



ENVIRONMENT AND SUSTAINABILITY SCRUTINY COMMITTEE – 1ST OCTOBER 2020

SUBJECT: CAERPHILLY GREEN INFRASTRUCTURE STRATEGY

REPORT BY: INTERIM CORPORATE DIRECTOR FOR COMMUNITIES

1. PURPOSE OF REPORT

- 1.1 To seek the views of the Scrutiny Committee on the adoption of a Caerphilly Green Infrastructure Strategy prior to a presentation to Cabinet for approval. The draft Strategy is appended at Appendix 1 and this report summarises the content and methodologies contained within the Strategy.

2. SUMMARY

- 2.1 This report describes the need for a Green Infrastructure Strategy for the county borough and the methodology used to prepare the strategy. Each step in the process is outlined and concludes with a template for the preparation of a 5 year integrated action plan. The value of the Strategy lies in the data sets that underpin it as these allow for more informed and targeted actions that will increase the value of and contribution that green space makes within the County borough.
- 2.2 The Strategy has not been developed in isolation and provides a good fit with other developing environmental strategies of neighbouring authorities and other public sector bodies, notably Natural Resources Wales (NRW). As such a recommendation is made that this Strategy be approved as the core Green Space development and management tool for CCBC.

3. RECOMMENDATIONS

- 3.1 That the Scrutiny Committee considers this report and appended Caerphilly Green Infrastructure Strategy and provides any comments or suggested amendments prior to presentation to Cabinet for approval and use as the core guidance document for Green Space development and management within the county borough.

4. REASONS FOR THE RECOMMENDATIONS

- 4.1 To provide an up-to-date and robust Strategy to inform Council decisions with regard

to natural resource management. To ensure the Council is well placed to meet existing good practice with regard to green infrastructure management and anticipated legislative requirements.

5. THE REPORT

- 5.1 TACP Environmental Consultants were appointed by Caerphilly County Borough Council to prepare a Green Infrastructure (GI) Strategy for its administrative area. The majority of local authorities have either prepared or are in the process of preparing similar strategies. This report sets out the methodology and findings of this study and establishes a Strategy for the county borough. Whilst a working document, the vision of the Strategy is *“Caerphilly will be a green and healthy place to live with an established, multi-functional green infrastructure of high quality spaces interlinked by a network of corridors that benefit both people and nature”*.
- 5.2 The extent and component elements of GI are wide ranging and often include water features, sometimes referred to as being Blue Infrastructure and for the purposes of the Caerphilly Strategy are included within the GI definition. Planning Policy Wales (PPW) Edition 10 broadly explains and defines GI to be *‘the network of natural and semi-natural features, green spaces, rivers and lakes that intersperse and connect places’*. The component elements of GI can function at different scales. For instance, at a landscape scale GI can comprise entire ecosystems such as wetlands, waterways and forests. At a more local scale, it might comprise parks, fields, public rights of way, allotments and cemeteries. Small scale individual elements such as street trees, hedgerows, roadside verges, and green roofs all contribute to GI networks.
- 5.3 A key feature of GI is its multi-functional character and the capacity to provide several functions at the same time thus offering multiple benefits for social, economic as well as environmental resilience. It touches most elements of daily life and is essential to the functioning of society. These results give benefits to wellbeing, including flood management, water purification, improved air quality, reduced noise pollution, local climate moderation, climate changes and food production.
- 5.4 The importance of and inter relatedness of GI is becoming increasingly recognised and this is reflected in various recent legislative requirements including the Environment Act 2016, which places a biodiversity duty on Councils (section 6), Planning Policy Wales 10 (PPW 10) which sets out the need to address GI functions within the planning process and the Draft Wales Development Framework which again identifies GI as a core policy consideration. The legislation aims to fully integrate GI and its functions into decision making processes with the objective of protecting the environment. The Caerphilly Strategy aims to assist in this regard and it is considered likely that Councils will be required, by Welsh Government, to publish Green Infrastructure strategies for their areas. As it stands PPW 10 states that *‘planning authorities should adopt a strategic and pro-active approach to GI and biodiversity by producing up to date inventories and maps of existing GI and ecological assets and networks...’*.
- 5.5 In the regional and local context NRW are preparing Area Statements, which focus on GI and the priorities identified at both a regional and sub-regional level. The data held by NRW and their mapping has been widely used within this study. Officers have been feeding into these Area Statements and working with neighbouring authorities to integrate priorities and projects notably through the award of Enabling

Natural Resources and Well Being (ENRaW) and Rural Development Programme (RDP) funding.

- 5.6 Unlike some neighbouring authorities, Caerphilly does not currently have a Green Infrastructure Strategy, relying on the existing Countryside Strategy, and the opportunity has been taken to prepare this Strategy in alignment with the forthcoming NRW (State of Natural Resources Report) SoNaRR Area Statements. This will provide a hierarchical approach to the management of green space. Given the intense development pressures on many urban areas within the county borough and the replacement of the Local Development Plan (LDP), combined to changes in the wider planning system, notably regionalisation, the need for a robust GI Strategy is evident and timely. The GI Strategy is proposed to update and supplement the adopted Countryside Strategy.

The Approach

- 5.7 The Caerphilly GI Strategy follows a format similar to some other strategies and should provide some consistency with our neighbours whilst at the same time being able to identify the specific Caerphilly priorities. Natural England have provided guidance identifying the key functions of GI and these, having been proofed by a wide range of internal and external stakeholders, have been utilised for the Caerphilly Strategy. There are nine functions identified and it is these functions that form the basis of the development of the Strategy and are illustrated pictorially within the scoring tables throughout. These functions are Biodiversity, Access, Water Management, Tourism, Community, Regeneration, Health and Wellbeing, Education and Landscape Amenity.
- 5.8 Three data sets have been utilised to map the Green Infrastructure throughout the County borough and this in turn has been broken down into five Primary landscape types, these being Parks and Gardens (1.6%), Amenity Space (8.7%), Natural and Semi Natural Green Spaces (39%), Green Corridors (1.5%) and Other (38%), this latter typology including farms. Each of these primary landscapes includes a range of secondary typologies relating to the landscape types and covers some 89% of the area of the County borough. The Strategy provides both the comprehensive data set of this information and a worked up example of the Ystrad Mynach area by way of map illustration. There are some 38 of these secondary typologies each allocated to within one of the primary landscape types. Only 3 of these 38 secondary typologies cover more than 10% of the county borough, woodland and scrub 18%, grassland 15% and farms 34%. The identification of these secondary typologies concludes the first stage of the Strategy.

Having identified the above typologies, the GI Strategy moves on to consider four further stages, outlined below, which are the dynamic components of the Strategy.

Stage 2 – score functions for importance: This is the relative importance of each function to CCBC. These numerical scores, ranging 1 - 5 reflect the policy context with those delivering national policy scoring highest, a score of 5 and those of little importance a score of 1.

Stage 3 - score secondary typologies for their performance of function: This scores each secondary typology according to the extent to which it provides each function.

Stage 4 - review of value scores: The value of each secondary typology considering the importance of provision and function.

Stage 5 - review need for enhancement scores: The need for enhancement of each secondary typology considering the importance of function.

- 5.9 Once these scorings are complete they are transferred on to the base map of the county borough to provide the mapping of the relative importance of each parcel of land. This can then be used as the planning basis for a range of both policy and strategy formulation and implementation initiatives, allowing specific prioritisation and targeting as will the identify opportunities where the restoration, maintenance, creation or connection of green features and functions would deliver the most significant benefits. Key principles are applicable to new development as well as existing green areas and how this adds value to the place making process.
- 5.10 Coronavirus has had a terrible impact on our country. The benefits of green space on our mental and physical health have become more apparent during the enforced period of change to our daily lives brought about by the coronavirus pandemic. The public has turned to green spaces to walk, run and to meet and appreciation of nature soared under lockdown. Reflecting on this reconnection with the landscape around her, Clare Pillman, Chief Executive of NRW said that she had taken the opportunity “To reacquaint myself with every nook and cranny of the place I call home in north Wales. To observe the small miracles of nature on my daily walk and to share those with others on the phone”
- 5.11 The current reduction in mowing frequencies, as a result of coronavirus restrictions, provides the opportunity to introduce a phased implementation of this regime as a new corporately driven approach to grass cutting so as to illustrate the environmental benefits that green space offers. Feedback from the public, particularly with regard to reduced highway verge cutting has been overwhelmingly positive. This cutting season has been identified as an ideal opportunity to deliver differently operations/frequencies as a trialled approach to gauge public perceptions against traditional expectations and we ask members to be mindful of this. The trial needs to be rigid in order to collect and scrutinise valid public views and ecological data. In this regard, it is suggested that the service liaises with all local members over the winter period to agree some areas for inclusion in the trial. Once the outcome of this trial is known then a more detailed programme for future mowing can be prepared. A full report on trial areas for a revised mowing regime will be presented to Scrutiny and Cabinet Members for consideration and approval prior to the 2021/22 grass cutting season. Once the trial is evaluated a revised cutting regime can then be included in the overall Strategy once approved.
- 5.12 The second element of the GI Strategy is a 5 year integrated action plan that identifies the initiatives that should be undertaken in that period. This programme of works is flexible and based on a similar format to that used in the existing Countryside Strategy and would be subject to annual review. The development of the integrated action plans will be undertaken in house as it allows the authority to be flexible in the determination of priorities and utilises the expert knowledge of staff. A template is included within the GI Strategy.
- 5.13 It is further anticipated that the Strategy will be of significant benefit in terms of the ability to attract grant support as organisations. For example, NRW are increasingly requiring a considered and co-ordinated justification for their support.
- 5.14 The integrated action plan allows for the identification of specific schemes within the context of this strategic direction both within the County borough and regionally. The

wider role of partners will be key for the promotion and implementation of the strategy. This goes beyond the Public Services Board and includes wider non-statutory and community groups.

Conclusion

- 5.15 In summary the GI Strategy will be of benefit in identifying existing GI assets that should be protected, restored or enhanced. It should assist in the creation of new GI, in particular within the urban edge where there is considerable pressure on the resource. The linking of GI assets provides the means to optimise use of resources both at the regional and local level.

6. ASSUMPTIONS

- 6.1 No assumptions have been made in this report.

7. LINKS TO RELEVANT COUNCIL POLICIES

- 7.1 The following Council plans and policies are relevant to the Local Development Plan:

7.2 Corporate Plan 2018-2023.

As the GI Strategy is based around the wider environment and has numerous potential uses, it has both direct and indirect implications for each of the 6 Corporate Plan Objectives:

Objective 1 - Improve education opportunities for all

The GI Strategy can assist in providing a more robust framework for decision making and has a role in education particularly the wide range of opportunities green space offers in terms of its usage and as a direct tool for learning. Such opportunities include:-

- Tackling poverty.
- Providing economic conditions to encourage economic growth and skills development.
- Assist in the delivery of the City Deal.
- Providing the learning resource required to promote education and learning.

Objective 2 - Enabling employment

The GI Strategy will help identify appropriate land to facilitate the development of new employment. Further to this it will help retain or create the quality landscape and environmental services required by employers and employees.

Objective 3 - Address the availability, condition and sustainability of homes throughout the county borough and provide advice, assistance or support to help improve people's well-being

The GI Strategy will help secure sustainability through both the quality of residential development and the surrounding GI required to adequately support such development.

Objective 4 - Promote a modern, integrated and sustainable transport system that increases opportunity, promotes prosperity and minimises the adverse impacts on the environment

Green corridors and connectivity are identified as key components for both biodiversity and humans and the targeted development of these promotes sustainable transport and protection of the environment. Secondary economic benefits should occur as a result.

Objective 5 - Creating a county borough that supports a healthy lifestyle in accordance with the sustainable Development Principle within the Wellbeing of Future Generations (Wales) Act 2015

The GI Strategy sets out the local framework that will facilitate the creation of healthier places, providing opportunities to create environments that engender healthy lifestyles and mitigate a range of environmental concerns.

Objective 6 - Support citizens to remain independent and improve their well-being

Coupled to the above objective, the improvement in residents' physical and mental health will promote independent living and improved quality of life is of significant benefit to well-being.

8. WELL-BEING OF FUTURE GENERATIONS

8.1 The GI Strategy seeks to promote the better use of natural resources and in particular those associated with green spaces. These will have significant benefits at both the local and wider geographic and considers ecosystems as a whole. It assists in guiding how and where sustainable development can be delivered as well as providing more direct and targeting of practical land management. It is a cross cutting strategy allowing the assessment of a broad range of issues and provides the tool to analyse competing outputs and potential outcomes. It will assist in meeting all seven well-being goals identified below:-

- A prosperous Wales
- A resilient Wales
- A healthier Wales
- A more equal Wales
- A Wales of cohesive communities
- A Wales of vibrant culture and thriving Welsh Language
- A globally responsible Wales

The GI Strategy is particularly pertinent in terms of helping create a more resilient Wales, a Wales of cohesive communities and a globally responsible Wales.

8.2 The five ways of working are integral to the preparation and implementation of the GI Strategy and are demonstrated by being:-

- Long Term – The preparation of the GI Strategy is about planning for the

future in a sustainable way. Whilst it is typical for a 15 year plan period it is anticipated, given the long term nature of environmental matters that a longer period has been planned for as the Strategy can be updated frequently. The principles remain relevant.

