

Sustainable Buildings Refurbishment Guide for Project Managers



Sustainable Buildings Refurbishment Guide for Project Managers September 2013

Revision History	
Version 1	December 2012
Version 2	May 2013
Version 3	June 2013
Version 4	June 2013
Version 5	July 2013
Version 6	August 2013
Version 7	September 2013

Sustainable Buildings Refurbishment Guide for Project Managers

1.0 Introduction

The University of Southampton recognises the significant impact the maintenance, design, refurbishment, 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 sustainable designed, procured and operated.

2.0 University commitment to sustainable construction

The University is committed to reducing its impact on the environment and implementing more sustainable practices. These commitments are shown in the Environment & Sustainability (Appendix A) and Sustainable Buildings (Appendix B) Policies.

The main targets relating to refurbishment projects are:

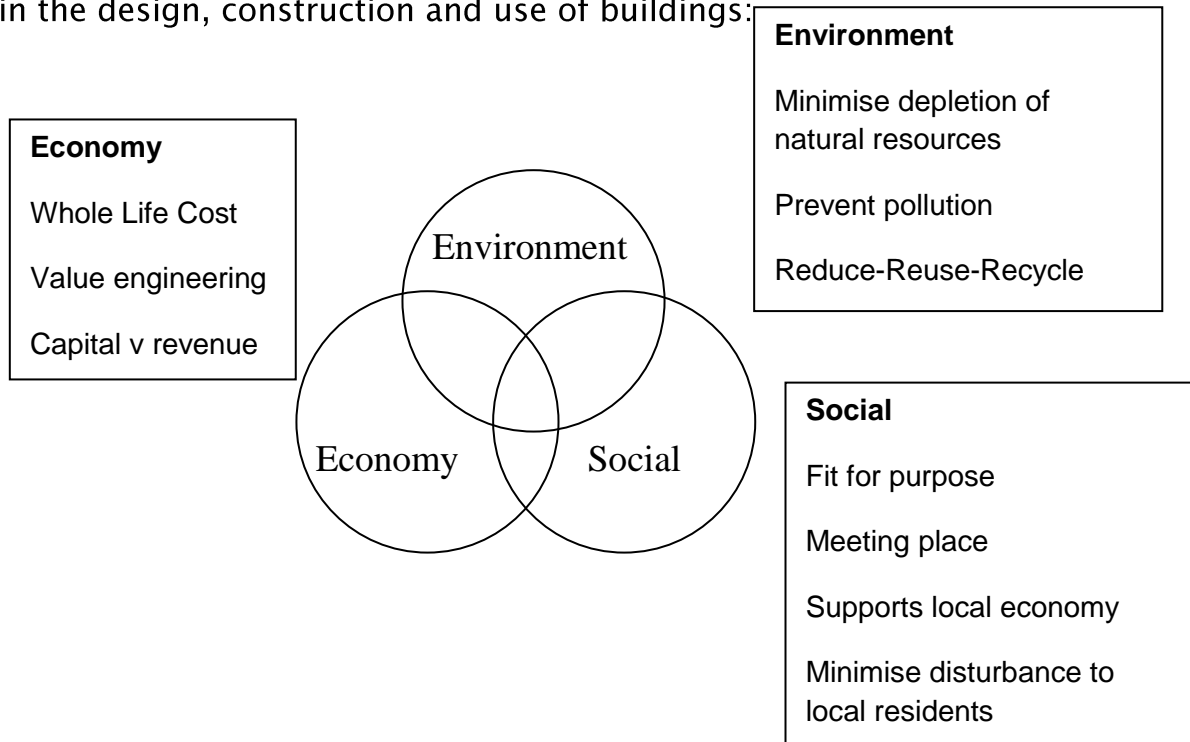
- To reduce carbon emissions from energy consumption by 20% by 2020 based on a 2005/06 baseline
- To reuse/recycle at least 70% of waste from refurbishment projects by July 2015
- To minimise or if not possible mitigate, any impact on wildlife and habitats
- To only use timber from sustainable sources

3.0 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'.

Sustainable Buildings Refurbishment Guide for Project Managers

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:

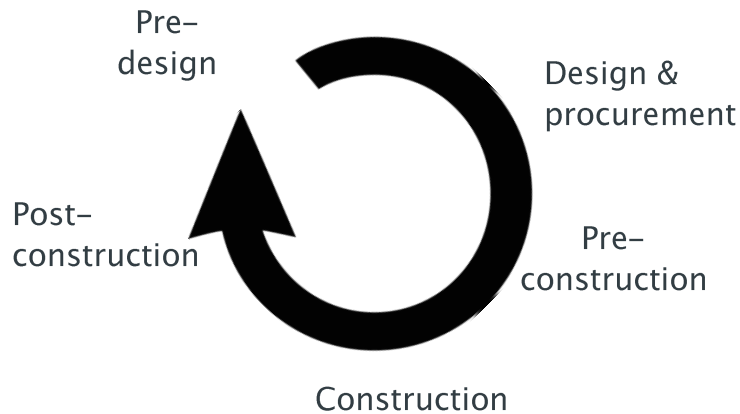


4. What does this mean for me?

It is recognised that the scope for implementing sustainable construction principles will depend on the type and complexity of the building project. There will be more opportunities for new build projects. However, project managers should still insist contractors and designers address sustainability as part of refurbishment projects and request them to seek innovative ways to reduce the impact of projects.

Sustainable Buildings Refurbishment Guide for Project Managers

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



Project Managers should use the checklist in Appendix C as an aid memoir, recognising this is not an exhaustive list, together with the example pollution control plan (Appendix D) and Site Waste Management Plan (Appendix E) to help guide contractors to adopt more sustainable practices and deliver improvements to the estate.

