

# **West Midlands Community Green Infrastructure**

## **Issues and opportunities for Local Nature and Enterprise Partnerships**

Final Report  
September 2013

# Foreword

We recognise green infrastructure as one of our seven priorities where working across sectors and local authority areas will help maximise the positive economic, environmental and social benefits required to deliver our vision that by 2020 businesses and communities are thriving in a West Midlands that is environmentally sustainable and socially just.

However in our annual customer surveys of stakeholders and progress reports at our annual conference this priority has been consistently perceived as making slow progress.

As a result this area has been given more of a focus by our Board and members over the last year. Therefore we have worked with a number of our members, networks, and other organisations to begin to identify the barriers and more importantly practical recommendations for accelerating the delivery of green infrastructure across the 6 Local Enterprise Partnerships (LEPs) and 6 Local Nature Partnerships (LNPs) that cover the West Midlands and its population of over 5 million.

This report draws from a range of local and national research to help inform local and national policy makers on how to promote and deliver green infrastructure. In the West Midlands our intention is to build on the success we have had in other areas such as Green Business Clubs & Energy Managers networks, by setting up a Community Green Infrastructure network to raise the profile, lever in funding, share practice and accelerate action on the ground.

We are grateful for the support of the Midlands Environment Agency, Climate UK, West Midlands Climate Adaptation Partnership and all those that have helped in this research and look forward to working with many of you to drive our findings into action over the next few years.

Dr Simon Slater, Chief Executive, Sustainability West Midlands

## Report information

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## About Sustainability West Midlands

We are the sustainability adviser for the leaders of the West Midlands. We are also the regional sustainability champion body for the West Midlands, designated by government. We are a not-for-profit company that works with our members in the business, public and voluntary sectors. Our role is to act as a catalyst for change through our advice to leaders, to develop practical solutions with our members and share success through our communications.

# Contents

1	Introduction .....	1
1.1	Context.....	1
1.2	Our research and work to promote green Infrastructure .....	2
1.3	Research approach for this report.....	3
1.4	Definition and scope of green infrastructure used for this research .....	4
1.5	The format of the rest of this report.....	4
2	Key barriers to the promotion and delivery of green infrastructure.....	5
2.1	No clear or shared definition of green infrastructure .....	5
2.2	No clear spatial scales used for green infrastructure .....	5
2.3	The perception that green infrastructure does not require active development and management.....	5
2.4	The multiple benefits of green infrastructure can mean there is no clear customer and therefore funder .....	5
2.5	Unrealistic benefits and outcomes from green infrastructure .....	6
2.6	Often the economic and social case may not be strong enough.....	6
2.7	Green infrastructure is often seen as a permanent solution so temporary opportunities are lost.....	6
2.8	The benefits of green infrastructure are often poorly communicated to users and potential funders .....	7
3	Recommendations to promote green infrastructure across the West Midlands.....	8
3.1	Clear working definition of green infrastructure for the West Midlands.....	8
3.2	Clear spatial scale for green infrastructure for the West Midlands .....	8
3.3	To achieve results green infrastructure requires active development and management .....	9
3.4	Establish a clear hierarchy of purpose and outcomes from green infrastructure for the West Midlands .....	9
3.5	Realistic benefits and outcomes from green infrastructure for the West Midlands.....	10
3.6	Be prepared to find other funders and supporters if the economic and social case is not strong enough .....	10
3.7	Promote the temporary benefits of green infrastructure as a dynamic solution growing overall net benefits for the community.....	11
3.8	Communicate the benefits clearly and regularly to users and funders of green infrastructure for the West Midlands .....	11
3.9	Use existing opportunities to implement green infrastructure.....	12
3.10	Create opportunities to scale up the implementation of Green Infrastructure in the West Midlands .....	13
	Annex 1: Review of green infrastructure strategies in the West Midlands.....	15
	Annex 2: Potential sources of funding for green infrastructure strategies in the West Midlands.....	18
	Annex 3: Summary of literature review of primary economic and social benefits of green infrastructure .....	19

# 1 Introduction

This report is for policy officers and project developers working for or with their Local Enterprise and Local Nature Partnerships on creating green infrastructure strategies or projects.

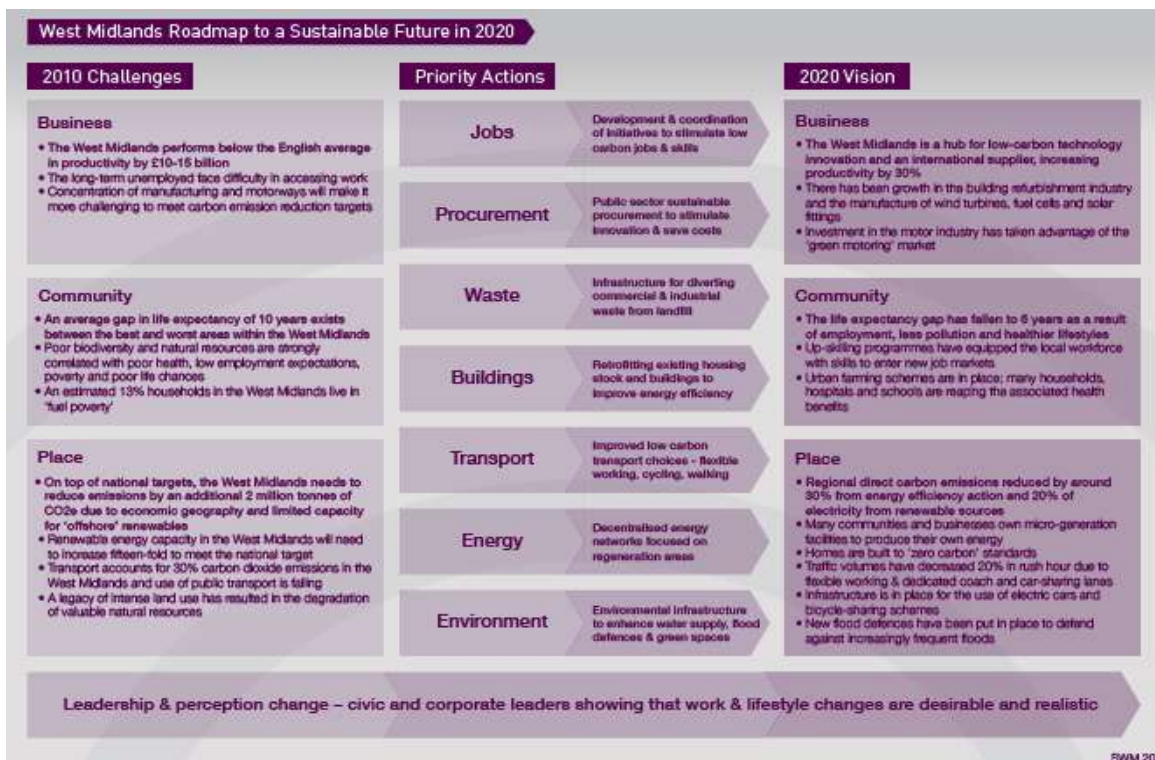
The aim of this report is to provide:

- The current barriers to progress and recommendations to overcome these through the use of existing good practice, funding opportunities, and future relevant joint working between LEPs and LNPs.
- A summary of the current green infrastructure strategies in place across the 6 Local Nature and Enterprise Partnerships in the area.
- A synthesis of the benefits of green infrastructure that can be used when assessing and developing investment strategies and projects in the West Midlands.

## 1.1 Context

The West Midlands has led the way in producing the UK’s first low carbon economic strategy. The policy, research and momentum behind this has been built on over the last few years to produce a vision of a more sustainable region in 2020 and the priorities to get there. Sustainability West Midlands conducts an annual survey and reports progress at our annual conference. We are currently the only UK region that has a vision and plan for a more sustainable future that is regularly monitored and reported on.

### Summary West Midlands Roadmap to a Sustainable Future in 2020



We recognise green infrastructure as one of our seven priorities where working across sectors and local authority areas will help maximise the positive economic, environmental and social benefits required to deliver our vision that by 2020 businesses and communities are thriving in a West Midlands that is environmentally sustainable and socially just.

However in our annual customer surveys of stakeholders and progress reports at our annual conference this priority has been consistently perceived as making slow progress.

### Extract from review of progress towards an environmentally and socially just West Midlands (November 2012)

Sustainability Priority	Perception of progress 'Very well or well' SWM annual customer survey		Results of the interviews with SWM members and stakeholders		
	Results from the survey in 2011	Results from the survey in 2012	% of stakeholders who perceived they had the ability to influence the priority.	% of stakeholders who perceived this priority to be the least coordinated.	Other issues identified
<b>Environmental infrastructure to enhance water supply, flood defenses and green spaces</b>	44%	48%	9%	11%	<p>This priority was perceived by most stakeholders as one of the more poorly coordinated priorities. It is too early to tell whether Local Nature Partnerships will help.</p> <p>This is a complex area that requires the natural environment sector to jointly sell clear benefits to others.</p> <p>There is a requirement for implementation through most organisations' own operations or clearly coordinated area base action e.g. river corridors.</p>

As a result this area has been given more of a focus by our Board and members over the last year and targets built into our current two year business plan to help support at least one joint green infrastructure project between a Local Nature Partnership and Local Economic Partnership to deliver economic, social and environmental benefits.

## 1.2 Our research and work to promote green Infrastructure

We are currently seeking to achieve our target of promoting green infrastructure in the West Midlands through potential joint projects with LEs and LNs by working with our members and networks in a number of ways.

Nationally through Climate UK and the West Midlands Climate Adaptation Partnership we have helped inform the development of the natural environment theme within the Government National Adaptation Programme (NAP). This has included:

- Producing a video of local stakeholders and their views on the importance of green infrastructure and climate adaptation to be used in national consultation events (SWM website – Climate Change Adaptation and Environmental Infrastructure – A West Midlands Perspective).
- A review of current good practice and case studies produced over the last 10 years by the different regions of the UK on green infrastructure and adaptation (SWM website – Catalogue of Resources from Climate UK).
- Recognition of the West Midlands as a national pilot area within the NAP to use the focus of green infrastructure to develop a joint project between a Local Nature Partnership and Economic Partnership (See NAP – Natural Environment, Objective 2, p118).

