



How to Deliver, Measure and Demonstrate the Economic Contribution of the Natural Environment at a Project Level

A Guide for Project Managers FINAL DRAFT

Commissioned from TEP, Ibis Environmental & Design Consultants and ECOTEC
by the Mersey Forest on behalf of Natural Economy Northwest



“We need to regard the local environment as a major public service (like the NHS or education) which benefits us every day. Looked at this way, it is clear why policies to promote better quality environments also have the capacity to have long-term social and economic benefits”

*Tony Blair (speaking as Prime Minister) in:
Securing the Future: Delivering the UK Sustainable Development Strategy
(HM Government, 2005)*

How to Deliver, Measure and Demonstrate the Economic Contribution of the Natural Environment at a Project Level:

A Guide for Project Managers (DRAFT VERSION)

CONTENTS

page

Preface

Dr. Will Williams, NENW Programme Director

- | | |
|---|----|
| 1. Introduction to the Guide: | 1 |
| <i>Why should natural environment projects develop an economic focus?</i> | |
| 2. What socio-economic benefits can environmental projects deliver? | 4 |
| 3. How to demonstrate the socio-economic benefits of an environmental project | 10 |
| 4. The natural environment in its policy context: | 15 |
| <i>Demonstrating and delivering social, economic and environmental benefits</i> | |
| 5. Socio-Economic Partners: | 26 |
| <i>Helping to deliver the socio-economic elements of environmental projects</i> | |

APPENDIX 1: 11 Economic Benefits Case Studies

APPENDIX 2: PBRS Leaflet

APPENDIX 3: Extract from the Draft GI Valuation Toolkit

APPENDIX 4: Possible Funding Sources

APPENDIX 5: Signposting, Advice & Guidance

PREFACE

This is one in a series of reports produced towards the end of the Natural Economy Northwest three year programme.

Natural Economy Northwest is a regional partnership programme led by Natural England, the Northwest Regional Development Agency and SITA Trust on behalf of a wide range of economic and environmental partners.

The main focus has been to deliver Transformational Action 113 in the Regional Economic Strategy, for maximising the natural environment's contribution to the regional economy and quality of life.

The programme has also included the SITA Trust Enriching Nature (biodiversity) programme and the aspirations of Natural England and other environmental and economic partners to mainstream the natural environment within sustainable economic development.

Key work areas within the programme have been to:

- Increase awareness of the value of the natural economy
 - Commission and disseminate research
- Provide direction to promote effective use of limited financial resources
- Contribute to the development and delivery of regional and sub regional strategies
- Facilitate natural economy project development and encourage project delivery
 - Promote and facilitate Green Infrastructure and Natural Tourism
 - Encourage strategic investment in natural economy projects
 - Facilitate training, skills innovation and advice to business

This work will support the environment sector to position itself within the broader agenda of sustainable economic development, Quality of Place, Quality of Life and community benefits.

You can contact us through our website. We would like to know if this guide has been of use to you so that we can take your views into account in the further development of the programme:

www.naturaleconomynorthwest.co.uk

Dr Will Williams
Programme Director

October 2009



1. INTRODUCTION TO THE GUIDE:

Why should natural environment projects develop an economic focus?

The environment sits alongside the economy and society as the three pillars of sustainable development, and there is a need for good projects that achieve a sound balance between all three elements. This guide outlines an approach that can enable natural environment practitioners to understand, maximise and communicate the range of economic, social and environmental benefits their projects can deliver as a “win-win-win” scenario. This approach to project development will help practitioners to identify and secure resources and support from a wider range of sources.

The role that the natural environment can play in economic development and regeneration is increasingly recognised by policy makers, funders and practitioners: natural environment projects are now often seen to be an effective solution to improving quality of place and liveability, attracting inward investment, climate change mitigation and adaptation, and enabling more sustainable communities through the integration of environmental assets and processes.

In order to achieve these long-term aspirations, natural environment project managers need to better demonstrate the economic, social and environmental value of their projects to funding bodies, investors and planners in order to gain support for their proposals. In previous years, increased competition coupled with a focus on building the nation’s wealth and employment – and more recently on combating the effects of recession – has focused many funders’ prioritisation towards those projects which can deliver economic development, whilst purely ‘environmental’ budgets have reduced. It therefore makes sense for promoters of environmental projects to demonstrate economic and social benefits – and then to seek investment from economic and social programmes.

Whilst there is no market for a kilogram of clean air or the distribution of a particular species of wildlife, extensive research has shown that natural environment interventions do make a

measurable contribution to the socio-economic well-being of communities¹, and, at a broader geographical scale, to the delivery of local, sub regional and regional priorities for economic development and social regeneration.

To put this into perspective: in the North West region investment in the environmental economy (of which the natural environment is a significant component) contributes to economic prosperity through supporting 109,000 jobs and delivering £2.6 billion Gross Value Added to the regional economy².

This guide provides a framework to assist you, as a project manager involved in the development of natural environment projects, in identifying the additional socio-economic benefits your projects can deliver alongside ecological or environmental outputs.

It will help you to understand:

- The socio-economic benefits your environmental project can deliver (chapter 2)
- Your project's strategic 'fit' and policy links (chapter 3)
- How to identify whether there is a need for your project in social, economic and environmental terms (chapter 4)
- Who can help in developing and delivering your project (chapter 5)

What do we mean by 'the natural environment'?

The term 'natural environment' has a very broad meaning. The recent trend has been towards reaching a better understanding of how the natural environment actually functions – particularly in terms of the symbiotic relationship between the environment, society and the economy.

Economic activity is often defined in relation to the physical development of various forms of 'infrastructure': roads, buildings, utilities and so on – i.e. the basic facilities, services, and installations needed for the functioning of a community or society.

In contrast, environmental assets and systems are frequently viewed in a more fragmented way – often as individual, possibly isolated, elements of green space within the larger landscape. However, such a view does not provide a sound basis for fully understanding the vital contribution that the environment makes to society as a whole – particularly with regard to the need for sustainable development. To address this issue, the term 'green infrastructure' is being increasingly adopted. This views the natural environment as a mosaic of green spaces that are distributed within and around other forms of built infrastructure, considering the natural environment as a large complex system that functions on many levels and delivers a wide range of critical social and economic benefits in addition to the more obvious environmental ones. Such an approach allows green infrastructure to be analysed, planned, enhanced and created in an integrated manner.

¹ Recent research carried out for the Natural Economy Northwest (NENW) programme has helped to confirm that green infrastructure can deliver economic benefits to society in a number of ways - see Chapter 2.

² Environmental Economy Report for the North West (2006) Bridge Economics for Environment Agency

There are many definitions of green infrastructure but one that has been agreed by partners in the North West which appears in the North West Regional Spatial Strategy³, is:

“Green Infrastructure is the Region’s life support system – the network of natural environmental components and green and blue spaces that lies within and between the Northwest’s cities, towns and villages and which provides multiple social, economic and environmental benefits.”

This definition is taken from the North West Green Infrastructure Guide⁴, which supports the green infrastructure policy in the RSS by setting out the key principles for green infrastructure (GI) in the North West and guiding practitioners in the planning and delivery of GI in the region. The guide was prepared by the Green Infrastructure Think Tank (GI TT), a partnership of public and private sector organisations that seek to develop and share best practice in green infrastructure planning and implementation – demonstrating the lead the region is taking in promoting and developing the green infrastructure agenda.

How can this guide help you?

The scope of natural environment ‘projects’ can cover many different activities and geographic scales: from regional and sub regional strategies for green infrastructure planning to delivering local site management plans. This guide intends to enable and encourage new approaches to project planning, training and development that applies across all geographic scales and all types of activities under the broad ‘natural environment’ or green infrastructure banner. It provides:

- A deeper understanding of the economic and social benefits of environmental projects
- Guidance on how to demonstrate economic and social objectives within environmental projects
- Guidance on how an environmental project can support and evidence its economic and social benefits using readily available data, information and tools
- Good practice case studies
- Signposting to useful sources of advice, research and information, including sources of supporting evidence and funding opportunities.

This guide is not intended as a tutor for project development generally. It is anticipated that many users of the guide will already be experienced in the development and delivery of environmental projects. Furthermore, there already exists plenty of standard advice available for those seeking broader project planning advice. Rather, it intends to offer practical advice on how projects can make a real difference by providing social and economic benefits, whilst contributing to the environmental richness of the North West region.

³ The North West of England Plan: Regional Spatial Strategy to 2021 (2008) GONW

⁴ North West Green Infrastructure Guide (2008) NW Green Infrastructure Think Tank, available at www.greeninfrastructurenw.co.uk/resources/GIguide.pdf



2. WHAT SOCIO-ECONOMIC BENEFITS CAN ENVIRONMENTAL PROJECTS DELIVER?

Probably the first step in trying to establish the economic ‘worth’ of a project is to gain an understanding of the potential benefits (outputs or outcomes) a project can deliver. This chapter introduces the many possible benefits an environmental project can deliver, but recognises that the precise types of benefits are likely to be determined by the project’s activities and purpose.

This chapter will help you to understand the possible economic benefits your project can deliver, including the concept of ‘multifunctionality’ (how one site or project can deliver many different benefits alongside its primary function or purpose) and the ‘ecosystem services’ approach as another view of understanding green infrastructure benefits.

What are the socio-economic benefits that the project can deliver?

Recent work carried out for Natural Economy Northwest (NENW) has helped to confirm that green infrastructure can deliver economic benefits to society in a number of ways.

Table 2.1: The 11 Economic Benefits of Green Infrastructure

Benefit	Description
Climate change adaptation and mitigation	GI provides natural air conditioning for urban areas, reducing the need for power consumption for heating and cooling alongside its contributions towards greenhouse gas absorption and longer term benefits in managing the impact of climate change
Flood alleviation and water management	Increasing and maintaining the canopy cover together with providing an absorbent ground cover reduces and helps to control run-off. GI increases water storage capacity resulting in less dramatic flood event
Quality of place	GI provides for an improved living environment. This provides opportunities for recreation, empowerment through community action and ownership and improved visual amenity
Health and well-being	GI provides multiple health benefits through improved air quality, reduced stress levels, increased opportunities for informal and formal physical activity and recreation. All these contribute to the reduction of limiting long term illness and cost to the health services, reducing days lost through illness and improving productivity.

Benefit	Description
Land and property values	Developing GI and undertaking environmental improvements in key locations within urban and semi-urban areas has significant benefits for housing and land values. Proximity to high quality and accessible green space impacts positively upon house prices.
Economic growth and investment	The creation and development of green spaces and landscaping can encourage and attract high value industry and workers to a locality or region. This can provide many benefits to urban areas in terms of improvements in quality of life. An improved green environment can increase opportunities for adding GVA to local economies.
Labour productivity	High quality accessible GI can provide opportunities to develop a more productive workforce for employers through improved health, stress alleviation and enhancing motivation/attracting and retaining motivated people.
Tourism	GI plays a strong role in the generation of new tourism opportunities in town and country as well as stimulating economic activity within agriculture, forestry and public services. There is potential to invest in the maintenance of key environmental assets, the creation of new assets and greening city centres, attracting new visitors and in turn supporting urban retail and tourism sectors.
Recreation and leisure	GI generates the provision of new leisure and recreation opportunities, stimulating investment in rights of way and publicly accessible green space and woodlands. Community involvement in neighbourhood projects, including ownership/management of GI assets, can encourage cohesion and develop a renewed sense of local identity.
Land and biodiversity	GI plays a strong role in supporting direct and indirect employment in agriculture, forestry, land management and conservation industries. The potential to create green spaces within built up areas reconnects urban communities with the land and improves opportunities for local food marketing.
Products from the land	The vast majority of GI takes the form of land in production located in the countryside. This includes land for agricultural and horticultural uses and managed woodlands and moorland. Increased benefits may be realised through investment targeted at diversification activities and creating added value from land based products including renewable energy resources.

Source: The Economic Benefits of Green Infrastructure (2008) ECOTEC for Natural Economy Northwest

Table 2.2 seeks to more clearly associate GI interventions – i.e. natural environment projects - with the particular economic benefits they could deliver, arranged under each of these 11 economic benefits. The two detailed case studies provided in Appendix 1 also demonstrate how the 11 benefits framework can be used to demonstrate an environmental project’s broader socio-economic outputs and benefits.

Table 2.2: Associations between natural environment projects and economic benefits

Benefit	Possible Natural Environment Project		Example Economic Outputs	Example Economic Outcomes
Climate change adaptation and mitigation	Climate proofing	Shelter belts Summer shading Reducing urban heat-island effects Natural ventilation corridors	<ul style="list-style-type: none"> – Jobs created – Jobs secured – Training places created – Partnerships formed 	<ul style="list-style-type: none"> – New visitors – Retained expenditure in town centres
	Green construction	Green roofs Grid shell buildings BREEAM compliance	<ul style="list-style-type: none"> – Volunteer hours – Land area improved – Buildings improved – Quantity of planting 	<ul style="list-style-type: none"> – New recreational facilities – Reduced flooding events – Cooler town centres
Flood alleviation and water management	Water management	SUDS Storm balancing Grey water recycling Flood control & storage	<ul style="list-style-type: none"> – New wetlands created – Jobs safeguarded – Land area improved – New planting – New habitats 	<ul style="list-style-type: none"> – Sustainable communities – Savings in capital flood defence schemes (coastal & river) – New investment in flood protected areas
Quality of place	Improving visual amenity	High quality green space Cleaner, safer green space Heritage protection & enhancement	<ul style="list-style-type: none"> – New civic amenities, – New greenspace for recreation formal/informal – Improved visual amenity 	<ul style="list-style-type: none"> – Higher property prices – More attractive, safe places – Improved community cohesion – Reduced crime
Health and well-being	Reducing pollution	Improving quality of soils, water, air	<ul style="list-style-type: none"> – New and improved greenspace 	<ul style="list-style-type: none"> – Healthier citizens
	Improving social health	Schemes to help special needs groups Supporting volunteering Improving social cohesion Providing places for walking, cycling Sustainable transport options	<ul style="list-style-type: none"> – New habitats – Increased volunteering – Increased participation in outdoor activity – walking, riding, cycling etc. 	<ul style="list-style-type: none"> – Fewer costs to healthcare providers – More effective workforce – Improved education of young people
Land and property values	Education	Providing outdoor classrooms Developing ‘sustainable’ schools Engaging & helping NEET cohort ⁵	<ul style="list-style-type: none"> – New educational facilities – Improved air quality – Improved local environments. 	<ul style="list-style-type: none"> – Sustainable transport schemes – Improved opportunities for non motorised transport and accessibility.
	Gateways & corridors	Improving approaches to urban areas	<ul style="list-style-type: none"> – Area of land improved – New / improved greenspaces 	<ul style="list-style-type: none"> – Increased land/property values – Increased rental values
	Housing	Providing adjacent green infrastructure to increase amenity Safe routes to school/commuting options	<ul style="list-style-type: none"> – New tree planting and visual amenities – Reused brownfield and under utilised land 	<ul style="list-style-type: none"> – Enhanced economic opportunities and employment – Increased inward investment – Increased civic pride

