

CIRIA RP714 – Biodiversity & Buildings: guidance on
the integration of biodiversity and rainfall attenuation
features in buildings

Consultation Report

CONTENTS	PAGE
1) Introduction	2
2) Consultation questionnaire	3
2.1 Survey questions	3
2.2 Response	4
2.3 Key outputs	5
3) Consultation workshop	5
3.1 Syndicate session 1: Identification of key policy, design & implementation issues and solutions	6
3.2 Syndicate session 2: Identification of specific guidance requirements	6
3.3 Summary of workshop outcomes	7
4) Summary	7
5) Next steps	7
 Appendices	
Appendix A: Consultation questionnaire	8
Appendix B: Workshop delegates	11
Appendix C: Workshop programme	12

1) Introduction

The overall aim of this project is to develop easy-to-use guidance which informs both practitioners and stakeholders of the technical, planning and regulatory issues that need to be addressed when integrating biodiversity, rainfall attenuation and thermal efficiency features in buildings. The project will focus on the whole life design, implementation and operation of green roofs and walls.

A critical part of the project was the consultation process which had the following primary objectives:

- Identify specific guidance requirements for RP714
- Identify barriers to implementation
- Obtain feedback on research gaps
- Identify different stakeholders requirements for research
- Identify case studies – both good and bad

The consultation process commenced with the distribution of a focused questionnaire. The outputs from this then formed the basis of a one day workshop which facilitated an in-depth evaluation of the key issues.

2) Consultation questionnaire

The first part of the consultation process involved the development and dissemination of a questionnaire (Appendix A). This was sent out to 170 selected individuals with a known interest in the subject, as well as being made more widely available through CIRIA's website.

Questionnaires were sent to a range of stakeholders including:

- Consultants
- Contractors
- Clients
- Regulators
- Landscape Architects
- Ecologists
- Architects
- Engineers

2.1 Survey questions

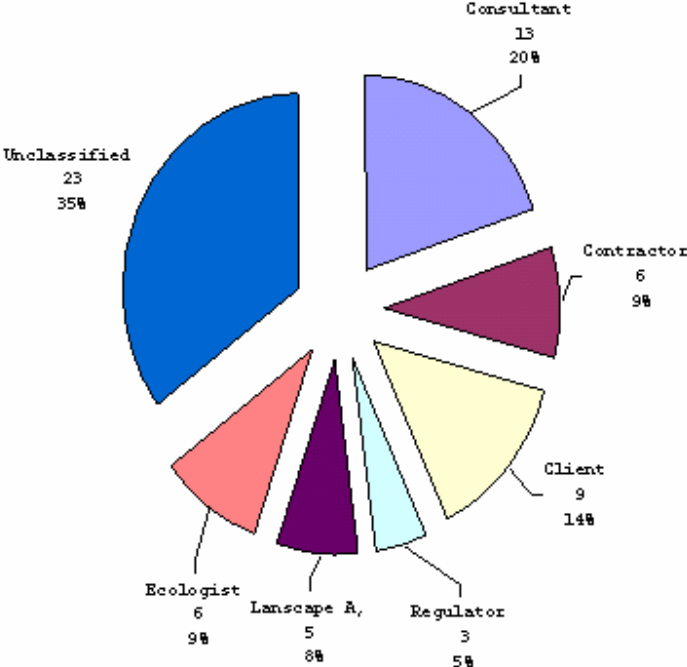
The questionnaire posed the following specific questions:

- What is your principal interest in the subject?
- Of the four issues (biodiversity enhancement, stormwater attenuation, thermal efficiency and planning/regulatory issues), which do you believe can make the greatest contribution to sustainable development?
- In terms of the currently available guidance on these issues, what is lacking?
- In addition, what are the other challenges when implementing biodiversity features in buildings?
- Do you have any case studies that could be used in the report?
(successful or unsuccessful)
- What would you like to see in a guidance document that would encourage you to use green roofs or walls?