- Prevention – plan preparation is built on a robust evidence base which considers key issues and how to respond to them in a manner that prevents any issues deteriorating and seeks to address key land management and land use matters.
- Integration – the preparation of GI Strategy has identified the issues of importance with regard to GI within CCBC through partnership working with a range of other bodies and individuals. The Strategy has also been prepared in the context of work being done by Natural Resources Wales and by neighbouring authorities and assists conformity. This should have an added benefit in maximising the resources available for the future implementation of elements of the Strategy.
- Collaboration – the preparation of the GI Strategy will require collaboration reflecting the land use priorities of multiple Council departments and Public Services Board partners, as well as external stakeholders both within and adjacent to the County borough.
- Involvement – both during the preparation of the GI Strategy and any subsequent implementation there has been and will be on going engagement with those that will help deliver. A series of workshops have been held as part of the strategy development process. These will range from interest groups, residents and stakeholders to potential developers.

9. EQUALITIES IMPLICATIONS

- 9.1 An EIA screening has been completed in accordance with the Council's Strategic Equality Plan and supplementary guidance. No potential for unlawful discrimination and/or low level or minor negative impact has been identified; therefore a full EIA has not been carried out.

10. FINANCIAL IMPLICATIONS

- 10.1 There are no financial implications arising as a result of this report per se. There are however potential implications with regard to implementation of some land management elements which would vary from individual action to individual action, some possibly incurring costs whilst others save. The more significant of these e.g grass cutting regimes would be subject to further reports and approvals.

11. PERSONNEL IMPLICATIONS

- 11.1 There are no personnel implications arising as a result of this report.

12. CONSULTATIONS

- 12.1 This report includes the views of the listed consultees.

13. STATUTORY POWER

13.1 Planning Policy Wales (10) requires Planning authorities to develop an integrated map-based evidence resource through the preparation of a GI Assessment.

Author: Philip Griffiths – Green Space Strategy and Cemeteries Manager

Consultees: Cllr D. Tudor Davies, Chair Environment and Sustainability Scrutiny
Cllr Adrian Hussey, Vice Chair Environment and Sustainability Scrutiny
Cllr Nigel George, Cabinet Member for Environment and Neighbourhood Services
Mark S. Williams, Interim Corporate Director, Communities
Rob Hartshorn, Head of Public Protection, Community and Leisure Services
Mike Headington, Green Spaces and Transport Services Manager
Rhian Kyte, Head of Regeneration and Planning
Dave Lucas, Team Leader, Strategic and Development Plans
Jonathan Davies, Parks and Countryside Operations Manager
Paul Cooke, Senior Policy Officer
Anwen Cullinane, Senior Policy Officer (Equalities and Welsh Language)
Lynne Donovan, Head of People Services
Steve Harris, Interim Head of Business Improvement
Rob Tranter, Head of Legal Services

Background Papers:

Those referenced in the report – Area Statement, Planning Policy Wales

Appendices:

Appendix 1 Draft Caerphilly Green Infrastructure Strategy 2020

**CAERPHILLY COUNTY
BOROUGH COUNCIL**

**GREEN INFRASTRUCTURE
STRATEGY**

VOLUME 1 - STRATEGY

APRIL 2020

APPENDIX 1



Caerphilly County Borough Council Green Infrastructure Strategy

Volume 1 - Strategy

Caerphilly County Borough Council

April 2020

TACP
10 PARK GROVE
CARDIFF
CF10 3BN

Project Number: **60856**
Version: **P4**

Version No.	Status	Prepared by	Checked by	Approved by	Date
P1	Not issued				
P2	S3 – For review and comment	LJ/TW	TW/JW	JW	02/11/2018
P3	S2 – For information	LJ/TW	TW/JW	JW	26/02/2020
P4	FI - Final	LJ/TW	TW/JW	JW	03/04/2020

CONTENTS

1	INTRODUCTION	1
1.1	WHAT IS GREEN INFRASTRUCTURE?.....	1
1.2	STRATEGY SCOPE AND PROCESS	2
1.3	STRATEGY VISION.....	2
1.4	STRATEGY AIMS.....	3
1.5	STRATEGY OBJECTIVES	3
1.6	HOW TO USE THE STRATEGY	4
2	POLICY FRAMEWORK	5
2.1.1	<i>National Policy</i>	5
2.1.2	<i>Regional Policy</i>	10
2.1.3	<i>Local Policy</i>	10
3	EXISTING GREEN INFRASTRUCTURE	13
3.1	FUNCTIONS OF GREEN INFRASTRUCTURE	14
3.2	MAPPING GREEN INFRASTRUCTURE	16
3.3	GREEN INFRASTRUCTURE TYPOLOGIES.....	17
3.4	ASSESSMENT	23
3.4.1	<i>Importance</i>	24
3.4.2	<i>Provision of Function</i>	25
3.4.3	<i>Value</i>	27
3.4.4	<i>Need for Enhancement</i>	29
4	STRATEGY	31
4.1	PRINCIPLES	31
4.2	ACTION PLANS.....	33
4.3	MONITORING AND EVALUATION	34
5	SUMMARY	35
	REFERENCES	37
	APPENDICES	38

FIGURES

Figure 1 - Green Infrastructure Policy Framework.....9
 Figure 2 - CCBC's location in the context of South-east Wales.....13
 Figure 3 - GI Functions14
 Figure 4 - GI across CCBC - the results of combining OpenStreetMap, Ordnance Survey MasterMap and Ordnance Survey Green Space data.....17
 Figure 5 - GI Primary Typologies for Ystrad Mynach.....19
 Figure 6 - GI Secondary Typologies for Ystrad Mynach.....20
 Figure 7 - Multi-Function total Provision of Function scores for Ystrad Mynach26
 Figure 8 - Multi-Function total Value scores for Ystrad Mynach.....28
 Figure 9 - Multi-Function total Need for Enhancement scores for Ystrad Mynach30
 Figure 10 - Summary of Strategy Principles.....35

TABLES

Table 1 - GI Primary and Secondary Typologies.....18
 Table 2 – GI Primary and Secondary Typologies and % of CCBC they cover21
 Table 3 - GI Primary and Secondary Typologies not present in CCBC.....22
 Table 4 - GI scoring terminology23
 Table 5 - Definition of Importance scores24
 Table 6 - Importance scores25
 Table 7 - Definition of Provision of Function scores25
 Table 8 – Subset of Provision of Function scores.....26
 Table 9 - Example Value scores27
 Table 10 - Example Need for Enhancement scores.....29
 Table 11 - Strategy Principles.....31
 Table 12 - Example Action Plan structure.....34

GLOSSARY

Term	Description
Assets	<i>Assets include the natural elements which provide social, economic and environmental benefit. They can be specific sites or broader environmental features within and between urban and rural areas.</i>
Benefits	<p><i>Whereas GI Functions refer to specific uses of land, benefits refer to the wider, less tangible contributions to people and nature arising from GI. For example, a green travel route might have a Primary Function of Access but can deliver a number of wider benefits such as Health and Wellbeing, Tourism, Education and Biodiversity.</i></p> <p><i>Benefits are identified as follows:</i></p> <ul style="list-style-type: none"> • Biodiversity • Climate Change Adaptation • Economic Growth and Investment • Education • Flood Alleviation • Health and Wellbeing • Heritage and Cultural Assets • Quality of Place • Sense of Place • Tourism
Blue Infrastructure	<i>A combination of ditches, ponds, lakes, rivers, canals and streams which can both complement and support GI.</i>
Connectivity	<i>Connectivity between different GI will help maximise the Benefits that they can generate. The Connectivity can be visual or notional; however physical connections make the most impact. This Connectivity can help to enhance public engagement with the natural environment, improve opportunities for biodiversity movement and encourage more sustainable forms of travel.</i>
Ecosystem Services	<i>Underpinning the multiple Functions that GI performs is the concept of Ecosystem Services. These are the Benefits provided by GI that contribute to making life possible and worth living. Health and wellbeing depend on the range of services provided by ecosystems and their constituent parts: water, soils, nutrients, and organism.</i>
Functions	<i>Functions are the roles that GI plays or can play if planned, designed and managed in a way that is sensitive to and includes provision for natural features and systems.</i>
Multi-Function	<i>Is central to the GI approach to land use planning. Where land performs a range of Functions it affords a far greater range of social, environmental and economic Benefits than might otherwise be delivered.</i>
Sustainable Drainage Systems (SuDS)	<i>Sustainable Drainage Systems are an approach to managing rainfall and run off in developments with a view to replicating natural drainage. SuDS also aim to control pollution, recharge ground water, control flooding and often provide landscape and environmental enhancement.</i>
Typology	<i>A Typology is the Primary or Secondary description/purpose of GI such as 'Amenity Greenspace' or 'Parks and Gardens'.</i>



1 INTRODUCTION

TACP (UK) Ltd was appointed by Caerphilly County Borough Council (CCBC) in April 2018 to prepare a Green Infrastructure (GI) Strategy (hereafter referred to as the 'Strategy') for its administrative area. The Strategy has been prepared in two volumes:

- **Volume 1 – Strategy:** (this report) introduces GI, identifies where it is present across CCBC and details a Strategy for its enhancement and development.
- **Volume 2 – Green Infrastructure Maps:** maps showing Primary and Secondary Typology, Provision of Function, Value and Need for Enhancement for 18 settlements across CCBC

An Executive Summary of Volume 1 has also been prepared as a standalone document.

1.1 What is Green Infrastructure?

For the purposes of this Strategy, the following definition from Planning Policy Wales (PPW) Edition 10 has been used (Welsh Government, 2018):

Green Infrastructure (GI) is the network of natural and semi-natural features, green spaces, rivers and lakes that intersperse and connect places.

Component elements of GI can function at different scales. For instance, at a landscape scale GI can comprise entire ecosystems such as wetlands, waterways and forests. It also helps with establishing ecosystem resilience and is an important link with the Natural Resources Wales (NRW) Area Statements on the condition of the environment. At a more local scale, it might comprise parks, fields, Public Rights of Way (PRoW), allotments and cemeteries. Small scale individual elements such as street trees, hedgerows, roadside verges, and green roofs all contribute to GI networks.

A key feature of GI is its Multi-Functional character and the capacity to provide several Functions at the same time thus offering multiple benefits for social, economic as well as environmental resilience. These results give benefits to wellbeing, including flood management, water purification, improved air quality, reduced noise pollution, and local climate moderation, climate change and food production. These benefits are particularly important in urban areas where they can facilitate health and wellbeing-related elements of open space, cleaner air and improved tranquillity as well as creating a sense of place and improved social cohesion. GI also provides a means of addressing the pressures on the environment exemplified by the urban-rural fringe

Wales has long championed the benefits of GI to both enhancing and managing the quality of the environment. This is clearly illustrated by the outputs from the Landscapes Working for Wales programme in the 1990s which set out proposals for landscape development and management to help raise awareness of the issues on a local authority basis. In a contemporary context the Environment (Wales) Act 2016 provides a strong driver for the delivery of Multi-Functional GI. Its provision can make a significant contribution to the sustainable management of natural resources, in particular to maintaining and enhancing biodiversity and the resilience of ecosystems. Thus, GI is an important tool for local authorities to deliver their Section 6 duty under the Act.

1.2 Strategy Scope and Process

The Caerphilly GI Strategy is a replacement to the Countryside Strategy which was produced and adopted by CCBC in 1998. This was updated in 2010, although the update was not formally adopted by CCBC. In addition, in 2014 CCBC's ecologist mapped green corridors and opportunity areas to feed into a biodiversity Supplementary Planning Guidance document in support of the Local Development Plan. Again, this was not formally adopted, and it remains in a draft format.

The scope of this Strategy is much broader in its outlook and includes elements of GI such as:

- Parks and Gardens – urban, country and regional parks and formal gardens
- Amenity Greenspace – informal recreation spaces, housing green spaces, domestic gardens, village greens, urban commons and other incidental space
- Natural and Semi Natural Green Spaces – woodland, scrub, grassland, heath and moor, wetlands, open and running water, bare rock habitats, quarries, and derelict land
- Green Corridors – rivers and canals including their banks, road and rail corridors, hedgerows, cycling routes, pedestrian paths and public rights of way
- Other – allotments, community gardens, farms, cemeteries, churchyards, sports clubs and recreation grounds, institutional spaces and green roofs.

The development of the Strategy took the form of a literature review supported by a CCBC workshop and presentation to the Public Service Board (PSB) (See Appendix A). The literature review was important to obtaining a clear understanding as to what GI entails and how it can enhance other work programmes. The workshops ensured that the key drivers for these organisations as well as where barriers to implementing GI exist were integrated into the Strategy. This has been an important part of the Strategy's development and through the process has allowed people to buy into the concept. In doing so it has ensured that the Strategy elements have been taken on board and integrated into the departmental and organisation work programmes.

The Strategy identifies the Functions delivered by, and Typologies of, GI and how these have been developed. It also ensures that the data used to define GI are easy-to-update and readily obtained at little or no cost to CCBC. This will facilitate the monitoring and evaluation of the Strategy throughout its proposed 20-year programme. Importantly it provides a mechanism for adding value to the different Typologies, thus allowing CCBC to measure how successful they have been in implementing GI.

1.3 Strategy Vision

The Vision for the Green Infrastructure Strategy reflects the success over the last 20 years of the implementation and development of the Countryside Strategy which is reflected in the suggested vision for the Strategy as follows:

Caerphilly will be a green and healthy place to live with an established, multi-functional green infrastructure of high-quality spaces interlinked by a network of corridors that benefit both people and nature.

