

**Sustainable Buildings Guide (New Build)  
September 2013**

<b>Revision History</b>	
<b>Version 1</b>	<b>December 2012</b>
<b>Version 2</b>	<b>May 2013</b>
<b>Version 3</b>	<b>July 2013</b>
<b>Version 4</b>	<b>July 2013</b>
<b>Version 5</b>	<b>August 2013</b>
<b>Version 6</b>	<b>September 2013</b>

## 1. Introduction

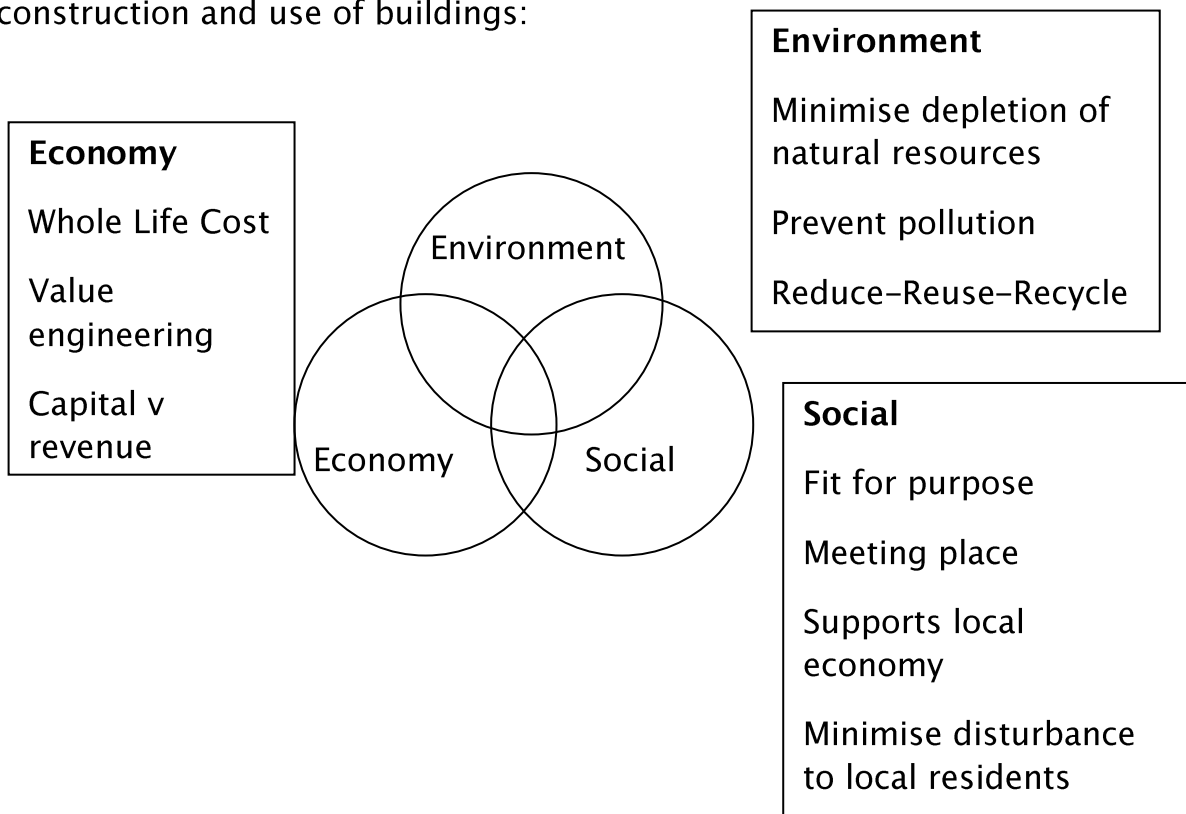
The University of Southampton recognises the significant impact the design, construction and occupation of buildings have on the environment. The Estate Strategy (UoS, 2006) set out the programme of enhancing and developing the campuses and stated that buildings and infrastructure shall be developed with minimal environmental impacts and shall be sustainably designed, procured and operated.

The University has outlined its commitments to improve its environmental performance in its Environment and Sustainability Policy (See Appendix A). The Sustainable Buildings Policy (See Appendix B) sets out the University's commitments to build more sustainably.