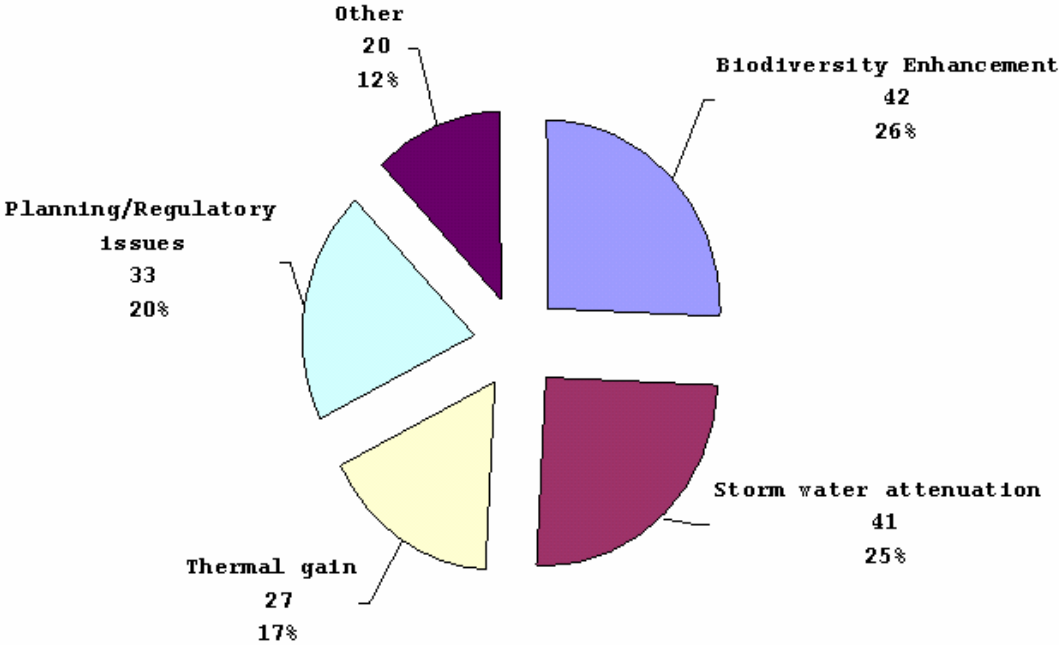
In addition participants were provided with the opportunity to provide details of useful contacts and references, and invited to attach any additional information that they thought might be relevant.

2.2 Response

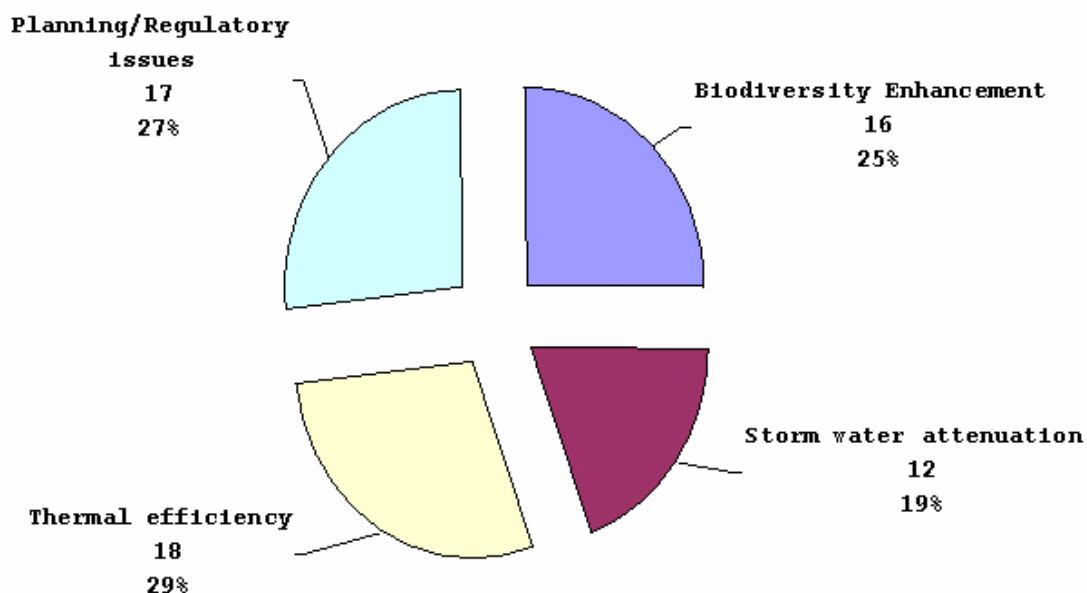
- 68 responses have been received to date (an excellent return rate) from a good mix of stakeholders as shown below:



- When asked what is their principal interest in the subject the response was as follows:



- When asked which of the 4 issues can make the greatest contribution to sustainable development the response was as follows:



2.3 Key outputs

A wealth of information was gathered from the questionnaire. From this the following key issues and requirements emerged:

- Overall lack of combined thinking regarding large scale development, government policy and on the ground infrastructure.
- Research, Guidance and Planning – Retro fit of green systems, accommodating into mainstream construction, planning (requirements as in Germany)
- Central and local government enforcement, encouragement and funding
- Usable cost comparisons – financial analysis/cost guidance that can be put forward to developers, whole life values.
- Scientific evidence/actual data detailing improvements of air quality etc. (guidance on cost effective way to gather data)
- A 'how to do it' guide covering construction, protection of the environment and how to decide what biodiversity is appropriate to particular location

3) Consultation Workshop

In addition to the questionnaire, the consultation process also involved the development and delivery of a workshop at CIRIA's offices on 27 April 2005.

The workshop was attended by 23 individuals achieving a good representative mix from the various stakeholder groups. Details of the delegates are provided in Appendix B and the full workshop programme is included as Appendix C.

3.1 Syndicate session 1: Identification of key policy, design & implementation issues and solutions

Delegates were split into mixed groups and asked to discuss, identify and prioritise key policy, design and implementation issues and solutions, with respect to biodiversity, rainfall attenuation and thermal efficiency. The session was designed to identify industry's research requirements related to (1) planning for green roofs, (2) design of green roofs, (3) construction of green roofs and (4) management of green roofs.

Each group prioritised the issues and solutions they had identified. These were then discussed in plenary and summarised as follows.

Issue/ challenge	Solutions
Lack of planning/policy framework	<ul style="list-style-type: none"> • Government lead • Celebrities • Implementation through local planning policies • Policy/Legislation
Costing – capital v. whole life	<ul style="list-style-type: none"> • Clarity of costs • Make benefits transparent – prove the business case • Cost savings need to be identified
Design / performance issues	<ul style="list-style-type: none"> • Publication of data and detailed case studies • Sharing of good practice • Identify the range of design options and performance specifications
Education and training	<ul style="list-style-type: none"> • Literature and guidance • Training • Case studies

3.2 Syndicate session 2: Identification of specific guidance requirements

Delegates were divided into mixed groups and asked to use the 'goals grid' method to determine elements of guidance that they wish to preserve, eliminate, avoid and achieve within the guidance. For consistency the sections of the construction cycle i.e. planning, design, construction and management, were used to provide the framework for discussion. Below is a selection of some the outputs achieved:

Achieve

- Clarity on costings
- Expectation management
- Compliance with EU directives

Avoid

- Regurgitation of existing data
- Narrow thinking
- Only 'good news stories'

Preserve

- Innovation, enthusiasm and imagination
- Social use of green space
- Existing good practice

Eliminate

- Myths and misconceptions
- Jargon
- Excuses / reasons not to

3.3 Summary of workshop outcomes

The workshop provided a valuable insight into the industry's requirements for future guidance. It is clear that the guidance needs to provide:

- information re capital expenditure v operational expenditure
- evidence re what works and what does not
- performance specifications
- education and knowledge
- information re costs – both capital and through life
- design protocols
- quality case study information

Throughout the workshop there was considerable discussion of the myths and misconceptions that surround the use of green roofs, walls and other biodiversity features. At the end of the workshop delegates produced the following list of those which they had encountered.

