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# Open space opportunities for previously developed land

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# Summary

Creating open space on previously developed land (PDL) can provide genuine opportunities. Well conceived projects can help to make the most out of sites that may be otherwise subject to blight and high management costs and can generate significant knock on social, environmental and economic benefits. Open spaces are multifunctional, offering not just a single land-use solution, but the opportunity to achieve social, environmental and economic added value.

This guide informs the reader of the opportunities associated with creating open space on PDL and advice on how to deliver projects. The guide has been developed to be relevant to stakeholders working across the UK, including information on relevant policy and legislation, and to organisations active in dealing with PDL and open space projects.

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# Acknowledgements

The guide was written by a research team from Ove Arup and Partners Limited (Arup) including: Jane Healey Brown, Ruth Jackson, Katie Wray, Rory Canavan, Kate Canning and Miles Wilkinson under contract to CIRIA.

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Katie Wray is a planner with three years of experience in a range of projects, notably development management, open space, and renewable and low carbon energy development. She also specialises in development management and the historic environment. Katie has provided research assistance on many projects and in this instance particularly focused on economic and social issues as well as project delivery. Katie is currently studying for an MSc in architectural conservation.

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## Contributors

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The Helix Trust

Central Scotland Forest Trust

Landlife

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# Foreword

In a small group of Islands such as the UK, especially with a high population density, there is inevitable pressure that the use of every piece of land is optimised. This brings a range of potentially conflicting demands, with successive governments putting pressure on all sectors to maximise the re-use of previously developed and brownfield sites for built development.

This pressure can ignore and override the potential opportunities that these sites offer, often in socially deprived areas, for a more environmentally and socially sustainable use. In the current recessionary market, the pressure for development has partially eased, but the opportunities for beneficial use and blight reduction are even more important for society.

The creative and well conceived use of previously developed land (PDL) can provide multi functional opportunities to achieve environmental, social and economic benefits for an area. This new CIRIA guide has drawn on the broad range of experience from both the public and private sector across the UK to help identify the potential opportunities and benefits as well as presenting guidance on best practice delivery.

I hope and believe that this guide will be of benefit to the broad range of stakeholders with interests in land and community. This document should not be treated as a fixed point, but rather be used as the basis for ongoing discussion and development of guidance on the sustainable reuse of one of our most important national assets, the land.

**Henry Lang**

PSG chair and director, CARES Group

# Executive summary

Well conceived open space projects can help to make the most out of previously developed land (PDL) that may be otherwise subject to blight and high management costs and can generate significant knock-on social, environmental and economic benefits. Open spaces are multifunctional, offering not just a single land-use solution, but the opportunity to achieve social, environmental and economic added value.

Some PDL cannot be subjected to normal development solutions due to, for example, its location, its short-term development value, its existing value for biodiversity or possible contamination levels. In these and similar circumstances, creating an open space can offer the best value solution for the landowner, the environment and landscape, and for adjoining communities and businesses.

Creating open spaces can offer the opportunity to effectively manage sites, potentially at a lower cost by reducing requirements for, for example, fencing and security and helping to manage ecosystems on site to ensure that long-term neglect does not lead to creation of habitats that could constrain future development activity.

PDL can generate concerns from several parties such as for landowners – costly maintenance and security, and for neighbours – creating visual blight and affecting local property values. A further concern may be associated with potential contamination, where alternative land-uses will not be possible without investment in remediation, which is often perceived to be a high cost solution, although this is not always the case.

However, PDL can develop real value for ecosystems where wildlife is attracted to neglected urban spaces and habitats. The Department for Environment, Food and Rural Affairs (Defra) has identified a national Biodiversity Action Plan (BAP) priority habitat for PDL known as “open mosaic habitats” that developers should note when considering solutions for change.