1.4 Strategy Aims

The strategy aims to deliver the following in order to achieve its vision:

The planning and management of the green infrastructure network is based upon sustainable principles that reflect the diversity of the County Borough's landscape, heritage and biodiversity resource, all working within a thriving economy. These will ensure resilience is built into the strategy which will assist in tackling climate change.

Caerphilly's green infrastructure provides enjoyment, relaxation, inspiration and wellbeing for local people and visitors. This enhances a distinct local identity and resulting sense of place and an expression of the cultural heritage of the area.

1.5 Strategy Objectives

The study brief outlined the following key objectives:

1. A Vision for the GI Strategy should be developed in conjunction with key stakeholders and this should be shared by politicians, council officers, key partners and communities in order to generate widespread support and understanding and the full role and function of green spaces throughout the County Borough. Important in achieving this objective is the appreciation of the role and function of the Public Service Board (PSB) which has been established under the Wellbeing of Future Generations Act (2015). These will be key players in resource allocation for the future and important to the development of GI.
2. The Strategy should identify key strategic opportunities where the restoration, maintenance, creation or connection of GI would deliver the most significant benefits.
3. Identify and prioritise GI within CCBC as well as within the national and regional context.
4. Identify clear and practicable mechanisms for delivery with clearly measured targets and outcomes.
5. Develop a comprehensive policy framework for the protection, accessibility and use of GI. The framework should include policies that shape future planning, design, management and maintenance of GI.
6. Set out key principles that will guide the provision of green infrastructure to ensure it is embedded into the design of new development and adds value to the place making process.
7. Act as a basis for a five-year rolling delivery and action plan by establishing local and regional delivery priorities.
8. Provide the foundation and a supporting document for the future preparation and submission of grant bids by CBC to relevant funding bodies and organisations.

1.6 How to Use the Strategy

This document sets out the Strategy and provides a CCBC-wide framework against which programmes, and projects can be developed but it does not include detailed GI Action Plans. It is important that the user fully understands the concept of Green Infrastructure and therefore must understand:

- The policy framework (see section 2) in which the Strategy sits as it will underpin any programmes developed by CCBC. The policies set out the programme of actions for each CCBC department as well as those for outside stakeholders such as NRW.
- The importance of the Public Service Boards (PSBs) in allocating resources to support work programmes throughout CCBC.
- What the Functions (see section 3.1) of GI are and how they contribute to valuing GI within the CCBC.
- The relationship of one scheme against others within CCBC so that outputs can be set against the Multi-Functional actions coming from the Strategy. Likewise multiple Benefits will accrue from a broad GI approach.
- The need for projects to have a set of tools that enables success or failure to be measured.

2 POLICY FRAMEWORK

The implementation of GI operates within a national, regional and local level policy framework. The inter-relationship of the policies and strategies is illustrated on Figure 1. All contribute to GI in a variety of ways. Of particular relevance are the following:

2.1.1 National Policy

2.1.1.1 *Environment (Wales) Act 2016*

This set out a number of factors affecting the long-term management of the environment. Of importance to the development of GI is the requirement of section 6 of the Act known as the biodiversity duty. Section 6 requires that public authorities must seek to maintain and enhance biodiversity so far as consistent with the proper exercise of their functions and in doing so promote the resilience of ecosystems. To follow the section 6 duty, public authorities should seek to embed the consideration of biodiversity and ecosystems into their early planning of policies, plans and programmes, as well as their day-to-day activities. By its nature this requirement is a key driver to the development of GI.

2.1.1.2 *Wellbeing of Future Generations (Wales) Act (2015)*

The Wellbeing of Future Generations (Wales) Act 2015 (WFGA) requires public bodies in Wales to think about the long-term impact of their decisions, to work better with people, communities and each other, and to prevent persistent problems such as poverty, health inequalities and climate change.

To ensure all parties are working towards the same purpose the act describes seven wellbeing goals. The Act makes it clear that the forty-four listed public bodies must work to achieve all of the goals, not just one or two. The Act defines sustainable development in Wales as “*the process of improving the economic, social, environmental and cultural wellbeing of Wales by taking action, in accordance with the sustainable development principle, aimed at achieving the seven wellbeing goals.*” which are a Wales that is:

A Prosperous Wales



an innovative, productive and low carbon society which recognises the limits of the global environment and therefore uses resource efficiently and proportionately and develops a skilled and well-educated population.

A Resilient Wales



a nation which maintains and enhances a biodiverse natural environment with healthy functioning ecosystems that support social, economic and ecological resilience.

A More Equal Wales

a society that enables people to fulfil their potential no matter what their background or circumstances.

A Healthier Wales

a society in which people's physical and mental well-being is maximised and in which choices and behaviours that benefit future health are understood

A Wales of Cohesive Communities

attractive, viable, safe and well-connected.

A Wales of Vibrant Culture & Thriving Welsh Language

a society that promotes and protects culture, heritage and the Welsh language, and which encourages people to participate in the arts, sport and recreation.

A Globally Responsible Wales

a nation which, when doing anything to improve the economic, environmental and cultural well-being of Wales, takes account of whether doing such a thing may make a positive contribution to global well-being.

To achieve this, it sets out five ways of working needed for public bodies to achieve the seven wellbeing goals. These are as follows:

Long-term



the importance of balancing short-term needs with the need to safeguard the ability to meet long term needs.

Integration



considering how the public body's well-being objectives may impact upon each of the well-being goals, on their other objectives, or on the objectives of other public bodies.

Involvement



the importance of involving people with an interest in achieving the wellbeing goals and ensuring that those people reflect the diversity of the area which the body serves.

Collaboration



acting in collaboration with any other person (or different parts of the body itself) that could help the body to meet its well-being objectives.

Prevention



how acting to prevent problems occurring or getting worse may help public bodies meet their objectives.

This approach is seen as providing opportunities for innovative thinking to meet these ends.

An important feature of the Act is the establishment of PSBs in each local authority area which will form the approach to implementing programmes including GI. In CCBC the environment has been identified as a key feature of the operation of the Board.

2.1.1.3 *Planning Policy Wales, Edition 10*

This version of the policy guidance was introduced during the preparation of the Strategy. Importantly, the document makes specific reference to GI (paragraphs 5.65 to 5.75) and places it at the core of planning policy, thus raising the need to address GI within the statutory planning process. The guidance also covers place making which is a central premise of the GI process.

2.1.1.4 *National Development Framework*

This emerging draft guidance mandates local authorities to deliver a GI strategy and further strengthens the role of GI. At a strategic level, it sets out to address a series of issues including prosperity, wellbeing, economy, housing, transport, energy and environment. It is due to be published in September 2020 and covers the period up to 2040 and will include 5 yearly reviews.

2.1.1.5 *Technical Advice Notes (TAN)*

A series of notes that provide advice on specific subjects which should be read alongside Planning Policy Wales. With regard to GI, the following are relevant:

- **TAN 5 (2009) Nature Conservation** - gives advice on how the land use planning system should contribute to protecting and enhancing biodiversity and geological conservation.
- **TAN 10 (2017) Tree Preservation Orders (TPOs)** – sets out the scope of TPOs from single tree to woodlands. It is supported by the definition of the need for such orders together with making and confirming them.
- **TAN 12 (2016) Design** – gives advice on how the planning system addresses good design.
- **TAN 16 (2009) Sport, Recreation and Open Space** – outlines how planning incorporates sports, recreation and open space needs into development plans and in dealing with planning applications.

2.1.1.6 *Active Travel (Wales) Act 2013*

The Active Travel (Wales) Act 2013 (ATWA) requires each local authority to develop an Active Travel Plan (CCBC published theirs in 2016). This will have an influence on active travel in CCBC, in particular cycling and walking infrastructure which provide opportunities for the development of GI. CCBC's Active Travel Plan offers the potential to develop wider green corridors particularly in rural area such as Caerphilly.

2.1.1.7 *Flood and Water Management Act (FWMA) 2010*

Schedule 3 of the Act requires that surface water drainage for new developments comply with mandatory national standards for SuDS. It requires that proposals are agreed with and approved by a SuDS Approval Body (SAB) before construction with drainage implications begins. This will be managed by the local authority which also has the power to adopt and maintain the water drainage systems according to Section 17 of Schedule 3. The powers come into force on 7th January 2019 and the process runs in parallel with the requirements for planning consent.

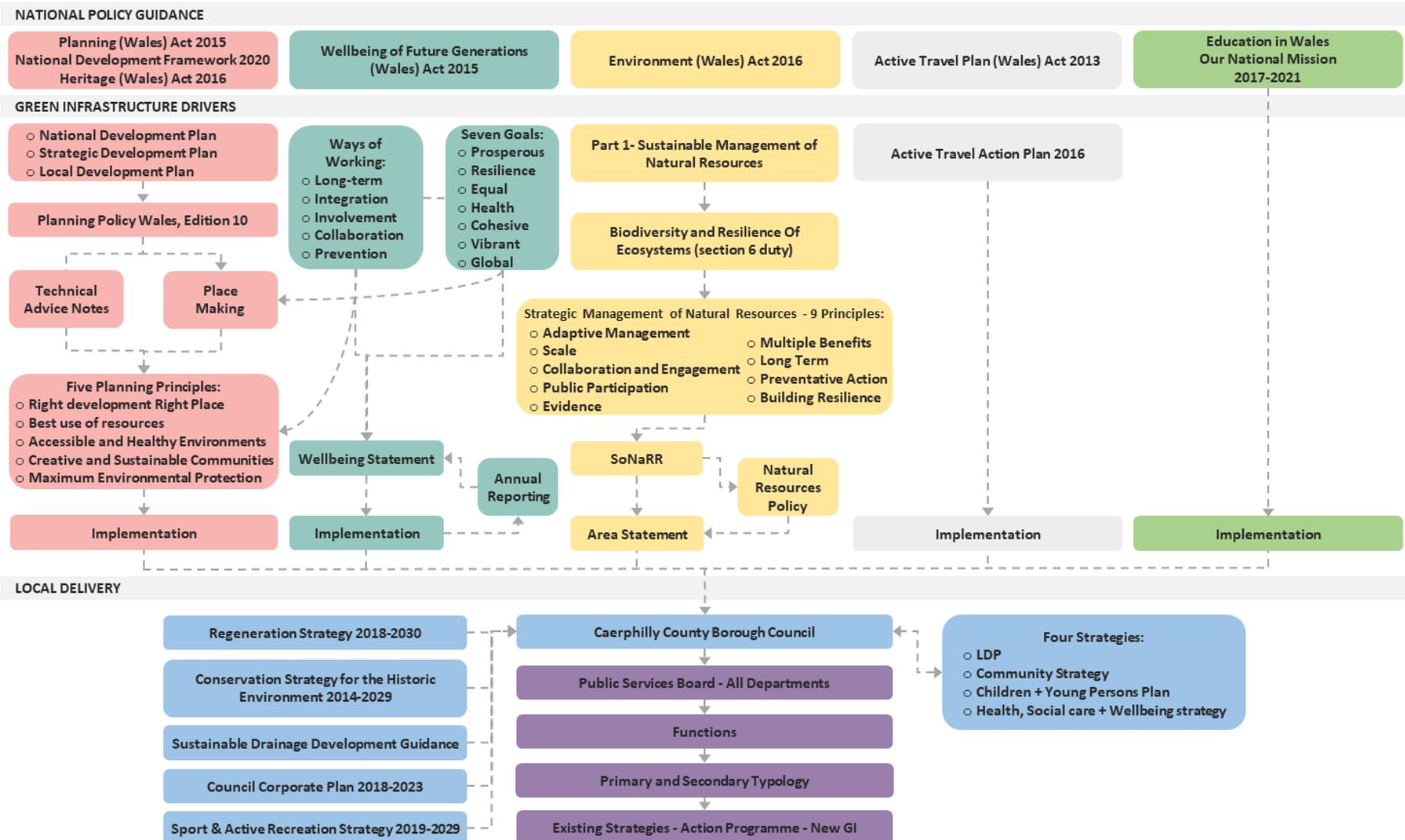


Figure 1 - Green Infrastructure Policy Framework

2.1.2 Regional Policy

2.1.2.1 *Gwent Green Grid*

The Gwent Green Grid (3G) is a regional approach to developing and implementing GI covering the former Gwent councils of:

- Newport City Council
- Monmouthshire County Council
- Torfaen County Borough Council
- Caerphilly County Borough Council
- Blaenau Gwent County Borough Council

It is seen as a model for GI in Wales by focusing PSB fund allocations and building a network of GI in terms of connectivity, ecosystem services and resilience. It builds on work previously carried out on pollinator resources and upland natural resource management.

2.1.3 Local Policy

There are a number of County Borough Council plans and strategies which are relevant to GI implementation:

2.1.3.1 *Council Corporate Plan (2018-2023)*

The primary policy document is the Council Corporate Plan (2018-2023) which sets out what CCBC is aiming to deliver and how this should be achieved. The plan identifies a number of wellbeing objectives. Of these, Objective 5 is relevant; this seeks to achieve a healthy community within the context of the sustainability principles as set out in the WFGA. Particular reference is made to the role that GI will play in meeting this objective.

2.1.3.2 *Local Development Plan*

The existing and emerging Local Development Plans (LDP) sets the development framework for CCBC. It is important for the development of GI that a strong policy structure is contained within the Local Development Plan, which is supported with Supplementary Planning Guidance (SPG) as required.