⁵ NEET Young people classed as being not in employment, education or training

Benefit	Possible Natural Environment Project		Example Economic Outputs	Example Economic Outcomes
Economic growth and investment	Creating a setting for investment Green business parks Green infrastructure surrounding grey infrastructure		<ul style="list-style-type: none"> - Improved area of greenspace - Improved industrial areas – cleaner and greener - Improved visual amenity - Improved air quality, reduced noise 	<ul style="list-style-type: none"> - New business attracted to an area - Higher value business - Higher value jobs - Healthier workforce
Labour productivity	Employment	Running transitional employment schemes Maintenance GI construction Horticulture Providing a vehicle for social enterprise	<ul style="list-style-type: none"> - New and improved greenspaces - New training places and opportunities for employment. 	<ul style="list-style-type: none"> - Improved employee productivity - Improved business profitability - New business opportunities
Natural Tourism	Iconic species Improving urban visitor experience Maintaining the quality of green infrastructure	Providing habitat for species that attract visitors Providing green spaces to improve image and quality for visitors Protecting the green infrastructure asset from the effects of high visitor numbers	<ul style="list-style-type: none"> - New and improved green tourism destinations - Protected greenspaces - New employment opportunities - Improved neighbourhoods - New educational opportunities 	<ul style="list-style-type: none"> - Higher visitor numbers - More businesses in tourism sector - Higher profitability of the sector - More attractive residential areas
Recreation and leisure	Providing access	Provision of accessible green space Providing greenways and cycle ways Providing facilities for outdoor sports activities	<ul style="list-style-type: none"> - New and improved greenspaces - More accessible opportunities for outdoor leisure and recreation 	<ul style="list-style-type: none"> - More footfall for town centre businesses through greener environments - Healthier population - Lower call on health services.
Land and biodiversity	Habitat enhancement	Protecting soils Wildlife corridors and refuges Enhancing and expanding habitats	<ul style="list-style-type: none"> - New greenspaces - New habitat creation - New opportunities for carbon capture 	<ul style="list-style-type: none"> - Lower CO2 emissions - Higher biodiversity - Employment in land based industry enhanced
Products from the land	Food production Renewables Forestry products	Supporting farming and rural development Community box schemes Allotments Urban Farms Producing biomass Recycling green waste through large scale composting projects CHP schemes Addressing fuel poverty in rural areas	<ul style="list-style-type: none"> - New and enhanced land based business - New opportunities for local food and other land based product development and sales - More productive land. 	<ul style="list-style-type: none"> - New businesses - New employment - Fewer food miles - Lower carbon emissions - New training opportunities.

Ecosystem services – another view of understanding green infrastructure benefits

Work by DEFRA⁶ argues that our health and well-being depend upon the services that are provided by the components of ecosystems (water, soil, nutrients and organisms) and so assessing economic values should consider 'ecosystem services'.

It takes as its starting point the Millennium Ecosystem Assessment⁷ which classifies ecosystem services as:

- Supporting services: the services that are necessary for the production of all other ecosystem services, including soil formation, photosynthesis, primary production, nutrient cycling and water cycling.
- Provisioning services: the products obtained from ecosystems, including food, fibre, fuel, genetic resources, bio-chemicals, natural medicines, pharmaceuticals, ornamental resources and fresh water.
- Regulating services: the benefits obtained from the regulation of ecosystem processes, including air quality regulation, climate regulation, water regulation, erosion regulation, water purification, disease regulation, pest regulation, pollination and natural hazard regulation.
- Cultural services: the non-material benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation and aesthetic experiences.

Defra is seeking to ensure that the economic value of these services influence all public decision making⁸. Recent steps in this direction include the government's decision to incorporate carbon costs into assessment criteria for public sector decision-making, stemming from the key findings of the Stern report⁹ on climate change.

The Northwest Regional Development Agency (NWDA) published a joint summary with NENW setting out the agreed 11 economic benefits framework¹⁰ alongside a report that reinforces the work commissioned by the NENW programme¹¹ and following the idea that the environment provides a series of ecosystem services on which our health and well-being depend. This framework was endorsed by the then Secretary of State for Communities & Local Government at the Sustainable Communities Summit (Manchester, 2008).

The importance of multifunctionality

A vital feature of green infrastructure is multifunctionality: a single space can perform many functions, with the sum of the whole delivering much more than the individual elements of green

⁶ An Introductory Guide to Valuing Ecosystem Services (2007) DEFRA

⁷ Health and Human Well-being: Millennium Ecosystem Assessment (2005)

⁸ Securing a Healthy Natural Environment: an Action Plan for Embedding an Ecosystems Approach (2007) Defra

⁹ The Stern Review: the Economics of Climate Change (2006) HM Treasury

¹⁰ The economic benefits of Green Infrastructure: the public and business case for investing in green infrastructure and a review of the underpinning evidence (2008) ECOTEC for NENW

¹¹ The Economic Benefits of Green Infrastructure – an assessment framework for the NWDA (2008) AMION Consulting

spaces can. It helps to unify different types of outputs or functions that are sometimes considered to be somewhat disparate, for example:

- Changes in management and design can provide water management and biodiversity functions in addition to and without reducing the primary recreational function of a local park or amenity area.
- The provision of landscaping around and within large commercial development not only provides attractive surroundings but also provides a setting for investment, can reduce the temperature of the buildings through shading or provide a valuable habitat resource. It can also act as an attractor for inward investment: attractive locations can be an important factor influencing investment location choices.
- A project aimed at positively influencing the experience of city centre visitors might be based on the provision of green infrastructure, for example through planting street trees. As well as encouraging tourism and enhancing the 'shopping experience', such measures may also provide valuable habitat for diminishing urban biodiversity, help to mitigate the effects of storm water run-off and minimise the urban heat island effect by providing shade and reducing airborne particulates.

Understanding the importance of this 'multifunctionality' is central to identifying the added socio-economic benefits delivered by the natural environment.

Green infrastructure delivers a wide range of benefits to society, and it can deliver much more by planning and managing it in a way that recognises multifunctional opportunities. Although the physical appearance of green infrastructure, the inherent biodiversity and ecosystem services, and its potential as recreational space may seem the most obvious attributes, there are many other functions to consider, and many of those functions that seem to be primarily environmental or social will have significant economic consequences – as demonstrated in the examples above.

As the NW Green Infrastructure Guide makes clear, some of these functions are more easily understood at the broad strategic level and some are more relevant at a local level. The key point is that individual functions often co-exist and can therefore deliver multiple benefits – although it must be remembered that some single functions of overriding importance can outweigh the value of multifunctionality. For example, sensitive heathlands can have a significant ecological value that would need to be protected from damage by insensitive or excessive recreational use. A spatial understanding of the many needs and opportunities of green infrastructure is therefore an essential element of managing and delivering the many functions and benefits it can deliver.

Demonstrating the Value

However, it is also important that the potential benefits are quantified: in the same way as a green infrastructure project may deliver so many km of new access route or hectares of improved habitat for a protected species, the potential economic benefits should also be described.

In the next chapter, we will look at the range of tools that are available to project managers to help establish the socio-economic need for and value of a natural environment project.



3. HOW TO DEMONSTRATE THE SOCIO-ECONOMIC BENEFITS OF ENVIRONMENTAL PROJECTS

A project plan should be based on perceived needs and opportunities defined/identified by an evidence base and examination of strategic fit. Results from these analyses can also inform our understanding of the range of benefits the project can provide as a tool for engaging with potential partners and funders.

This chapter will introduce tools, techniques and data from across the economic, social and environmental spectrum that can help you to demonstrate the range and depth of the potential benefits your project can deliver. This essential part of the evidence base can help you to clearly demonstrate the value of your project to economic and social partners.

Our understanding of the economic benefits provided by conserving and improving environmental quality has increased significantly over recent years. The environment underpins substantial economic activity, providing a range of goods and services that are essential to economic activity. Conserving and enhancing environmental assets can help to attract people and investment into a region, whilst physical and environmental improvements lie at the centre of many economic and community regeneration programmes.

With such a demand for delivering multiple and integrated benefits, and in a climate where there are increasingly competitive demands for decreasing resources, it is important that GI projects are able to prioritise activity and be informed by a strong and objective evidence base that maximises the range and depth of potential benefits they can deliver. The need to prioritise funding allocations has also led to the drive to find ways of objectively assessing the value of social, economic and environmental projects. This can be achieved by:

- Using data and information to demonstrate the socio-economic context of the project area

- Using tools and techniques to reinforce the evidence base and demonstrate a project's value

Data & information sources

There is a wide range of socio-economic information and data sources that can be used to demonstrate socio-economic need and provide a reasonable evidence base for the project. These include:

The Index of Multiple Deprivation 2007: produced by CLG, IMD combines a number of indicators covering a range of economic, social and housing issues into a single deprivation score for each small area in England. This allows each area to be ranked according to their relative level of deprivation.

<http://www.communities.gov.uk/communities/neighbourhoodrenewal/deprivation/deprivation07/>

Census 2001 (Office for National Statistics): the Census provides the most complete source of information about the population, including demographic, social, education, employment, housing and health data. It covers the entire population of England & Wales.

<http://www.statistics.gov.uk/census2001/census2001.asp>

Neighbourhood Statistics (Office for National Statistics): a source of a huge range of detailed statistics within specific geographic areas, including a "neighbourhood summary" of socio-economic characteristics by postcode area.

<http://www.neighbourhood.statistics.gov.uk/dissemination/>

Area Profiles (National Audit Office): an Area Profile provides a rich picture of the quality of life and public services in a local area across 10 'quality of life' themes. It also allows for comparison with other areas.

<http://www.areaprofiles.audit-commission.gov.uk/>

Place Profiles (Northwest Regional Intelligence Unit): prepared as part of the evidence base for the emerging Integrated Regional Strategy. They present the RIU's key research findings to date, examining places and their potential as part of developing an economic understanding of the region.

<http://www.nwriu.co.uk/aboutus/2755.aspx>

Other data which may be collected as a matter of course by project managers could also help to provide evidence and may also help in project monitoring and evaluation:

- | | |
|--|---|
| • Stakeholder and customer/visitor surveys | • Number of community meetings and numbers attending |
| • Surveys to assess if visitor spend has increased | • NHS data and surveys |
| • Numbers of disabled visitors | • Active People Surveys (Sport England) |
| • Recording new partnerships and alliances formed | • Inward investor surveys obtained by the Local Authority |

- Number of volunteers recruited
- Surveys of recreational surveys and green space use
- Number of website hits and online questionnaires
- Building society information on neighbouring house prices
- Number of visits by schools and other groups
- Monitoring of species numbers
- Number of insurance claims due to flood damage
- Measurement of local CO₂ and ozone levels in the atmosphere

Demonstrating a project's value

The often subjective nature of valuing social and environmental activities in particular and the difficulties with proving their economic worth has traditionally been a key stumbling point for green infrastructure projects, with some critical assessment of the value of a project's outputs and outcomes becoming an increasingly important precondition for securing funding.

It is therefore important that project promoters are able to use the range of available data and information sources to demonstrate how their project responds to socio-economic as well as environmental needs and opportunities that are relevant to the project area and potential funders and supporters.

NENW has developed a range of key tests to identify how the investments and activities in the project can deliver economic value. Designed more as an evaluation tool, the tests nevertheless provide a good basis for starting to estimate the outputs/outcomes that will be of interest to economic funders and partners.

- **Contributing to Gross Value Added (GVA):** This is a measure of the output of the economy and can be defined as representing income generated by economic activity and is comprised of compensation of employees (salaries, National Insurance and pension contributions, etc) and gross operating surplus (self-employed income, gross trading profits, rental income, etc)
- **Delivering against RES indicators for monitoring** (e.g. job creation, carbon reduction measures and visitor spend)
- **Delivering NWDA core outputs:** The NWDA's Corporate Plan¹² includes an additional set of measures to those set out in the RES and includes outputs such as remediation of brownfield land.
- **Contributing to headline Strategic Added Value (SAV):** This is the impact that NWDA or partner activity has on the region beyond that which is immediately measurable through outputs. This may include changes directly or indirectly caused as a consequence of activities that bring about a change in the behaviour of industry, communities or partners.

¹² Corporate Plan 2005 – 2008, NWDA (2005) – Available from the NWDA's website

- **Contributing to natural economy SAV:** There are four themes relating to this: perception changes, lifestyle changes, downstream economic effects and well-being and security
- **Delivering against public service agreements (PSAs):** These are to encourage 'joined up government' and include a range of measures that are described in the NENW document
- **Downstream economic effects:** These include benefits such as providing more attractive localities for businesses to locate and invest in or increased land and property values.
- **Risk reduction:** Investment in environmental projects can create positive economic outcomes concerned with risks to the economy, in particular, those concerned with climate change. However there are also benefits related to healthier lifestyles
- **Valuing ecosystem services:** This is a means of identifying the monetary measure of the value of obtaining or forgoing environmental gain or avoiding/allowing a loss
- **Creating a return on investment:** This test recognises that whilst most investment in the environment will come from the public sector, the private sector also contributes through land management, Corporate Social Responsibility or by integrating environmental projects into developments for new housing or industrial sites.

There are also more specialised tools available that will significantly add to the project's evidence base and so better demonstrate its social, economic and environmental potential.

The Public Benefit Recording System (PBRS)

The PBRS is a GIS based tool that uses a range of datasets to spatially illustrate where particular needs or opportunities (and so potential benefits of a project) may be highest, as well as being able to indicate spatial relationships between the environment and socio-economic characteristics according to the particular issues being addressed by the project. This helps to focus a project's objectives and provide the security of a strong evidence base to potential partners and funders.

The PBRS also provides a philosophy for enabling cross-sectoral working, thinking and understanding among representatives of the three (social, economic and environmental) sectors – thus, it is also a tool for holistic partnership development and intervention, itself an essential step in the process for incorporating economic objectives into GI projects.¹³

A number of projects, strategies and programmes have used the PBRS to highlight areas of opportunity and/or need to suggest where public intervention (whether investment, policy-making or targeting of mainstream service delivery) can yield greatest benefits. It was a vital part of securing more than £50m from the NWDA for the Newlands programme, was used for targeting Woodland Improvement Grant funding in the North West to those areas of greatest priority, and was used to measure landscape and visual quality, resource quality, habitat quality and naturalness to present the natural environmental 'value' across the region in a 'Natural Environment Index' (NEI)¹⁴.

¹³ For more details and examples of the PBRS's application, see www.pbrs.org.uk

¹⁴ Developed by TEP for Natural Economy Northwest and Forestry Commission (2007)

The PBRs' development and a selection of the projects it has been applied in are described in more detail in Appendix 2.

Green Infrastructure Valuation Toolbox

NENW has brought together several agencies¹⁵ to jointly commission the development of a 'Valuation Toolbox' for green infrastructure projects. The Toolbox builds on the 11 economic benefits framework, and is primarily designed to provide support for non-specialist project developers and promoters to help make the case for investment in green infrastructure projects. It will use recognised valuation techniques to assess the potential economic benefits a green infrastructure project can deliver, depending on the type of project and the characteristics of the area it is being delivered in. The aim is – so far as possible – to make it a self-contained, single resource with the best available valuation approaches.