PDL has been defined in many different ways across the UK to reflect specific requirements for land management and restoration. For the purposes of this guide, a generic definition has been created that takes account of all existing definitions including for brownfield land, with the priority being to provide a foundation for promoting open space projects. In this context, PDL can be described as “any site that has been previously used for development of buildings or infrastructure facilities, excluding agriculture and forestry, that is no longer required for that use but where no restoration work has taken place to return the site to its previous condition or to an alternative use.”

Open spaces have varying definitions across the UK with references to green, blue and grey spaces. For the purposes of this guide a generic, all encompassing definition has been developed, which is: “Open space is any piece of open land or water body, public or private, within or adjoining to an urban area. It provides opportunities for rest and recreation, wildlife habitats and movement. Open spaces can include parks and gardens, woodlands and gardens, public paths and disused railway lines, allotments, spaces for sport and play, grassed areas as well as open surfaced areas, cemeteries, river and canal corridors, and lakes, ponds and water features.”

Creating open space on PDL can offer many benefits for landowners, communities and wildlife, such as:

- **economic benefits:** improving on site and adjoining land values, creating a use out of otherwise low value land, chance to generate income, improving maintenance and security solutions for problem sites, providing temporary uses for land until alternative investment solutions become viable, attracting alternative funding options and promoting economic regeneration
- **social benefits:** promoting health and well-being, providing space for exercise and play, education, art and cultural activities as well as food growing, and promoting community cohesion and pride in the place making value of spaces
- **environmental benefits:** landscape creation, habitat creation, improving wildlife corridors, and helping to manage carbon emissions and to manage the effects of climate change, including providing space for surface water management, micro-climate management (for example providing cool spaces in built up urban areas), and carbon sequestration.

This guide informs the reader of the wealth of opportunities associated with creating open space on PDL. Its extensive target audience ranges from development and property professionals seeking to secure best value from landholdings, to local authorities, community groups and charities seeking to achieve social, economic and environmental change and improvement. The guide has been developed to ensure that the advice provided can be applied consistently across the UK, including information on relevant policy and legislation and on relevant organisations active in dealing with PDL and open space projects. It includes:

- an introduction to the considerations relevant to PDL and open space including policy and legislation and advice on dealing with contamination where applicable
- reasons for creating open space on PDL
- suggestions on opportunities for creating open space on PDL including case studies from across the UK
- guidance on delivering and maintaining open space projects
- checklist for creating successful projects.

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# Glossary

| | |
|---|---|
| **Annuals** | Plants that usually germinate, flower, and die in a year or season. |
| **Biodiversity** | The term given to the variety of life on Earth and the natural patterns it forms. Often this diversity is understood in terms of the wide variety of plants, animals and micro-organisms. |
| **Biomass** | Biological material derived from living, or recently living organisms. In the context of biomass for energy this is often used to mean plant based material, but biomass can equally apply to both animal and vegetable derived material. |
| **Calamarian grassland** | Metal rich, typical of lead mining areas. |
| **Calcerous grassland** | Alkaline grasslands. |
| **Carbon sequestration** | Carbon sequestration is a geo-engineering technique for the long-term storage of carbon dioxide or other forms of carbon, for the mitigation of global warming. |
| **Contamination** | The presence of a constituent in another chemical or mixture, often at the trace level. |
| **Ecosystem** | Complex of living organisms, their physical environment, and all their interrelationships in a particular unit of space. |
| **Ecosystem services** | Services provided by the natural environment that benefit people. While there is no single, agreed method of categorising all ecosystem services, the Millennium Ecosystem Assessment framework is widely accepted and is seen as a useful starting point. Ecosystem services provide outputs or outcomes that directly and indirectly affect human well-being. |
| **Energy crop** | A plant grown as a low cost and low maintenance harvest used to make biofuels, or directly exploited for its energy content. |
| **Greenhouse gas** | A gas that contributes to the greenhouse effect by absorbing infrared radiation |
| **Green infrastructure (urban)** | A planned and managed network of natural environmental components and green spaces that intersperse and connect urban areas and the rural fringe to support ecosystems (see Section 4.3.9). |
| **Hard end use** | Uses such as car parks, building, ie where vegetation is not involved. |
| **Heathland** | A tract of level wasteland; uncultivated land with sandy soil and scrubby vegetation. |
| **Lichens** | A fungus, usually of the class Ascomycetes, that grows symbiotically with algae, resulting in a composite organism |

that characteristically forms a crust-like or branching growth on rocks or tree trunks.