## 2. What is sustainable construction?

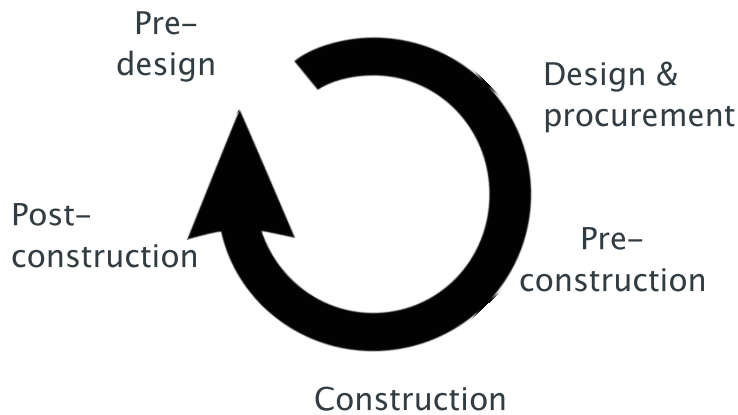
Sustainable development is often defined as, 'development which meets the needs of the present without compromising the ability of future generations to meet their own needs'.

A more meaningful definition for sustainable construction is the need to find a balance between economic, environmental and social factors in the design, construction and use of buildings:



### 3. Project life & sustainable buildings

There are opportunities throughout the life of a building to adopt the principles of sustainable construction and so minimise the impact of a building on the environment:



#### Design phase

Consultants are responsible for designing a building to meet the commitments described in the Sustainable Buildings Policy. They will be expected to design buildings to minimise their environmental impact over the life of the building. This will include energy conservation measures (See Appendix C) and a travel plan, which will be informed by the University's strategic Travel Plan ([www.southampton.ac.uk/transport/](http://www.southampton.ac.uk/transport/)).

The design will also be informed by local authority planning and supplementary planning requirements and any sustainability checklist.

#### Construction phase

The Contractor is responsible for producing a Sustainability Management Plan to document how environmental risk is managed on site and this will incorporate a Site Waste Management Plan. They will record evidence of management actions through, for example, the use of KPIs and audits.

#### Audits

The University will audit the design and construction phases of a new build project to check the commitments in the Sustainable Buildings Policy are being met and to identify areas for corrective action. The audits will also highlight good practice and identify opportunities for continual improvement.

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## Appendix A Environment & Sustainability Policy

The University of Southampton is one of the top ten research-led Universities in the UK and offers first-class opportunities and facilities for study and research, in a stimulating working environment. We are committed to prudently manage our estate by improving the strategic alignment, quality, utilisation and environmental impact of our estate and physical infrastructure (University Strategy, 2010). This Policy is aligned with the principles in the University's Health and Safety Policy Statement.

We recognise the important role we have in managing the impact of our day-to-day operations on the environment and in promoting the principles of sustainability in all our activities.

We are committed to:

- 1.1 maintaining, and enhancing, the quality of the University environment, both for people who live and work here, and for the wider community;
  - 1.2 improving the health and wellbeing of our staff and students;
  - 1.3 Complying with, and where appropriate, exceeding, applicable legal and other requirements relevant to our operations;
  - 1.4 preventing pollution; and
  - 1.5 implementing an Environmental Management System to identify our significant environmental aspects and impacts and drive continual environmental improvement across all our sites.
2. We are committed to achieving environmental good practice throughout our activities by:
- 2.1 Seeking to integrate sustainability into our strategies, policies and operations so that decisions are based on finding a balance between economic, social and environmental factors;
  - 2.2 Implementing a Carbon Management Plan to deliver a 20% reduction in carbon emissions from energy consumption by 2020 based on a 2005/06 baseline;
  - 2.3 Promoting the prudent use of natural resources and the minimisation of waste;
  - 2.4 Implementing a sustainable buildings policy to design, build and maintain world class research and teaching facilities and ensuring the infrastructure and facilities are upgraded and maintained to support future developments;
  - 2.5 Implementing a travel plan that encourages reduced dependency on car use and improves the transport options available to both staff and students;
  - 2.6 Maintaining biodiversity and enhancing the campus grounds;
  - 2.7 Embedding the principles of sustainability into the curriculum, operations, research, and staff and student experience to help staff and students apply them to their personal development;
  - 2.8 Working with the Higher Education sector, all relevant external authorities, environmental bodies and associations to keep up to date with latest developments and share best practice;
  - 2.9 Working with our Suppliers and Contractors to ensure the best use of natural resources and to minimise the environmental impact of their goods and supplies;
  - 2.10 Providing appropriate training to our staff to ensure they are competent to control the activities for which they are responsible and so support the delivery of this Policy;
  - 2.11 Developing awareness of our staff and students of the impact they have on the environment and help them to minimise this impact;
  - 2.12 Working with the local community on social and environmental issues to enhance the local environment and be a good neighbour; and
  - 2.13 Communicating this Policy to the University community and beyond.