2.1.3.3 *The Sports and Active Recreation Strategy 2019-2029*

A key part of the strategy is the role of the outdoor environment for activity. This will influence the priority of development of GI.

2.1.3.4 *The Regeneration Strategy 2018-2023*

Entitled “A Foundation for Success”, this sets out a framework for the future regeneration of CCBC for the next five years up to 2023. The strategy sets out priorities under four key themes:

- Supporting People
- Supporting Business
- Supporting Quality of Life
- Connecting People and Places

Of these, the Quality of Life theme is key in relation to GI. In this context “quality” is defined as a general perception of wellbeing of both communities and business within the area. It recognises that a variety of factors can affect this. Importantly it notes that to improve quality of life, the physical and natural environment requires improvement and maintenance. Seven main objectives support quality of life and of these, the two that are most relevant to GI are:

- Manage the natural heritage and its resources appropriately for future generations, whilst accommodating much needed sustainable development, protecting wildlife and encouraging the use of green spaces to promote wellbeing
- Improve access to culture, leisure and the arts.

A number of key priorities support these, each with an associated action programme. These in turn seek to:

- Balance the need for development and the protection of the landscape.
- Balance the need for development and protection of GI.
- Maximise the economic values of country parks.

All of these criteria support the concept, development and implementation of a GI Strategy and these are recognised within the action programmes.

2.1.3.5 *Countryside Strategy*

This was originally produced in 1998 as a response to the Local Agenda 21 process. The strategy was updated but not formally adopted by CCBC in 2010. The scope of actions within the strategy form the basis for developing and promoting the GI Strategy. It addressed a series of issues:

- Increase in demand for access into the countryside
- Growing awareness of environmental issues
- The economic pressures on agriculture and forestry
- The pressure to develop greenfield sites for housing and employment
- Continuing loss and degradation of habitat
- The lack of complete information on which to take decisions.

It sought to address these by:

- Working more closely with landowners and farmers
- Working within the development process to address development in the countryside
- Build up data to monitor change in terms of habitat loss and gain
- Build upon growing corporate and public awareness of environmental issues to turn appreciation into action

2.1.3.6 *Saving Landscapes of Caerphilly Strategy*

This focuses on the Caerphilly basin area in the southern part of the County Borough this strategy is structured on a series of landscape-based solutions to improve the environment and improve quality of life. A number of its efforts seek to address social issues affecting residential areas set within the landscape framework established by the backdrop of Caerphilly Mountain

3 EXISTING GREEN INFRASTRUCTURE

CCBC lies between Cardiff and Newport to the south and abuts the Brecon Beacons National Park (BBNP) in the north (see Figure 2). It covers an area of approximately 280 square kilometres and has a population of approximately 181,000 (Office for National Statistics, 2019).

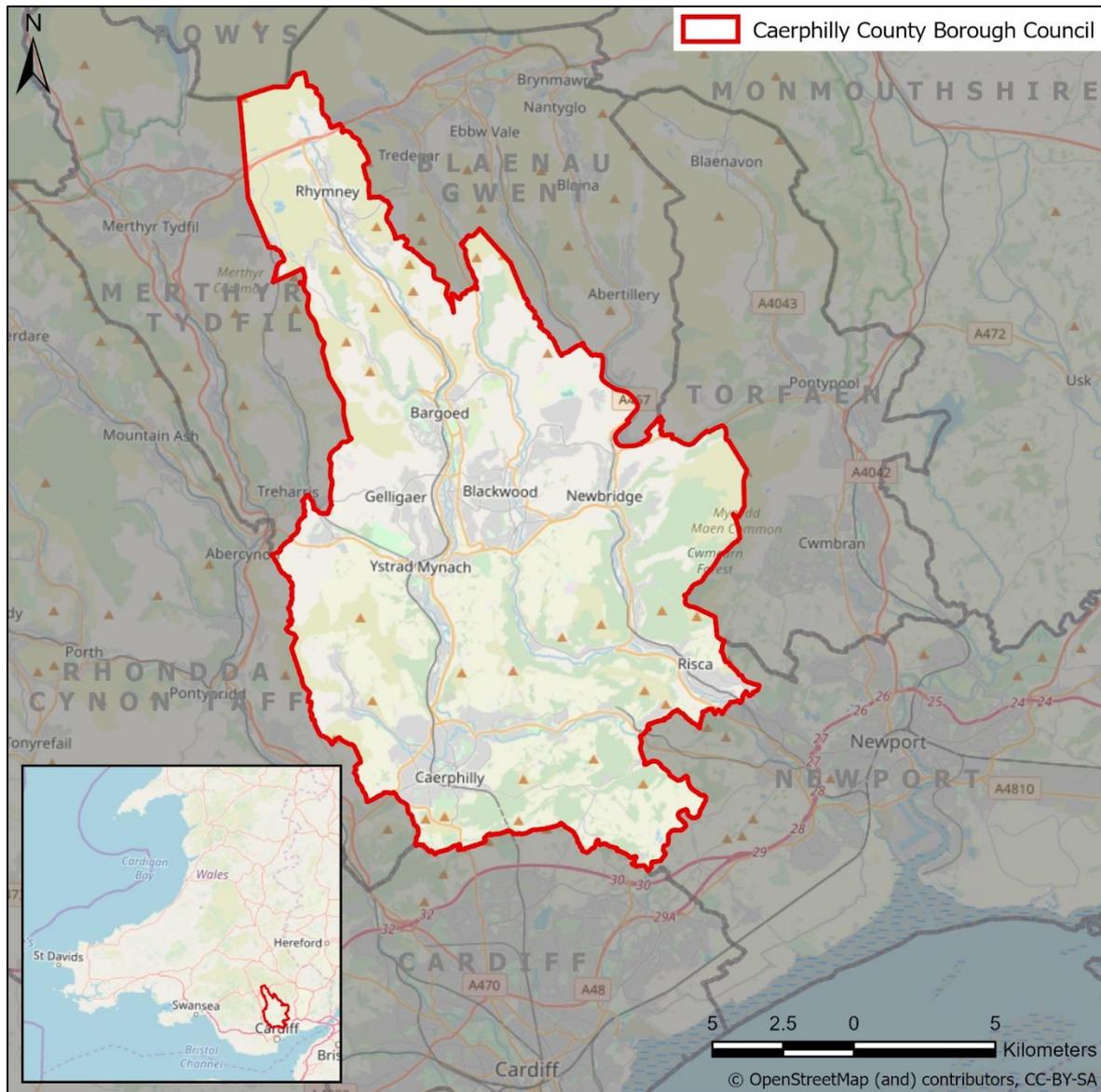


Figure 2 - CCBC's location in the context of South-east Wales

The landscape of CCBC is varied ranging from the upland moors of Pen March and the open commons of Gelligaer and Mynydd Maen in the north, to the dramatic steep sided valley sides of the Ebbw and Sirhowy and Rhymney Rivers which form the central core. To the south, it has a softer landscape typified by the traditional patchwork of agricultural fields of the Mynyddislwyn plateau and the mixed agricultural and woodland landscapes of Machen and Rudry.

The landscape's quality is reflected by its designation within the LDP of six Special Landscape Areas (SLA) and four areas of Visually Important Local Landscape (VILL). The biodiversity of the area is both rich and varied. The Aberbargoed Grasslands has been designated as a Special Area of Conservation

(SAC) under EU legislation in recognition of its international conservation value. There are ten Sites of Special Scientific Interest (SSSI). Of these, five have been designated on geological value and interest and five on biological grounds. Underpinning these are a number of locally valuable sites. These include four Local Nature Reserves (LNRs) and 190 Sites of Interest of Nature Conservation (SINC).

The rich heritage of the area is shown in the designation of 14 Conservation Areas and 365 Listed Buildings. In addition, there are 46 Scheduled Ancient Monuments (SAMs) and four Historic Parks and Gardens.

3.1 Functions of Green Infrastructure

The choice and number of Functions reflects the scale and extent of the Strategy. The Functions are derived from Natural England’s Green Infrastructure Guidance (Natural England, 2009), the three workshops held with CCBC staff, members and key external stakeholders and a review of other GI studies in Wales.

The outcome of measuring Functions includes benefits to the users and receivers of GI. The social and environmental benefits are well recognised however, of increasing importance are the wider economic benefits of GI. These were examined in a study published in 2008 as part of Natural England’s and the Northwest Regional Development Agency’s Natural Economy Northwest programme (Natural Economy Northwest, 2008). This programme looked at the increasing economic benefits of GI and how they underpin its application. These findings are further supported by the findings from the Greening of the Valleys project which have underpinned the emerging works for the Valley’s Regional Park currently being implemented by the Welsh Government (WG). It is considered they have a relevance to the situation in Caerphilly and provide a useful framework to support the wider implementation of GI. The functions are as follows:

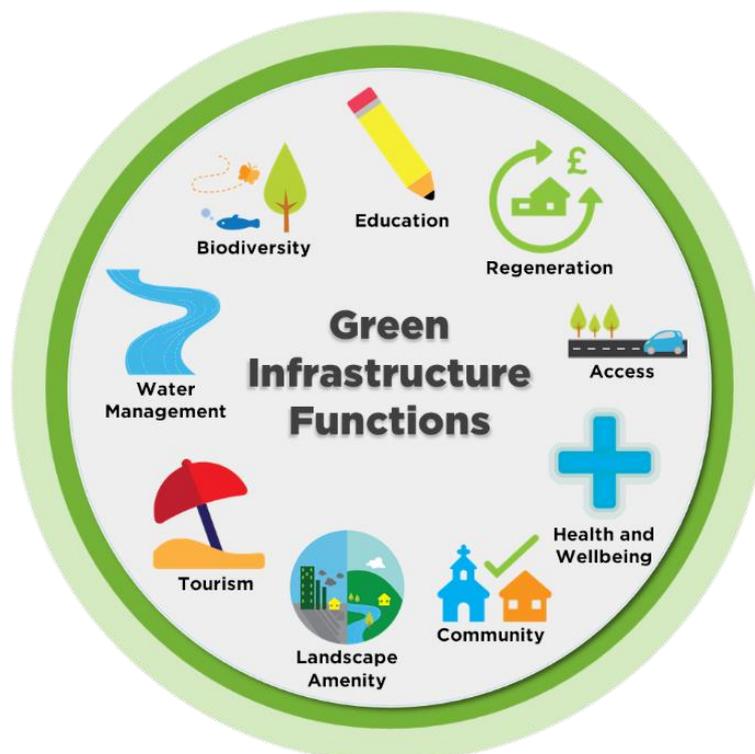


Figure 3 - GI Functions



Biodiversity – this is a major function in GI strategies as it encompasses both the rural and urban resource and therefore underpins much of the action programme inputs and builds upon the Local Biodiversity Action Plan.

Key Benefits - Education, Health and Wellbeing, Quality of Place.



Access – access and movement are a key driver of the development of green corridors and is closely aligned to the public rights of way network and areas designated with the right to roam and relates to objectives of the Active Travel Act.

Key Benefits – Health and Wellbeing, Tourism, Education, Biodiversity.



Water Management – a key element in GI provision. Importantly in 2019 the application of more stringent standards to drainage design relating to development areas having the requirement to comply with mandatory national standards for sustainable drainage (SuDS). This will be a major boost to GI provision.

Key Benefits – Flood Alleviation, Climate Change Adaptation, Economic Growth and Investment, Health and Wellbeing, Biodiversity.



Tourism – seen as an increasingly important economic sector within the County Borough through the emphasis on its natural and heritage assets. Figures published in 2018 show 1.77 million visitors to the County Borough spending £128.95 million. They also showed that tourism supported 1559 Full Time Equivalent jobs.

Key Benefits – Economic Growth and Investment, Heritage and Cultural Assets.



Community – The engagement with the community in terms of understanding their aspirations and interests is key to the successful implementation of the GI strategy. It is important to clarify the gains against the perceived changes in the environment.

Key Benefits – Health and Wellbeing, Education, Quality of Place, Sense of Place.



Regeneration – the longer-term regeneration will facilitate the introduction of the GI Strategy. With positive regeneration comes greater opportunity to develop GI. The Regeneration Strategy 2018-2023 identifies the importance of greenspace and GI in achieving the strategy objectives as well as facilitating regeneration itself. This can build upon the positive efforts associated with the original WDA “Landscapes working for Wales” programme.

Key Benefits - Economic Growth and Investment, Quality of Place.



Health and Wellbeing – a key function for the implementation of GI given the introduction of the Wellbeing of Future Generations (Wales) Act 2015. This sets out a series of objectives and ways of working to bring forward sustainable development

Key Benefits – Quality of Place, Economic Growth and Investment, Biodiversity, Health and Wellbeing.



Education – GI provides an important vehicle to ensure the community sees the gains from education, particularly using the GI resource. This will build upon the extensive effort with regard to greening schools and the resultant educational benefits

Key Benefits – Economic Growth and Investment, Quality of Place, Health and Wellbeing.



Landscape Amenity - addresses a wide range of GI assets and forms the backdrop to other GI actions as well as a distinct asset in its own right. The basis for this is included within the LANDMAP strategy and supporting designation of SLAs and VILLs.