**Liverworts**

Any of numerous small, green, nonvascular plants of the division Marchantiophyta, growing in moist environments and consisting of either a leafy moss-like structure or a flat thallus that is often lobed.

**Methanogenesis**

Methanogenesis or biomethanation is the formation of methane by microbes known as methanogens.

**Open habitat mosaic**

If a site is greater than 0.25 hectares in size it may qualify as an open habitat mosaic. To determine if a site qualifies as an open mosaic habitat the following elements need to be determined:

- is there a known history of disturbance at the site or evidence that soil has been removed or severely modified by previous use(s) of the site. Extraneous materials/substrates such as industrial spoil may have been added
- what vegetation exists on the site? This will comprise early successional communities consisting mainly of stress tolerant species (eg indicative of low nutrient status or drought). Early successional communities are composed of:
  - annuals
  - mosses/liverworts
  - lichens
  - ruderals
  - inundation species
  - open grassland
  - flower-rich grassland.
- is all or part of the site unvegetated with loose bare substrate and pools?
- does the site show spatial variation, forming a mosaic of one or more of the early successional communities plus bare substrate?

**Open spaces**

Open space is any piece of open land or water body, public or private, within or adjoining an urban area. It provides opportunities for rest and recreation, wildlife habitats and movement. Open spaces can include parks and gardens, woodlands and gardens, public paths and disused railway lines, allotments, spaces for sport and play, grassed areas as well as open surfaced areas, cemeteries, river and canal corridors, and lakes, ponds and water features.

**Open and green space**

Open green space is:

*"any piece of open land or water body, public or private, within or adjoining to an urban area. It provides opportunities for rest and recreation, wildlife habitats and movement. Open spaces can include: parks and gardens; woodlands and gardens, public paths and disused railway lines, allotments, spaces for sport and play, grassed areas as well as open surfaced areas, cemeteries, river and canal corridors, and lakes, ponds and water features."*

| | |
|---|---|
| | However open space can also be used as bike tracks, pubic paths, embankment and other "non-green proposes". In Scotland, Scottish Planning Advice Note (PAN) 65 states that "open space" covers green space. Some open space may combine green and non-green elements. So the phrase open space is used instead of green space in this guide as PDL can be used for green and non-green propose.<br><br>Open space, particularly green space is an important component of the overall green infrastructure. According to PPS 12, it states that the core strategy of local authorities should be supported by evidence of physical, social and green infrastructure for the local built environment (TCPA, 2008). |
| **Publicly Available Specification (PAS) 100** ***Producing quality compost*** | Part of WRAP's ongoing work to develop a dynamic market for quality compost products. WRAP has developed compost specifications and guidelines tailored to the industries. |
| **Peri-urban areas** | This refers to a transition or interactive zone where urban and rural activities are juxtapose and landscape features are subjected to rapid modification inducing by human action (Douglas 2006). |
| **Phytoremediation** | Using plants to remove, transfer, stabilise and destroy contaminants in soil and sediment. |
| **PM10** | Particulate matter (PM) or fine particles, are tiny subdivisions of solid or liquid matter suspended in a gas or liquid.<br><br>Particles can vary widely in size and composition. The PM10 (particles measuring 10 or less) standard was designed to identify those particles likely to be inhaled by humans, and PM10 has become the generally accepted measure of particulate material in the atmosphere in the UK and in Europe. |
| **Previously developed land (PDL)** | Any site that has been previously used for development of buildings or infrastructure facilities, excluding agriculture and forestry, that is no longer required for that use but where no restoration work has taken place to return the site to its previous condition or to an alternative use. This term is also sometimes known as "brownfield sites". |
| **Public ream** | Public space between buildings including pavements, streets, parks etc. |
| **Ruderals** | Weedy and commonly introduced plant growing where the vegetation cover has been interrupted. |
| **Short rotation coppices** | Coppices grown as an energy crop. |
| **Slag** | The vitreous mass left as a residue by the smelting of metallic ore. |
| **Successional** | In agriculture, succession planting refers to several planting methods that increase crop availability during a growing season by making efficient use of space and timing. |