- Successfully developed a national EU funding proposal to enhance local climate adaptation support, including the development of green infrastructure.

Locally through our members, our Low Carbon Local Enterprise Partnership Leadership Group and the support of the Environment Agency we have developed our evidence and thinking around the role of green infrastructure. This has included:

- A ‘Sustainable Supper’ discussion group with our members on the role of green infrastructure (SWM Website – How can West Midlands leaders integrate the natural environment and biodiversity into their work, both from a policy and practical point of view?).
- Developing the role of green infrastructure within the wider Local Authority role on the water environment (SWM Website - Local Authority Services and the Water Environment Advice Note).
- Building green infrastructure into our low carbon economy checklist and benchmarking tool for assessing LEPs good practice (SWM website – How Green is Your LEP?).
- Establishing and chairing a cross-LEP EU funding group to examine opportunities for joint LEP projects that included green infrastructure.
- Holding one of the UK’s first local joint LEP and LNP events where we explored opportunities to work together and pilot the support on offer from Natural England with their Local Environment and Economic Development (LEED) tool. (SWM website – 16 July 2013 LNP and LEP event).
- A desk based literature review of the benefits of green infrastructure and the current green infrastructure strategies in the West Midlands (See annexes of this report).
- Attending a West Midlands LNP coordinators group and gaining the views on green infrastructure over the last year with representatives from LNPs, LEPs, members of the national Green Infrastructure Partnership, and our members from the private, public and voluntary sector.

### **1.3 Research approach for this report**

This report seeks to use our research and activity to date to set out the key issues and opportunities to promoting green infrastructure for Local Nature and Economic Partnerships in the West Midlands.

This supports the action within the NAP to help pilot opportunities within the West Midlands on joint projects on green infrastructure between Local Nature and Economic Partnerships.

The scope of this research was not to be technical or detailed, but a set of practical recommendations to help accelerate joint action in the West Midlands, especially in finding a way to bridge the economic and natural environment professions and agendas.

To achieve this we:

- Reviewed our current national and local research and activity on this topic to date (see previous section 1.2).
- Conducted a desk based literature review of the benefits of green infrastructure and the current green infrastructure strategies in the West Midlands (see annexes of this report).
- Developed a set of recommendations to help local and national policy makers and LEPs and LNPs promote and deliver green infrastructure in the West Midlands (see section 3 of the report).

## 1.4 Definition and scope of green infrastructure used for this research

Green infrastructure as defined by the West Midlands Green Infrastructure Prospectus is:

*“The network of green spaces and natural elements that intersperse and connect our cities, towns and villages.”<sup>1</sup>*

*“For the West Midlands, a land locked region of both urban and rural environments, green infrastructure relates to the open spaces, waterways, gardens, woodlands, green corridors, wildlife habitats, street trees, natural heritage and open countryside. Developing green infrastructure can involve landscape improvements in urban areas, or creating green spaces for biodiversity and recreation”.*

The importance of definition will be discussed in more detail later. For the purpose of this research we developed the following definition which was more focused:

### **The West Midlands working definition of Green Infrastructure is - *Community Green Infrastructure***

Community Green Infrastructure is clearly defined areas of land that are within or next to areas containing residential or business use which through active development and management of green space and water courses can deliver primarily economic and social benefits, and secondary environmental benefits.

These areas can include: water courses, green spaces and roofs, parks, highway verges, the grounds of businesses and other organisations, and private gardens.

We also recognise the broader contribution Green Infrastructure and Eco-Systems services is making to the use and function of land use and natural resources that provides the foundations of the natural systems that support our world. Community Green Infrastructure may deliver some of these wider outcomes, but it is not its primary purpose.

(SWM June 2013)

## 1.5 The format of the rest of this report

Section 2 sets out the key barriers and issues identified through the research when promoting green infrastructure. Then drawing from the research section 3 sets out a series of recommendations to address these barriers and promote green infrastructure in the West Midlands.

The annexes cover detailed information such as a review of the status of current green infrastructure strategies in the West Midlands, potential funding sources, and the literature review.

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<sup>1</sup> West Midlands Regional Assembly (2007) Green Infrastructure for the West Midlands Region

## 2 Key barriers to the promotion and delivery of green infrastructure

Our research has identified a series of common barriers to the promotion of green infrastructure in the West Midlands and nationally. These are briefly described in this section and then addressed later by our recommendations.

### 2.1 No clear or shared definition of green infrastructure

*“If my own profession in the natural environment can’t agree on a common definition on green infrastructure, what hope do we have in influencing others” LNP representative*

The research and interviews indicated there was no clear or shared definition of green infrastructure nationally or within the West Midlands. This is a key barrier when it comes to communicating, influencing or working with others.

*“The test for eco-systems services is will anyone be willing to pay? So far the only ones I can see are the water companies, not the wider business or economic development community” SWM business member*

The development of the concept of ‘eco-systems’ services although satisfying in terms of the theory and importance of natural systems was felt by many to not have helped to sell the benefits of green infrastructure in terms of other funders and added more confusion around definitions.

### 2.2 No clear spatial scales used for green infrastructure

*“The concept is too broad, it ranges from landscape to private gardens. This makes any consensus or joint action difficult and leads to a myriad of working groups and organisations going nowhere” Green Infrastructure Partnership representative*

Linked to the lack of clear definition the different spatial scales used for green infrastructure can vary greatly from local water courses, green spaces and roofs, parks, highway verges, the grounds of businesses and other organisations, and private gardens to agriculture, forestry, minerals and many statutory designations such as AONBs and National Parks.

This lack of spatial focus together with the different definitions also acts as a barrier to selling the concept of green infrastructure.

### 2.3 The perception that green infrastructure does not require active development and management

*“Green infrastructure is just a posh name for the uncut grass between development sites” LEP representative*

Compared to the built environment, green infrastructure often doesn’t require the same degree of development and management, however it does still need some form of management. As a result green infrastructure is often poorly developed and maintained, the promised benefits not fully realised, and this then undermines support for future projects and schemes.

### 2.4 The multiple benefits of green infrastructure can mean there is no clear customer and therefore funder

*“We all recognise parks can deliver great benefits to a range of people from the police, to health, house prices, and inward investment, but the local authority has to pick up the bill” Local Authority representative.*

The very strength of green infrastructure of having multiple benefits, can also become a barrier when it is not clear who benefits the most and therefore should fund and support green infrastructure projects.

## 2.5 Unrealistic benefits and outcomes from green infrastructure

*“Our gut feeling is that the natural environment is a good thing, but we need to be honest sometimes our level of understanding is lacking due to either too much or not enough evidence” SWM member*

Our summary literature review has identified the varied evidence used to justify the benefits and outcomes of green infrastructure. This can often lead to the concept being difficult to value, either over or undersold, and difficult to find a paying customer for.

For example we would not recommend using the following for evidence

- The eco-systems function that the land provides unless there is a clear ‘paying customer’. In our research these ‘paying’ customers appear to be limited to water organisations. For example the Environment Agency wishing to promote the creation and use of a flood plain rather than more expensive concrete defences, or a water company wishing to reduce its costs from local surface water flooding through the use of sustainable urban drainage. There may also be a future market in local business carbon sequestration schemes linked to local woodland employment schemes. However unless there is a clear paying customer this approach can be a distraction from other benefits and funding.
- Direct employment figures of the green economy. In the past to raise the importance of the green economy employment and economic figures have often been used which often group large and diverse groups together which are often only partially supported by a high quality local natural environment, such as tourism, land based industries, and regeneration training programmes. Therefore green infrastructure, like any infrastructure does have some employment benefit during construction, this does tail off for management and maintenance. The bigger benefits are the impact it has on the economic and social performance of local businesses and communities.
- Generation of bio-energy. This area is complex and developing with the technology. It is dependent on a clear demand or end user, and securing an appropriate supply chain either through commercial crops, managed woodland, commercial and domestic organic waste, or a mixture of all of these. Given the small scale nature of community green infrastructure this is currently unlikely to provide such a supply chain. In the future if the technology requires less feed stock community green infrastructure could be covered by a range of ‘bio-fuel’ purchase agreements.

## 2.6 Often the economic and social case may not be strong enough

*“Despite the economic modelling and business case for natural assets improvements, we struggled to meet the funding requirements for public benefit return on investment “ SWM member*

The danger of relying on funding for green infrastructure on a business case approach is that when it is valued, it may still not deliver ‘value for money’ compared to other interventions based on economic modelling. Therefore an over reliance on this approach may not help when competing with other types of infrastructure investment.

## 2.7 Green infrastructure is often seen as a permanent solution so temporary opportunities are lost

*“There has been a site standing derelict for years waiting for a mystery developer, if we could have used it until now a generation of local children would have had a place to play” LNP representative*

Green infrastructure is often being seen as a permanent solution that could act as a block on future development. Therefore the temporary opportunities to 'green' a derelict site and the benefits this will bring prior to redevelopment are often lost.

## **2.8 The benefits of green infrastructure are often poorly communicated to users and potential funders**

*We are use to looking at Ofsted reports for our schools, energy performance certificates for our houses and buildings, but when I walk through my local park or go to visit a local woodland how do I know how it is performing? SWM member*

Green infrastructure is often perceived as having a low profile compared to other infrastructure and therefore this acts to a barrier to attracting funding for future projects.

### 3 Recommendations to promote green infrastructure across the West Midlands

From our research it is possible to identify a series of recommendations that would help SWM, our members and our partners to promote, fund, deliver and achieve the outcomes we want from green infrastructure, and therefore contribute to our vision that by 2020 businesses and communities are thriving in a West Midlands that is environmentally sustainable and socially just.