The Valuation Toolbox will provide an approach for actually quantifying the potential economic benefits of a green infrastructure project: providing a monetised economic value or identifying non-monetised benefits in a way that is useful and meaningful to potential investors. Benefits are assessed in terms of the functions GI may perform, depending on the type of project envisaged. Not all benefits can be given a monetised economic value: for many, robust valuation techniques do not yet exist; for others, proving a direct causal link between GI and potential benefits is not currently (and may never be) possible. The Toolbox therefore also aims to identify these non-monetisable benefits in a way which is useful and meaningful to potential investors.

At the time of writing the Toolbox is still in its developmental form. However, extracts from an early draft of the Toolbox are included in Appendix 3, and updates will be available from the Natural Economy Northwest and the Green Infrastructure North West web sites.

Establishing a project's strategic 'fit'

In any region that has seen more than one iteration of regional strategies it should be reasonable to assume that the region's needs have been well articulated and examined and that targets and objectives set out in regional plans and strategies are a reasonable representation of need (and opportunity). It therefore makes sense, and is more likely to lead to success in securing funding, for the 'champion' of any environmental project to show how it fits with and helps to deliver policies and priorities which have been agreed at regional, sub regional and – where the project is local in focus – at local levels.

This is discussed in more detail in the following chapter.

¹⁵ Northwest Regional Development Agency, Yorkshire Forward, One North East, Advantage West Midlands, Natural England, Defra, Natural Economy Northwest, Tees Valley Partnership, London Development Agency



4. THE NATURAL ENVIRONMENT IN ITS POLICY CONTEXT: Demonstrating and delivering social, economic and environmental benefits

When a project can demonstrate social and economic benefits alongside environmental outputs, the potential funding sources available to it increase significantly. Although funding sources and priorities do tend to change (the table in Appendix 4 providing a starting point), demonstration of benefits that extend across several priority areas will endure over time and be attractive to more funding bodies, and so able to apply for a greater range of funding than would be available to a 'traditional' environmental project.

Because funding generally reflects policies and strategies, the success of a project in securing the necessary funding often depends on a clear understanding of how well the proposal aligns with strategies and policies.

This section describes the key policy linkages for green infrastructure in the North West, considering how it is embodied in regional level policy objectives and giving an overview of those socio-economic policy areas where the environment has a role to play. Whilst not all the policy drivers will necessarily be applicable to every environmental project, this should help you to identify and demonstrate how your project can deliver outputs that address broader policy aims and objectives – i.e. your project's "strategic fit".

Policy Support for Green Infrastructure Interventions

A NENW report¹⁶ has explored the relationship between need, strategies and the development and funding of green infrastructure. The study looked at a wide array of current national and regional documents, and identified several policy and strategy areas that clearly demonstrate how built – or 'grey' - infrastructure could utilise green infrastructure as a means of overcoming inherent environmental deficits. It sets out a number of recommendations that aim to speed up the integration of grey and green infrastructure, particularly focusing on the potential offered by the development of the Single Regional Strategy as the replacement for the RSS and RES.

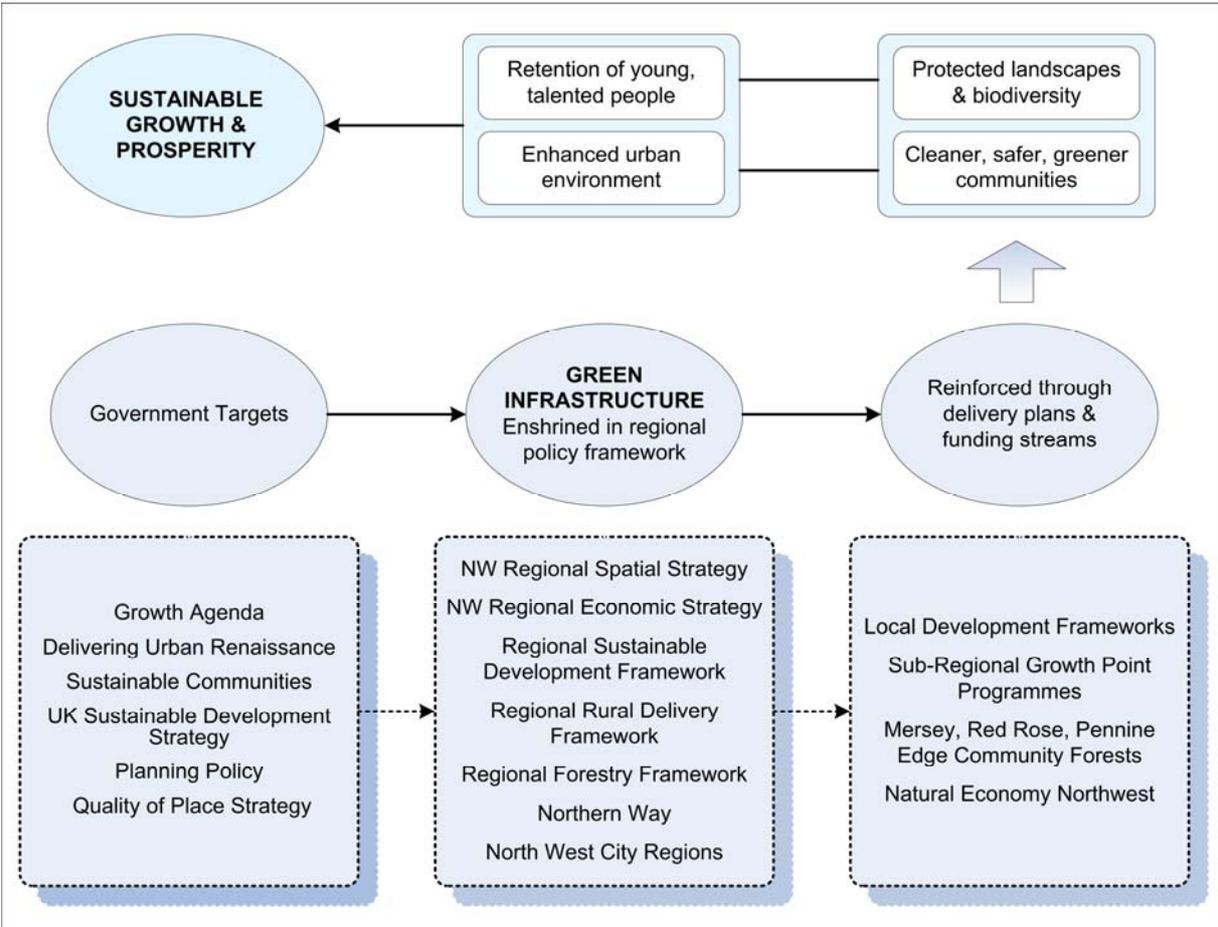
¹⁶ Developing an Outline Strategy for Linking Grey and Green Infrastructure (2008) Ibis Environmental & Design Consultants for NENW

It also confirmed that organisations delivering economic development projects are facing ever-increasing pressures (prompted by a step-change in government legislation and guidance) to have regard for the environment in the planning and delivery of built – or ‘grey’ - infrastructure. This has resulted in a requirement for those organisations to incorporate green infrastructure measures that will (at least) mitigate the potential negative effects of development – so presenting new opportunities to environmental practitioners.

National & Regional Policy Framework

Green infrastructure planning integrates robust evidence with policy requirements to identify areas of need and/ or opportunity for green space protection, enhancement and extension. National, regional, county and local policies (including the North West’s Regional Economic and Spatial Strategies) all promote green infrastructure, both in terms of its functions and also as an organising concept for delivering ‘smart growth’. In numerous national level strategy and policy documents it is implicitly recognised that there are many priorities that may be delivered through green infrastructure:

Figure 4.1: Green infrastructure in its policy context



Green infrastructure, when aligned with and delivered alongside other forms of infrastructure has a transformational capability that helps to deliver the guiding principles of the government’s current UK Sustainable Development Strategy¹⁷. The Strategy sets out four shared priorities:

¹⁷ Securing the Future: Delivering the UK Sustainable Development Strategy (DEFRA, 2005)

- Sustainable consumption and production
- Climate Change and energy
- Natural resource protection and environmental enhancement
- Sustainable communities

All of these of these are clearly highly relevant to green infrastructure projects because they confirm the need to embed green infrastructure in all forms of physical infrastructure development. Sub-regional green infrastructure projects therefore should consciously address these priorities whenever possible – and of particular prominence are the issues relating to climate change.

The growing realisation that the natural environment has a part to play in the economic development of a region is evidenced in the way in which the North West Regional Economic Strategy (RES)¹⁸ makes provision for it:

Quality of Life theme: Environment	
RES Action 113 (Transformational Action)	Reason
Develop the economic benefits of the region's natural environment through better alignment of environmental activities and economic gain	A key under-exploited economic resource for the region and part of our quality of life. It is important to nurture the natural resources of the region and to develop a strategy for green infrastructure and transport corridors

This transformational action embodies the RES's recognition that investment in the region's environment and quality of life is a major element of creating and maintaining the conditions for sustainable growth, one of the three drivers to achieving the strategy's vision for "a dynamic, sustainable international economy which competes on the basis of knowledge, advanced technology and an excellent quality of life for all".

The RES also contains specific actions for investment in the natural environment as a vehicle for delivering economic outcomes or reducing economic risks:

Quality of Life theme: Environment	
RES Action 119 (Transformational Action)	Reason
Invest in quality public realm, green space and environmental quality	A quality environment is essential for private investment, attracting knowledge workers and a high quality of life.
RES Action 117	Reason
Implement the Regional Forestry Framework	Delivers image and regeneration benefits

¹⁸ North West Regional Economic Strategy 2006, Northwest Regional Development Agency <http://www.nwda.co.uk>

RES Action 122	Reason
Protect existing areas of high economic value from flooding to appropriate standards	Ensures key economic assets will be guarded against flood risk

The North West Regional Spatial Strategy's¹⁹ (RSS) emphasis on GI demonstrates its continued high profile in the region. The Strategy particularly recognises the role of GI in relation to climate change and across several Regional Core Objectives including transport and promoting environmental quality, whilst Policy EM3 specifically relates to the delivery of socio-economic benefits via green infrastructure:

“Plans, strategies, proposals and schemes should aim to deliver wider spatial outcomes that incorporate environmental and socio-economic benefits by:

- *conserving and managing existing green infrastructure*
- *creating new green infrastructure, and*
- *enhancing its functionality, quality, connectivity and accessibility.*

Green infrastructure can contribute to a high quality natural and built environment and can enhance that quality of life for present and future residents and visitors and delivers “liveability” for sustainable communities”.

Plans to develop an Integrated Regional Strategy (RS2010)²⁰ recognise green infrastructure as ‘the fifth critical infrastructure’ (alongside transport, water, power and waste). This sets the foundation for green infrastructure to feature throughout RS2010’s 20 year vision and its associated 5 year action plan for the region. The Northwest Green Infrastructure Unit is working with partners to set out the key green infrastructure themes that RS2010 needs to consider to ensure a sustainable and competitive economy that is resilient to demographic and climate change.

Local Authorities are also obliged to meet the requirements of Public Service Agreements (PSAs): set by Government and used as a method to drive up standards of public service delivery. PSA 28 ‘Secure a healthy environment for today and the future’ (2007) specifically references the need to consider green infrastructure and economic growth together:

“The health of the natural environment is under threat. Although there have been some real improvements in the state of the natural environment, many aspects of it are still suffering substantial degradation. The pressures of economic growth and development, including transport and new housing, along with the challenges presented by climate change, are threatening the health of natural ecosystems upon which people depend.”

Similarly PSA 27 (‘Lead the global effort to avoid dangerous climate change’, 2007) provides some indication of the interface between economic development and green infrastructure:

¹⁹ North West of England Plan: The Regional Spatial Strategy to 2021 (2008) GONW

²⁰ <http://www.nwregionalstrategy.com/>

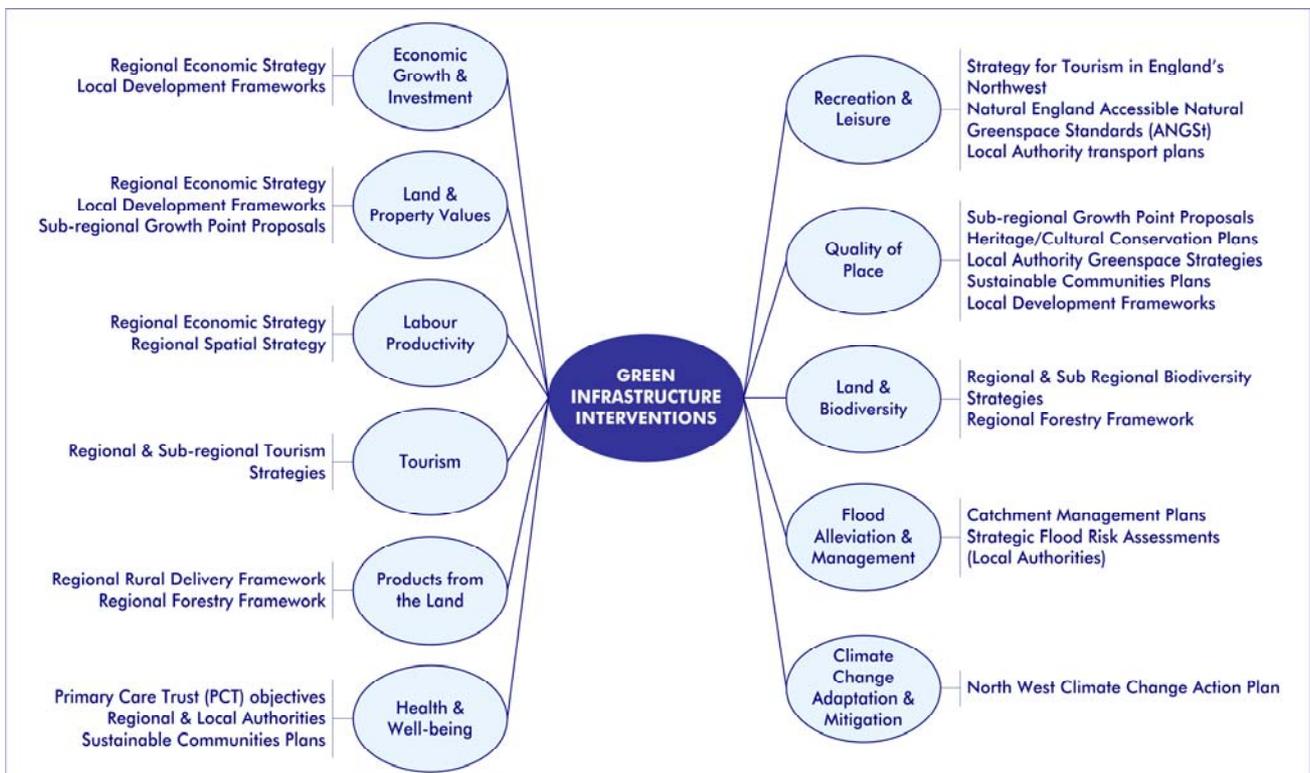
“At the regional level, Government Offices (GOs), Regional Development Agencies (RDAs) and Regional Assemblies will ensure that climate change and sustainable development are considered and integrated into regional policies, strategies and programmes. The outcome of the Review of Sub National Economic Development and Regeneration, which proposes a single integrated strategy and changes to regional governance, will impact during the course of the CSR period and will need to be taken into account in the delivery of climate change and energy outcomes at regional and local level.”