Sustainable Buildings Refurbishment Guide for Project Managers

Appendix A Draft 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

Sustainable Buildings Refurbishment Guide for Project Managers

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 specifying that at least 10% of the materials value of a project is made from recycled material;
11. Specifying that all timber used is from sustainable sources;
12. Specifying that all projects include an agreed commissioning and handover process;
13. Specifying that all new buildings have a Building User guide to ensure staff know how to use their building properly;
14. 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;
15. Working with our Suppliers and Contractors to inform them of their responsibilities in helping deliver these Policy commitments;
16. 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;
17. 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 Judith Petts
Dean of Faculty of Social and Human Sciences
Chair of Environment & Sustainability Advisory Group
September 2013

Sustainable Buildings Refurbishment Guide for Project Managers

Appendix C Checklist for Project Managers

Note this is not an exhaustive list and Project Managers should identify any other items considered during the project here:

Project stage	Yes	No	N/A
Design stage			
Are all the environmental hazards identified? See Appendix D for an example of a small project pollution control plan to help identify environmental hazards			
Is there a site environmental risk assessment with management controls?			
Is there a joint site H&S/environmental risk assessment with management controls?			
Can energy and/or water conservation measures be incorporated?			
Can energy and water efficient appliances be installed?			
Is there a plan to design out waste?			
Has the University's reuse system (WARP-it) been used if furniture or other equipment needs to be removed or replaced?			
Can materials with recycled content be used in construction? (See Waste Resources Action Programme's website for information: http://rcproducts.wrap.org.uk/)			
Is there any asbestos to manage?			
Can water based paint be used?			
Are there internal recycling bins or does there need to be?			
Are there measures to minimise disturbance to wildlife?			
Appointment of contractors			
Do they have an environmental policy? (where they have 5 or more employees) If Yes, is it: Relevant to business? Contain commitments to legal compliance, pollution prevention & continual improvement? Signed by senior manager? Kept up to date?			
Do they have someone responsible for environmental issues?			
Do they have an environmental management system (certified to ISO14001 or EMAS)?			
Do they provide training to their staff on environmental issues?			

Sustainable Buildings Refurbishment Guide for Project Managers

Project stage	Yes	No	N/A
Have they any convictions for environmental incidents in the last three years?			
Are there plans for how to manage materials delivered to site?			
Are there plans for storing and managing waste on site?			
Is all timber from sustainable sources?			
Is there a site waste management plan? See Appendix E for an example of a small project SWMP and visit http://www.environment-agency.gov.uk/static/documents/NetRegs/SWMP_Simple_Guide_Feb_2011.pdf for information on how to produce a SWMP.			
Have you got a copy of the waste carrier licence(s)?			
Do you know where the waste goes and what happens to it?			
Have you got copies of the waste management licences/permits or exemptions for the sites receiving the different wastes?			
Are there measures to minimise the amount of traffic movements to and on site?			
Site management			
Are the control measures sufficient to manage the risks and based on pollution prevention? Further advice is available in the Environment Agency's Pollution Prevention Guidelines. Examples include: <ul style="list-style-type: none"> ○ PPG1 – General guide to the prevention of pollution. ○ PPG2 – Above ground oil storage. ○ PPG6 – Working at construction and demolition sites. ○ PPG21 – Emergency response plan. Follow the link to these guidance documents: http://www.environment-agency.gov.uk/business/topics/pollution/39083.aspx			
Are there measures in place to minimise nuisance pollution, such as noise, dust, odour, emissions to air, litter, light pollution.			
Is there an emergency preparedness & response plan, equipment and training in place to deal with an incident?			
Is oil stored on site? Contractors must comply with Oil Storage Regulations 2001. The main points are: <ul style="list-style-type: none"> ○ Tank bunded to 110% of volume. ○ Where number of containers, bund must be able to take 25% of volume. ○ All pipework within the bund. ○ Taps locked down. ○ Drip tray for pumps and refuelling areas. ○ Spill kit must be by the storage area and staff trained in its use. 			
Are hazardous materials stored on site?			

Sustainable Buildings Refurbishment Guide for Project Managers

Project stage	Yes	No	N/A
If so, they must be stored securely to prevent accidental spillage.			
Is there a drainage plan for the site? In the event of a spillage contractors must inform you or the Environment Manager immediately.			
Have all trees and plants been protected? Please contact the External Services Manager for advice			
Post project			
Have you received all the waste data?			
Have you rated the contractor's environmental performance?			

Sustainable Buildings Refurbishment Guide for Project Managers

Appendix D Example of a Small Works Pollution Control Plan

Small Works Pollution Control Plan			
Project name			
Project Manager			
Client Ref			
Contractor REF			
Hazard	Y	N	Control Measures
Noise			To reduce noise at source. Carry out works at different times.
Dust			Ensure where possible proper extraction systems are used.
Travel			Proper organising of vehicles usage and use where appropriate local companies and trade persons.
Cement			The use of boards etc. when mixing cement to stop contamination to local water tables and soil.
Plasterboard			To be disposed of in separate skips. Accurate ordering to prevent unnecessary waste
Wheel washing			Wheels to vehicles to be cleaned prior to leaving site.
Oil and chemical spills			store all oils and chemicals in a fully bunded area to prevent leaks or spills
Digging foundations			ensure proper checks
Run off from construction			Use settlements ponds to remove silty water.
Waste			Site waste management plan. Management of storage and disposal.
Y	All hazards that are checked as yes, a separate Risk Assessment must be carried out.		
N	No further action required.		