Key Benefits – Quality of Place, Economic Growth and Investment, Health and Wellbeing

3.2 Mapping Green Infrastructure

In order to understand the extent of GI across CCBC, three datasets have been reviewed and combined. These each focus on GI from a slightly different perspective and combine to create a more comprehensive dataset for CCBC, both with regards to information and coverage. These include:

1. **OpenStreetMap** – this is a citizen science project aiming to provide a comprehensive and open dataset similar to Google Maps and Bing Maps. It offers an excellent insight into what the people of CCBC are mapping and therefore are interested in. Whilst the coverage can be patchy, and the focus is not always on GI, information contained in several of the data's fields can be interpreted into GI Typologies
2. **Ordnance Survey MasterMap** – this is the UK's most authoritative mapping data which is used regularly in planning and design work. It contains information relating to land use which can be interpreted into GI Typologies.
3. **Ordnance Survey Green Space** – derived from Ordnance Survey MasterMap, this open data (also available with more information through the Public Sector Mapping Agreement) contains more specific information relating to GI with a coverage predominately confined to urban areas.

The datasets are combined in the order presented above, with each replacing any data beneath them (the method is detailed in Appendix B).

Figure 4 demonstrates the combined dataset and therefore, GI across CCBC. It is symbolised according to original dataset from which information has been sourced. The Ordnance Survey MasterMap data provides the original data for the majority of CCBC however, the Ordnance Survey Green Space data provides an important level of detail in the more urban environments. Where there is OpenStreetMap data, it fills small gaps in the Ordnance Survey MasterMap and Green Space data.

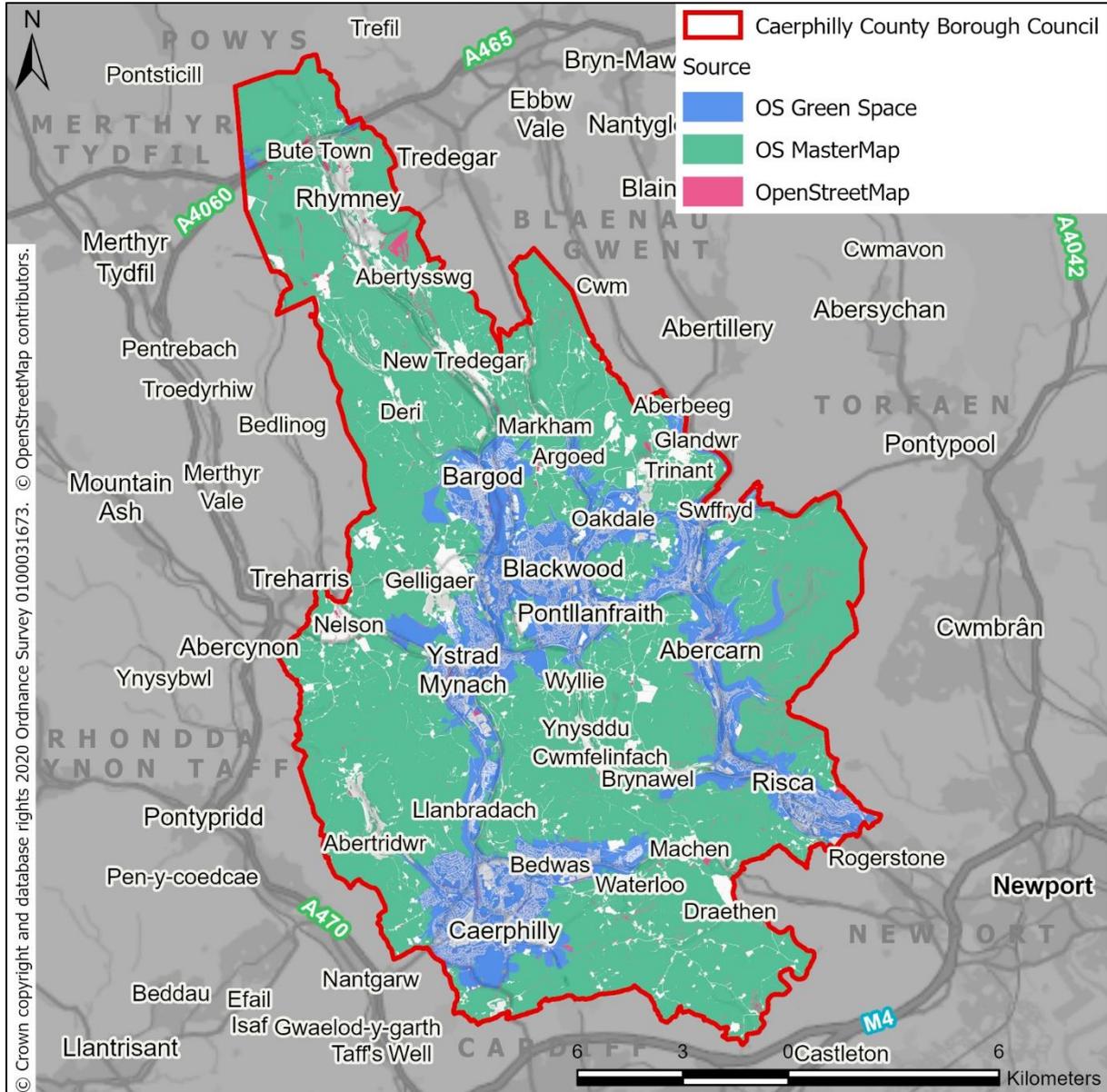


Figure 4 - GI across CCBC - the results of combining OpenStreetMap, Ordnance Survey MasterMap and Ordnance Survey Green Space data

3.3 Green Infrastructure Typologies

Figure 1 demonstrates the extent of GI across CCBC. However, it does not explain the types of GI and therefore, it is necessary to define the Typology of GI. This definition is based on landscape type as opposed to landscape designation. Landscape designations are better used to define the management of landscape types.

With careful consideration of CCBC’s unique character, a series of Primary and Secondary Typologies have been defined in accordance with:

- the scope of the Strategy (see section 0);
- Natural England’s Green Infrastructure Guidance (Natural England, 2009); and,
- Feedback received at the CCBC GI workshop (see Appendix A).

The Primary Typology provides a broad classification of landscape type, which is useful for high level strategic planning. However, with over 88% of CCBC identified as GI (see Table 2), the Secondary Typology is important in providing a finer grained review of the landscape type and offering specific direction to actions plans.

The Primary and Secondary Typologies are as follows:

Table 1 - GI Primary and Secondary Typologies

PRIMARY TYPOLOGY	Parks and Gardens	Amenity Greenspace	Natural and Semi Natural Green Spaces	Green Corridors	Other
SECONDARY TYPOLOGY	 <p><i>Country and regional parks</i> <i>Formal gardens</i> <i>Urban parks</i></p>	 <p><i>Domestic gardens</i> <i>Housing green spaces</i> <i>Informal recreation spaces</i> <i>Other incidental space</i> <i>Play space</i> <i>Urban commons</i> <i>Village greens</i></p>	 <p><i>Bare rock habitats</i> <i>Beach</i> <i>Grassland</i> <i>Heath or moor</i> <i>Meadow</i> <i>Nature reserves</i> <i>Open and running water</i> <i>Other</i> <i>Rural commons</i> <i>Wetlands</i> <i>Woodland and scrub</i></p>	 <p><i>Cycling routes</i> <i>Hedgerows</i> <i>Other</i> <i>Pedestrian paths</i> <i>Rights of way</i> <i>Rivers and canals including their banks</i> <i>Road and rail corridors</i></p>	 <p><i>Allotments</i> <i>Camping/ caravan parks</i> <i>Cemeteries and churchyards</i> <i>Community gardens</i> <i>Farms</i> <i>Golf course</i> <i>Institutional</i> <i>Orchard</i> <i>Other</i> <i>Public/civic space</i></p>

After reviewing the values in the combined dataset for CCBC (as discussed in Section 3.2) the Primary and Secondary Typologies have been applied and mapped. Figure 5 demonstrates the Primary Typologies for Ystrad Mynach (maps for other settlements in CCBC are included in Volume 2). Clearly illustrated by the amount of land identified by the 'other' Primary Typology, it is immediately apparent that these are broad-brush.

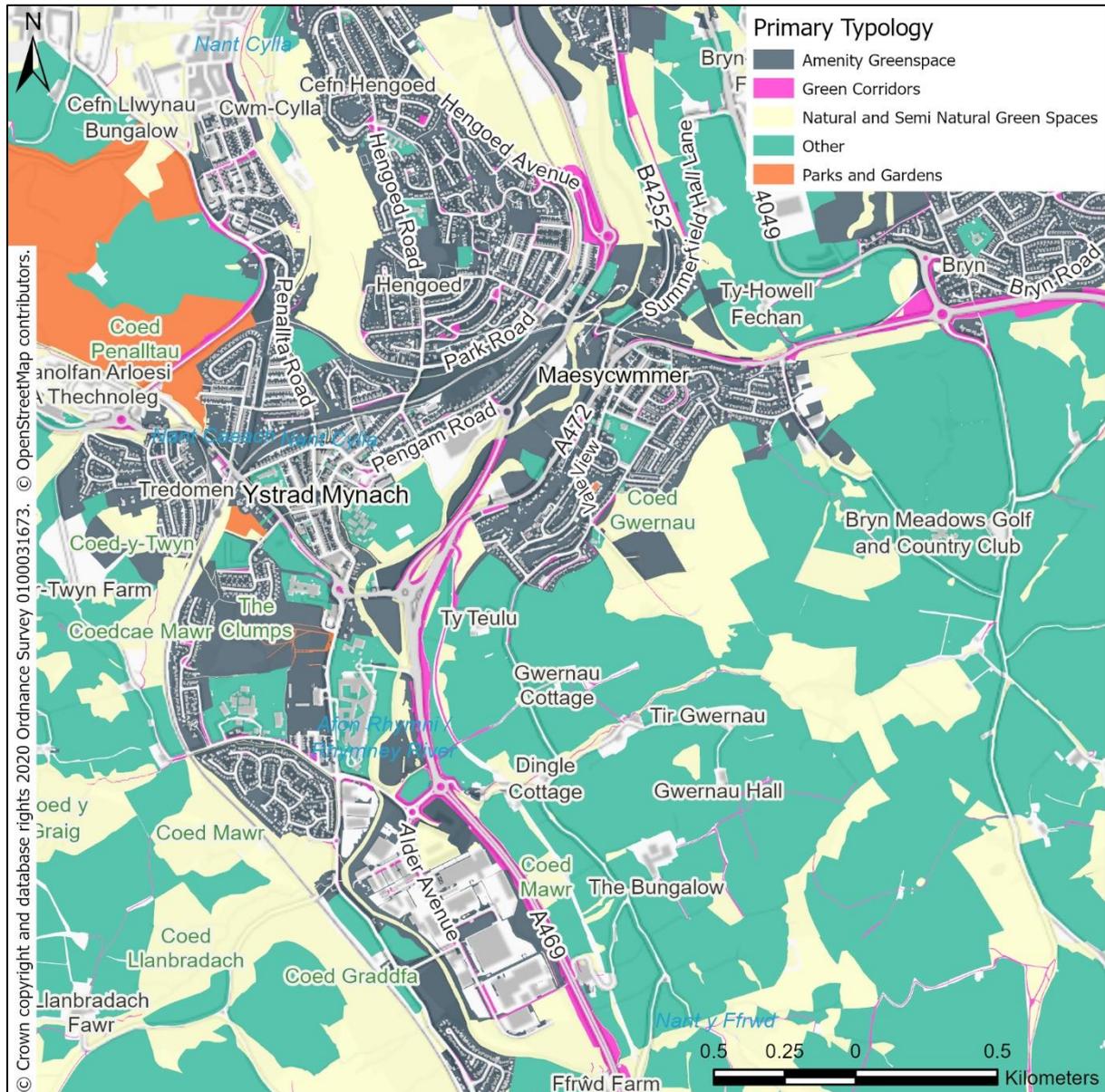


Figure 5 - GI Primary Typologies for Ystrad Mynach

By mapping the more detailed Secondary Typology, greater information is available to planners developing action plans. Figure 6 shows the potential insight offered by using the Secondary Typologies.