- Green roofs cost a lot more than traditional roofs
- Flat roofs leak
- They look ugly
- You have to have your roof reinforced
- Green roofs are green
- Green roofs require a lot of maintenance
- They are only suitable for 'green champions'
- They are a specialist/ niche market
- They are only suitable for flat roofs
- There are misunderstandings about protected species
- All bats and birds are dirty
- Bat and bird boxes don't comply with Building Regulations

4) Summary

The consultation process has played a crucial role in the development of the proposed structure and content of the guidance document. A number of key themes emerged from the work.

- There is a current lack of planning and policy framework in the UK which is inhibiting the use of green roofs and walls.
- There is a need for stronger planning guidance
- The interaction between planning and building regulations needs to be improved
- There is currently a lack of joined-up thinking re design, construction and maintenance which has a negative impact on the selection process
- Regional variations are an important consideration
- Thermal efficiency and SUDS benefits are poorly understood
- There is a strong perception that green roofs cost more
- There is a requirement for training

5) Next steps

The consultation exercise has been particularly useful in identifying a range of case studies which require closer examination to assess the lessons learnt. As a continuation of the consultation process these will be reviewed in detail and the findings incorporated into the guidance document.

Appendix A: Consultation questionnaire



Dear Recipient,

CIRIA Research Project 714: Biodiversity and Buildings – guidance on the integration of biodiversity, rainfall attenuation features in buildings.

A consortium of three companies – EPG Ltd, Ecology Consultancy Ltd, and Livingroofs.org, in association with Blackdown Horticultural Consultants – is undertaking the above project on behalf of CIRIA.

The overall aim of this project is to develop easy-to-use guidance to inform practitioners and relevant stakeholders of the technical, structural and planning issues that need to be addressed when integrating biodiversity, rainfall attenuation and thermal efficiency features in buildings.

The focus of the project will be on the whole life design, implementation and operation of green roofs and walls, the integration of storm water attenuation and thermal efficiency features within such structures, and the incorporation of other biodiversity features in buildings.

As part of the work we are consulting with an extensive range of practitioners from a variety of disciplines to identify key areas of concern, barriers to implementation and gaps in current guidance. The attached questionnaire is an important part of this consultation process – we would be grateful if you could complete this and return it to us.

Another important part of the consultation process is a workshop that is due to be held on Wednesday 27th April 2005 at CIRIA offices in London. In order to highlight the impact of your contribution we would be grateful if you could return completed copies of the questionnaire by the deadline below. This will enable us to feed the results of this survey into the discussion at the workshop.

Deadline: no later than 13th April 2005

Further details of Research Project 714 can be obtained by contacting Mark Bentley at CIRIA by telephone 0207 549 3300 or via email mark.bentley@ciria.org.

Many thanks in advance for any assistance that you give the project.

Yours faithfully

On behalf of CIRIA RP714 Research Contractors

CIRIA Research Project 714 – Biodiversity and Buildings – guidance on the integration of biodiversity and rainfall attenuation features in buildings.

QUESTIONNAIRE

The overall aim of this project is to develop easy-to-use guidance to inform practitioners and relevant stakeholders of the technical, structural and planning issues that need to be addressed when integrating biodiversity, rainfall attenuation and thermal efficiency features in buildings.

Your help in completing this questionnaire and assisting the project in whatever way possible is very much appreciated.

Name:	
Organisation:	
Position:	
Tel:	
e-mail:	
Type of □hitelaw□ion: (Please circle)	Consultant Contractor Client Regulator Landscape Architect Ecologist Architect Engineer Other (please specify)

1. What is your principal interest in the subject? (Tick one or more boxes)	Biodiversity enhancement <input type="checkbox"/> Storm water attenuation <input type="checkbox"/> Thermal gain <input type="checkbox"/> Planning/Regulatory issues <input type="checkbox"/> Other (please state) <input type="checkbox"/>
2. Of the four issues which do you believe can make the greatest contribution to sustainable development? (Tick one box only)	Biodiversity enhancement <input type="checkbox"/> Storm water attenuation <input type="checkbox"/> Thermal efficiency <input type="checkbox"/> Planning/Regulatory issues <input type="checkbox"/>
3. In terms of current guidance on these issues what is lacking?	