Practitioners should consider that RES and RSS policies and PSA objectives guide local policy formation, and as a result local authorities in particular have to ensure that their sub-regional and local strategies underpin these key policy objectives. However, there are other thematic policy areas and initiatives that are driving forward the GI agenda and the need for co-delivery of social, economic and environmental outputs.

Thematic Drivers

The research undertaken on behalf of Natural Economy Northwest has identified 11 economic benefits of green infrastructure, and there are policy and strategic objectives that can be applied to each of these:

Figure 3.2: Policy & Strategy Drivers for GI



The growing pressure from government for socio-economic development to be pursued without damaging the environment can also be inferred from the research carried out by AMION for the NWDA:

“The increased costs of environmental problems and climate change are of growing significance to businesses and local authorities. While costs such as the carbon levy are easily measurable in cash terms, others – such as the impacts of flooding, ‘urban heat islands’ and poor health – can be less predictable. Nevertheless, green infrastructure investment clearly addresses many of these concerns. Ways to measure its impact include counting business premises protected from flooding, or calculating reduced air conditioning costs for city centre businesses, or how many skilled workers are attracted to the region.”

This sentiment echoes several areas of policy development that provide significant justification for the development and delivery of green infrastructure projects:

Green infrastructure and planning policy

Planning Policy Statements (PPSs) are prepared by the government provide guidance to local authorities and others on planning policy and the operation of the planning system. They also explain the relationship between planning policies and other policies which have an important bearing on issues of development and land use.

Local authorities must take their contents into account in preparing Local Development Frameworks (LDFs) – policy documents that govern planning and development decisions at a local level. A specific PPS for green space and green infrastructure is being developed at the time of writing; until then several existing PPSs have specific relevance to green infrastructure, including PPS 1 (sustainable development, eco towns and climate change), PPS 9 (biodiversity), PPS12 (local spatial planning) and PPS 25 (development and flood risk), as well as Planning Policy Guidance note 17 (open space, sport and recreation).

Natural England’s guidance for Local Authorities²¹ on producing green infrastructure strategies within LDFs recognises that specific green infrastructure requirements will vary considerably, although it goes on to provide generic ‘good practice pointers’ that can be used as a checklist to evaluate planning applications in relation to GI provision. The checklist covers several criteria, under a variety of themes, including landscape, biodiversity, water management, climate change, communities and sustainable travel.

CASE STUDY: Roof greening in Greater Manchester

In 2007 the Greater Manchester Biodiversity Programme (GMBP) facilitated the creation of a demonstration green roof for biodiversity on the Unicorn Grocery in Chorlton, South Manchester. The green roof creation project comprised an important element of the implementation of the Greater Manchester Biodiversity Action Plan for Black Redstarts. The success of this green roof creation project led to its extension and support from NENW, and a second green roof creation project was commissioned on a building close to Manchester City Centre (Bridg-5 Mill).

As part of this project extension it was required that a report be prepared, based on the case studies of the two green roof creation projects, to begin to build an evidence base assessing the potential contribution that green roofs could make to biodiversity, the local economy and quality of life in urban and sub-urban Greater Manchester.

²¹ Green Infrastructure Guidance (2009) Natural England

Concurrently, national, regional and local strategies and policies are emerging stressing the importance of sustainable development in the North West. There is an urgent need to reduce carbon emissions and to plan for the mitigation of the effects of climate change. These policies and strategies have, explicitly or implicitly, put forward green roofs as a potential mechanism for contributing to a sustainable, low carbon agenda. This case study begins to provide an evidence base to support these policies and strategies across the whole range of perceived benefits of green roofs.

Further details can be found at www.naturaleconomynorthwest.com

Green infrastructure and housing policy

Communities and Local Government (CLG) explicitly references green infrastructure as a key component for sustainable growth and for improved environmental outcomes in the Growth Points Programme, and encourages the inclusion of green infrastructure providers in partnerships. The six Growth Point²² Programmes of Development in the North West include provisions for green infrastructure in relation to housing allocations and proposed locations for growth in line with CLG requirements for:

- A statement on design and environmental aspirations
- A statement on the delivery of green infrastructure to support new development
- An assessment of the impact on existing, or the need for new major water related infrastructure.

Natural England also considers green infrastructure to be a primary consideration in planning, developing and maintaining new development, with a policy statement that “*necessary housing growth should be accommodated with minimum impact on the natural environment and deliver maximum benefits for the natural environment and people together*”²³. It sets out guidelines for Growth Point areas which outline a ‘Green Test’ against which all new developments should be measured²⁴.

Green infrastructure and quality of place

Green infrastructure is a vital part of an area’s character and local distinctiveness, and makes a critical contribution to quality of place. This is recognised in existing planning guidance, which emphasises the important contribution that healthy functioning ecosystems make to a better quality of life and to people’s sense of wellbeing (PPS9). The vital functions that urban green spaces perform as areas for nature conservation and biodiversity and by acting as ‘green lungs’ and the important role of urban green spaces, sports and recreational facilities in promoting healthy living, and in improving people’s sense of well-being in the place they live as also stressed (PPG17)

The Government’s strategy for improving quality of place²⁵ reaffirms the importance of green infrastructure, highlighting “*ample high quality green space and green infrastructure*” as one of the four key components of high quality places, alongside another focused on “*well designed and maintained buildings and spaces*”. Action 3.1 of the strategy reflects on how a greater

²² Carlisle, Central Lancashire & Blackpool, Greater Manchester, Mersey Heartlands, Mid Mersey and West Cheshire

²³ Housing Growth and Green Infrastructure Policy (2009) Natural England

²⁴ Green Infrastructure Strategies: An Introduction for Local Authorities and their Partners (2008) Natural England

²⁵ World Class Places: the Government’s strategy for improving quality of place (2009) HM Government

understanding of the vital and multifunctional roles of green infrastructure demands clearer guidance than already exists, and commits to developing new planning policy on green space and green infrastructure.

CASE STUDY: Lake District Ospreys

The Lake District Osprey Project has been a spectacular success, in terms of both the environment and for the local economy: providing a welcoming habitat for breeding ospreys and enabling them to recolonise the Lake District, while giving local people and visitors a chance to find out more about wildlife and conservation has sparked a boom in wildlife tourism in the Bassenthwaite Lake area.

Since 2001, a pair of breeding Ospreys have nested and raised chicks in a purpose-built nest provided by the Forestry Commission, RSPB and the Lake District National Park Authority at Bassenthwaite Lake. By 2003 over 100,000 people were making the trip each year to see these incredibly rare birds – generating £1.7m for the local economy.

The Forestry Commission, RSPB and Lake District National Park Authority worked together to provide an impressive range of facilities for visitors to see and learn about the birds. A purpose-built viewpoint was built at Dodd Wood to the south-east of the lake, while the birds can also be seen from the comfort of the Whinlatter Visitor Centre. Here, a live CCTV link to the nest itself provides an up-close view of the young birds and their parents. At both sites, project staff are on hand to ensure that visitors get the most out of their trip.

Across the UK it is estimated that 290,000 people a year visit nine osprey watching sites, generating £3.5m extra for local economies.

Further details can be found at www.ospreywatch.co.uk/

Complying with flooding and water management policy

The Government has a clear agenda for water management that is set out in the 'Future Water' strategy²⁶. Closely linked to this strategy is the 'Making Space for Water' programme²⁷, under which the Environment Agency is identified as the body responsible for taking a strategic overview of inland flooding. This recent urgent focus on water management is already highlighting the role that green infrastructure can play in supporting a range of solutions.

The report sets out a range of actions, many of which will have a positive reinforcing effect on the need for green infrastructure investment. The most relevant of these are:

- Developers and owners or managers of land and property will be required to consider creating local rainwater storage for both commercial sites and houses
- The Government will change householders' permitted development rights which allow them to pave over their front garden without planning permission only if the surface is porous, such as by using permeable paving or gravel
- Options for resolving the barriers to the take up of Sustainable Urban Drainage Systems (SUDS) will be consulted on, including options for ownership and adoption of these systems across the main agencies involved in urban and land drainage

²⁶ Future Water: The Government's Water Strategy for England (2008) Defra

²⁷ <http://www.defra.gov.uk/Environ/Fcd/policy/strategy.htm>

- A Practice Guide Companion to PPS25 on development and flood risk helps planning authorities implement the new planning policy
- Further guidance on the role of land use management in controlling flood risk will be explored.

Other significant initiatives being pursued at a regional level include United Utilities' Sustainable Catchment Management Programme (ScaMP) and the Environment Agency's work in progress on Catchment Flood Management Plans. When viewed as a collection of proposed imminent actions it becomes clear that flood risk and water management will offer many challenges and opportunities for green infrastructure projects over the next few years.

Supporting climate change mitigation and adaptation

Adaptation to climate change effects in urban areas is a critical component of delivering sustainable development and securing sustainable communities. The University of Manchester Centre for Urban Regional Ecology (CURE) has published research carried out under the Adaptation Strategies for Climate Change in Urban Environments (ASCCUE) Project. This work established that green infrastructure is able to play a vital cooling function as city temperatures increase. Using CURE's approach it should be possible to demonstrate how a project's green infrastructure would contribute to the region's Climate Change Action Plan.

Under action 4.3 of the North West Climate Change Action Plan (NW CCAP), Community Forests North West is carrying out scoping studies to assess future regional risks, opportunities and priorities associated with the potential for green infrastructure in adapting to and mitigating for the impacts of climate change. An initial study²⁸ has been published that seeks to identify where climate change mitigation and adaptation functions of existing and potential green infrastructure are critical for the short-term sustainable economic development of the region. This work reinforces the value of spatial mapping and geographical information systems (GIS) techniques in the planning of green infrastructure projects – particularly in helping to assemble an evidence base.

Well-being and productivity

There is an evidence base to suggest that projects with an environmental focus are successful in reaching out to people. Green infrastructure can, for example, provide the stage for transitional employment programmes to be developed. Environmental work is a ready attractor for participants and successful programmes can have further economic spin-offs in the form of creating social enterprises and stimulating an enterprise culture. Through success in delivering earlier environmental projects under New Deal and the Environmental Task Force, many organisations have confirmed that people respond positively to working on environmental projects.

This could explain the high rates of volunteering enjoyed by regional environmental delivery bodies, as well as the success of Intermediate Labour Market (ILM) programmes based in the environment and the achievements of re-engagement programmes aimed at disaffected and truanting school children.

²⁸ 'Critical Climate Change functions of Green Infrastructure for sustainable economic development in the Northwest' (CFNW, 2008)

The unique value that the natural environment has to offer is increasingly understood through research into the improved recovery rates of hospital patients and the way in which stress is reduced and performance enhanced when people are exposed to natural environments²⁹.

CASE STUDY: Supported employment Merseyside

Through environmental work-based placements, this case study sets out to raise awareness of the benefits and restricting factors of entering into the world of employment faced by people who are unemployed, with special needs or lacking work experience.

By carrying out a number of environmental improvements this project has helped to increase the biodiversity of Dutton Park, whilst at the same time providing employment training with the aim of enhancing peoples' lives. The Dutton Park Project has been delivered through Groundwork Merseyside's Environmental Volunteering and Employment (EVE) Programme, working in partnership with the Woodland Trust, SITA Trust and Natural Economy Northwest (NENW).

Participant beneficiaries include people with learning disabilities, the long term unemployed, people with mental health problems and students or graduates searching for a link between education and employment. The project involved 61 participants taking part in practical environmental improvements at Dutton Park, all of whom gained significant work-based skills and training.

Supported placements provide respite and reduce costs for Local Borough Councils' Health and Social Care Services by providing an alternative to traditional day services. Based on cost per attendance figures presented within the Government White Paper (2001, Department of Health) the nine Supported Employees could be saving the local authority between £162 per day to £1,008 per day on adult day services.

The Dutton Park Project has also delivered many other benefits. These include: creating or safeguarding 14 jobs, assisting two people into employment and supporting six local businesses. This example of supported employment and volunteering has also helped to achieve two of the government objectives for Learning Disability Services.

Active work improves health and fitness, reducing health problems such as obesity and heart problems and environmental conservation volunteering has been shown to reduce stress and deliver many mental health benefits.

An important element of this case study has been the restoration of Dutton Park which has provided many natural environment benefits and, being located in the Weaver Valley Regional Park has contributed to the natural tourism offer as well as presenting opportunities for open access outdoor recreation.

Further details can be found at www.naturaleconomynorthwest.co.uk

Helping to deliver the biodiversity duties of public bodies

Public and local authorities have a key part to play in conserving biodiversity through their role in developing and influencing local policies and strategies, in planning and development control and in managing their estates. They have a duty under the Natural Environment and Rural Communities Act (2006) to have regard to the conservation of biodiversity in exercising their

²⁹ Trees Matter! Bringing lasting benefits to people in towns (2005) National Urban Forestry Unit

functions. DEFRA has published guidance³⁰ on the subject for local authorities and one for public authorities, which specifically includes reference to green infrastructure and the need to balance biodiversity conservation with other needs.

CASE STUDY: Morecambe Bay Conservation Grazing Project

This project is focused on ensuring the sustainable management of 405 ha of the BAP Habitat, Calcareous Grassland, mainly within the Morecambe Bay Joint Character Area, covering Cumbria and Lancashire. Most of the sites in the project are designated NNRs, SSSIs and SACs that require extensive grazing by cattle in order to deliver their nationally important biodiversity targets. Sympathetic grazing is a key element in achieving and maintaining favourable condition on all of these sites and constitutes their principle ongoing management requirement.

The project produces a modest quantity of high quality meat for which there is a high demand within a local market. This makes a contribution to the upkeep of the grazing herd.

The project will deliver grazing regimes specifically tailored to meeting each site's particular biodiversity objectives. In order to ensure the long-term sustainability of this service the project must now employ and train an apprentice to assist the present grazier in performing the increasingly demanding task of managing such a widely scattered grazing system. The project aims to provide an exemplar apprenticeship scheme demonstrating innovative best practice that could be implemented by conservation-led partnerships elsewhere in the Region.

Further general information can be found at www.grazinganimalsproject.org.uk

Further information regarding the policies and strategies that support the use of green infrastructure as a means of delivering economic benefits and ameliorating the (potential) negative environmental impacts of economic development opportunities is provided in two NENW commissioned reports³¹. Another useful source is the North West Green Infrastructure Guide, which sets out a list of documents which can help green infrastructure practitioners identify strategic links and priorities, linked to the geographic influence or scale of their work.