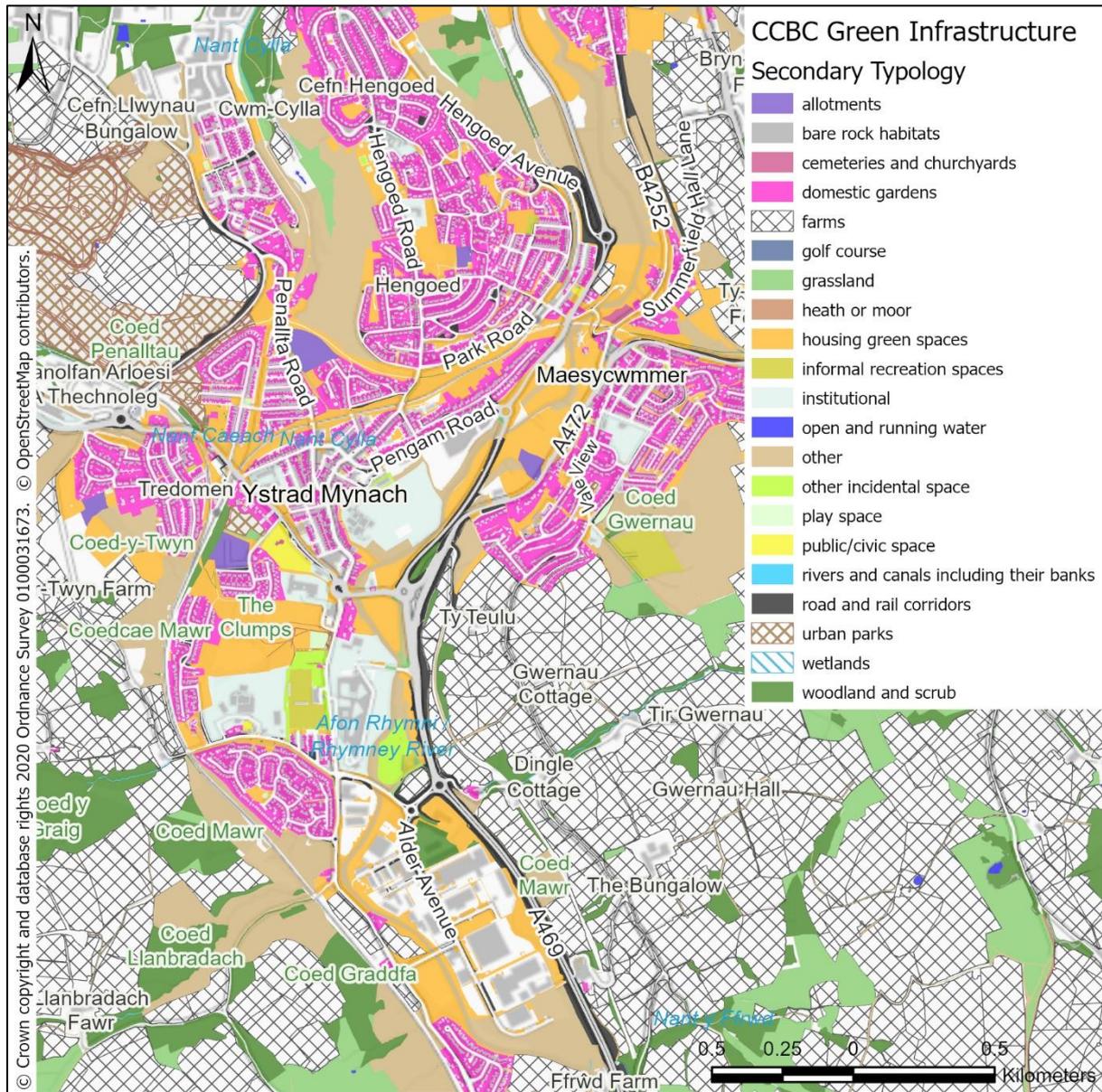


Figure 6 - GI Secondary Typologies for Ystrad Mynach

Table 2 details the proportion of CCBC covered by each of the Primary and Secondary Typologies.

Table 2 – GI Primary and Secondary Typologies and % of CCBC they cover

Primary Typology	Proportion of CCBC	Secondary Typology	Proportion of CCBC
Amenity Greenspace	9%	domestic gardens	4%
		housing green spaces	4%
		informal recreation spaces	0.4%
		other incidental space	0.2%
		play space	0.01%
Green Corridors	2%	other	1%
		rivers and canals including their banks	0.2%
		road and rail corridors	1%
Natural and Semi Natural Green Spaces	39%	bare rock habitats	0.1%
		beach	0.0004%
		grassland	15%
		heath or moor	1%
		meadow	0.002%
		nature reserves	0.01%
		open and running water	0.3%
		other	5%
		rural commons	0.002%
		wetlands	0.3%
		woodland and scrub	18%
Other	37%	allotments	0.2%
		camping/caravan parks	0.003%
		cemeteries and churchyards	0.1%
		farms	34%
		golf course	1%
		institutional	1%
		orchard	0.003%
		other	1%
		public/civic space	0.1%
Parks and Gardens	2%	urban parks	2%
		TOTAL	88%

Where Secondary Typologies are not identified in CCBC – for example Country and regional parks - there could be a number of reasons (See Table 3 for a list of Secondary Typologies not identified in CCBC and an explanation why this is):

- a) the Secondary Typology does not exist in CCBC;
- b) the Secondary Typology relates more to a landscape designation and therefore, the landscape types are picked up by other Secondary Typologies (e.g. Sirhowy Valley Country Park contains a number of Secondary Typologies including bare rock habitats, farms, grassland, open and running water, rivers and canals including their banks and woodland and scrub); or,
- c) the combined datasets do not contain the detail required to map this Secondary Typology and the landscape type is therefore, picked up by another Secondary Typology or ‘other’.

Table 3 - GI Primary and Secondary Typologies not present in CCBC

Primary Typology	Secondary Typology	Notes
Parks and Gardens	<i>Country and regional parks</i>	The Secondary Typology relates more to a landscape designation and therefore, the landscape types are picked up by other Secondary Typologies.
	<i>Formal gardens</i>	
Amenity Greenspace	<i>Urban commons</i>	The Secondary Typology does not exist in CCBC.
	<i>Village greens</i>	
Green Corridors	<i>Hedgerows</i>	The combined datasets do not contain the detail required to map this Secondary Typology and the landscape type is therefore, picked up by another Secondary Typology or ‘other’.
	<i>Cycling routes</i>	The Secondary Typology relates more to a landscape designation and therefore, the landscape types are picked up by other Secondary Typologies.
	<i>Rights of way</i>	
	<i>Pedestrian paths</i>	

Of particular interest is the variation in amount of each Primary/Secondary Typology across CCBC. It is apparent that housing green spaces and domestic gardens (~8 % of CCBC) offer great potential to take GI forward, especially where the land is in public ownership which should help to facilitate any works. In contrast the largest Secondary Typology is farms which covers 34.4 % of CCBC and should be seen as offering large scale opportunities. Although land ownership may be a barrier to GI development, this is where the Multi-Function nature of GI comes into play; an obvious approach would be to promote and extend public access, which will help to promote well-being and health benefits. This could be further developed through the consideration of focusing on woodland and scrub (18% cover) and grassland (14% cover) dependent upon ownership.

3.4 Assessment

The development of a combined dataset is useful in identifying the location and Typology of GI across CCBC. However, in order to better assess GI's Importance, Provision of Function, Value and Need for Enhancement, a method for scoring is required. The Secondary Typology level has been chosen for this purpose as the greater degree of detail it offers with regards to GI Typology is important considering the extent of GI across CCBC. It should be used at the strategic level to aid the process of developing action plans alongside local and specialist knowledge.

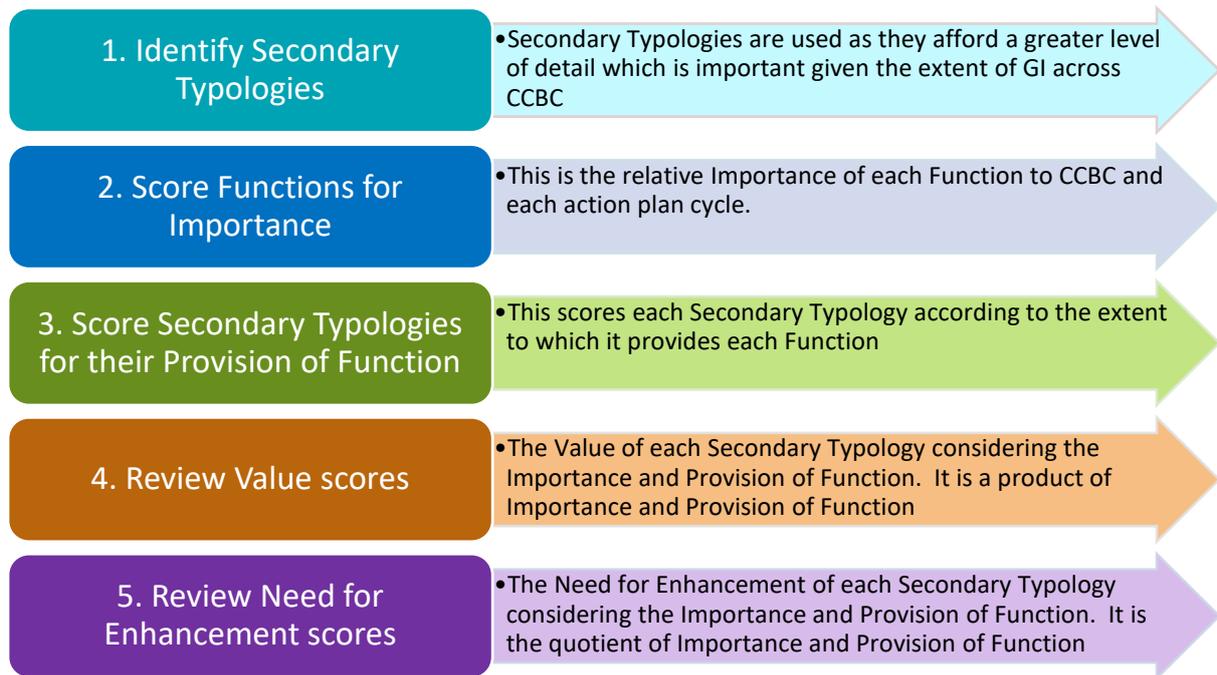
This scoring approach is mapped at the Multi-Function level and therefore is broad-brush. However, it is possible to map the scoring for specific functions (i.e. specifically biodiversity) and/or to develop settlement-specific scores if required. This provides a strategic map of GI across CCBC. By reviewing Provision of Function scores and updating them if necessary, success of the Strategy can be monitored and evaluated over time. It has been developed to facilitate the changing relative Importance of Functions over-time which can change depending on national, regional and local GI drivers.

Expanding on the definition of Function and Secondary Typology, the scoring method introduces the following additional terminology:

Table 4 - GI scoring terminology

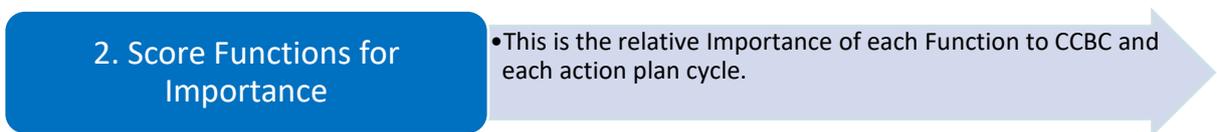
Term	Description
Importance	The relative importance of each Function to CCBC and each action plan cycle.
Provision of Function	To what extent each Secondary Typology provides each Function
Value	The Value of each Secondary Typology considering the Importance and Provision of Function. It is a product of Importance and Provision of Function
Need for Enhancement	The Need for Enhancement of each Secondary Typology considering the Importance and Provision of Function. It is the quotient of Importance and Provision of Function.

The following flow diagram lists the steps which should be followed to develop and apply the scores.



The process is outlined below and Ystrad Mynach has been used as an example to show how the process is applied to the County Borough. Additional example maps from across CCBC are included in Volume 2.

3.4.1 Importance



In order to accommodate changes to the relative Importance of Functions during the delivery of the GI Strategy, an Importance score is applied to each Function.

These changes might be led by a change in policy at national, regional or local level. Recent examples include the introduction of the ATWA and WFGA. The scores can be changed as required such as within plan cycles or changes in CCBC policy or objectives. The scores are defined as:

Table 5 - Definition of Importance scores

Importance	Numerical	Description
Very low	1	Relatively un-important compared to other Functions
Low	2	Integral to the delivery of non-statutory elements
Medium	3	Integral to the delivery of local policy
High	4	Integral to the delivery of regional policy
Very high	5	Integral to the delivery of national policy

Table 6 details the Importance scores which have been developed with CCBC. When reviewing these, local geographical and policy knowledge is required in order to ensure they are appropriate.

Table 6 - Importance scores

	Functions									
										
Importance	5	5	3	1	5	4	5	3	5	

3.4.2 Provision of Function

3. Score Secondary Typologies for their Provision of Function

• This scores each Secondary Typology according to the extent to which it provides each Function

In order to assess how each Secondary Typology achieves each Function, they are scored accordingly. The following scores should be applied to each Secondary Typology/Function, drawing on local and specialist knowledge:

Table 7 - Definition of Provision of Function scores

Provision of Function	Numerical	Description
Very low	1	Little or no GI resource available to the Function being assessed
Low	2	Poor GI resources available to the Function being assessed
Medium	3	Moderate GI resources available to the Function being assessed
High	4	Good GI resources available to the Function being assessed
Very high	5	Outstanding or excellent GI resources available to the Function being assessed

To demonstrate this process, a subset of Secondary Typologies and Provision of Function scores has been included in Table 8 below. For each Secondary Typology, a Multi-Function total is derived by totalling the individual Provision of Function scores. The higher the score, the greater the Provision of Function.

Table 8 – Subset of Provision of Function scores

	Functions									Σ
	Biodiversity	Access	Water Management	Tourism	Community Benefits	Regeneration	Health and Wellbeing	Education	Landscape Amenity	
Secondary typology	Provision of Function									
play space	1	1	1	1	5	3	5	3	2	22
heath or moor	5	4	5	3	3	2	3	3	5	33
farms	4	2	4	2	1	3	2	1	4	23

Figure 7 shows the Multi-Function total Provision of Function scores for Ystrad Mynach across all Secondary Typologies within its extent.