<p>4. In addition, what are the other challenges when implementing biodiversity features in buildings? E.g. water proofing, thermal insulation, loading on existing structure, best way to achieve maximum biodiversity gain, policy framework, Building Regs., maintenance, etc.</p>	
<p>5. Do you have any case studies that could be used in the report (both successful and unsuccessful experiences)? Please give brief details here.</p>	<p>Project title</p> <p>Location</p> <p>Contact</p> <p>Contact Details (tel. no; email etc)</p> <p>Case study example of</p> <p>.....</p>
<p>6. What would you like to see in a guidance document that would encourage you to use green roofs or walls?</p>	
<p>7. If you are aware of any useful contacts and/or references on the subject area please give details here.</p>	
<p>8. If you have anything else to add that would be useful to the project, please do so here or attach a separate paper.</p>	
<p>9. Please leave details of the best way to contact you for further discussion.</p>	

Please return to Ecology Consultancy Limited
Fax – 0207 326 1888
E-mail – john@ecologyconsultancy.co.uk

Appendix B: Workshop delegates

RP 714 Consultation Workshop: Biodiversity and buildings (RP714)

CIRIA, Classic House, 174-180 Old Street, London EC1V 9BP – 27/04/2005

NAME	ORGANISATION
Dr Scott Arthur	Heriot Watt University
Mr Mark Bentley	CIRIA
Mr Phil Cooper	Environmental Protection Group Ltd
Mr Mike Cottage	Greenfix Ltd
Mr Jim Eardley	Eardley Landscape
Ms Bronwen Fletcher	London Development Agency
Mr Dusty Gedge	Livingroofs
Mr John Gilbert	London Borough of Hammersmith & Fulham
Miss Jill Goddard	London Borough of Lewisham
Miss Joanna Heisse	Environment Agency
Mrs Clare Howe	Willmott Dixon Construction
Mr Adam Ingleby	London Wildlife Trust
Mr Nicholas Jacobs	London Borough of Hackney
Mr David Knight	English Nature
Mr John Newton	Ecology Consultancy Ltd
Mrs Mary Norden	British Waterways
Mr Martin Payne	Ecovert FM
Mr Bernard Payne	Peter Brett Associates
Mr Matt Prescott	London Borough of Lambeth
Mr Sean Rendall	Woking Borough Council
Miss Toni Scarr	Environment Agency
Mr Paul Shaffer	CIRIA
Mr Matthew Thomas	Brighton & Hove Council
Mrs Jean Venables	Crane Environmental
Mr Peter Wain	SEEDA
Mrs Lindsey Whitelaw	Whitelaw Turkington Landscape Architects

Appendix C: Workshop programme

Wednesday 27th April 2005 at CIRIA Classic House 174 -180 Old Street London
EC1V 9BP

- 10.00 Registration and coffee**
- 10:30 Chair's introduction**
Chair: Jean Venables
- 10:40 Overview of project and workshop objectives**
CIRIA: Mark Bentley
- 10:50 Overview of biodiversity, SUDS, thermal efficiency issues**
Livingroofs.org: Dusty Gedge
- 11.00 Review of the responses to the consultation questionnaire**
EPG Ltd: Phil Cooper
- 11.10 Open forum – Main issues**
Chair: Jean Venables
- 11:40 Break**
- 11:50 Introduction to syndicate session 1**
CIRIA: Paul Shaffer
- 11.55 Syndicate session 1: Identification of key policy, design and implementation issues and solutions.**
Cross sector discussion groups will be formed to identify barriers and solutions under the headings 'policy', 'design' and 'implementation'
- 13.00 Buffet lunch**
- 13:45 Review of syndicate session 1**
Chair: Jean Venables
- 14:10 Introduction to syndicate session 2**
CIRIA: Paul Shaffer
- 14:15 Syndicate session 2: Identification of specific guidance requirements**
Cross sector discussion groups will determine elements that they wish to preserve, eliminate, avoid and achieve within the guidance
- 15:15 Break**
- 15:30 Plenary session**
Chair: Jean Venables
- 16:00 Chair's summary and close**