The next section looks at how environmental project managers can use the expert knowledge and skills of partners in the socio-economic sectors alongside the information in this guide to reinforce their project's strategic fit and develop their project ideas, making them more attractive to a broader range of potential funders by making them strategically relevant and helping them to deliver social and economic benefits alongside environmental outputs.

³⁰ Guidance for Public Authorities on Implementing the Biodiversity Duty (2007) DEFRA

³¹ Developing an Outline Strategy for Linking Grey and Green Infrastructure (2008) NENW; A Strategic Plan for Developing and Funding Natural Economy Projects (2007) NENW



5. SOCIO-ECONOMIC PARTNERS:

Helping to deliver the socio-economic elements of environmental projects

The socio-economic arena maybe completely new to some natural environment practitioners, and the need to reflect strategic priorities and deliver economic benefits may be discouraging for those who have previously been focused solely on environmental interventions. However, an understanding of the socio-economic benefits and broader strategic fit of a natural environment project will direct environmental practitioners towards potential partners who can provide the political, practical and financial means for project delivery. These are likely to include the body which ‘owns’ the strategies or policies most closely aligned to the project, and whose objectives the project will deliver against.

One of the eight principles³² for green infrastructure planning, design and implementation specifically calls for the engagement of diverse people and organisations from a range of sectors, whilst the North West Green Infrastructure Guide sees the establishment of partnerships as the first in a 5 step project planning process³³:

Step 1.	Tools and data	Process Steps	Methods
Partnerships and Priorities	<ul style="list-style-type: none"> • Regional & subregional strategies • LDF documents • Community Plans • Local Strategies 	<ul style="list-style-type: none"> • Assemble partnerships • Assess policy frameworks • Determine strategic priorities to which GI will contribute • Agree scope and scale of GI planning project 	<ul style="list-style-type: none"> • Identify GI stakeholders and champions • Compile GI strategy position into central evidence database • Local and strategic values

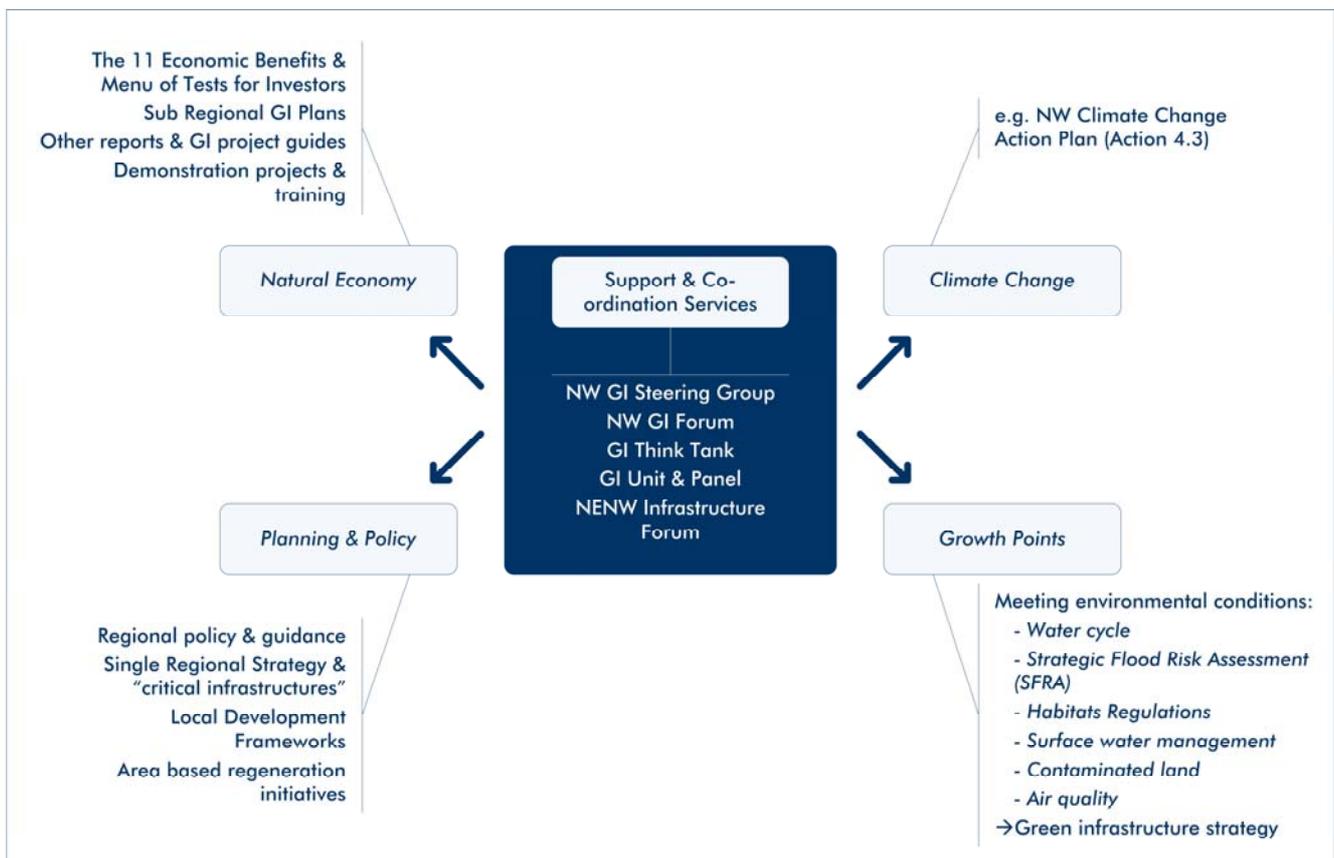
However, the broad range of socio-economic benefits the natural environment can deliver means that there is a wealth of opportunity for natural environment practitioners to identify and benefit from engaging with public, private and voluntary sector partners from social and economic fields of interest (as illustrated in figure 5.1), and the role and level of involvement of socio-economic partners is likely to vary according to the scope of the project being developed or delivered:

³² As described by www.greeninfrastructure.net

³³ Step 2 - data audit and current resource mapping; Step 3 - functionality mapping; Step 4 – needs assessment; Step 5 – intervention plan

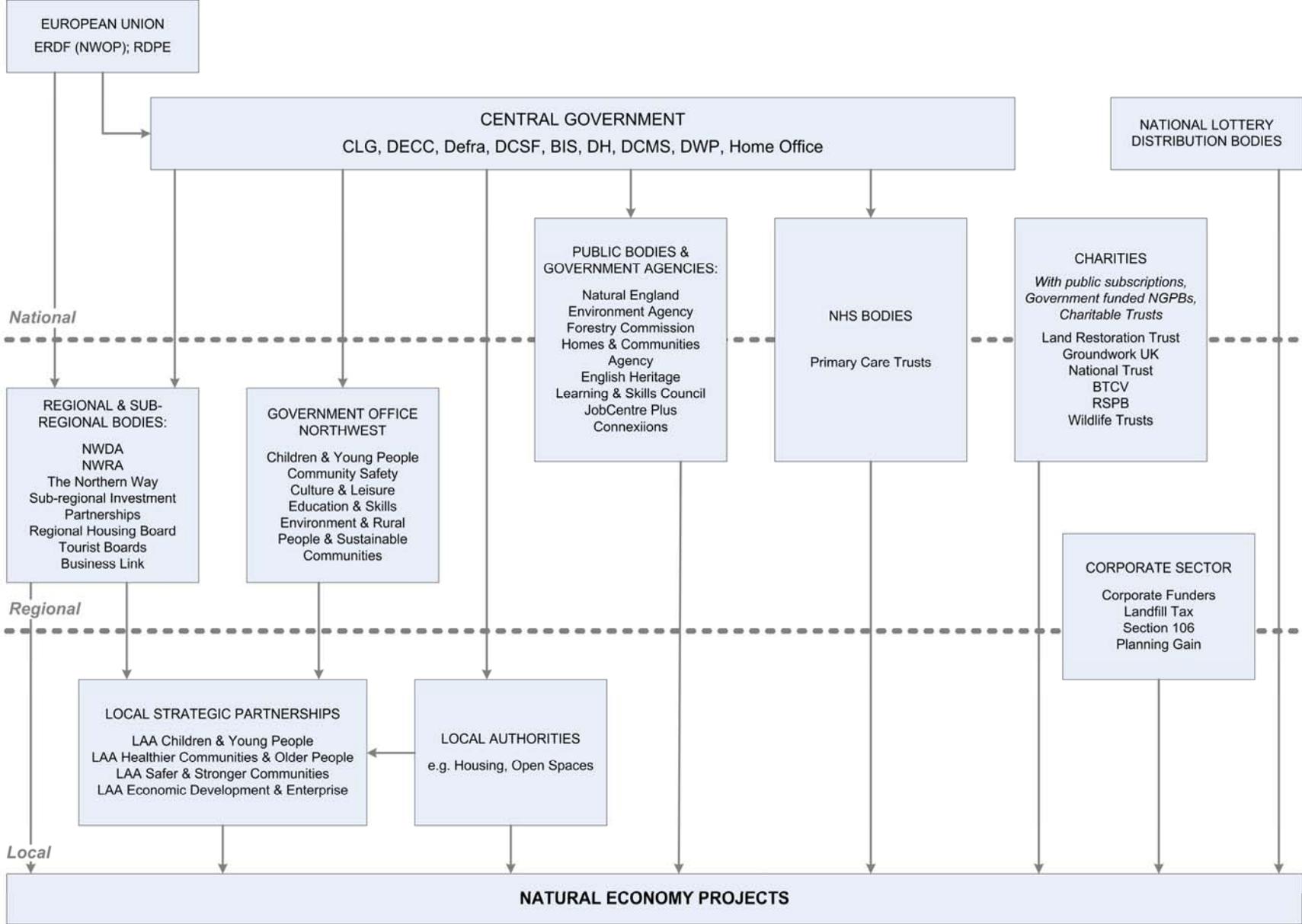
- At the regional or sub-regional level, partnerships are more likely to be strategic in nature, and will be concerned with ‘championing’ cross-sector working to achieve common aims
- At the local level, partnerships will be more focused on delivery and engagement with communities.

The North West’s Green Infrastructure Partnership is a good starting point as a source of information and advice. This network of partners understands and actively promotes the broader objectives and policy and strategic relevance of natural environment interventions. The Partnership advises and informs policy formation in the region, as well as providing support and co-ordination services for green infrastructure projects and specialist advice and guidance in certain thematic areas:



Appendix 5 identifies other organisations that may be able to offer advice and suggests useful sources of evidence, identifies key documents for further research and directs practitioners towards potential partners and funding sources. It also provides signposts to more information that will, alongside the guidance in this document, assist environmental project managers in developing and delivering projects that also provide social and economic benefits.

Figure 5.1: Potential funding & support to natural environment projects





These two case studies demonstrate how environmental (green infrastructure) outcomes are successfully and demonstrably being delivered alongside the 11 economic benefits identified by NENW and agreed by partners in the North West.

The case studies are:
Irwell City Park
Liverpool Knowledge Quarter

*Key to colours in column 3 of the tables:
(Illustrating the capacity of the interventions to yield an economic benefit):*

Red = high

Amber = medium

Yellow = low

Irwell City Park (Greater Manchester)

The Irwell City Park (ICP) is a new riverside park proposal with a continuous 8km riverside walkway, new development business and employment opportunities. Also planned are new green spaces, leisure and recreational opportunities, public realm improvements, a tourist destination and connections to the local communities. It is being developed by a partnership that includes the councils of Salford Manchester and Trafford together with the Urban Regeneration Company, business developers and the community.

The plans should, when realised make a significant impact on the area as a result of the infrastructure proposed. This includes 5 new bridges, 7ha of new public realm, job support through the creation of 256,000 square metres of employment space and 700 permanent full time jobs. Additional economic benefit is planned through an anticipated 3.7 million visitors.

Green infrastructure opportunities

ICP planning guide provides an excellent mechanism for the development of the project, covering ecological, community development and access issues among others. Further potential opportunities across the 11 economic benefits have also been identified:

Benefit	Possible GI Interventions	Capacity
Climate change adaptation & mitigation	<p>Tree planting will help in reducing energy use for heating and cooling. Deciduous trees can be used for Summer shade but will not impede winter solar heat gain. Transpiration from GI will help to ameliorate the effects of summer temperatures.</p> <p>The mix should be capable of adapting to UKCIP forecasts (40° Summer time temperature by 2080). Manchester has been the subject of an ASCCUE (Adaptation Strategies for Climate Change in the Urban Environment) study – this could be used to reinforce the message</p> <p>Water requirements will need to be planned and linked to water management plan for SUDS/grey water recycling.</p> <p>Promoting green roofs/green walls would partially offset the loss of some habitat. Green roofs (ICP 17) could be embedded in the proposed design guide. This would help with the delivery of LA duties under the Natural Environment and Rural Communities Act (2006).</p> <p>The provision of green roofs would increase the BREEAM rating of buildings</p>	
Flood alleviation & water management	<p>SUDS have been planned in the scheme (ICP 19). Meadows & adjacent surroundings are designated a Super SUDS strategy Area.</p> <p>Most areas (other than Meadows) are small</p> <p>Grey water recycling will reduce pressure on water treatment and provide source for irrigation of GI</p> <p>Out of area planting (upstream at Bury) would help to mitigate flooding</p>	
Quality of place	<p>The landscaping of the project will play a critical role in providing an ‘iconic’ landscape for the three authorities. This will have a positive impact on supporting Tourism, developing sustainable communities, encouraging economic development and so on</p>	
Health & wellbeing	<p>Site is planning innovative approaches to sustainable development and could be used as a vehicle for educational projects – possibly supporting corporate social responsibility objectives. 50 schools, 25 youth groups, 75 community groups identified within ICP plan</p>	

Benefit	Possible GI Interventions	Capacity
	The use of GI as a vehicle for ILM/Social Enterprise/volunteering will help to develop 'skills for life'	
Land & property values	The project would provide additional amenity to adjacent areas of housing.	
Economic growth & investment	The landscaping proposed clearly fulfils this role	
Labour productivity	<p>Site is of a size and in a location that makes it a good vehicle for supporting ILM type activities.</p> <p>ICP plan states that existing maintenance by 3 LAs is 'reactive'. Single contract favoured. £338K cost when fully operational. ILM/supported employment programmes could be used for part of the maintenance of the site.</p> <p>Endowments (cash or assets) from developers, Section 106, could be considered.</p> <p>A social enterprise (developed as a recipient of trainees from ILM) could be used for the long term maintenance.</p> <p>A Business Improvement District (BID) programme might be viable.</p> <p>ILM programme could be used for part of the development of the GI on the site.</p> <p>Cumulative amount of GI might be sufficient for Social Enterprise creation</p> <p>The site could be used as a vehicle for NEET (Not in employment, education or training) type programmes</p>	
Natural Tourism	The site could play an important role in ameliorating future climate change and so help to provide an amenable experience for future visitors – thus helping to maintain high visitor numbers	
Recreation & leisure	<p>The sites will encourage access for the local community. A Ranger resource is planned.</p> <p>Cross-links would be beneficial to enhance the utility of the riverside walkways and cycle routes. And help to reconnect communities to the new, high quality riverside environment.</p> <p>Walking and cycling routes are incorporated into the project. The links to the City centres and outwards to other areas is important. The access should therefore be viewed as bi-directional – encouraging City dwellers to walk/cycle towards the urban/rural fringes and providing easy walking and cycling routes for those commuting to city jobs.</p>	
Land & biodiversity	<p>Ecological surveys are required by ICP 20.</p> <p>Several areas designated Sites of Biological Importance.</p> <p>Black Redstarts habitat identified – extended through Green/brown roofs.</p> <p>Other 'iconic' species (Peregrine Falcon) produce several related benefits</p>	
Products from the land	<p>Site is not suitable for horticultural projects</p> <p>Sites within the boundary are not large enough to produce significant biomass outputs – however, considering the site to have 'porous' boundaries would link it to wider possibilities and help to support the use of woodchip boilers etc.</p>	

The Liverpool Knowledge Quarter

The Liverpool Knowledge Quarter sits in a broad arc running approximately in a north westerly direction from the Anglican Cathedral to the Liverpool John Moores University 'City Campus'. It thereby incorporates the bulk of the city's knowledge 'assets' along with the infrastructure necessary to support a student and professional population. Included in the areas are major developments of the University of Liverpool, Liverpool John Moores University, the Royal Liverpool University Hospital and the Liverpool School of Tropical Medicine.