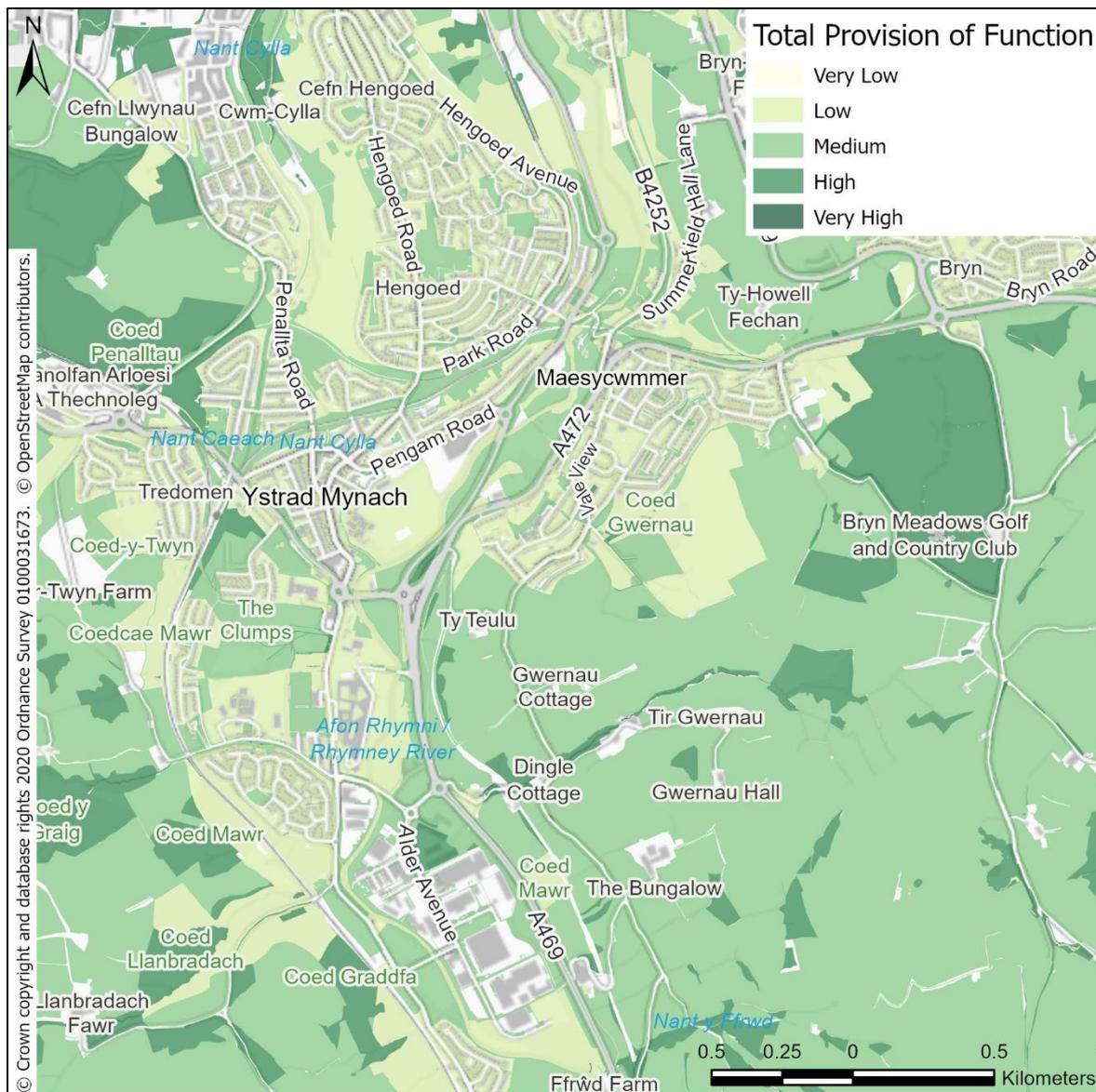


Figure 7 - Multi-Function total Provision of Function scores for Ystrad Mynach

3.4.3 Value

4. Review Value scores

- The Value of each Secondary Typology considering the Importance and Provision of Function. It is a product of Importance and Provision of Function

Value considers the relationship between Importance and Provision of Function. It works on the basis that a high level of Provision of Function and Importance to CCBC results in a more valuable element of GI. It is therefore, the product of Importance and Provision of Function:

$$\text{Importance} \times \text{Provision of Function} = \text{Value}$$

Using the same subset of Secondary Typologies, Table 9 below demonstrates this, along with Multi-Function totals derived by totalling the individual Value scores. The higher the score the greater the Value.

Table 9 - Example Value scores

	Functions										Σ
	Biodiversity	Access	Water Management	Tourism	Community Benefits	Regeneration	Health and Wellbeing	Education	Landscape Amenity		
Importance	5	5	3	1	5	4	5	3	5		
Secondary typology	Value										
play space	5	5	3	1	25	12	25	9	10	95	
heath or moor	25	20	15	3	15	8	15	9	25	135	
farms	20	10	12	2	5	12	10	3	20	94	

Figure 8 shows the Multi-Function total Value scores for Ystrad Mynach across all Secondary Typologies within its extent.

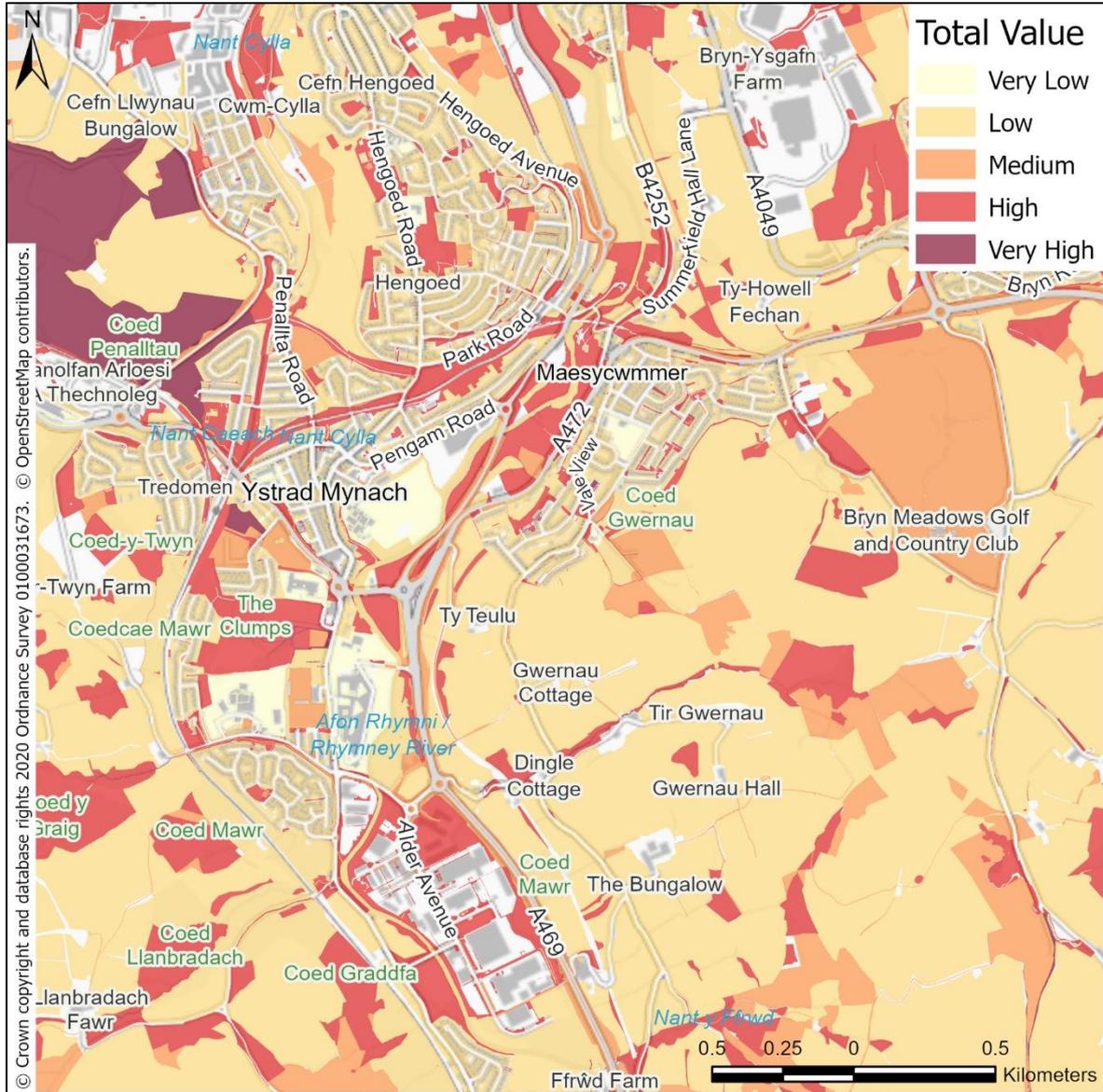


Figure 8 - Multi-Function total Value scores for Ystrad Mynach

3.4.4 Need for Enhancement

5. Review Need for Enhancement scores

- The Need for Enhancement of each Secondary Typology considering the Importance and Provision of Function. It is the quotient of Importance and Provision of Function

Need for Enhancement considers the inverse relationship between Importance and Provision of Function. It works on the basis that a low level of Provision of Function and high-level Importance to CCBC results in greater Need for Enhancement. It is therefore, the quotient of Importance and Provision of Function:

$$Importance \div Provision\ of\ Function = Need\ for\ Enhancement$$

Using the same subset of Secondary Typologies, Table 10 below demonstrates this, along with Multi-Function totals derived by totalling the individual Need for Enhancement scores. The higher the score, the greater the Need for Enhancement.

Table 10 - Example Need for Enhancement scores

	Functions										
	 Biodiversity	 Access	 Water Management	 Tourism	 Community Benefits	 Regeneration	 Health and Wellbeing	 Education	 Landscape Armenty		
Importance	5	5	3	1	5	4	5	3	5		
Secondary typology	Need for Enhancement										Σ
play space	5.0	5.0	3.0	1.0	1.0	1.3	1.0	1.0	2.5	20.83	
heath or moor	1.0	1.3	0.6	0.3	1.7	2.0	1.7	1.0	1.0	10.52	
farms	1.3	2.5	0.8	0.5	5.0	1.3	2.5	3.0	1.3	18.08	

Figure 9 shows the Multi-Function total Need for Enhancement scores for Ystrad Mynach across all Secondary Typologies within its extent.

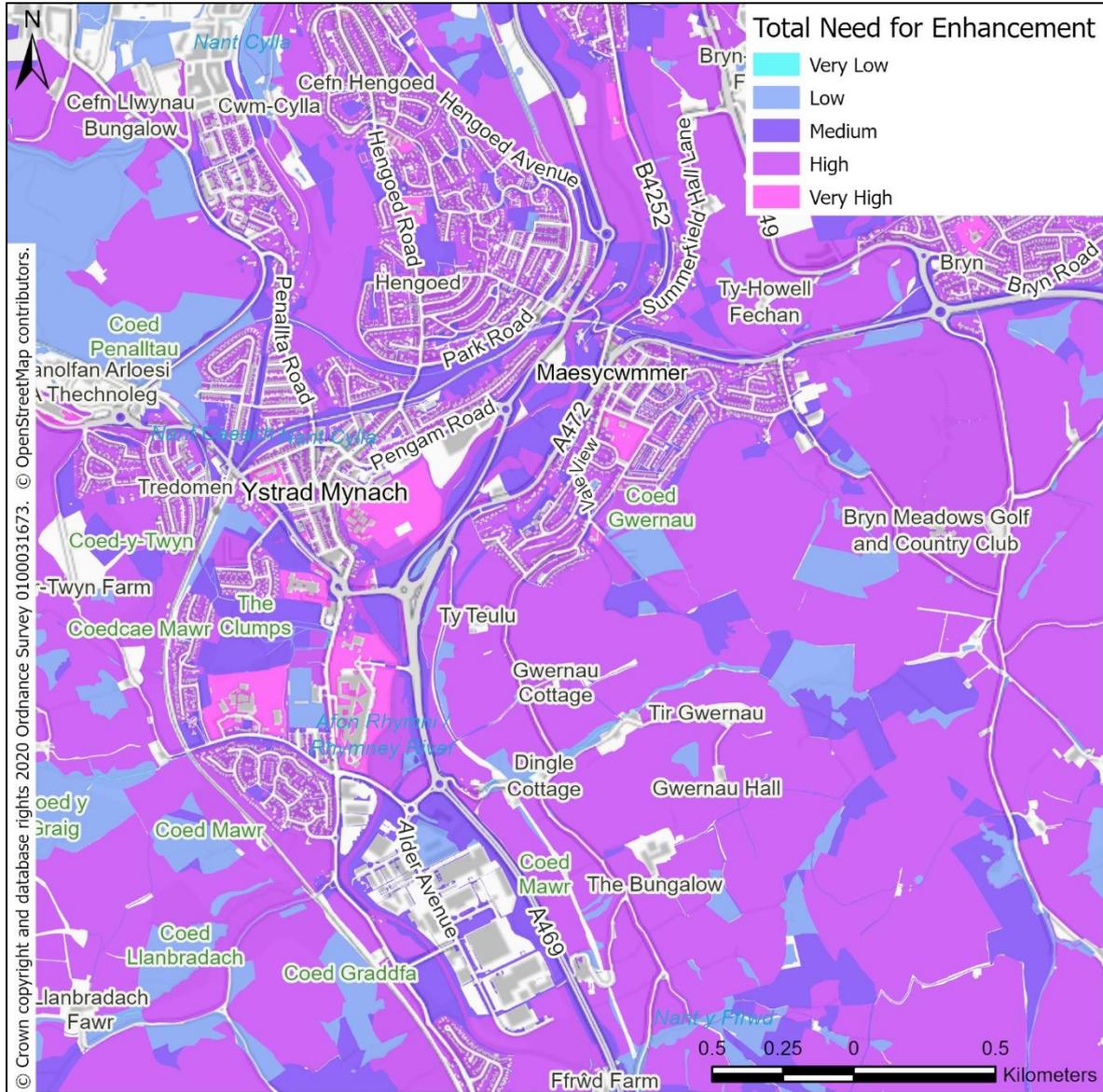


Figure 9 - Multi-Function total Need for Enhancement scores for Ystrad Mynach

4 STRATEGY

4.1 Principles

This Strategy does not include a detailed assessment of existing GI deficiencies and future needs, but it is apparent from the review and consultation exercise, there are both qualitative and quantitative limitations. This is not unexpected given the increased pressures being placed upon the environment, together with the reduction in resources to tackle these issues. This underpins the need for a strategic framework for the future implementation of GI throughout CCBC. Within this, it is important to ensure that existing GI is protected and both augmented and enhanced as an overarching principle to support GI. Improvements to the GI network can be delivered through:

- The protection, restoration and enhancement of existing GI, increasing the Multi-Function nature of it
- The creation of new GI, in particular within the urban edge where there is considerable pressure on existing GI resources and where its benefits could be extended to a wider section of the community.
- The delivery process will operate at specific scales; strategically the WG’s policy framework will be critical. The development of PPW with its specific reference to GI is key, as is the implementation of the WFGA. These will be administered locally through the LDP and the PSBs respectively. The latter will become more important over time as they are a key component of the implementation of the WFGA. Of particular relevance will be the environment sub-group as this will be closely linked to the delivery of GI.

