully implemented.

The offices scheme (relevant to the University) consists of more than a hundred 'good practice' measures covering energy and CO₂ emissions, waste, water, materials, pollution, wellbeing and transport. The final rating is influenced entirely by what the client decides to include, not by what has been done in the past. The single biggest advantage of the Ska method is that it is a decision-making tool which ranks the different aspects of a fit-out based on what will have the biggest impact on sustainability. It can be used to help the design team achieve maximum sustainability for a given budget.

The Ska method will be used by the University to;

- set targets, use the formal assessment process to assure ourselves that target performance standards are met, and finally use the certificate to report performance to stakeholders
- benchmark the sustainability of fit-outs across a portfolio of buildings
- include the use of the RICS Ska Rating in 'Green Lease' provisions to help drive up the sustainability of properties or protect a building already certified under a whole building assessment method
- sustainability increasingly makes good business sense. Research demonstrates an expected increase in the asset value of labeled low-carbon buildings compared with standard speculative buildings

For consultants appointed by the University

- embed Ska Rating in your standard processes to demonstrate that you follow a sustainable specification and procurement process for fit-outs
- use the Ska Rating tool and datasheets to support the delivery of professional advice to clients on good practice in sustainable fit-outs, and to assess their designs and projects

For contractors

- use the assessment process and related guidance to make your design, specification, procurement and construction practices more environmentally sustainable
- to demonstrate your sustainability credentials to clients and consultants by making the targeting of standards under Ska Rating part of your standard tender process.

The University aims to achieve a gold rating for all refurbishments.