# Acronyms and abbreviations

| | |
|---|---|
| **CABE** | The Commission for Architecture and the Built environment |
| **COMAH** | Control of Major Accidents Hazards |
| **HSE** | Health and Safety Executives |
| **LEADER** | Links between activities developing the rural economy. This is part of the Scotland Rural Development Programme promoting economic and community development in rural areas. LEADER is a method that supports development though local development strategies. Go to: <www.scotland.gov.uk/topics/farmingrural/SRDP/LEADER> |
| **PADHI** | Planning Advice for Developments near Hazardous Installations |
| **SRDP** | The Scottish Rural Development Programe: a programme of economic, environmental and social measures worth some £1.5bn designed rural Scotland form 2007 to 2013. Go to: <www.scotland.gov.uk/topics/farmingrural/SRDP/WhatIs> |
| **WRAP** | Waste and Resource Advisory Programme |

# 1 Introduction

This guide has been developed to explain what, why and how benefits can be achieved for open space projects on previously developed land (PDL) in England, Wales, Scotland and Northern Ireland. It provides a tool to identify opportunities for promoting a successful transition to quality open space and explains the value in creating open space on PDL.

Use of existing resources, including land, should be carried out with prudence. New provisions for open space are frequently achieved through the planning system via new development, or where alternative remediation solutions are not technically or financially viable. This guide provides:

- explanation of the benefits of using PDL for accessible open space and creative schemes
- case study examples of good practice across the UK
- recommendations on appropriate and effective approaches to delivering open space on PDL while improving economic, social and environmental values
- a step-by-step checklist linked to examples of good practice, for delivering open space and creative schemes on PDL
- a portal to existing literature, policy and legislation across the UK.

## 1.1 Aim

The aim of this guide is to highlight why it is important to create open space on PDL and to enable landholders and other interested parties, including communities, to create open spaces.

## 1.2 Target audience

The guide is targeted at development professionals plus local authorities, community groups and charities, in England, Wales, Scotland and Northern Ireland. It provides a focus on the information necessary to support strategic decisions to initiate projects and influence decision makers and funders by developing credible project concepts.

The guide has been prepared to provide support to those who may not have delivered an open space project on PDL before. While appreciating that the user may be able to bring a particular technical specialism to a project, this guide can be used to fill knowledge gaps to support successful project delivery. Table 1.1 provides a list of the target audience.

**Table 1.1** ***Target audience***

| Development professionals | Local authorities | Others |
|---|---|---|
| Landowners<br>Developer organisations<br>Designers and planners<br>Project managers<br>Site managers<br>Development consultants<br>Consultation specialists | Planners<br>Landscape architects<br>Community project officers<br>Ecologists<br>Environmental officers<br>Foresters<br>Economic development officers | Community groups<br>Resident committees<br>Special interest organisations<br>Charities<br>Education and health organisations<br>Arts and cultural groups |

## 1.3 Why use this guide?

The guide equips the reader with the relevant baseline knowledge and advice on how to take steps to initiate and deliver projects and shows evidence of the added value that can be achieved with the right type of investment.

It is clear that financial incentives for landowners may often, if not always, be considered a major constraint to investing in open space. Viability is the one overriding consideration for any private sector organisation and a balance should always be struck between creating a product and investing in the environment. Part of this guide demonstrates that there are circumstances where creating open space is a valuable and viable choice, in particular where investment provides opportunities to improve values of wider land and property holdings.