Whatever scale GI is delivered at, there are some basic principles for delivery to be considered:

Table 11 - Strategy Principles

Principle	Description	
Local planning framework	It is important that a strong policy base is established to promote GI within the development plan framework. It is considered key to the success of GI and specific policy should be included in the emerging replacement LDP. If required, this should be supported by SPG.	
New development	New developments can provide both opportunities and constraints for GI. Early integration of GI into the planning process (such as pre-application advice) will ensure it is properly planned in advance of development and/or delivered on a phased basis. An important development in 2019 was the introduction of the requirement for surface water drainage for new developments to comply with mandatory national standards for SuDS and be approved by a SAB, which in this instance will be CCBC.	

Principle	Description	
Reflect local character	GI should reflect local characteristics including landscape, habitats, vernacular and sense of place. The work undertaken through the Countryside Strategy, emerging South Caerphilly Strategy and LANDMAP will be an important source of this information and guidance.	
Enhancement and restoration	Focus on improvements to the quality and robustness of GI, where opportunities exist, and create new resources to enhance integrity.	
Multi-Function	One of the most important facets of GI. Wherever possible, GI should be designed and managed as Multi-Function resources, delivering the widest range of linked environmental and social benefits. The understanding of this is key to its longer-term development and implementation.	
Linkages	New sites and habitats should be created for people and wildlife to complement existing projects and GI. This strengthens and reinforces networks and enhances connectivity. It can also promote public access to GI and contribute to active travel.	
Understanding existing networks	An understanding is needed of existing networks. This relates to organisational information (such as that provided by NRW) as well as physical networks such as paths, trails, waterways and roads. It also assists in understanding the character of the area and where there may be needs and deficiencies.	
Retrofitting opportunities	Investigate opportunities for retro-fitting GI, such as green roofs, traffic calming, street scape, new tree planting and de-canalisation of river corridors. These elements offer potential to integrate features within contemporary GI schemes.	

Principle	Description
Working with partners	<p>The role of partners is key to the successful implementation of GI and its longer-term sustainability. Within CCBC, the impetus will increasingly fall on the PSBs. It should also encompass other CCBC departments so as to focus resource allocations together with wider non-statutory and community groups. This will foster ownership and involvement. It should also involve working with partners at the regional scale such as other local authorities in initiatives including the 3G, as well as national partners such as NRW.</p> 
Funding mechanisms	<p>All opportunities should be followed up drawing down on national, regional and local initiatives, lottery and Community Infrastructure Levy (CIL) funds.</p> 

4.2 Action Plans

The initial output to support the Strategy is the identification of elements for a series of Action Plans. The Action Plans – one for each Function (see section 3.1) - are the vehicles for implementing the Strategy’s objectives and will be prepared by CCBC Officers for delivery over the five-year rolling programmes for the next 20-year period.

The Action Plans draw on the extensive range of existing national, regional and local policy. Whilst each of these have their own objectives, their wider application to GI will ensure that benefits are optimised. In doing so it will help the PSB resource relevant actions and increase their involvement within CCBC’s activities.

Each Action Plan should detail the following (see Table 12 for an example structure):

- | | |
|---|------------------------------|
| 1. Number | 7. Other Stakeholders |
| 2. Function | 8. Five-year Cost |
| 3. Action (Aim) | 9. Funding |
| 4. Criteria for Success (Objectives) | 10. Risks |
| 5. Relevant Policy | 11. Opportunities |
| 6. Lead Stakeholder | 12. Monitoring Regime |

Table 12 - Example Action Plan structure

Number	Function	Action (Aim)	Criteria for Success (Objectives)	Relevant Policy	Lead Stakeholder	Other Stakeholders	Five-year Cost	Funding	Risks	Opportunities	Monitoring Regime

4.3 Monitoring and Evaluation

It is important that the success or failure the Strategy are properly identified. A monitoring and evaluation plan will need to be put into place. It will use indicators that are relevant to the Strategy and readily understood by all parties. This should operate at two discrete, yet interrelated levels:

- **Strategic Level** – this would include a review of how far GI had been incorporated within other policies and programmes including CCBC policy (such as the Corporate Plan and LDP) and national policy. The following should be used to measure success:
 - a review of the allocation of resources to GI through the operation of the PSB and its functions for resource use.
 - Development and implementation of action plans
 - Update GI mapping to review change in areas
 - Update Importance of Functions and Provision of Functions scores and recreate Value and Need for Enhancement maps (these can be compared visually or quantitatively in a GIS)
- **Local Level** – here, reference should be made to individual actions, such as the SuDS requirements, landscape works, improved access to the countryside. These should be measured against the economic, social and environmental benefits accrued. For example:
 - *social benefits* will include evidence of improved health and wellbeing, improvements in air quality and increased recreational activities with associated increase in new and improved pathways.
 - *environmental benefits* would include the increase in scale and diversity of habitats, area of new tree and shrub planting and enhancement of existing facilities, such as country parks.
 - *economic benefits* will include the provision of new jobs through increased investment in regeneration associated with the increase in GI.

5 SUMMARY

This Strategy has been developed to recognise the comprehensive policy framework that already exists at a national, regional and local level. It will help CCBC to deliver on the commitments they have made in their Council Corporate Plan and LDP along with many of the strategies which support these. National policy such as PPW, the WFGA and the Environment (Wales) Act are also addressed; through its delivery, the Strategy will help CCBC towards achieving their requirements under these national policies. At a more regional level, its alignment to the 3G project will help enhance the delivery of GI across the historic region of Gwent and strengthen partnerships with CCBC’s neighbouring local authorities.

A strategic and holistic approach to identifying, classifying and assessing GI across CCBC has been developed with input from a range of CCBC departments and external stakeholders. This has led to a more comprehensive understanding of GI across CCBC and established an important baseline for the Strategy’s success to be monitored and evaluated against.

The Strategy includes a set of Principles which when followed should lead to the development of new, and the enhancement of existing, GI. These should be delivered through a series of Actions Plans; one for each of the GI Functions identified during the process of classifying existing GI.



Figure 10 - Summary of Strategy Principles

The Strategy now requires the development of these Action Plans, a task which will be delivered by CCBC. It is important that these are underpinned by the Strategy’s Principles, are aligned to its policy framework and build on its evidence base. Local knowledge and expertise should be capitalised on during this process, especially when identifying the details of each Action Plan and reviewing the GI scoring system.

The delivery of the Strategy via these Action Plans requires the involvement of the PSB and in particular, the environment subgroup. The multi-discipline nature of the PSB will help promote a Multi-Function approach to delivering GI across CCBC. Furthermore, the PSB’s importance at a local and regional level, will help enhance the Strategy’s integration into relevant policy.

To facilitate feedback on the benefits accrued from GI and its longer-term role in health and wellbeing, community involvement in the development of the Action Plans should be promoted. Community

feedback will also help in monitoring the wider application of GI to promote community cohesion and connections with nature and recreation.

There are a wide range of funding opportunities which should be explored. These include direct funds from the planning process, such as the CIL and Section 106 Agreements. Other funding sources include the WG's range of grant schemes, the National Lottery and Aggregate Tax.

Key to understanding the Strategy's success and directing any changes in approach will be the implementation of the monitoring and evaluation programme. This will assess the success of the Strategy at both a strategic and local level. It aims to ensure the Strategy remains integrated into CCBC's local policy and that tangible, on-the-ground results are being realised.

REFERENCES

Natural Economy Northwest. (2008). *The Economic Value of Green Infrastructure*. Natural Economy Northwest.

Natural England. (2009). *Green Infrastructure Guidance*. Natural England.

Office for National Statistics. (2019, January 14). Population Estimates for UK, England and Wales, Scotland and Northern Ireland.

Welsh Government. (2018). *Planning Policy Wales, Edition 10*. Cardiff: Welsh Government.



APPENDICES

APPENDIX A

GI Workshop (CCBC) and Presentation (PSB)



**Caerphilly County Borough Council
Green Infrastructure Strategy**

GREEN INFRASTRUCTURE WORKSHOP (CCBC) AND PRESENTATION (PSB)

CCBC GI Workshop – 4th July 2018

TACP delivered this workshop to develop the GI Typologies and Scoring. Attendees included:

Department	Name	Role
Active Travel	Liz Gibby	Senior Assistant Engineer
Allotments and Cemeteries	Alun Jones	Area Officer – Cemeteries and Allotments
Community Regen	Tina McMahon	Community Regeneration Manager
Community Safety	Paul Wallen	Community Safety Warden Supervisor
Country Parks/Countryside	Jon Hole	Chief Countryside Ranger
Cwmcarn Forest Drive	Michael Owen	Cwmcarn Forest Drive Project Manager
Drainage (Engineers)	Michelle Johnson	Senior Engineer
Ecology	Alison Jones	Principal Ecologist
Economic Development	Antony Bolter	Group Manager Strategy Funding and Support
Education	Keri Cole	Chief Education Officer
Environmental Health	Lyndon Ross	Senior Environmental Health Officer
Green Spaces Strategy	Dewi Thomas	Countryside Planning Assistant
Green Spaces Strategy	Philip Griffiths	Green Space Strategy and Cemeteries Manager
Highways	Gavin Barry	Senior Assistant Engineer
Housing/WHQS	Mark Jennings	Housing Strategy Officer
Landscape	Richard Bryan	Principal Landscape Architect
Leisure	Bob Keep	Outdoor Education Manager
Parks	Simon Beecham	Senior Parks Officer
Planning Policy	Dave Lucas	Team Leader Strategic and Development Planning
Policy	Paul Cooke	Senior Policy Officer
RDP	Owen Ashton	RDP Delivery Manager
Tourism	Paul Hudson	Marketing and Events Manager
Trees	Paul Harris	Senior Arboricultural officer
Urban Renewal	Ryland Llywellyn	Senior Planner
Waste	Rhodri Lloyd	Special Projects Officer

PSB GI Presentation – 19th July 2018

TACP presented the developing GI Strategy to the PSB, answered questions and noted suggestions.



**Caerphilly County Borough Council
Green Infrastructure Strategy**

APPENDIX B

GI Mapping and Scoring Method



**Caerphilly County Borough Council
Green Infrastructure Strategy**

GREEN INFRASTRUCTURE MAPPING AND SCORING METHOD

In order to understand the extent of GI across CCBC, three datasets have been reviewed and combined - these include:

1. **OpenStreetMap** – four of the data's fields contain information relating to GI:
 - a. leisure
 - b. amenity
 - c. land use
 - d. natural
2. **Ordnance Survey MasterMap**
3. **Ordnance Survey Green Space**

An ArcGIS Pro model has been developed to combine the three datasets – there are five main stages to this (numbers in square brackets indicate the number of geoprocessing tools per stage - a total of 85):

1. **Input data preparation [4]**
2. **Joining primary and secondary typologies [27]**
3. **Data cleaning [19]**
4. **Unions [2]** to combine the three datasets:
 - a. OpenStreetMap + Ordnance Survey MasterMap = 'OSM + OSMM'
 - b. 'OSM + OSMM' + Ordnance Survey Green Space = 'Final GI'
5. **Populating final primary and secondary typology fields [31]** with values from the source data in order of their influence (i.e. Ordnance Survey Green Space takes priority over Ordnance Survey MasterMap which takes priority over OpenStreetMap)
6. **Scores are applied [2]** according to typology

An ArcGIS Pro Layer File has been developed to symbolise the following layers from the model's single 'Final GI' output:

1. Source
2. Primary Typology
3. Secondary Typology
4. Provision of Function
5. Value
6. Need for Enhancement

The ArcGIS Pro model and ArcGIS Pro Layer Files have been provided to Caerphilly County Borough Council as part of the delivery of this Strategy.



**Caerphilly County Borough Council
Green Infrastructure Strategy**



TACP

10 Park Grove
Cardiff CF10 3BN
T: 029 2022 8966
E: admin@tacp.co.uk
www.tacp.co.uk