The area is being regenerated through an ambitious initiative that will, for example, see the provision of a new building for the Royal Liverpool Hospital. Together with redevelopments involving both Universities and public realm improvements, the project will have a significant impact on the City.

The development of an Urban Design Framework and a Public Realm Implementation Plan comes at a time when there is a growing awareness of the serious environmental problems confronting the region's major cities. With summer time temperatures expected to reach a summertime level of 40°C by 2080 the project represents an ideal demonstration of the extent to which complex regeneration plans are able to respond to the many challenges.

Green infrastructure opportunities

While the total project area is very extensive, the area of green infrastructure existing and proposed is currently less than 10ha and so likely to be fragmented. However, one output from the Urban Design Framework and Public Realm Implementation Plan is the production of an appendix that will map the green infrastructure within and around the areas and identify further green infrastructure objectives. It will also make recommendations for integrating into the individual components of the LKQ.

Further potential opportunities identified across the 11 economic benefits include:

Benefit	Possible GI Interventions	Rating level
Climate change adaptation & mitigation	<p>Tree planting will help in reducing energy use for heating and cooling. Deciduous trees can be used for Summer shade but will not impede winter solar heat gain. Transpiration from GI will help to ameliorate the effects of summer temperatures.</p> <p>The mix should be capable of adapting to UKCIP forecasts. The ASCCUE study could be used to reinforce the message</p> <p>Water requirements will need to be planned and linked to water management plan for SUDS/grey water recycling.</p> <p>Promoting green roofs/green walls would partially offset the loss of some habitat. Green roofs could be embedded in the proposed design guide to help with the delivery of LA duties and increase the BREEAM rating of buildings</p>	
Flood alleviation & water management	<p>SUDS have not been planned in any part of the scheme</p> <p>Grey water recycling will reduce pressure on water treatment and provide an important means of providing irrigation for any green infrastructure proposed for ameliorating the effects of climate change</p>	
Quality of place	<p>The landscaping of the project will play a critical role in providing an 'iconic' landscape for the area. This will have a positive impact on supporting employment, tourist experience, quality of life and so on.</p>	
Health & wellbeing	<p>Site is planning innovative approaches to sustainable development and could</p>	

Benefit	Possible GI Interventions	Rating level
	<p>be used as a vehicle for educational projects – possibly supporting corporate social responsibility objectives.</p> <p>The use of GI as a vehicle for ILM/Social Enterprise/volunteering will help to develop 'skills for life'.</p>	
Land & property values	The project would provide additional amenity to adjacent areas of housing.	
Economic growth & investment	<p>The landscaping of the project will play a critical role in providing a setting for investment.</p> <p>This will have a positive impact on supporting tourism, developing sustainable communities, encouraging economic development and so on.</p>	
Labour productivity	<p>Site is of a location that makes it a good vehicle for supporting ILM type activities.</p> <p>Endowments (cash or assets) from developers, Section 106, could be considered to fund social enterprise.</p> <p>Green infrastructure could be linked to maintenance of other adjacent areas. A social enterprise (developed as a recipient of trainees from ILM) could be used for the long-term maintenance</p> <p>Green infrastructure is too small for construction phase ILM activities</p> <p>A Business Improvement District (BID) programme might be viable</p> <p>The site could be used as a vehicle for NEET (not in employment, education or training) type programmes</p>	
Natural Tourism	The site could play an important role in ameliorating future climate change and so help to provide an amenable experience for future visitors – thus helping to maintain high visitor numbers	
Recreation & leisure	<p>The green infrastructure sites will encourage access for the local community.</p> <p>Cross-links would be beneficial to enhance the utility of the walkways and cycle routes and help to reconnect communities to the new, high quality environment.</p> <p>Walking and cycling routes to and from the site are incorporated into the master planning, with links to the City Centre and outwards to other areas considered particularly important</p>	
Land & biodiversity	<p>Possibility of species habitats incorporated into green/brown roofs. Black Redstarts, other 'iconic' species (Peregrine Falcon) produce several related benefits.</p> <p>Duty for local and public authorities exists under the Natural Environment and Rural Communities Act (2006)</p>	
Products from the land	Site is not suitable for horticultural projects and food production	

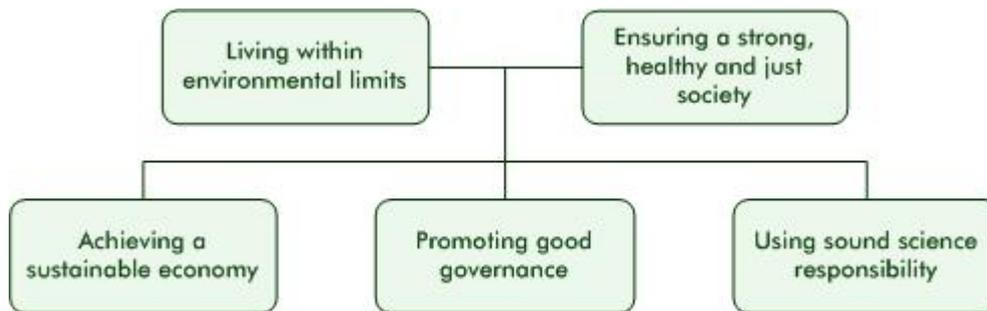
APPENDIX 2:
PBRS Leaflet

An Introduction to the Public Benefit Recording System (PBRS)

There is increasingly a need to deliver maximum and, where possible integrated, economic, social and environmental public benefits and value added from intervention and investment - where 'public benefit' is defined in relation to social, economic and environmental goals acting in combination (i.e. sustainability goals). Decision making also has to be justified against a robust evidence base. The Public Benefit Recording System (PBRS) brings together datasets to identify the greatest public benefit potential in a series of maps, which also provide the evidence base from which – with interpretation, vision and on the ground knowledge – decision makers can make reasoned judgements as to where to target their activity.

What is PBRS?

The PBRS is a GIS (Geographic Information System) based aid to strategic planning and investment that is underpinned by the UK's 5 Guiding Principles of Sustainable Development:



PBRS ensures value added results by identifying synergies between economic, social and environmental needs and opportunities, strategies and investments. It is also a philosophy: enabling cross-sectoral working, thinking and understanding among representatives of the three sectors – thus, PBRS is also a tool for holistic partnership development and intervention.

PBRS has an ethos to identify where greatest public benefit can be secured through policy or funding intervention. Using a combination of datasets (indicators) from a wide range of sources, and considering social, economic and environmental factors, the PBRS maps and spatially analyses areas of significant need and opportunity, identifies co-incidences and correlations between indicators (i.e. those areas where multiple benefits may be obtained) and highlights the highest value sites and locations – usually where social, economic or environmental benefits converge.

Who devised it?

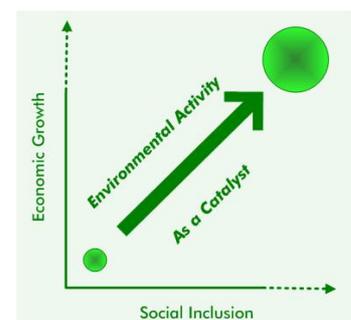
The Forestry Commission, together with environmental planning consultants TEP and partners including NWDA, were behind the initial PBRS concept, its design and on-going development, and its circulation to a wider audience. Many other organisations in the North West and in other regions have come to see the benefit of PBRS, and have used it to inform their decision-making processes, including:

1. Newlands, REVIVE and Remade regeneration programmes (NWDA, Forestry Commission, Lancashire and Cheshire County Councils);
2. A Strategy for England's Trees, Woodlands and Forests (Defra 2008): included as a Case Study within the Strategy and in its Delivery Plan;
3. Government Response to Brownfield Action Plan;
4. West Midlands Regional Spatial Strategy 2008 (as an element of the 'West Midlands Green Infrastructure approach' referred to in Policy QE10);
5. Application in various green infrastructure strategies and planning papers, including Shrewsbury & Atcham and Hinckley & Bosworth Strategies and research and recommendations into green infrastructure in South Hampshire.

Forestry and PBRS

Being at the forefront of developing and using PBRS, Forestry Commission is seeking to deliver economic growth and social development through targeted woodlands creation and forestry intervention – thus ensuring woodlands development also acts as a catalyst for socio-economic growth, with 'win, win, win' outcomes.

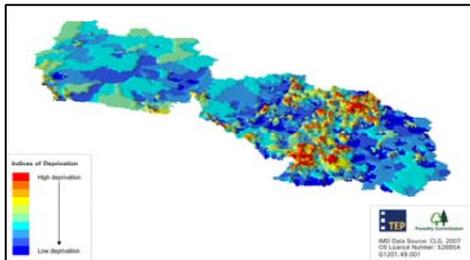
A PBRS approach was used for targeting Woodland Improvement Grant funding to those areas of greatest priority as part of the Forestry Commission's English Woodland Grant Scheme in the North West.



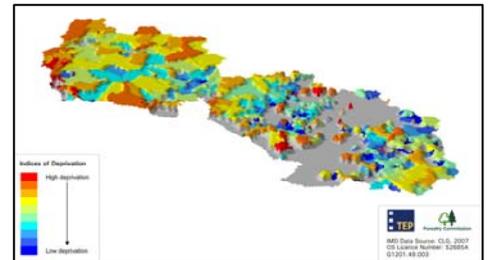
Case Study 1: Newlands Delivering a Strategic Investment Programme

PBRs has been applied at various spatial scales (from the regional to local level) - highlighting areas of opportunity and/or need to suggest where public intervention (whether investment, policy-making or targeting of mainstream service delivery) can yield greatest benefits.

The Indices of Deprivation (IMD) are often used as a socio-economic baseline on which other data is set. IMD can be benchmarked to consider only scores within a given geographic area (in this case, the North West Region), and Defra's classification of settlements as rural or urban can also be applied to give a more appropriate assessment of rural circumstances.



Indices of Deprivation 2007
Northwest Benchmarking



Indices of Deprivation 2007
Rural Weighting

Subsequent data 'layers' are specific to the **themes or priorities** of the project, and to the relevant needs and / or opportunities that are being addressed. Once the priorities map has been assembled on the basis of these evidence layers, individual sites can be overlaid and picked out for attention.

The Newlands Programme

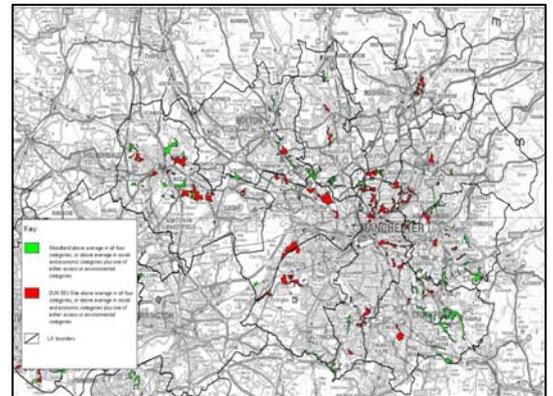
The Issue:

With limited resources, FC and NWDA needed to prioritise, out of a list of over 3,800, those derelict, underused and neglected sites where regeneration by forestry might bring maximum economic and social benefits for consideration within the Newlands programme, against its aim of delivering economic uplift through landscape change and site regeneration in partnership with local communities.

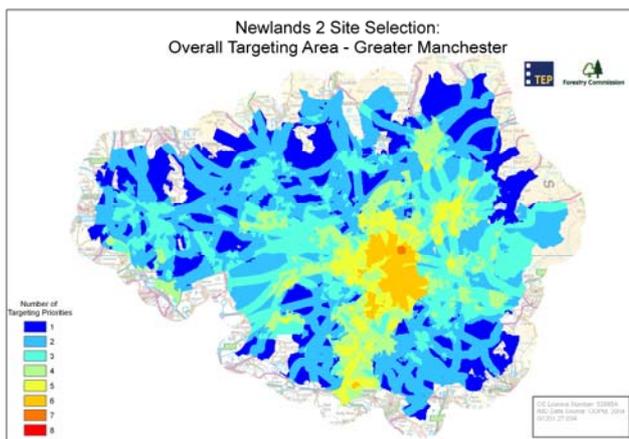
The Approach:

The first application of the PBRs to Newlands 1 in 2003 'scored' individual sites against a wide range of criteria within economic, social, environmental and access categories. Those sites which could provide the highest combined benefits across a number of themes could then be identified, as well as those sites which could contribute especially to a specific theme or area of interest. This approach allows a 'portfolio' of sites to be prioritised and programmes and partnerships set up:

Alongside the PBRs, Additional Value Assessments (AVAs) consider the functionality of each site, and ensure designs more closely address social, economic and environmental needs.



Gr. Manchester DUN Sites (red) and woodlands (green) with above average scores in all 4 categories, or above average in economic and social categories plus either environment or access



Application:

Techniques have since developed, and Newlands 2 (2007) uses a model developed from Regional Economic Strategy objectives to identify those broad 'indicative' areas with greatest relevance to NWDA priorities, onto which individual sites can be overlaid. This provides the first step in shortlisting potential sites, which are then taken through a detailed 'site sifter' to identify those which are most achievable in providing the greatest and most relevant outcomes to the Newlands programme.

Overall targeting area for Newlands 2 assessment in Greater Manchester, measured against RES objectives (ranging from blue as lowest priority and red as highest priority areas)

Case Study 2: The Natural Environment Index Identifying Spatial Relationships Between Natural Environment Quality and Multiple Deprivation

Natural Economy Northwest (NENW) is a regional partnership programme, led by Natural England, on behalf of a wide cross-sectoral partnership to deliver priority action 113 in the Regional Economic Strategy. At the heart of the NENW's ethos is the vision for a prosperous economic future with a thriving natural environment for the northwest. The focus of the programme is to maximise the economic benefit from existing and new investment in the natural environment.