We will regularly review this Policy and its associated implementation plans to ensure corrective and preventative actions have been taken to ensure continual improvement.

Professor Don Nutbeam  
Vice Chancellor  
January 2013

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## Appendix B Draft Sustainable Buildings Policy

The University of Southampton is one of the top ten research-led Universities in the UK and offers first-class opportunities and facilities for study and research. The University is committed to prudently managing its estate by improving the strategic alignment, quality, utilisation and environmental impact of our estate and physical infrastructure (University Strategy, 2010).

The University recognises the importance of designing, building and maintaining world class research and teaching facilities and ensuring the infrastructure and facilities are upgraded and maintained to support current operations and future developments. Projects must deliver buildings that minimise operational costs and environmental impacts throughout their life and provide a good working environment for its staff and students.

The University is committed to achieving environmental good practice and seeks continual improvement in sustainable buildings practices by:

1. Minimising the impact of all new build, refurbishment and maintenance projects by identifying and managing environmental risks;
2. Specifying that all building projects take account of economic (whole life costs), environmental and social factors;
3. Designing all new builds over £1M to achieve at least a BREEAM 'Excellent' rating unless there are good and explicit reasons why this is not possible;
4. Designing buildings based on a mean-lean-clean energy use philosophy and contribute to helping achieve the University's 20% carbon reduction target by 2020;
5. Designing all new buildings to achieve at least an Energy Performance Certificate rating of 'B', unless there are good and explicit reasons why this is not possible;
6. Designing all laboratories to minimise energy and water use and waste production;
7. Designing all new building and infrastructure projects to take account of the effects of a changing climate;
8. Designing buildings to be flexible to allow changes to use in the future;
9. Managing and minimising waste production so that new builds and refurbishment projects achieve a 85% and 70% reuse/recycling target by July 2015, respectively;
10. Designing buildings to be built using sustainable materials and targeting that at least 10% of the materials value of a project is made from recycled material;
11. Managing projects to minimise or, where not possible, mitigate any impact on wildlife and habitats;
12. Specifying that all timber used is from sustainable sources;
13. Specifying that all projects include an agreed commissioning and handover process;
14. Specifying that all new buildings have a Building Users guide to educate staff on how to use their building properly;
15. Providing appropriate training to relevant staff to inform them of the principles of sustainable design and construction and so are able to help deliver this Policy;
16. Working with our Suppliers and Contractors to inform them of their responsibilities in helping deliver these Policy commitments;
17. Working with the Higher Education sector, all relevant external authorities, environmental bodies and associations to keep up to date with sustainable design and construction principles and share good practice;
18. Communicating this Policy to the University community and beyond.

We will annually review this Policy. We will audit projects, as appropriate, against this Policy to check the commitments are being met and demonstrate continual improvement.

Professor Judith Petts  
Dean of Faculty of Social and Human Sciences  
Chair of Environment & Sustainability Advisory Group  
September 2013

## Appendix C Summary of energy management requirements

### 1. Mean – lean – clean energy philosophy

**Mean** – Design to maximise opportunities for reducing energy demands through:

Orientation  
Thermal mass – heat store for heat regulation  
Fabric – Insulation preventing heat loss  
Natural ventilation  
Daylight – lighting and solar gain  
Air Tight

**Lean** – Install equipment and controls to minimise the need for:

Heating  
Artificial light  
Ventilation  
Cooling

**Clean** – Install renewable energy sources to meet building energy demand, as far as practicable, after evaluating and implementing Mean and Lean design and operational options.

### 2. Combined Heat and Power and district heating

The University has invested in a CHP and district heating system at its Highfield campus. Any building and/or infrastructure project must consider the opportunities for either developing the Highfield CHP scheme or installing CHP at other sites.

### 3. Automatic monitoring system

An extensive AMS has been installed across the estate in recent years, mainly providing half hourly electricity data. There are also some heat and water meters. All new build meters must link into the existing AMS (meters are required for Part L of Building Regulations).

### 4. Diversify energy supply

Security of energy supplies is a major issue facing all businesses in the coming years, particularly given the UK's reliance on imported oil and gas. Alternative renewable energy sources must be considered as part of capital and infrastructure projects to reduce the risk to the University from future energy crises, but only after exhausting the Mean and Lean options described above.