



Research summary 13: Roof greening in Liverpool

'Green roofs offer a wide range of environmental, economic and community benefits in urban areas and there is great potential for increasing the number in Liverpool, provided that the advantages are explained to developers and championed among local people.'

Key messages

- Regeneration is proceeding apace in Liverpool, but economic and climatic instability means new development must focus first and foremost on sustainability.
- Green roofs have demonstrable environmental benefits but suffer from an 'outlandish' image. A common misconception is that they are expensive and impractical.
- Such misconceptions could easily be dispelled through better information for the public, developers and designers. Lessons from other countries can be helpful here.
- There are few explicit drivers for installing green roofs in British cities, but a number of national and regional policies implicitly support such technologies.

The context

In a world of economic and environmental uncertainty, sustainability has risen to the top of the development agenda. Policymakers are increasingly stressing the need to ensure infrastructure can meet future challenges.

A mix of solutions will be needed, and roof greening is one of them. Green roofs can help create a better working environment, especially given predictions of a warming climate; improve a building's **carbon footprint**; reduce management costs; and increase **city centre biodiversity**.

The Mersey Forest was commissioned by Natural Economy Northwest to produce a report¹ considering the potential for green roof development in Liverpool. The report reviews the case for green roofs, while attempting to dispel **misconceptions** that result in resistance to their installation. It looks at the policy environment internationally, nationally and more locally before moving on to assess the potential for green roofs in central Liverpool. It also includes a case study of a green roof installed for a project in Toxteth with funding from the SITA Trust.

The findings

The Mersey Forest report begins by examining the advantages of green roofs in terms of their **economic, environmental and social benefits**.

In economic terms, green roofs can last two or three times longer than conventional roofs. They improve insulation and result in better waste water management, which leads to savings in utility bills. They can also improve businesses' corporate image.

Environmentally, green roofs improve city centre biodiversity. This is particularly important at a time when brownfield development is being encouraged. Green roofs can help replace the habitats lost when brownfield sites are covered over. During storms, particularly when there is a risk of flooding, green roofs retain water and delay its release into the drainage system.

On the social front, green roofs can produce important health benefits. Research shows that heart attacks, strokes and respiratory problems increase during heatwaves. Green infrastructure, including green roofs, has been shown to **reduce temperatures** in city centres, something that is increasingly important with predictions that summer temperatures in the UK will rise significantly this century.

Other social benefits include: sound insulation; reductions in air pollution arising from the way vegetation absorbs airborne particulates; and the potential to use green roofs as areas where employees can relax, or as places where food can be grown.

Despite these advantages, the report finds that plans to install a green roof often meet with resistance. Common **objections** include:

- Roof slopes are too great
- Planning permissions are hard to obtain
- Green roofs create insurance headaches
- Maintenance costs are too high
- They are a liability because of roof leaks or fire risk
- Tenants will not want the responsibility
- Depending on the kind of roof installed, the

- aesthetic impact
- Will be disappointing For developers, there is no return on the investment

The report examines each of these concerns and concludes that they are mainly **problems of perception** that could be solved by raising awareness among professionals and the public. This could be done by putting roof greening higher up the policy agenda, creating standards, guidelines and cost/benefit ratios to help project managers make decisions. It calls for a Liverpool based organisation to promote roof greening at city events.

The report examines policy in countries that are promoting roof greening. It finds the UK is lagging behind many of its European neighbours, although the cities of Sheffield, Manchester and London have all promoted green roofs in different ways.

Turning its attention to Liverpool, the report reviews the EU, national, regional and local policies that affect development in the city. It finds that although green roofs are rarely mentioned explicitly, nevertheless they are highly relevant to the many policy directives and quality markers that relate to sustainability and environmental impact.

The potential for increasing roof greening in Liverpool is examined first through illustrated descriptions of all the city's current green roofs and then by listing a number of forthcoming projects within the Knowledge Quarter where green roofs could be installed. It concludes there is potential for 6.6 hectares of green roof in the area.

The challenge

Liverpool is a long way off achieving its potential **six hectares** of green roof within the Knowledge Quarter. Below are some of the recommendations for progress:

- A local organisation should champion the promotion of green roofs in Liverpool and Merseyside
- Champions should also be sought in the political arena, such as the city council planning department, and among architects, developers, builders and environmental organisations
- A green roof network should be established
- A programme of green roof projects should be developed at key sites and among key stakeholders, initially focusing on the Liverpool Knowledge Quarter
- Funding should be sought to assist in the design and installation of good quality, biodiversity-rich green roofs

- There needs to be a dialogue with the city council's planning department to inform green infrastructure policy development, ensuring that green roofs are explicitly mentioned and promoted

Find out more

Natural Economy Northwest
www.naturaleconomynorthwest.co.uk

Green Roof Toolkit
www.environment-agency.gov.uk/business/sectors/91967.aspx

The Green Roof Pocket Guide
www.groundworksheffield.org.uk/upload/documents/document48.pdf

More information on green roof schemes online at:
www.thegreenroofcentre.co.uk and
<http://livingroofs.org/>

See also: Research summary 7: Roof greening in Greater Manchester,
www.naturaleconomynorthwest.co.uk/resources+reports.php

¹ Roof Greening in Liverpool is available from:
www.naturaleconomynorthwest.co.uk/resources+reports.php
 under 'Biodiversity and Socio-Economics'.



Tending one of Liverpool's pioneering green roofs.