The Approach

This study progressed the work of a pilot report in 2005, which analysed the spatial relationship between key natural environmental assets and varying degrees of multiple deprivation in Lancashire. This study expands the pilot work to the entire Northwest region and considers a broader range of natural environmental indicators to provide a geographical representation of where socio-economic deprivation and natural environmental value exist, and any correlation between these issues.

There were three main stages to this work:

- Part 1: using the Indices of Deprivation 2004 to map socio-economic deprivation across the region. IMD is constructed of seven 'domains' of deprivation (income; employment; health and disability; education, skills and training; barriers to housing and services; living environment; crime), each of which contains a number of indicators.
- Part 2: constructing and mapping a region-wide natural environment index (NEI), using a number of indicators across four domains:
 - resource quality
 - habitat quality
 - naturalness
 - landscape and visual quality.

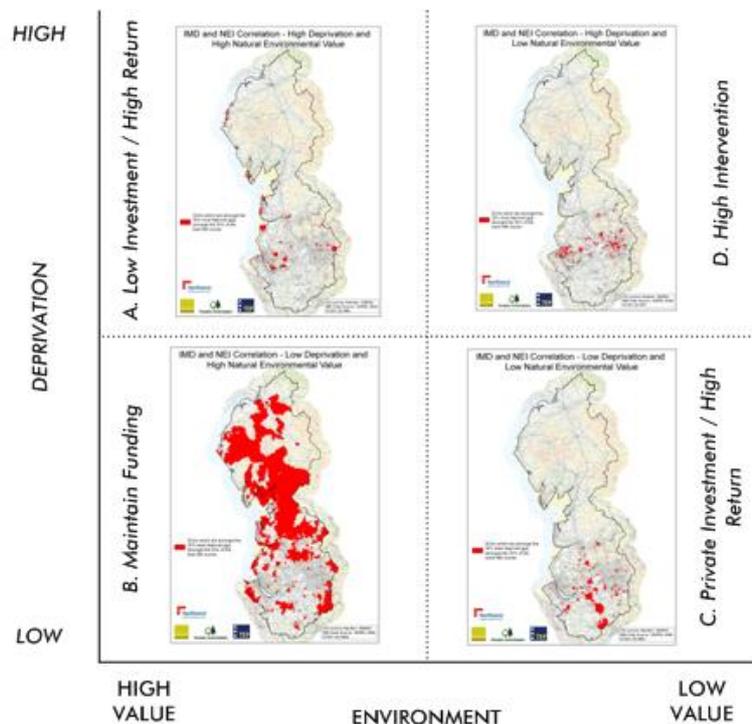
The NEI represents the natural environmental value of different parts of the region. Here, the term 'value' is not intended to be pejorative; rather, the results of the NEI provide a framework for the different types of intervention which can be considered for different areas. High environmental value suggests protection, whereas low environmental value indicates that remedial and re-creation work is required.

- Part 3: examining the spatial relations between socio-economic deprivation and the natural environment index. This will aid future natural environmental intervention choices in order to maximise the socio-economic return on investment, and guide socio-economic intervention choices to maximise benefit from and for the environment.

Application

The results of the study identified four scenarios which require different types of interventions:

- A. low investment / high return: where lower levels of investment are likely to produce a high socio-economic return;
- B. maintain funding: to maintain the existing good socio-economic and natural environmental standards;
- C. private investment / high return: interventions are likely to be based on private investment (e.g. from developers) with a likely high environmental return;
- D. high intervention: as the target for public sector intervention and investment



Case Study 3: Lancashire Green Infrastructure Strategy Green Infrastructure Planning: An Issue Oriented Approach

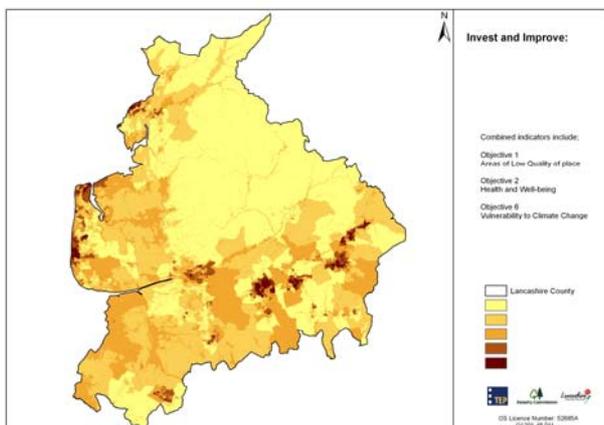
The public value of investment in green infrastructure (GI) has been confirmed in an independent economic appraisal³⁴ which suggests that returns to society are worth several times the initial investment. An essential element of GI planning therefore is a spatial analysis of where an area’s GI - and the various functions it delivers - is most vital in terms of the multiple public benefits it can deliver: the priority for green infrastructure in inner urban areas may be to deliver social inclusion and contribute to economic renaissance through attractive, healthy and well-used greenspaces, while a priority for countryside around towns could be to create a biodiverse network of accessible greenspaces of sufficient quality, scale and diversity to be a setting for wildlife and people alike.

The Approach

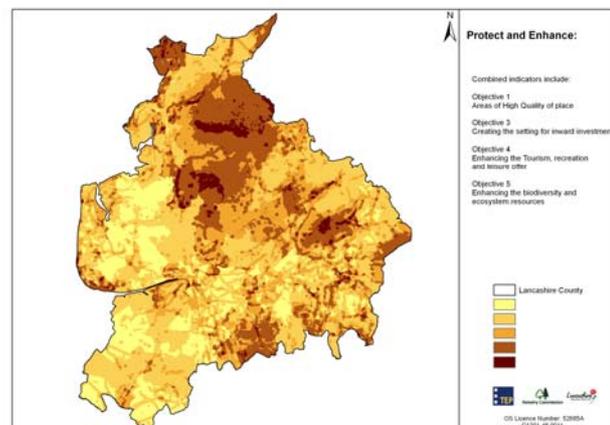
To take forward action plan priority work, a PBRs assessment was carried out against each of the seven green infrastructure priorities for Lancashire, as identified in the Lancashire Green Infrastructure Strategy and highlighting the value of GI to the Lancashire Economic Strategy and Central Lancashire City Region Development Programme:

- Improving Quality of Place
- Improving Health and Well-being
- Creating the Setting for Inward Investment
- Enhancing the Tourism, Recreation and Leisure Offer
- Enhancing Biodiversity and Ecosystem Services
- Adapting to and Mitigating the Effects of Climate Change
- Growing and Developing the Regional Parks Network

The individual assessments were then grouped together to produce two combined assessment maps: the first showing need (“Invest & Improve”) where interventions would alleviate and improve areas of combined deprivation against their specific requirements, and the second showing areas of opportunity (“Protect & Enhance”) where interventions would make the most of the particular opportunities available:



Invest & Improve: areas experiencing low quality of place, poor health and well being and vulnerable to the effects of climate change.



Protect & Enhance: areas with high quality of place, acting as a focus for inward investment & tourism/ recreation/ leisure, and with high biodiversity/natural resources.

Combining the individual assessments in this way makes it possible to identify those areas exhibiting the highest combined need or opportunity across the range of Lancashire’s green infrastructure strategic objectives.

Application:

The PBRs mapping has informed the spatial dimension of Lancashire GI Strategy, showing where priority areas may be identified for each of the seven key strategic objectives and, in the final two key maps, providing a clear spatial expression of sub Regional priority areas for intervention, according to strategic objectives and the benefits that can be derived from intervention.

From a strategic perspective, the PBRs demonstrates that there is a need to invest in maintaining and improving the existing Green Infrastructure asset base alongside improving those areas where Green Infrastructure has the potential to enhance the quality of life and socio-economic prospects of those who live, work and invest in the sub Region.

³⁴ "Economic Analysis of Forest Policy in England" (2003) CJC Consulting

SHEET 1: INITIAL DATA ENTRY

SECTION 1: In order to assess the potential benefits of the proposed project, we need to establish the characteristics of the area. Please answer the questions below, picking from the drop-down menus.

- Q1 Is the GI project planned to be in an inner city, urban or rural area (or a mix of all)?
 Q2 How good is the existing ecological quality?
 Q3 Is the area contaminated?
 Q4 How attractive is the area to tourists currently? (expand - natural and other tourism)
 Q5 Is the land publicly owned?
 Q6 Is the land publicly accessible?
 Q7 Does the site have heritage value?
 Q8 What is the level of deprivation in the area?
 Q9 Accessibility - is the site currently well connected or remote?
 Q10 Is the site liable to flooding? What is the level of flood risk?

SECTION 2: Please enter some general information about the project.

- Q11 What is the approximate land area the project will cover (in Ha)?
 Q12 How much new green space will be created (in Ha) (include trees, planting etc)?
 Q13 What is the 'shape' of the project? Is it a corridor, a single site or a mix?
 Q14 How many trees will be planted?
 Q15 What length of footpath will be created?
 Q16 What length of cyclepath will be created?
 Q17 What is the estimated start date of the project?
 Q18
 Q19

OTHER - to be added to in line with emerging info requirements from tools.

Now **CLICK HERE** to continue.

Sheet 1 uses scroll boxes from which the project developer will select the most appropriate data entry. These options are described in the box below.

LOOKUP TABLES			
Attribute		Variable	
	Urban or Rural	Inner city	5000
		Urban	2500
		Peri-urban	1000
		Rural	200
		Mixed	1000
	-1 Area of Project (Ha):	<10	
		10 - 50	
		50 -100	
		>100	
		OR INPUT ACTUAL AREA?	
	-2 Shape of Project:	corridor	CORRIDOR
		fragmented	MULTI SITE
		coherent	COHERENT
	-3 Existing ecological quality:	high - intervention to be minimal	HIGH
		medium - some intervention allowable	MEDIUM
		poor - intervention not an issue	LOW
		mixed - some areas to be preserved	MIXED
		ecology not known – some data required	NOT KNOWN
	-4 Landscape character:	See Natural England Joint Character Areas	
	-5 Contaminant levels:	none	NONE
		contamination is present - not polluting	LOW
		contamination is present - need for remediation	HIGH
		contamination level not known	NOT KNOWN
	-6 Soils characteristics:	ph	
		moisture	
		nutrients	
	-7 Planning constraints:	none known	
		Zoned Commercial	
		Zoned Housing	
		Zoned Public openspace	
	-8 Natural Tourism Attributes	high - iconic species/landscape	HIGH
		medium - sub-regionally important	MEDIUM
		low - locally important	LOW
	-12 Ownership	Private	PRIVATE
		Local Authority (or other public body)	PUBLIC
	-9 Access Attributes	Public Access allowed	YES
		No public access	NO
	-10 Cultural/Heritage attributes:	Site has heritage value	YES
		Not known	NOT KNOWN
		None	NO
	-11 Community attributes - deprivation	High levels of multiple deprivation	HIGH
		Medium levels of multiple deprivation	MEDIUM
		Low levels of multiple deprivation	LOW
	-13 Connectivity	Good existing connectivity to adjacent sites	GOOD
		Isolated site	POOR
	-14 Flooding	High risk	HIGH
		Low risk	LOW

SHEET 5.6: Natural Tourism/Recreation

INTRODUCTION

Note that Natural tourism projects envisage that the primary interest for visitors is the attraction of natural landscapes, habitats and species. Outdoor leisure, whether sports (5.7) or education and recreation (5.11) are covered elsewhere.

Natural tourism projects will typically involve investment in (i) habitat and conservation, (including iconic species); (ii) visitor facilities; (iii) access; and (iv) promotion. Natural tourism projects have a broad range of benefits, though the principal economic benefits arise from tourist spend and resulting contribution to the local economy.

Natural tourism/recreation - functions and benefits

The functions that a natural tourism project could perform are listed below. Each of the functions gives rise to potential benefits (economic, [social and environmental]). 'C' indicates a common benefit, 'S' is a specific benefit for a natural tourism project. To estimate these benefits, each function has a valuation tool within this toolbox. In order to estimate the value of the project overall, follow the links to each valuation tool in turn.

When you have finished all sections, look at the Benefit Summary sheet.

GI FUNCTIONS (GENECON)	Benefit REF No.	5.6 Natural tourism, recreation
GI provides a cooling effect, through evapotranspiration	6.3	C
GI can sequester carbon	6.4	C
GI provides opportunities for communities to come together	6.10	S
GI offers opportunities for exercise	6.13	S
GI can help reduce stress levels and improve mental health	6.14	S
GI can offer natural tourism assets	6.20	S
GI underpins and enhances the tourism economy	6.21	S
GI provides opportunities for recreation	6.22	S

Section 5:

Linked to an index of projects and potential benefits, for each project type (in this case, a natural tourism/recreation project) a list of potential GI functions is provided. The project developer clicks on each "benefit reference number" (set up as a hyperlink) to enter further project details against valuation techniques – see next sheet.

6.22 GI Provides Opportunities for Recreation

1. Description of the Approach

GI can enhance access to natural greenspace and also provide the opportunity for informal recreation. Studies have shown that the value attached to such investment by the public will vary across different forms of recreation and will be area specific (Jacobs 2007). The approach to estimating the monetary value is based on understanding of the scale of the intervention (for example KM of cycleways or footpaths) its contextual setting, and recreational use (for example walking, cycling, or fishing). Where there is no market price based on use of the recreational service (for example an entrance fee or permit fee) an appropriate benefit transfer monetary value can be used to provide a proxy for consumer surplus (ie willingness to pay, WTP). A function transfer approach can be adopted where the study being drawn upon has provided details on the WTP function, enabling the transfer value to take account of the specific context (for example socio-economic characteristics of an area). There will also be associated health benefits to consider from this intervention (see health module for guidance).

2. Calculation Tool

GI investment and demand information

How many km of footpaths? or alternatively

Projected level of use by walkers per annum?

How many km of cycle ways? or alternatively

Projected level of use by cyclists per annum?

What other recreational opportunities will be created or enhanced ? (drop down menu of options)

What level of use is projected per annum?

What other recreational opportunities will be created or enhanced ? (drop down menu of options)

What level of use is projected per annum?

Volume	BT value £	Total £s

Key input data

Demand assessment of projected recreational use or density of recreational use estimate

3. Benefit Transfer and Other Key Values

There are a number of key sources that summarise benefit transfer studies. The most significant database is ENRI. However, ENRI has been criticised for not being up to date and therefore there may be recent and ongoing data to draw from that is not captured through this source (see for example Jacobs 2007). Other key sources of information for recreational values include [BAG, BW, FC, Jacobs 2007, etec 2005] The table below shows an extract of BT values from the Jacobs report. The BW economic impact model provides evidence on recreational density (ie number of walkers per km of canal towpath) and this can be useful where there is a match with the proposed investment.