#### 3.1 Clear working definition of green infrastructure for the West Midlands

To overcome the barrier of different definitions and understanding of green infrastructure and the concepts such as eco-systems services we recommend an agreed working definition to be used by SWM, Local Nature Partnerships, and partners involved in delivery in the West Midlands.

We don't believe we will be able to get national consensus or able to wait for this. However in the past the West Midlands produced one of the first working definitions of the low carbon economy which is still being used today to help promote the understanding of the outcome on the whole economy with practical project level outcomes around economic productivity and carbon reduction. In the same way we believe we should repeat this for green infrastructure.

We hope our suggested definition helps by addressing a number of other barriers identified by our research such as the unclear primary purpose of green infrastructure, spatial scale, and the need to differentiate between a practical concept and a wider national and international debate.

#### **The West Midlands working definition of Green Infrastructure is - *Community Green Infrastructure***

Community Green Infrastructure is clearly defined areas of land that are within or next to areas containing residential or business use which through active development and management of green space and water courses can deliver primarily economic and social benefits, and secondary environmental benefits.

These areas can include: water courses, green spaces and roofs, parks, highway verges, the grounds of businesses and other organisations, and private gardens.

We also recognise the broader contribution Green Infrastructure and Eco-Systems services is making to the use and function of land use and natural resources that provides the foundations of the natural systems that support our world. Community Green Infrastructure may deliver some of these wider outcomes, but it is not its primary purpose.

(SWM June 2013)

#### 3.2 Clear spatial scale for green infrastructure for the West Midlands

To overcome the barrier of different areas of scale that are used when describing and selling green infrastructure, from private gardens to areas of landscape and all land use, we propose a more defined spatial scale.

This means that within our suggested working definition of ***Community Green Infrastructure*** we propose the scale should be clearly defined areas of land that are within or next to areas containing residential or business use. These areas can include: water courses, green spaces and roofs, parks, highway verges, the grounds of businesses and other organisations, and private gardens.

By keeping it focused on specific land use areas related to residential and businesses uses this will help sell the clear benefits of community green infrastructure and help attract funding for focused projects.

However there may still need to be some further work defining a standard unit that can be used on small areas of land such as private gardens and then scaled up for larger areas or used to capture the accumulated benefits of small scale interventions within an area.

This proposed specific focus also helps to make a clear distinction with the wider green infrastructure, landscape and eco-systems services approaches which lend themselves to much larger land use changes, often in upland catchments and away from residential and business areas. These larger often more rural areas cover activities such as agriculture, forestry, minerals and many statutory designations such as AONBs and National Parks.

### **3.3 To achieve results green infrastructure requires active development and management**

To overcome the barrier of the perception that green infrastructure is just land that is left to nature and therefore doesn't require development or management we are proposing that active development and management is recognised.

This means that within our suggested working definition of ***Community Green Infrastructure*** we propose the areas should be actively developed and managed.

To put it on par with other infrastructure investment, we need to ensure that green infrastructure is recognised as an activity that requires development and management to achieve the intended outcomes. Although once developed the space may require less management and maintenance than the local highways network, it will still need management to ensure the agreed benefits are achieved. If it was related to conservation training, will the site and neighbouring sites provide enough training opportunities for the local employment programmes? If it is being used to provide a local wood fuel supply chain for a rural off gas grid business – is there enough to maintain a sustainable supply? To encourage recreation and health benefits are there support schemes around safety, GP referrals, walking groups and Children Centres and schools to ensure the space is used by the people it is intended for?

The emerging concept of bio-diversity offsetting where development has to replace habitat that it is removing could prove useful to support the case that green infrastructure is a development issue.

The other consequence of this approach to green infrastructure is that environmental bodies and partners will have to recognise that like all infrastructure that is developed and managed, with reduced resources clear prioritisation will be required on which areas to develop and which areas to continue to manage to deliver the benefits.

In the same way we are seeing public bodies rationalising the type of buildings they need to keep and maintain to deliver key services, the same may be required of bodies supporting the development and management of community green infrastructure.

### **3.4 Establish a clear hierarchy of purpose and outcomes from green infrastructure for the West Midlands**

To overcome the barrier of green infrastructure having multiple benefits which can make it difficult to sell or monitor we are proposing a clear hierarchy of purpose and outcomes.

This means that within our suggested working definition of ***Community Green Infrastructure*** we propose that this should deliver primarily economic and social benefits, and secondary environmental benefits.

This should help with the active development and management of areas which will prioritise the economic and social benefits. By having a clearer primary purpose this should make it easier to seek funding and measure the results and modify the management and use of the land if required.

This does not mean there shouldn't be environmental benefits, but these should be secondary. For example if the primary purpose of green space next to a road is to shelter neighbouring houses from the noise and provide an attractive image for visitors and investors to the area then the tree planting should predominantly reflect the most effective mixture of year round cover and colour, not the best mixture for bio-diversity. Therefore unless biodiversity can be incorporated within the scheme, this could be achieved in other neighbouring green spaces that have a more primary recreation purpose.

Another example is in urban parks or off-road cycle routes where the primary purpose will be to encourage use. Often to achieve this the perception of crime and safety will need to be addressed which again may influence the planting and layout and put other environmental considerations as secondary.

We realise that what we have described is already good practice in many areas. However we believe that making this explicit would help with seeking funding and working with non-environmental partners. It should also increase the understanding and importance of achieving wider bio-diversity goals by being explicit that these can only be achieved partially through community green infrastructure and other investment is required locally where this is the primary goal, such as local nature reserves.

### **3.5 Realistic benefits and outcomes from green infrastructure for the West Midlands**

To overcome the barrier of green infrastructure often being difficult to value, either over or undersold, and difficult to find a paying customer for, we have proposed the more focused definition of Green Community Infrastructure.

However in seeking to estimate the economic and social benefits for this we recommend the following:

- Using the evidence that relates to the direct intervention e.g. evidence suggests improved image of the area through a view of trees or park equals a 5% increase in property values.
- Be clear about the assumptions to ensure the benefits are achieved e.g. does the park have to be well managed? Does there have to be a certain increase on the baseline of existing trees to achieve this?

The examples above and in the annex with the literature review are also tangible examples that a Business Improvement District or Community group could successfully secure local support and funding for.

This more realistic approach to benefits and outcomes will hopefully help community green infrastructure projects find funders and building credibility with other funders and the economic development community.

### **3.6 Be prepared to find other funders and supporters if the economic and social case is not strong enough**

To overcome the barrier of green infrastructure which when it is valued, still may not deliver 'value for money' compared to other interventions based on economic modelling, we suggest being prepared to find other funders and supporters.

For example the improvement of a local woodland near an area of high regeneration and social need may not score so highly as a local economic investment such as a new school building or improved access road to a local industrial estate. However there could still be other options to explore such as:

- Ensuring the verges of the new access road and redevelopment of the school grounds contain some community green infrastructure.
- See if there is an environmental justice case if the community has a below average access to green space compared to other more affluent communities. However like eco-systems services, the use of environmental justice as a concept can be just as difficult to find a paying customer.

- Is this a project that can gather genuine local support from a range of business and community groups with the offer of in-kind benefits that could be used to attract other types of funding.

We recognise that what we are describing is good practice in many areas, but without a realistic approach to the selling of the economic and social benefits of green infrastructure, there is a danger that there will be an over-reliance on building the perfect economic business case, rather than one of many tools to use to get the job done.

Even when the case is strong enough there may be other factors that need to be overcome, such as the mixed track record of the proposed delivery body, or the need for a local councillor or local cross-party support to act as champions.

### **3.7 Promote the temporary benefits of green infrastructure as a dynamic solution growing overall net benefits for the community**

To overcome the barrier of green infrastructure often being seen as a permanent solution that could act as a block on future development, we propose that it should be promoted as a more dynamic solution that can bring valuable temporary benefits as well as longer lasting outcomes.

For example many areas often have derelict or vacant sites waiting for the inward investor that has never come. In the meantime the local community has had to endure an empty site acting as blight on the area. One of the ways to overcome this is enter into a nominal rental agreement with a local organisation to help maintain and look after the site for temporary public benefit. This could include some landscaping around the edges of the site that would be retained when developed. This may of course help to improve the future attractiveness of the site, while providing temporary enhanced local benefit. Care would have to be taken with signage on the site to promote the site owners generosity and that this was a temporary arrangement, even if it lasted years.

Also as development patterns and needs changes, there should be the willingness to develop on and move local community green infrastructure to different sites locally, as long as the overall net benefits to the area continue to increase.

### **3.8 Communicate the benefits clearly and regularly to users and funders of green infrastructure for the West Midlands**

To overcome the barrier of green infrastructure often having a low profile compared to other infrastructure, we are proposing several ways to help raise the understanding of the important benefits it brings. This is partly helped by our proposed definition of community green infrastructure having a clear set of local benefits. Other actions are described below.

#### **Reminding the users of the benefits and to raise expectations of those managing community green infrastructure**

One way could be producing an annual independently assessed community Green Infrastructure Certificate in a similar way Energy Performance Certificates are produced for public buildings.

For sites over a certain size and publically owned there could be a requirement to put up a sign in a publicly visible place, such as the entrance to the site, stating the key economic, social and environmental benefits the site has contributed to, and how this compares to the average expectations from similar sites.

This can be done annually by linking to a local college or university to conduct the research and the results also logged on appropriate website maps.

This approach would have to be piloted to ensure it was practicable, cost effective, and integrated and complimented more amenity style certificates such as the 'Green Flag' for parks.

The benefits of this approach mean that:

- Users of their local community green infrastructure are reminded every time they use it or go pass the site how valuable it is to their community
- This enables the local community to put pressure on or help the local management of the space to improve the performance and expected benefits it should be producing locally
- It provides the basis to provide an annual report and thank you to funders and supporters of the local community green infrastructure.

### **Provide some form of benchmarking for local authority performance to help keep the role of community green infrastructure on the agenda**

At a time of intense pressure on local authority resources this may not be the most popular suggestion. However our experience on benchmarking work with local authorities and particularly businesses indicates that if it is a clear process that uses existing information and helps improve your organisation performance and outcomes then it can become a useful and welcomed tool to focus activity in important but poorly defined areas of activity.

An example of a benchmark process could follow a similar process as the former national climate adaptation indicator. Therefore it could have a range of criteria:

- Level 0 – No plan or strategic approach to developing and managing community green infrastructure
- Level 1 – Developing a plan.
- Level 2 – Community green infrastructure plan in place
- Level 3 – Annual monitored community green infrastructure plan and corrective actions being taken
- Level 4 – Annual monitored community green infrastructure plan and achieving a growth in net benefits

The Defra family of organisations could agree to implement and monitor this benchmark, publish an annual league table, and use this to identify and promote good practice and target resources or encourage peer to peer support.

The West Midland could pilot this approach on behalf of Defra nationally.

### **3.9 Use existing opportunities to implement green infrastructure in the West Midlands**

There are a range of existing opportunities that could be used to implement community green infrastructure in the West Midlands. These are described below.

#### **Updating existing local authority contracts when they come up for review**

For example several of our business members who are delivering highways maintenance contracts across the country are surprised by the variation in specification on whether verges, adjoining green spaces and street trees are within contracts or not. They could be quite easily added for little or no extra cost compared to funding a different service and provider. Also in an increasingly competitive market local authorities should be able to reasonably push for additional added value from contracts, such as active management of some local community green infrastructure.

Even within existing contracts of grounds maintenance, by changing the time, type and direction of the mowing you can improve local environmental benefits.

### **Use the focus of Local Enterprise Partnership development sites to help create opportunities and build relationships**

From our research as soon as green infrastructure was able to be linked to a potential development site this helped to create opportunities and build relationships. For example in the conversations with partners on the Coventry Gateway site about biodiversity offsetting this has led to a practical appreciation of the value of the local environment and the cost benefit of retaining as much on or around the site. In Worcestershire a wider infrastructure plan has included green infrastructure and this is being explored in relation to strategic investment sites to see if additional 'greening' in and around the approaches to the site would be beneficial. Stoke on Trent has had a long history of investing in green infrastructure on key approach roads and in large scale area redevelopment.

### **Environmental bodies to lead by example by conducting sustainability appraisals of their own business plans to ensure that their own investment in green infrastructure maximises local economic and social benefits**

In the past economic development bodies and organisations have been expected to conduct sustainability appraisals of their economic investment to maximise additional environmental and social benefits. When these bodies have asked environmental organisations to go through the same process to maximise the local economic and social benefits from their own environmental investment there has often been refusal on the grounds that 'we only do the environmental bit of sustainability'. Obviously environmental organisations and agencies do have important statutory and civic roles and functions. However to help promote green infrastructure it would be helpful to show where possible environmental bodies were seeking to provide additional local economic and social benefits, and using green infrastructure as a key way of achieving this.

## **3.10 Create opportunities to scale up the implementation of Green Infrastructure in the West Midlands**

One of the most simple steps to help creating opportunities to scale up the implementation of green infrastructure in the West Midlands is to create an independent West Midlands Green Community Infrastructure Network.

In our experience of running independent, cross-sector and different topic focused networks in the West Midlands, these can deliver real change. They require a clear focus, realistic annual work plan, a business like chair, sector support from at least three or more willing organisations, and a small amount of funding for a third party to provide a simple web presence and discrete secretariat and business development support.

The proposed network would have to two key aims.

Aim one - lever in extra resources by:

- Piloting, testing and reporting back on any new approaches for promoting community green infrastructure in partnership with local, national and international research and education institutes.
- Provide a platform and profile for West Midlands champions of community green infrastructure for national funding from key agencies seeking to pilot or buy key outcomes with limited resources. For example the West Midlands Sustainable Development Officers network provided an easier way for the Carbon Trust to offer its national school support programme. As a result the West Midlands received 25% of the UK funding.
- Provide a mechanism to develop and manage joint projects funded and delivered across more than one LNP and LEP area to help achieve economies of scale for local delivery. For example running a common

assessment and reporting process to maximise the benefit of local green infrastructure investment, transport corridor 'greening' across the region, pooling of training facilities and expertise to support local employment through conservation programmes.

Aim two - promote good practice by:

- Help to benchmark the annual performance of local authorities and partners on community green infrastructure.
- Provide peer support to those seeking to learn from others in the network e.g. lessons in the development of Worcestershire CC and Birmingham City Council Green Infrastructure Strategies.
- Write up and promote case studies and good practice through one annual event a year, agree next annual work plan priorities, and report back overall progress on this West Midlands Sustainability priority at the SWM annual conference.

## Annex 1: Review of green infrastructure strategies in the West Midlands

Current status of green infrastructure strategies in the West Midlands (Summer 2013)

Local Nature Partnership	Strategic Level Local Authorities (Unitary & County)	Green Infrastructure Strategies in Place (name, date, author, status, web link)	Opportunities identified for joint projects with LEPs - improving land where there will be high multiple and economic benefits – e.g. key investment sites or
<p>Birmingham and Black Country</p> <p>Chris Parry chris.p@bbcwildlife.org.uk</p> <p><a href="http://www.bbcwildlife.org.uk/LNP">http://www.bbcwildlife.org.uk/LNP</a></p>	<p>Birmingham, Dudley, Wolverhampton, Walsall, Sandwell</p> <p>(Part of Black County LEP &amp; Part of Greater Birmingham and Solihull LEP)</p>	<p>The Draft Green Living Spaces Strategy (formerly titled Green Infrastructure Strategy) – consultation ended February 2013 <a href="http://www.birmingham.gov.uk/greenlivingspaces">http://www.birmingham.gov.uk/greenlivingspaces</a></p> <p>The Economic Value of Green Infrastructure in Birmingham and the Black County - 2011 <a href="http://www.bbcwildlife.org.uk/valuing-green-infrastructure">http://www.bbcwildlife.org.uk/valuing-green-infrastructure</a></p> <p>Birmingham Draft Green Infrastructure – Case Study <a href="http://www.sustainabilitywestmidlands.org.uk/resources/good-practice/?/Birmingham's+Draft+Green+Infrastructure+Strategy+including+the+Ecosystem+Services+Evaluation+of+the+Green+Infrastructure/2369">http://www.sustainabilitywestmidlands.org.uk/resources/good-practice/?/Birmingham's+Draft+Green+Infrastructure+Strategy+including+the+Ecosystem+Services+Evaluation+of+the+Green+Infrastructure/2369</a></p> <p>Black Country Case Study example <a href="http://www.opengreenspace.com/wp-content/uploads/2010/12/Celeste-Morgan1.pdf">http://www.opengreenspace.com/wp-content/uploads/2010/12/Celeste-Morgan1.pdf</a></p>	<p>Exploring using Birmingham University &amp; City Council evidence and model developed for Green Living Spaces Strategy to help prioritise green infrastructure investment that will help LEP sites such as Longbridge.</p>
<p>Herefordshire</p> <p>Rob Garner <a href="mailto:rob4sd@hotmail.com">rob4sd@hotmail.com</a></p>	<p>Herefordshire (Part of Marches LEP)</p>	<p>Herefordshire Green Infrastructure Strategy (Local Development Framework)– February 2010 <a href="https://www.herefordshire.gov.uk/media/268530/Herefordshire_green_infrastructure_strategy.pdf">https://www.herefordshire.gov.uk/media/268530/Herefordshire_green_infrastructure_strategy.pdf</a></p>	<p>As part of Marches LEP exploring the use of the Natural England LEED tool to help identify natural environment and economic</p>

Local Nature Partnership	Strategic Level Local Authorities (Unitary & County)	Green Infrastructure Strategies in Place (name, date, author, status, web link)	Opportunities identified for joint projects with LEPs - improving land where there will be high multiple and economic benefits – e.g. key investment sites or opportunities.
<a href="http://www.herefordshirenewleaf.org.uk/local-nature-partnerships">http://www.herefordshirenewleaf.org.uk/local-nature-partnerships</a>			
Shropshire and Telford & Wrekin  Dan Wrench <a href="mailto:Dan.wrench@shropshire.gov.uk">Dan.wrench@shropshire.gov.uk</a>  <a href="http://www.shropshire.gov.uk/environment.nsf/open/DAADB20E76AABB79802579F900475437">http://www.shropshire.gov.uk/environment.nsf/open/DAADB20E76AABB79802579F900475437</a>	Shropshire and Telford & Wrekin (Part of Marches)	Telford and Wrekin <a href="#">Green Infrastructure Framework</a> -2012  Shropshire Wildlife Trust Proposed Environment networks and sites <a href="http://www.shropshirewildlifetrust.org.uk/Planning%20applications/Samdev%20comments">http://www.shropshirewildlifetrust.org.uk/Planning%20applications/Samdev%20comments</a>  Not clear if Shropshire wide one?	As part of Marches LEP exploring the use of the Natural England LEED tool to help identify natural environment and economic opportunities.
Staffordshire  Sue Lawley <a href="mailto:s.lawley@staffs-wildlife.org.uk">s.lawley@staffs-wildlife.org.uk</a>  Note no website	Staffordshire and Stoke on Trent  (Staffordshire and Stoke on Trent)	Stafford Borough Council – Green Infrastructure Strategy November 2009 <a href="http://www.staffordbc.gov.uk/green-infrastructure-strategy">http://www.staffordbc.gov.uk/green-infrastructure-strategy</a>  East Staffordshire Council – Green Infrastructure Study – March 2008 <a href="http://www.eaststaffsbc.gov.uk/Services/Green%20Infrastructure%20Study/East%20Staffordshire%20GI%20Study.pdf">http://www.eaststaffsbc.gov.uk/Services/Green%20Infrastructure%20Study/East%20Staffordshire%20GI%20Study.pdf</a>  East Staffordshire Council – Partner in Green Infrastructure Study with National Forest - 2008 <a href="http://www.nationalforest.org/document/research/RN5_Green_infrastructure.pdf">http://www.nationalforest.org/document/research/RN5_Green_infrastructure.pdf</a>	Study currently underway into eco-systems services based on Birmingham study methodology and due to be finished in late 2013.
Warwickshire	Warwickshire and Coventry	Warwickshire, Coventry and Solihull Green Infrastructure Strategy	Close working with LEP over

Local Nature Partnership	Strategic Level Local Authorities (Unitary & County)	Green Infrastructure Strategies in Place (name, date, author, status, web link)	Opportunities identified for joint projects with LEPs - improving land where there will be high multiple and economic benefits – e.g. key investment sites or
<p>Gina Rowe  <a href="mailto:Gina.Rowe@wkw.org.uk">Gina.Rowe@wkw.org.uk</a>  <a href="http://www.warwickshirewildlife.org.uk/local-nature-partnership">http://www.warwickshirewildlife.org.uk/local-nature-partnership</a></p>	<p>&amp; Solihull            (Warwickshire and Coventry LEP &amp; part of Greater Birmingham and Solihull LEP)</p>	<p>including Biodiversity Offsetting (July 2013)            Annexe A provides an explanation of Biodiversity Offsetting and how it is to be enacted within the sub-region to ensure the delivery of Green Infrastructure enhancements as part of the national Defra Biodiversity Offsetting Pilot.  <a href="http://www.rugby.gov.uk/site/scripts/documents_info.php?documentID=1692&amp;categoryID=200294">http://www.rugby.gov.uk/site/scripts/documents_info.php?documentID=1692&amp;categoryID=200294</a></p>	<p>Gateway investment site and piloting potential biodiversity offset.            Exploring the use of the Natural England LEED tool to help identify natural environment and economic opportunities.</p>
<p>Worcestershire            Dave Throup  <a href="mailto:david.throup@environment-agency.gov.uk">david.throup@environment-agency.gov.uk</a>            Part of Worcestershire Partnership Environment Theme Group  <a href="http://www.worcestershirepartnership.org.uk/cms/structure-of-the-partnership/theme-groups/wp-environment-group.aspx">http://www.worcestershirepartnership.org.uk/cms/structure-of-the-partnership/theme-groups/wp-environment-group.aspx</a></p>	<p>Worcestershire            (Worcestershire LEP)</p>	<p>The Worcestershire Green Infrastructure Partnership has produced the draft Worcestershire Green Infrastructure Strategy to drive forward the delivery of the green infrastructure agenda in the County. It is intended to set out county-scale principles to inform plans and strategies being developed by partner organisations and to enable a coherent approach to delivery across a range of initiatives. Consultation closed June 2013.  <a href="http://www.worcestershire.gov.uk/cms/minerals-and-waste-policy/planning-green-infrastructure.aspx">http://www.worcestershire.gov.uk/cms/minerals-and-waste-policy/planning-green-infrastructure.aspx</a></p>	<p>Working closely with LEP to identify how green infrastructure development could support key investment sites.</p>

## Annex 2: Potential sources of funding for green infrastructure strategies in the West Midlands

Local Nature Partnerships are often supported and run by organisations such as the local wildlife trusts which have a long and successful track record of securing funding for local nature improvements this can include sources such as:

- Big lottery
- Landfill Trusts
- Local Authorities
- Local Companies
- EU funding such as ERDF and LIFE
- Employment and Training Programmes

In the future there are emerging funding opportunities such as:

- The Water Framework Directive requiring the Environment Agency and Water Companies to address a range of water quality issues. This could include the use of green infrastructure as 'buffer' strips for diffuse water pollution into water courses.
- Individual companies seeking to reduce risk from localised pollution and flooding to help future expansion and raising their profile locally through green infrastructure helping drainage or enhancing local flood protection.
- The current round of Government and EU funding for LEPs through Growth plans. For example there are outputs and outcomes within the new EU ERDF funding that include green infrastructure type activities, although no requirement to fund this activity.
- The market for local bio-energy and carbon sequestration through woodlands has yet to take off and would currently require a much larger scale and coordinated approach to generate the scale required.
- The use of other funding methods to generate support for local social enterprises that develop and manage green infrastructure. For example a local social enterprise 'Urban Harvest' have just generated funding through 'crowd sourcing' to fund a coordinator to collect and sell unwanted fruit from gardens and school grounds.

## Annex 3: Summary of literature review of primary economic and social benefits of green infrastructure

This section aims to provide an evidence base for the primary economic and social benefits of green infrastructure, presenting the business case for sustained economic investment in this asset. The findings presented are categorised by broad economic or social benefit in line with the typology proposed in the UK National Ecosystem Assessment produced in 2011.

### Literature review approach

A broad literature review was conducted to identify credible reports relating to the benefits of green infrastructure over the last five years to provide an up-to-date account of the case studies and evidence available in relation to the economic benefits of green infrastructure.

The reports selected reflected largely national, independent and peer reviewed evidence. In addition, local examples from various regions throughout the UK were reviewed to offer in depth case studies and analysis.

The data gathered was categorised in line with benefits and typology drawn from the UK National Ecosystem Assessment (2011).

#### The economic and social implications of green infrastructure

Economic Implications:

- Regional investment – job creation and productivity
- Property and land prices
- Tourism
- The economic benefits of ecosystem services

Social Implications:

- Health and wellbeing
- Strengthening communities

The limitations of the evidence were that many reports often referred to the same studies, rather than contributing new evidence. Also the logic chain and direct and indirect impacts of the scale and type of green infrastructure were often unclear for many of the impacts.

### Key findings

The concept of green infrastructure has grown popular over recent years with the publication of the UK National Ecosystem Assessment, analysing the benefits of the UK's natural environment in relation to society and economic development<sup>2</sup>.

The vast majority of evidence suggests that green infrastructure benefits the vital aspects of economic, social and environmental sustainability<sup>3,4</sup>. However, placing an economic value on green infrastructure is becoming increasingly important as decision-makers are beginning to recognise the

<sup>2</sup> Defra – Ecosystem Services (Available at: <https://www.gov.uk/ecosystems-services>)

<sup>3</sup> Forestry Research (2010) Benefits of green infrastructure

<sup>4</sup> <http://www.naturalengland.org.uk/ourwork/planningdevelopment/greeninfrastructure/default.aspx>

role of the natural environment in economic development and regeneration<sup>5</sup>. This also aids decision-makers in calculating the benefit of their investment when faced with conflicting proposals for space and budget.

Evidence suggests that creating or enhancing green spaces has a host of economic benefits such as increasing local land prices, creating jobs and boosting the local economy. The benefits of green spaces initiatives are not exclusive of one another and are often cross-cutting. However economic and social impact is often difficult to both establish and attribute as the impact of green space often acts in collaboration with multiple factors.

Case studies from across the UK exist and demonstrate the tangible returns on investment. This is best realised in the case of regional investment for jobs and productivity and the impact on land prices which has the strongest evidence base and therefore this area is recommended as the primary economic benefit of green infrastructure.

Investment in green spaces can also contribute to broader social gain, but the evidence is harder to quantify, therefore social gain should be sold as an additional benefit, as it is often hard to demonstrate monetary implications.

### **The detailed economic and social implications of green infrastructure**

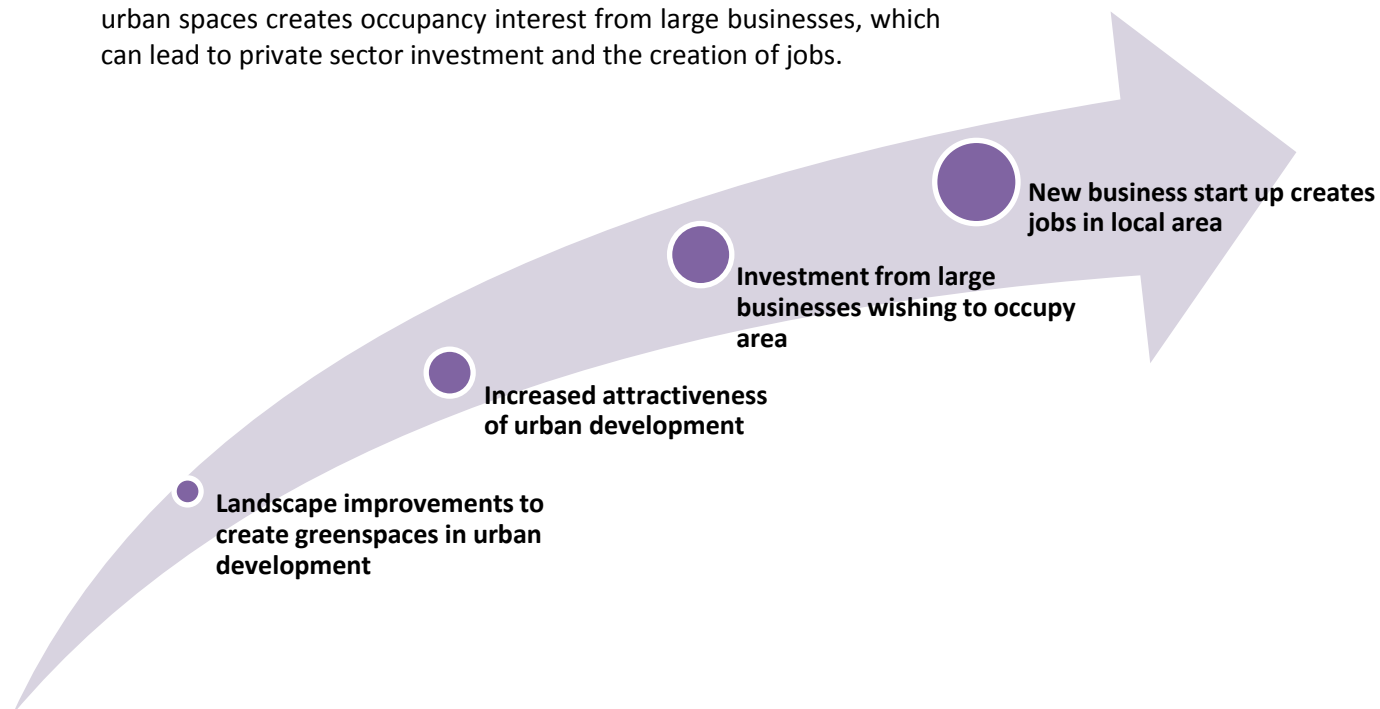
For the typology used, each of these is discussed in more detail below with the logic chain of investment and benefit and case studies.

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<sup>5</sup> Natural Economy Northwest (2009) How to Deliver, Measure and Demonstrate the Economic Contribution of the Natural Environment at a Project Level

## Benefit: Regional investment -job creation and productivity

Figure 1: Investment scenario – Investing in green infrastructure in urban spaces creates occupancy interest from large businesses, which can lead to private sector investment and the creation of jobs.



Creating and enhancing green infrastructure in urban environments improves the aesthetics of the local area, increasing demand for occupancy from new and existing high calibre businesses looking to invest<sup>6</sup>.

### Evidence:

- The Northwest's environment generates an estimated £2.6bn in Gross Value Added and supports 109,000 jobs
- Workers with access to green infrastructure are more productive, leading to a reduced number of sick days and sickness related benefits claimants<sup>7</sup>
- Investment in green infrastructure encourages and attracts skilled workers to a region<sup>8</sup>

### Case studies<sup>9 10</sup>

#### Portland Basin Green Business Park in Greater Manchester

- Landscaping improvements with public sector investment of £425,000
- led to private sector investment of £1.8 million
- creating and safeguarding 327 jobs
- as the number of businesses occupying the park increased from 120 to 140

<sup>6</sup> Forestry Commission (2012) Economic benefits of greenspace

<sup>7</sup> Cles (2011) The contribution of the local environment to the local economy

<sup>8</sup> ECOTEC (2008) The economic benefits of green infrastructure: the public and business case for investigating in Green Infrastructure and a review of the underpinning evidence.

<sup>9</sup> Cles (2011) The contribution of the local environment to the local economy

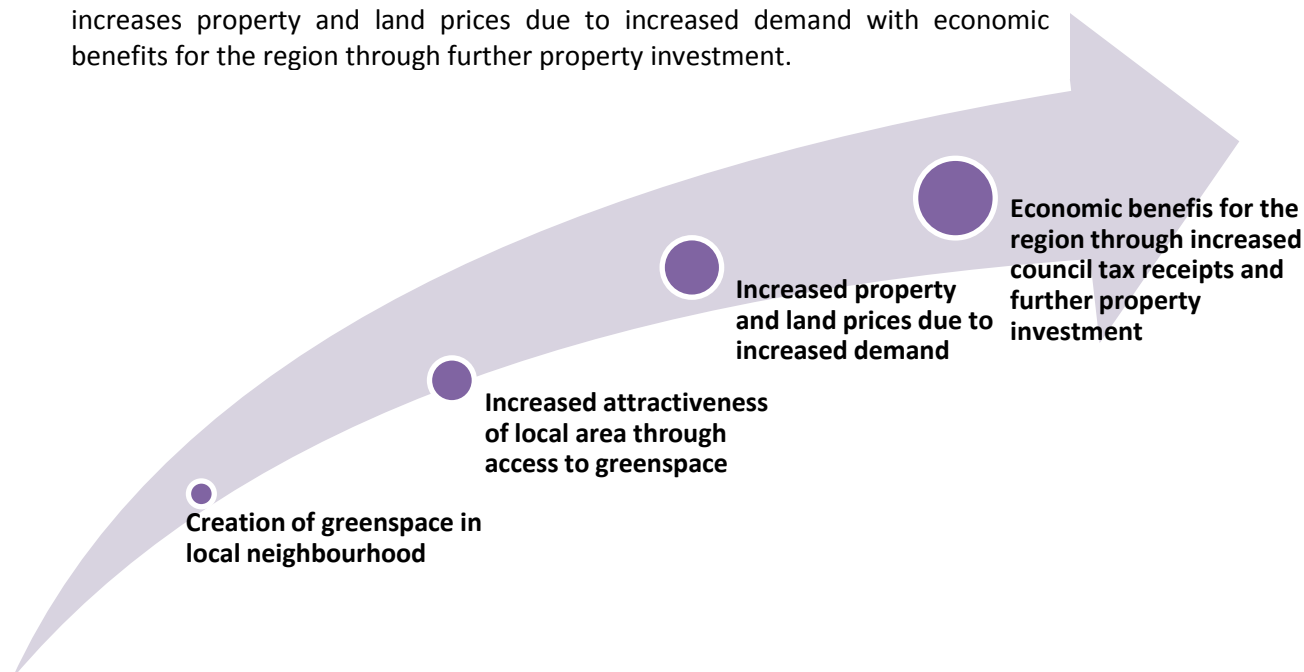
<sup>10</sup> Forestry Commission (2012) Economic benefits of greenspace

### **Langthwaite Grange, Wakefield, West Yorkshire**

- Landscape quality improvements at the industrial estate
- resulted in 16 new businesses occupying the area
- leading to over £12 million investment
- and creating 200 new jobs

## Benefit: Property and land prices

Figure 2: Investment scenario – creating green spaces in local neighbourhoods increases the attractiveness to landowners and property developers. This increases property and land prices due to increased demand with economic benefits for the region through further property investment.



There is robust evidence indicating a positive relationship between improving or creating local green spaces and property prices. By investing in green infrastructure, the image of the local area is enhanced, creating a desirable living area.

### Evidence:

- 95% of real estate developers and consultants across Europe believe that open spaces add value to a property<sup>11</sup>
- On average, developers would be willing to pay at least 3% more for land in close proximity to an open space, with some putting the premium as high as 15% to 20%
- Evidence suggests that having a well managed green space nearby results in average property premiums from 2.6% to 11.3<sup>12</sup>
- One study found that following improvements to the local park, house prices were 8% more expensive than comparable houses further away<sup>13</sup>
- This is supported by a study from Aberdeen which indicated that overall premium for a property next to a park relative to a similar property 450 metres away is positive across all house types<sup>14</sup>
- Distance to an open space is key as being too close to a park could also devalue property (worry surrounding anti-social behaviour and noise)<sup>15</sup>

<sup>11</sup> Defra and Natural England (unpublished) GI as a catalyst for economic growth

<sup>12</sup> Forestry Commission (2012) Economic benefits of greenspace

<sup>13</sup> GEN Consulting (2006) Glasgow Green renewal benefits analysis. A report to Glasgow City Council

<sup>14</sup> Green Infrastructure North West – Building natural value for sustainable economic development. The green infrastructure valuation toolkit user guide

### **Bold Colliery Community Woodland, St Helens, Merseyside**

- Over 1000 hectares of land became derelict between 1979 and 1999 at Bold Colliery
- Renovations to derelict land turned Bold Colliery into a community woodland
- which enhanced property values in the surrounding area by around £15 million and contributed towards raising a further £75 million in new development

### **Glasgow Green Renewal Project, Glasgow, Scotland**

- Development of 500-750 new residential properties
- Enhanced average house prices and the total value of property transitions (net £3-4.5 million)
- 47% increase in council tax yield
- The value of the land increased from £100,000 per hectare to £300,000

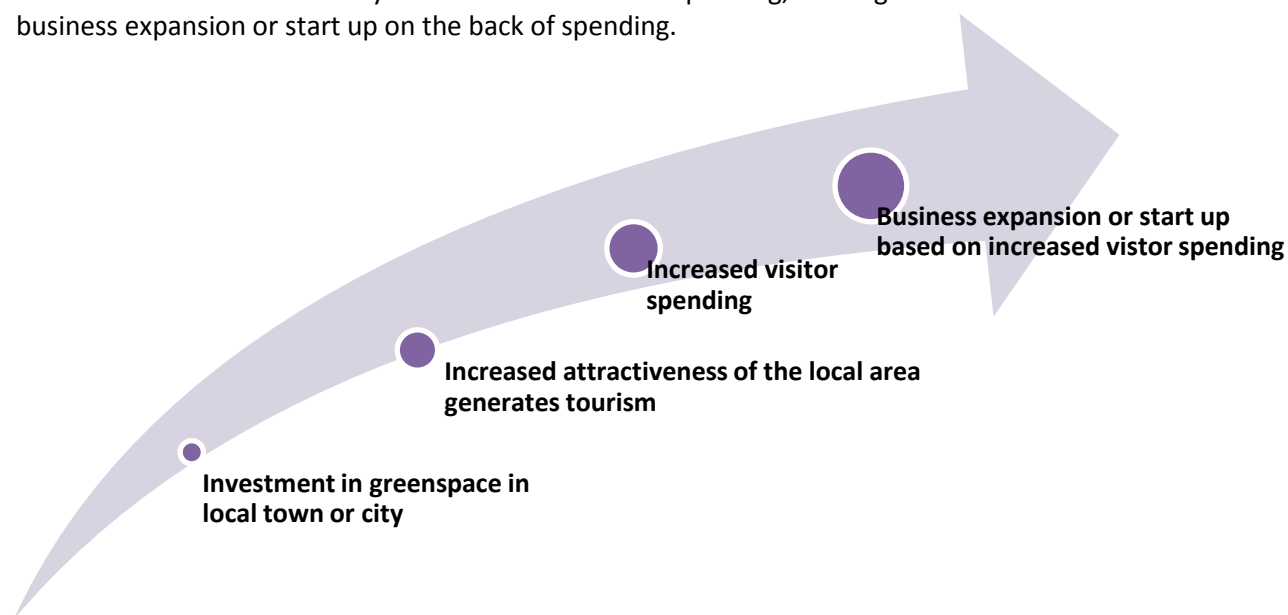
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<sup>15</sup> Forestry Commission (2005) Bold Colliery Community Woodland: district valuer's report on property values

<sup>16</sup> GEN Consulting (2006) Glasgow Green renewal benefits analysis. A report to Glasgow City Council

## Benefit: Tourism

Figure 3: Investment scenario – creating green spaces can have knock on effects for the local economy with increased visitor spending, leading to business expansion or start up on the back of spending.



Creating green spaces in a local environment can provide opportunities to attract tourists, increasing visitor spend in the area. Based on the increased number of visitors in the local area, businesses and innovators begin to recognise the potential for profit. However, the direct monetary benefit of green infrastructure on tourism is difficult to establish as many factors influence visitation.

### Evidence:

- Glasgow Green Renewal Project generated net visitor spend of between £14.9 and £22.4 million (between 1998 – 2006)<sup>17</sup>
- Developments to Birmingham canal-side generated net visitor spending of £115,000<sup>18</sup>
- Kennet and Avon Canal Restoration saw a net economic impact estimated at £82 million to 2003
- Visitor spending has grown from £262.24 million in 2003 to £287.12 in 2008

### Case study<sup>19</sup>

#### The National Forest, Midlands, England

- Creation and developments at The National Forest over 5 years (2003-8) led to a rapid boom in tourism
- In 2008, The National Forest attracted 7.97 million visitors
- Directly supporting 4,422 jobs

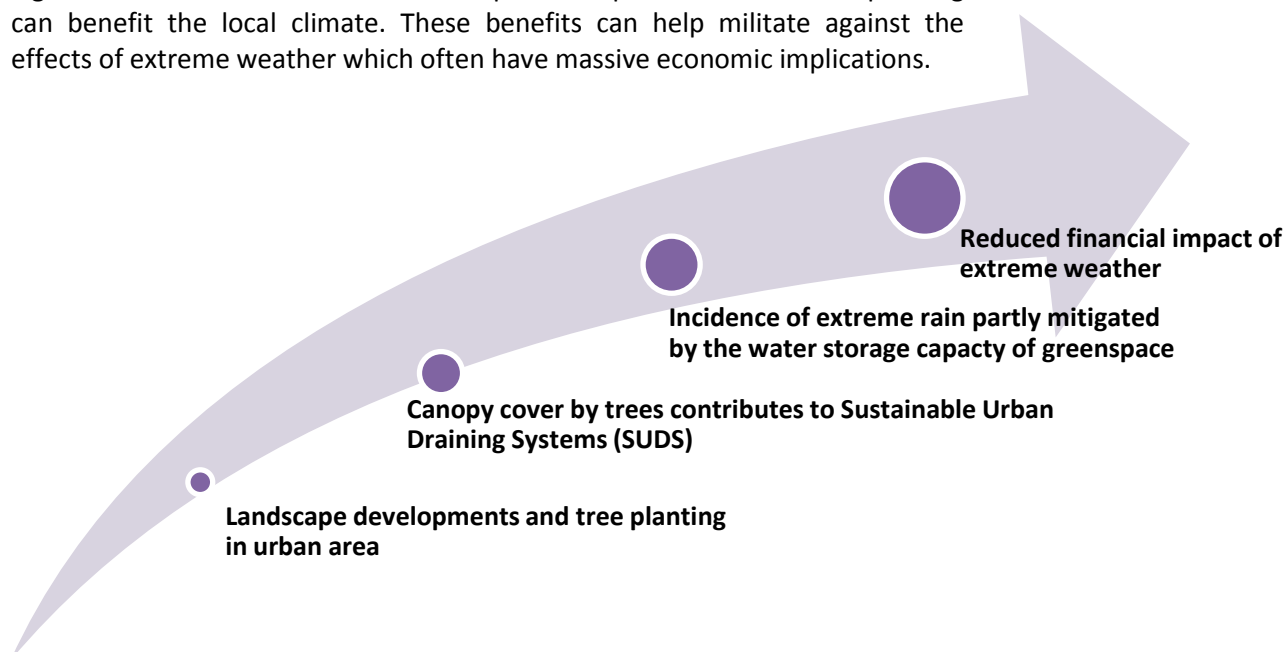
<sup>17</sup> GEN Consulting (2006) Glasgow Green renewal benefits analysis. A report to Glasgow City Council

<sup>18</sup> Defra and Natural England (unpublished) GI as a catalyst for economic growth

<sup>19</sup> The National Forest (2009) Volume and Value of Tourism – Global Tourism Solutions, National Forest Company

## Benefit: Ecosystem services – climate adaptation and other benefits

Figure 4: Investment scenario – landscape developments such as tree planting can benefit the local climate. These benefits can help militate against the effects of extreme weather which often have massive economic implications.



Publication of the UK National Ecosystem Assessment brought with it interest in the concept of ecosystem services and their benefit to human wellbeing<sup>20</sup>. By looking at natural provisions using an ecosystems approach allows decision-makers to determine the hidden economic impacts of green infrastructure.

The benefits derived from the natural world and green infrastructure can help to contribute to economic prosperity as green spaces can help with water management, climate change adaptation and mitigation, and pollution.

### Evidence:

- Green roofs and urban trees retain rain water reducing flood risk
- Green roofs can retain 70 -80% of rainfall in summer and 25-40% in winter<sup>21</sup>
- Increasing groundwater infiltration reduces the number of combined sewer overflow
- The sheltering effects of trees could save 3-9% of energy bills

### Case studies<sup>22</sup>

#### Shelter belt trees, Edinburgh, Scotland

- Shelter belt trees can reduce energy consumption in offices in Scotland by up to 10%

<sup>20</sup> UK National Ecosystem Assessment (Available at: <http://uknea.unep-wcmc.org/About/tabid/56/Default.aspx>)

<sup>21</sup> New Economy Manchester (2009) Greater Manchester Green Roof Guidance

<sup>22</sup> Forestry Commission (2012) Economic benefits of greenspace

### **Woodland Planting, Pickering, North Yorkshire**

- The present value of climate regulation benefit over 100 years of planting 85 ha of woodlands is £2.8 million

### **The Mersey Forest, North West England**

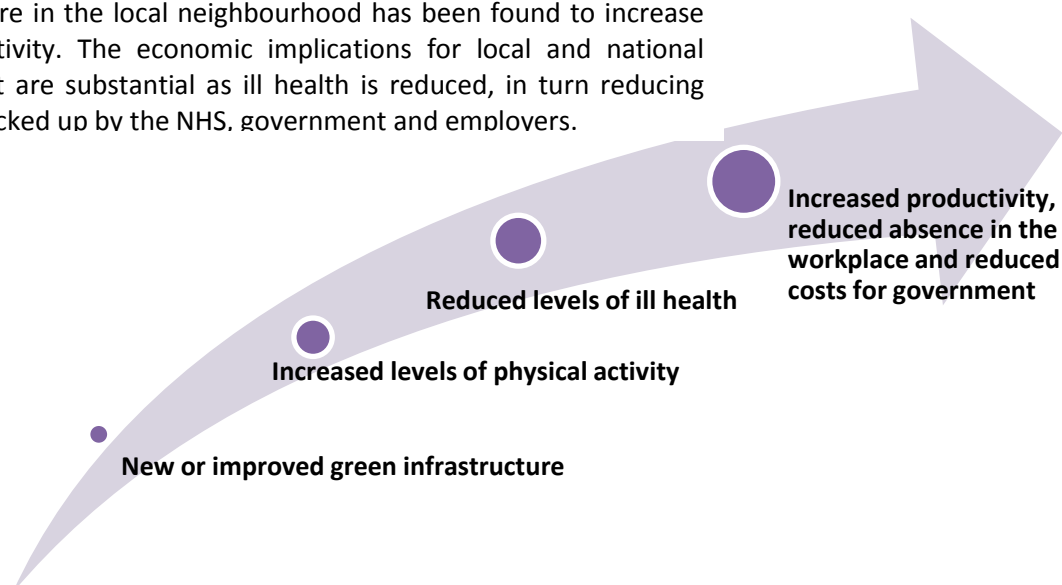
- The net additional monetised benefit due to carbon sequestration by trees is estimated at £16000 per annum

## Benefit: Health and wellbeing

The scale of the problem:

- In the England, 61.3% of the adult population are overweight or obese<sup>20</sup>
- Health costs associated with being overweight or obese cost the NHS more than £5 billion each year<sup>20</sup>
- Spending in the UK on diabetes is predicted increase from £9.8 billion to £16.9 billion over the next years representing 17% of the NHS budget<sup>23</sup>
- 1 in 6 people in the UK have depression or chronic anxiety disorder, with just under 1 in 4 suffering from some form of mental illness
- 40% of those on incapacity benefits are claiming based on mental illness
- The economic and social costs of mental illness in England are estimated at £77.4 billion for the year 02/03. This includes direct costs of healthcare of £8.4 billion, non-employment costs of £9.4 billion and sickness absence of £3.9 billion<sup>24</sup>

Figure 5: Investment scenario – Providing access to green infrastructure in the local neighbourhood has been found to increase physical activity. The economic implications for local and national government are substantial as ill health is reduced, in turn reducing the costs picked up by the NHS, government and employers.



Creating green spaces within close proximity to an individual's home or workplace provides opportunities to maintain and enhance physical health and mental wellbeing<sup>25</sup>. The benefits can be felt by multiple parties as green infrastructure has the potential to benefit businesses through increased employee productivity, as well as benefits to government through reduced spend. Individuals living close to green spaces are more likely to utilise sustainable transport for example walking or cycling<sup>26</sup>.

<sup>21</sup> [Diabetes UK – NHS Spending on diabetes 'to reach £16.9 billion by 2035'](http://www.diabetes.org.uk/About_us/News_Landing_Page/NHS-spending-on-diabetes-to-reach-169-billion-by-2035/) (Available at: [http://www.diabetes.org.uk/About\\_us/News\\_Landing\\_Page/NHS-spending-on-diabetes-to-reach-169-billion-by-2035/](http://www.diabetes.org.uk/About_us/News_Landing_Page/NHS-spending-on-diabetes-to-reach-169-billion-by-2035/))

<sup>24</sup> Centre for Mental Health (Available at: <http://www.centreformentalhealth.org.uk/>)

<sup>25</sup> Natural England (2012) The micro-economic benefits of investing in the environment

<sup>26</sup> Forestry Commission (2012) Economic benefits of greenspace

## Evidence:

- People access green space much more frequently when it is in walking distance<sup>23</sup>
- Research has found that people living closer to green spaces are more physically active and less likely to be overweight or obese<sup>27</sup>
- Estimates suggest that a park in Portsmouth has the potential to save £4.4 million each year<sup>28</sup>
- A study conducted by the University of Glasgow found that people living closer to green space had lower death rates and less heart disease<sup>28</sup>
- Environmental volunteering, including planting trees can be as effective as aerobics in improving fitness with a study reporting that the health status of volunteers significantly improved with 99% of participants reporting enhanced health and confidence
- Doubling the number of trees in the West Midlands could reduce deaths due to particulates in the air by up to 140 people per year<sup>29</sup>
- Evidence suggests that a view of nature promotes recovery from stress<sup>30</sup> and attention fatigue, with positive effects on mood, concentration, self discipline and physiological stress<sup>28</sup>

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<sup>27</sup> Natural England (2012) The micro-economic benefits of investing in the environment

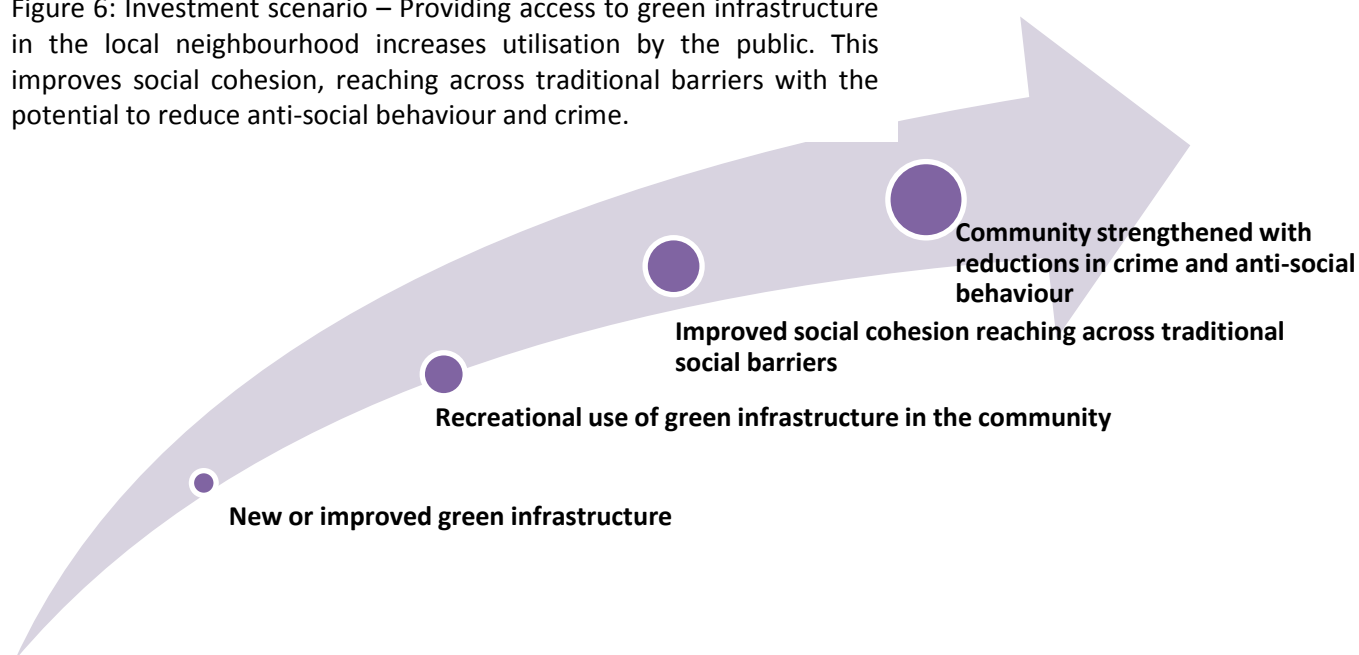
<sup>28</sup> Bird (2004) Natural fit: can green space and biodiversity increase levels of physical activity? RSPB Sandy, Bedfordshire

<sup>29</sup> Centre for Research in Environmental Appraisal & Management (2002) Mortality and Morbidity Benefits of Air Pollution Absorption by Woodland

<sup>30</sup> Bird (2004) Natural fit: can green space and biodiversity increase levels of physical activity? RSPB Sandy, Bedfordshire

## Benefit: Strengthening communities

Figure 6: Investment scenario – Providing access to green infrastructure in the local neighbourhood increases utilisation by the public. This improves social cohesion, reaching across traditional barriers with the potential to reduce anti-social behaviour and crime.



Green spaces provide a setting for communities to thrive. Enhancing or creating green infrastructure boasts a variety of social benefits for example reducing local crime levels, providing a setting for environmental education and respite from urban life. In addition, community cohesion can be increased by reaching across traditional social barriers. This infrastructure however needs to be managed<sup>31</sup> as low quality public space can serve to increase crime and antisocial behaviour.

### Evidence:

- Various studies have established that social cohesion brought about through improvement or introduction of green infrastructure reduces crime<sup>32</sup>
- Green spaces provide opportunities for education and training, including lifelong learning for adults<sup>28</sup>
- A correlation exists between urban areas with a low number of green spaces and high levels of deprivation<sup>28</sup>
- Access to green space can improve educational performance and childhood development<sup>33</sup>

<sup>31</sup> The Royal Borough of Kensington and Chelsea – Parks Police Service (Available at: <http://www.rbkc.gov.uk/leisureandlibraries/parksandgardens/parkspoliceservice.aspx>)

<sup>32</sup> Natural England (2012) The micro-economic benefits of investing in the environment

<sup>33</sup> [Education](#) Scotland (2010) Curriculum for excellence through outdoor learning

Literature Review of the Economic and Social Benefits of Green Infrastructure: Report Reviewed by Year Published	Regional investment	Property and land prices	Tourism	The economic benefits of ecosystem services	Health and wellbeing	Strengthening communities
Defra and Natural England (unpublished) GI as a catalyst for economic growth (2013)	✓	✓	✓	✓	✓	
Defra (2013) Payment for Ecosystem Services: A Best Practice Guide	✓	✓	✓	✓	✓	
GOV.UK – Ecosystem Services ( <a href="https://www.gov.uk/ecosystems-services">https://www.gov.uk/ecosystems-services</a> ) –(accessed 2013)				✓		
Forestry Commission (2012) Economic benefits of greenspace	✓	✓	✓	✓	✓	✓
Natural England (2012) The micro-economic benefits of investing in the environment	✓	✓	✓	✓	✓	✓
Science for Environment Policy (2012) The Multifunctionality of Green Infrastructure	✓	✓	✓	✓	✓	✓
Natural England (2011) Green space access, green space use, physical activity and overweight					✓	
Natural England (2011) Walking for Health: ‘inactive’ walkers – barriers to participation, and activity substitution					✓	
CLES (2011) The Contribution of the Local Environment to the Local Economy	✓					
Landscape Institute (2011) Local Green Infrastructure. Helping communities make the most of their landscape	✓	✓	✓	✓	✓	✓
The National Ecosystem Assessment (2011)	✓	✓	✓	✓	✓	✓
Green Infrastructure North West (2011) Building natural value for sustainable economic development. The green infrastructure valuation toolkit user guide	✓	✓	✓	✓	✓	✓
Natural England – Green Infrastructure (Available at: <a href="http://www.naturalengland.org.uk/ourwork/planningdevelopment/greeninfrastructure/default.aspx">http://www.naturalengland.org.uk/ourwork/planningdevelopment/greeninfrastructure/default.aspx</a> )	✓	✓	✓	✓	✓	✓
Forestry Research (2010) Benefits of green infrastructure	✓	✓	✓	✓	✓	✓
Forestry Commission (2010) The case for trees in development and the urban environment	✓	✓	✓	✓	✓	✓

Literature Review of the Economic and Social Benefits of Green Infrastructure: Report Reviewed by Year Published	Regional investment	Property and land prices	Tourism	The economic benefits of ecosystem services	Health and wellbeing	Strengthening communities
Learning and Teaching Scotland (2010) curriculum for excellence through outdoor learning						✓
The National Forest (2010) Volume and Value of Tourism		✓				
Natural Economy Northwest (2009) How to Deliver, Measure and Demonstrate the Economic Contribution of the Natural Environment at a Project Level	✓	✓	✓	✓	✓	✓
ECOTEC (2008) The economic benefits of green infrastructure: the public and business case for investigating in Green Infrastructure and a review of the underpinning evidence.	✓	✓	✓	✓	✓	✓
West Midlands Regional Assembly (2007) Green Infrastructure for the West Midlands Region	✓	✓	✓	✓	✓	✓
eftec (2006) Valuing Our Natural Environment	✓		✓	✓	✓	✓
GEN Consulting (2006) Glasgow Green renewal benefits analysis. A report to Glasgow City Council	✓	✓	✓			
Forestry Commission (2005) Bold Colliery Community Woodland: district valuer's report on property values.	✓					
Bird (2004) Natural fit: can green space and biodiversity increase levels of physical activity? RSPB Sandy, Bedfordshire						
NHS Forest – Growing forests for health (2004)					✓	

**END**