In some circumstances investing in open space will be part of enhancing the value of the product and supporting the viability. However this is not always the case. So the guide also looks at how creating open space on PDL can be advocated by other interested parties, such as communities, using the planning system and master planning as leading tools in influencing development decisions.

The reasons for using this guide are to:

- access evidence regarding the wide reaching benefits of creating open space from an economic, social and environmental perspective
- assist those who wish to encourage and/or manage the agenda for creating open space including creating planning policy or influencing the planning system
- learn about relevant stakeholders, potential partners, funding options
- identify experience and good practice from across the UK
- access advice on how to manage the process of promoting and delivering an open space project.

**Box 1.1** ***Why read this guide?***

This guide provides information for development professionals, local authorities and others, and:

- provides information on the value of creating open space that can be used to inform applications for development
- provides information to a wide audience on the factors that are relevant to the development industry
- encourages community groups to get involved with the planning system – this has the potential to support positive involvement with community groups
- includes a comprehensive update on relevant legislation and policy across the UK
- provides evidence to support cases for investment
- provides examples of other project successes across the UK
- includes a comprehensive update on relevant legislation and policy across the UK
- is a useful guide for helping to take a project from concept to delivery and beyond
- encourages the third sector to get involved with the planning system to promote open space projects – this has the potential to support positive involvement with community groups
- explains the development context for open space creation
- provides advice on working with previously developed land (PDL)
- explains how to develop ideas into projects
- provides advice on the value of open space and details of what can be achieved including case studies
- includes advice on setting up charities and accessing funding.

## 1.4 Methodology

The methodology of this guide was to research and accumulate a resource of knowledge and evidence about developing previously used sites for open space.

The focus has been placed on the vast range of existing knowledge and expertise. The research team worked with technical specialists in the fields of ecology, contamination, property, landscape, planning and economics. Particular efforts have been made to involve public and private sector stakeholders practiced in the field of delivering open spaces and dealing with PDL to offer the user the benefit of their experience. Stakeholders have informed the development of this step-by-step guide presented in Chapter 6.

Throughout the development of this guide there has been regular review with stakeholders and consultants from:

- Defra
- Homes and Communities Agency
- Buglife
- CABE
- Forestry Commission
- Land Restoration Trust
- Natural England
- Environment Agency
- Scottish Natural Heritage
- Scottish Environment Protection Agency
- Department of Environment, Northern Ireland
- Countryside Wales
- BURA
- House Builders Federation
- Glasgow City Council
- Cornwall Council
- Greening the Gateway Kent and Medway
- Greater London Authority
- Waterman Group
- RSK
- ENVIRON
- Capita Symonds
- Highland Council.

## 1.5 Structure of the guide

The guide has been structured to provide the user with a logical and easy to use resource that will encourage open space on PDL. It has been structured to be user friendly with information grouped into relevant chapters that include supporting material. References, further reading and appendices provide extra guidance for the reader.

This guide consists the following chapters:

**Chapter 1** Introduction

**Chapter 2** The context of creating open space on PDL. The chapter defines open space, PDL and explain the relationship between PDL and land contamination and the relevant legislative context.

**Chapter 3** The case for creating open space on PDL. This chapter explains the multi-functional benefits for turning PDL into open green space generated from PDL.

**Chapter 4** Options and opportunities for transforming PDL to open space. This chapter describes the various possibilities for open space creation.

**Chapter 5** Delivering and maintaining open space on PDL. This chapter will discuss how a successful open space scheme should be planned, funded and delivered.

**Chapter 6** Steps and checklists for creating open space using previously developed sites. This chapter provides step-by-step guidance about the planning and delivery of open space.

Throughout the chapters, boxes, case studies, fact file boxes, figures and tables have been used to demonstrate important issues raised.

**References and further reading** to help the reader.

**Appendix A1** Relevant UK legislation and policy

**Appendix A2** Previously developed land site categories (from English Partnerships)

**Appendix A3** How to apply net environmental benefits analysis (NEBA)