GI typology & study	Valuation method	Monetary values
Forests Willis 1999,	CV	£0.43 to 0.72 per visit
Forests (FC estate), Willis 1991	TCM	£2.20 to 5.40 per visit/£81 per ha
Cycleways (Christie, 2006)	CV (WTP)	£16.37 per visit
Open country side, Hill walking (Bennett, 2003)	CV (WTP)	£1.85 per visit
Forests, Nature watching (Christie, 2006)	CV (WTP)	£8.64 per visit

4. Supporting Research (summary with references)

GI & ecosystem services include assets which make possible informal and formal recreational activity. This includes hill walking, casual walking, freshwater angling, bird watching game shooting, cycling, horse riding, golf, gardening and water sports. The reliance of each activity will vary according to activities. For example, hill walking and angling may differ in their reliance on a healthy ecosystem - however a degradation of the natural environment is likely to have a negative impact on peoples' enjoyment (see Jacobs 2007). British Waterways has long recognised the recreational value gained from its restoration of footpaths, canal waterways and has examined use and non use values associated with its investment (see for example Willis & Garrod, Kennet & Avon Canal 1991 or BW Waterways in Wales Economic Benefits Study 2007). GI has much in common with the recreational activities supported through BW investment programmes - and therefore provides a useful source of evidence.

Section 6:

For each GI benefit (in this case, providing opportunities for recreation) valuation techniques are explained. The 'calculation tool' allows the project developer to input data about their project and then calculate potential benefits using the valuation tools provided.

PROJECT BENEFIT SUMMARY

Based on the information you have input, your project could have the following outputs.

	Output	Public sector benefit (£) (where applicable)
Energy savings (climate regulation)		
Local temperature reduction		
Carbon sequestration (at maturity)		
Cost savings (water/flood risk management)		
Property values		
Occupancy rates		
Air quality improvements		
Water quality improvements		
Exercise - participation rates		
Health - reduced stress levels		
Health - avoided inactivity		
Employment - increase		
Employment - productivity		
Tourism - additional visitor spend		
Recreation - no of users and WTP per annum		
Habitat creation/protection		
Education - visits		
OTHER		

Summary Sheet:

This sheet brings together the information from all of the GI benefit calculations that the project developer has completed in the Toolkit to provide a summary of the economic outputs the project can deliver.

Source	Available funding streams	Details
European Union		
Structural Funds: Competitiveness & Employment Programme	<ul style="list-style-type: none"> European Social Fund (ESF) European Regional Development Fund (ERDF) 	<p>£2m of ESF funding is available until 2011, administered by Government Office North West www.gos.gov.uk/gonw/EuropeanFunding/StructuralFunds0713/640426/</p> <p>£755m available under ERDF via the Northwest Operational Programme which includes 4 priority areas for funding www.erdfnw.co.uk</p> <p>Local Strategic Partnerships in each of the sub regions also provide support to potential ERDF project promoters www.nwda.co.uk/what-we-do/how-we-work.aspx</p>
Rural Development Programme for England 2007 – 2013	<p>Funding streams include:</p> <ul style="list-style-type: none"> Environmental Stewardship (Natural England) Energy Crops Scheme (Natural England) English Woodland Grant Scheme (Forestry Commission) Competitiveness, Quality of Life & Diversification (NWDA) 	<p>England's response to the European Agricultural Fund for Rural Development – background information at www.defra.gov.uk/rural/rdpe/index.htm. Funds include: www.naturalengland.org.uk/ourwork/farming/funding/es/default.aspx www.naturalengland.org.uk/ourwork/farming/funding/ecs/default.aspx www.forestry.gov.uk/northwestengland-grants or www.forestry.gov.uk/ewgs</p> <p>www.nwda.co.uk/areas-of-work/building-communities/rdpe.aspx</p>
Life+	<ul style="list-style-type: none"> Life+ Nature & Biodiversity Life+ Environmental Policy & Governance Life+ Information & Communication 	<p>Provides financial support for projects that contribute to the development and implementation of Community environmental policy and legislation</p> <p>Beta Technology is the UK LIFE+ National Contact Point</p> <p>www.betaeurope.co.uk/life.htm</p>
UK Government Bodies & Agencies		
Natural England	<ul style="list-style-type: none"> Aggregates Levy Sustainability Fund 	<p>Supporting projects that reduce the effects of aggregate extraction on local communities and the natural environment. The current programme runs until 2011 www.naturalengland.org.uk/ourwork/conservation/biodiversity/funding/alsf.aspx (see also English Heritage)</p>
	<ul style="list-style-type: none"> Wetland Vision 	<p>A partnership between the RSPB, the Wildlife Trusts, English Heritage, the Environment Agency and Natural England with £4m available between 2009-2011 in support of landscape-scale wetland projects and the delivery of targets for priority wetland habitats</p> <p>www.naturalengland.org.uk/ourwork/conservation/biodiversity/funding/wetlandvision/default.aspx</p>

Source	Available funding streams	Details
Natural England	<ul style="list-style-type: none"> Access to Nature (part of the BIG Lottery Fund 'Changing Spaces' programme) 	<p>Administered by Natural England to encourage people from all backgrounds to understand, access and enjoy our natural environment.</p> <p>Will close to Stage 1 applications by 1st February 2010</p> <p>www.naturalengland.org.uk/ourwork/enjoying/outdoorsforall/accesstonature/default.aspx</p>
English Heritage	<ul style="list-style-type: none"> Historic Buildings, Monuments and Designed Landscapes 	<p>Grants for the repair and conservation of some of England's most significant historic buildings, monuments and designed landscapes</p> <p>www.english-heritage.org.uk/server/show/nav.1121</p>
	<ul style="list-style-type: none"> Aggregates Levy Sustainability Fund 	<p>Supports projects which aim to reduce the impact of aggregates extraction upon the Historic Environment against funding priorities (see also Natural England)</p> <p>www.english-heritage.org.uk/server/show/nav.1315</p>
Landfill Communities Fund (LCF)	<ul style="list-style-type: none"> ENTRUST 	<p>To create significant environmental benefits and jobs and to undertake projects which improve the lives of communities living near landfill sites. LCF is regulated by ENTRUST but funds are administered via a number of sources, see www.entrust.org.uk/home/lcf/funders-directory</p>
Other National Sources		
Lottery Funding	<ul style="list-style-type: none"> Awards for All 	<p>Part of the BIG Lottery Fund</p> <p>Offers grants of between £300 and £10,000 for projects that improve communities, and the lives of people within them, including projects for 'improved rural and urban environments' and for 'healthier and more active people and communities'</p> <p>www.awardsforall.org.uk/england/index.html</p>
	<ul style="list-style-type: none"> Changing Spaces 	<p>Part of the BIG Lottery Fund</p> <p>Includes 5 programmes: Ecominds, Access to Nature, Community Sustainable Energy Programme, Community Spaces, Local Food</p> <p>www.biglotteryfund.org.uk/northwest/funding-nw/all_open_programmes-nw.htm</p>
	<ul style="list-style-type: none"> Heritage Lottery Fund 	<p>Includes several programmes aimed at sustaining and transforming our heritage, including parks, historic places and the natural environment</p> <p>www.hlf.org.uk/English/HowToApply/OurGrantGivingProgrammes/</p>
Coalfields Regeneration Trust	<ul style="list-style-type: none"> Main Grants Programme 	<p>Funding for projects requesting between £10,000 and £300,000 in coalfield areas that are in the top 30% of the Government Indices of Deprivation. Funds available across 4 themes www.coalfields-regen.org.uk/docs/146.pdf</p>

Source	Available funding streams	Details
Coalfields Regeneration Trust	<ul style="list-style-type: none"> Bridging the Gap 	<p>Targeted at a wide range of projects from community and voluntary organisations that demonstrate a positive impact on people living in coalfield communities. Accepts requests between £500 and £10,000</p> <p>www.coalfields-regen.org.uk/docs/188.pdf</p>
Charitable Trusts	<ul style="list-style-type: none"> Esmee Fairbairn Foundation 	<p>Includes a Main Fund which responds to requests for support across a broad range of interests, including the natural environment</p> <p>Thematic Strands change over time. One of the current thematic strands is biodiversity (supporting practical conservation action and the science which underpins it)</p> <p>www.esmeefairbairn.org.uk/funding/index.html</p>
	<ul style="list-style-type: none"> Tubney Charitable Trust 	<p>Supporting activities that have a long term, sustainable, positive impact on the biodiversity of the UK</p> <p>www.tubney.org.uk/</p>
NHS	<ul style="list-style-type: none"> Primary Care Trusts (PCTs) 	<p>There are 24 Primary Care Trusts in the North West. PCTs work with Local Authorities and other agencies that provide local health and social care services to meet local community treatment needs. Increasingly the PCT's substantial programmes and budgets include measures for improving health and well being through outdoor activities. www.nhs.uk/servicedirectories/Pages/PrimaryCareTrustListing.aspx</p>
	<ul style="list-style-type: none"> Campaign for Greener Healthcare 	<p>The NHS Forest is a major initiative that aims to improve air quality and visual surroundings for staff and patients; to reduce the need for artificial air cooling in buildings and to reduce the organisation's impact on the environment through tree planting on NHS sites and in surrounding areas. www.greenerhealthcare.org/nhs-forest</p>
Other Regional/Local Sources		
Local Authorities	<ul style="list-style-type: none"> Local or Multi Area Agreements Local Public Service Agreements 	<p>Much of the government funding that Local Authorities receive for implementation depends on setting and meeting performance targets via LAAs, MAAs or LPSAs. Funding is usually dedicated to health, education, social and business support services, although there is scope to set green infrastructure in the context of these targets and thus draw down government funding for capital and (sometimes) revenue projects</p> <p>Further information via Local Authority</p>

Source	Available funding streams	Details
Local Authorities	<ul style="list-style-type: none"> Section 106 and Community Infrastructure Levy 	<p><i>Both funds are derived from development, and to Local Authority set priorities of which green infrastructure/environmental measures should be one.</i></p> <p><i>Further information via Local Authority</i></p>
	<ul style="list-style-type: none"> Growth Point Programmes 	<p><i>Growth Point programmes have some allocation of funding for green infrastructure, although this is usually tied to specific interventions and/or a Green Infrastructure Strategy.</i></p> <p><i>Further information via Local Authority or Growth Point Partnerships</i></p>
Local Strategic Partnerships	<ul style="list-style-type: none"> Cheshire & Warrington Economic Alliance The Mersey Partnership Manchester Enterprises Lancashire Economic Partnership Cumbria Vision 	<p><i>Various programmes and funds are available in each sub regional LSP</i></p> <p>www.cwea.org.uk/</p> <p>www.merseyside.org.uk/</p> <p>www.manchester-enterprises.com/</p> <p>www.lancashire-ep.org.uk/</p> <p>www.cumbriavision.co.uk/default.asp?l1=1</p>

The following pages contain descriptions of and links to organisations that may be able to provide help and support in developing project ideas, preparing information for potential funders and providing advice on potential delivery options and outputs.

This is not an exhaustive list, and project developers should also carry out their own research and investigations into potential sources of advice and guidance for project development.

BUSINESS PLANNING

Many funders will require a Business Plan in to support a funding application. A Business Plan should identify any business benefits that will arise from a project. A business plan will need to address cash flow and consequently will need to consider the source of the project, what the project's capital and revenue costs will be, how much income it will make, and how it will be marketed. This should identify how economically sustainable a project will be and what the concomitant risks are. Guidance and advice can be obtained from the North West Business Link site:

<http://www.businesslinknw.co.uk>

FUNDING

Funders will invariably want to see evidence of expenditure, milestones and outputs and will require the maintenance of a very robust audit trail. Funders may also operate within different time frames, for example, the financial year for European programmes runs from January to December. Public funding will certainly be subject to audits and projects can, in theory at least, be made to repay funds if it is not clear that the money has been spent on what it was agreed for, or if correct accounts are not in place.

Potential contributions from the private sector as businesses can be very generous. A good starting point here is to contact Business in the Community (BITC). The charity GreenSpace is a useful source of information on funding. It also has a network of community groups that share best practice and ideas. The two main national funds that will support environmental initiatives are the Big Lottery Fund and the Heritage Lottery Fund.

Useful links include:

- Business in the Community: <http://www.bitc.org.uk>
- GreenSpace: <http://green-space.org.uk/index.php>
- Big Lottery Fund: <http://www.biglotteryfund.org.uk>
- Heritage Lottery Fund: <http://www.hlf.org.uk/English>
- Government Office North West - European funding: <http://www.gos.gov.uk/gonw>

ADVICE AND GUIDANCE

North West Green Infrastructure Unit is operated by the North West's two Community Forests (The Mersey Forest and Red Rose Forest). It was established to provide a support, advice and signposting service for those wanting to implement green infrastructure projects. www.ginw.org.uk

Commission for Architecture and Built Environment (CABE) offers a variety of publications on improving public space. <http://www.cabe.org.uk>

Groundwork Trusts work to improve the quality of the local environment, particularly in areas in need of investment and support. <http://www.groundwork.org.uk>

BCTV is a charity that has been in operation since 1959, and is dedicated to environmental conservation volunteering throughout the UK and around the world. <http://www2.bctv.org.uk/display/home>

Natural England's remit is to conserve and enhance biodiversity, landscapes and wildlife in rural, urban, coastal and marine areas. It is a useful source of research and publications. <http://www.naturalengland.org.uk>

Royal Society for the Protection of Birds (RSPB) is a charity working towards the conservation of birds and the environment. Its website is a useful source of advice on land management. <http://www.rspb.org.uk>

Sustrans is a sustainable transport charity. Its projects are designed to encourage people to walk, cycle or use public transport to reduce the harmful effects of traffic on the environment and improve health. The website is a useful source of free information and research for download. <http://www.sustrans.org.uk>

The Wildlife Trusts work to conserve habitats and species in towns and the countryside. Useful reports and publications are free to download from its website. <http://www.wildlifetrusts.org/>

Northwest Regional Development Agency (NWDA) - You can download copies of the Regional Economic Strategy, the Climate Change Action Plan and the tourism strategy from the NWDA's website. <http://www.nwda.co.uk/publications.aspx>

Government Office for the North West (GONW) - You can obtain a copy of the Regional Spatial Strategy (RSS) from this website. The environment is a strong theme within the strategy, which also includes specific environmental actions and policies. <http://www.gos.gov.uk/gonw>

North West Regional Intelligence Unit (NWRIU) is one of the nine regional intelligence observatories operated by the NWDA. Its regional intelligence network is free to join and allows access to its database of research, which includes environment, natural resources and tourism via its extranet. <http://www.nwriu.co.uk>

The Department for the Environment Food and Rural Affairs (DEFRA) is a good source of research and information which is downloadable from its website. It may even be able to offer your project grant funding if it meets certain criteria. For more information, visit the website. <http://www.defra.gov.uk>

The Environment Agency is a useful source of downloadable research and publications. <http://www.environment-agency.gov.uk>

The Forestry Commission is responsible for the protection and expansion of woodland. It is a useful source of research and information. <http://www.forestry.gov.uk>

Local Authorities make key documents such as Local Area Agreements and Green Space Strategies available for download on their websites.

Produced by:



In association with:

