

SEA STATEMENT

FOR THE

CARLOW COUNTY DEVELOPMENT PLAN 2022-2028

for: Carlow County Council

Athy Road
Carlow



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Section 1 Introduction

1.1 Introduction and Legislative Context

This is the Strategic Environmental Assessment (SEA) Statement for the Carlow County Development Plan 2022-2028.

SEA is a systematic process of predicting and evaluating the likely environmental effects of implementing a plan, or other strategic action, in order to ensure that these effects are appropriately addressed at the earliest appropriate stage of decision-making on a par with economic and social considerations.

Directive 2001/42/EC of the European Parliament and of the Council of Ministers, of 27th June 2001, on the Assessment of the Effects of Certain Plans and Programmes on the Environment, referred to hereafter as the SEA Directive, introduced the requirement that SEA be carried out on plans and programmes which are prepared for a number of sectors, including land use. The SEA Directive was transposed into Irish Law through the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 and the Planning and Development (Strategic Environmental Assessment) Regulations 2004. The Regulations have been amended by the European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011 and the Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011.

1.2 Content of the SEA Statement

Where SEA is undertaken, the Regulations require that a Statement is made available to

the public and the competent environmental authorities after the making of the Plan.

This Statement is referred to as an SEA Statement.

The SEA Statement is required to include information summarising:

- a) how environmental considerations have been integrated into the Plan;
- b) how the following have been taken into account during the preparation of the Plan:
 - the environmental report,
 - submissions and observations made to the planning authority on the Draft Plan and Environmental Report, and
 - any transboundary consultations (not required for this SEA).
- c) the reasons for choosing the Plan in the light of the other reasonable alternatives dealt with; and
- d) the measures decided upon to monitor the significant environmental effects of implementing the Plan.

1.3 Implications of SEA for the Plan

SEA has been undertaken on the Plan and the findings of the SEA are expressed in an Environmental Report, the first published version of which accompanied the Draft Plan on public display. The Environmental Report was updated in order to take account of changes to the original Draft Plan that were made on foot of submissions and recommendations in the submissions.

Carlow County Council has been provided with the findings of SEA output during their consideration of the Plan and before the Plan was adopted.

Section 2 How Environmental Considerations were integrated into the Plan

2.1 Overview

Environmental considerations were presented to the Council for its consideration through:

1. Consultations;
2. Communication of environmental sensitivities throughout the SEA process;
3. Appropriate Assessment;
4. Strategic Flood Risk Assessment;
5. Consideration of alternatives;
6. Integration of environmental considerations; and
7. Integration of individual SEA and AA provisions into the Plan.

All parts of the Plan-preparation process were informed by the SEA, AA and SFRA processes - this includes the preparation of the Chief Executive's Draft Plan, Members' Amendments to that Plan in advance of public display, Proposed Material Alterations and Further Modifications. The mitigation integrated into the final, adopted Plan includes that identified in Section 9 of this report. There were no Material Alterations to the Draft Plan, modified or otherwise, that were advised against by the SEA and adopted as part of the final Plan.

2.2 Consultations

As environmental authorities identified under the Planning and Development (SEA) Regulations, as amended, the following authorities were sent SEA scoping notices indicating that submissions or observations in relation to the scope and level of detail of the information to be included in the environmental report could be made to Carlow County Council¹: Department of Agriculture, Food and the Marine; Department of Culture, Heritage, and the Gaeltacht; Department of Communications, Climate Action and Environment; Department of Housing, Planning and Local Government; Environmental Protection Agency; Wicklow County Council; Wexford County Council;

Kilkenny County Council; Laois County Council; and Kildare County Council.

Detail on submissions made on foot of the SEA scoping notice is provided under Section 3.2.

Detail is also provided on submissions that were made on the Draft Plan and/or the SEA Environmental Report while they were on public display (see Section 3).

2.3 Communication of environmental sensitivities throughout the SEA process

Environmental considerations were integrated into the Plan before it was placed on public display. Individual sensitivities that were considered by the Planning Team preparing the Plan included the following:

- European Sites (Special Areas of Conservation and Special Protection Areas);
- Other Ecological Designations;
- Status of Surface and Ground Waters;
- Various entries to the Water Framework Directive's Register of Protected Areas;
- Groundwater Vulnerability;
- Water Services Capacity, Performance and Demand;
- Cultural heritage (archaeological and architectural) sensitivities; and
- Landscape Designations.

A number of these sensitivities are mapped on Figures 2.1 to 2.3.

Overlay mapping of environmental sensitivities was also prepared and a number of the environmental sensitivities described above were weighted and mapped overlapping each other. Figure 2.4 provides the overlay mapping of Environmental Sensitivities that was prepared. Environmental sensitivities are

¹ The names of some of the relevant authorities have changed since notification was provided.

indicated by colours which range from higher to lower sensitivity.

2.4 Appropriate Assessment

Appropriate Assessment (AA) Screening and Stage 2 AA have been undertaken alongside the Plan. The requirement for AA is provided under the EU Habitats Directive (Directive 1992/43/EEC).

The conclusion of the AA is that the Plan will not affect the integrity of the European Sites, alone or in combination with other plans or projects.²

The preparation of the Plan, SEA and AA has taken place concurrently and the findings of the AA have informed the SEA.

2.5 Strategic Flood Risk Assessment

A Strategic Flood Risk Assessment (SFRA) has been undertaken alongside the Plan. The requirement for SFRA is provided under 'The Planning System and Flood Risk Management Guidelines for Planning Authorities' (Department of Environment and Office of Public Works, 2009) and associated Department of the Environment, Community and Local Government Circular PL2/2014. The recommendations from the SFRA have been integrated into the Plan.

2.6 Consideration of Alternatives

Consideration of the environmental effects arising from a variety of different alternatives for the Plan (see Section 4) has contributed towards the protection and management of the environment within the Plan.

2.7 Integration of environmental considerations into Zoning of the Plan

Environmental considerations were integrated into the Plan's zoning through an interdisciplinary approach.

Zoning has been applied in a way that primarily seeks to achieve sustainable and compact growth, taking into account the various requirements set out in the higher-level NPF and Southern RSES.

The detailed Plan preparation process undertaken by the Planning Department combined with specialist seeks to facilitate zoning that will help to avoid inappropriate development being permitted in areas of elevated sensitivity, such as in areas at risk of flooding or ecological sensitivity. Various provisions have been integrated into the Plan that provide for flood risk management and ecological protection and management at project level.

Also taken into account were environmental sensitivities relating to ecology, cultural heritage, landscape and water, as well as the overlay mapping of environmental sensitivities.

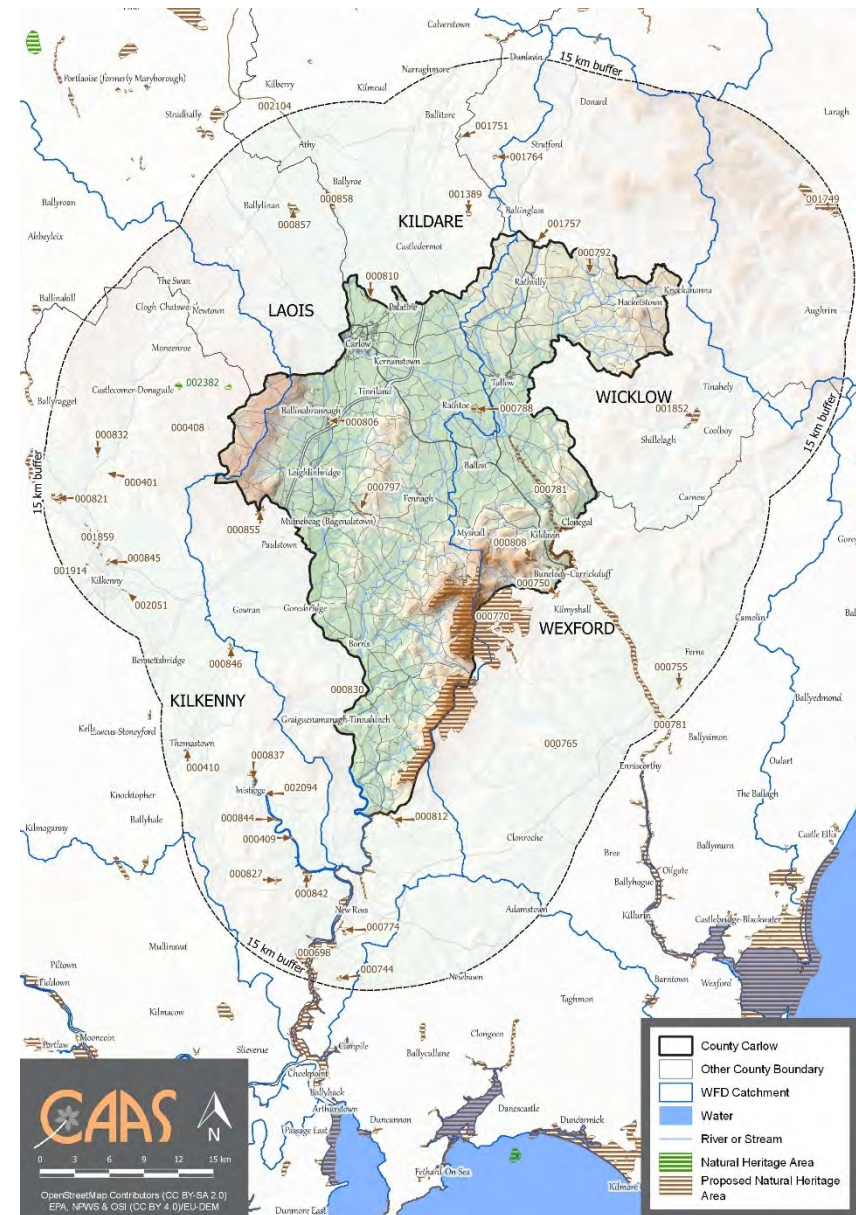
2.8 Integration of individual SEA, AA and SFRA provisions into the text of the Plan

Table 2.1 links key mitigation measure(s) - which have been integrated into the Plan - to the potential significant adverse effects of implementing the Plan, if unmitigated. The integration of these measures into the Plan occurred over a number of iterations and was informed by, inter alia, various communications through the SEA, AA and SFRA processes. The measures generally benefit multiple environmental components i.e. a measure providing for the protection of biodiversity, flora and fauna could beneficially impact upon the minimisation of flood risk and the protection of human health, for example.

² Except as provided for in Article 6(4) of the Habitats Directive, viz. There must be: (a) no alternative solution available, (b) imperative reasons of overriding public interest for the plan to proceed; and (c) adequate compensatory measures in place.

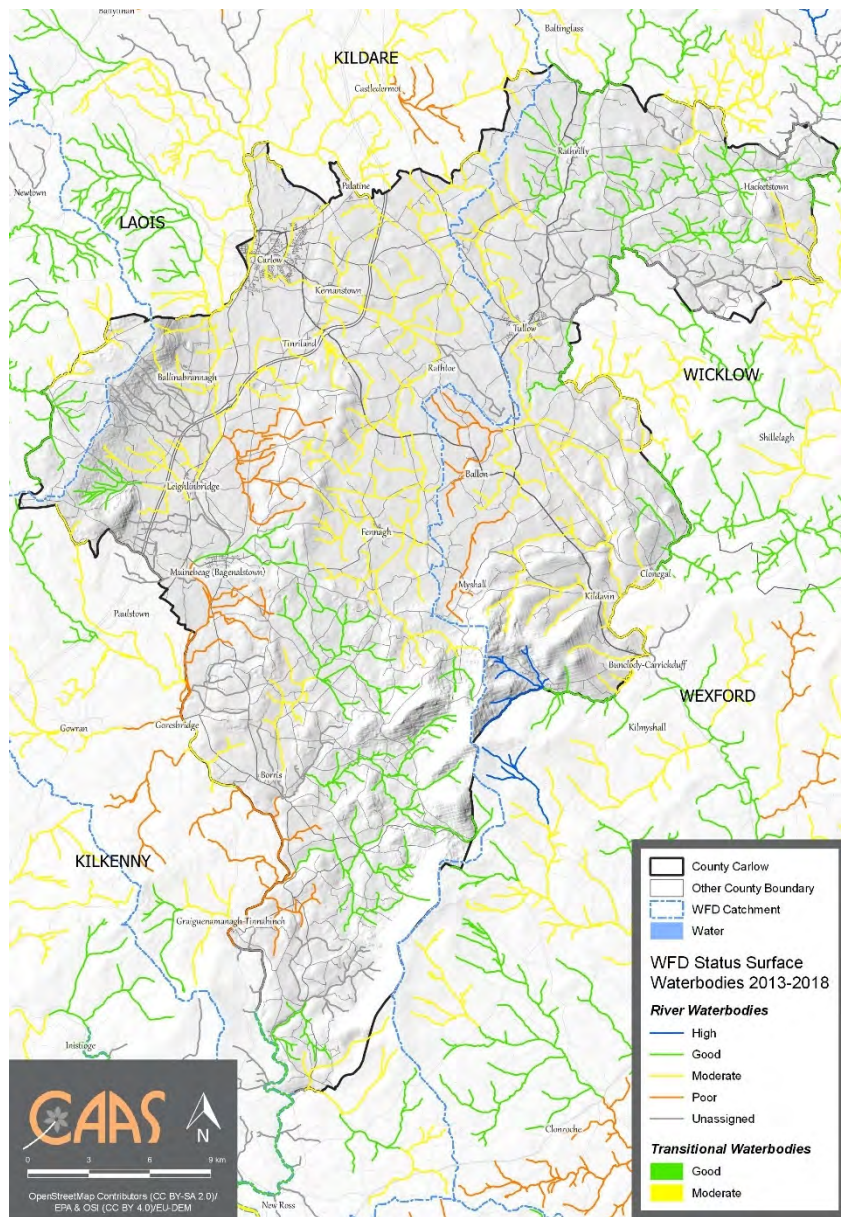


European Sites within and adjacent to the Plan area



Other Ecological Designations within and adjacent to the Plan area

Figure 2.1 Selection of Individual Environmental Sensitivities taken into account (1 of 3)

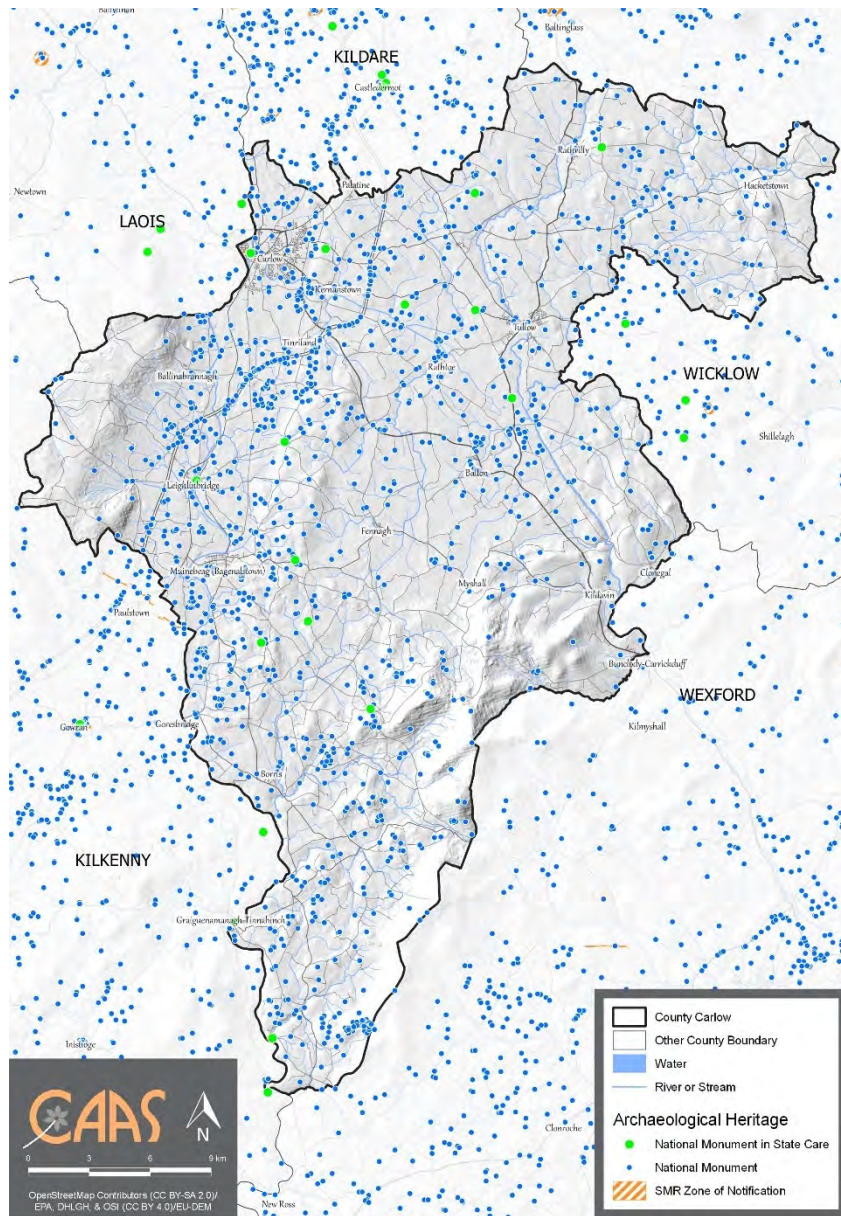


Surface Water Status

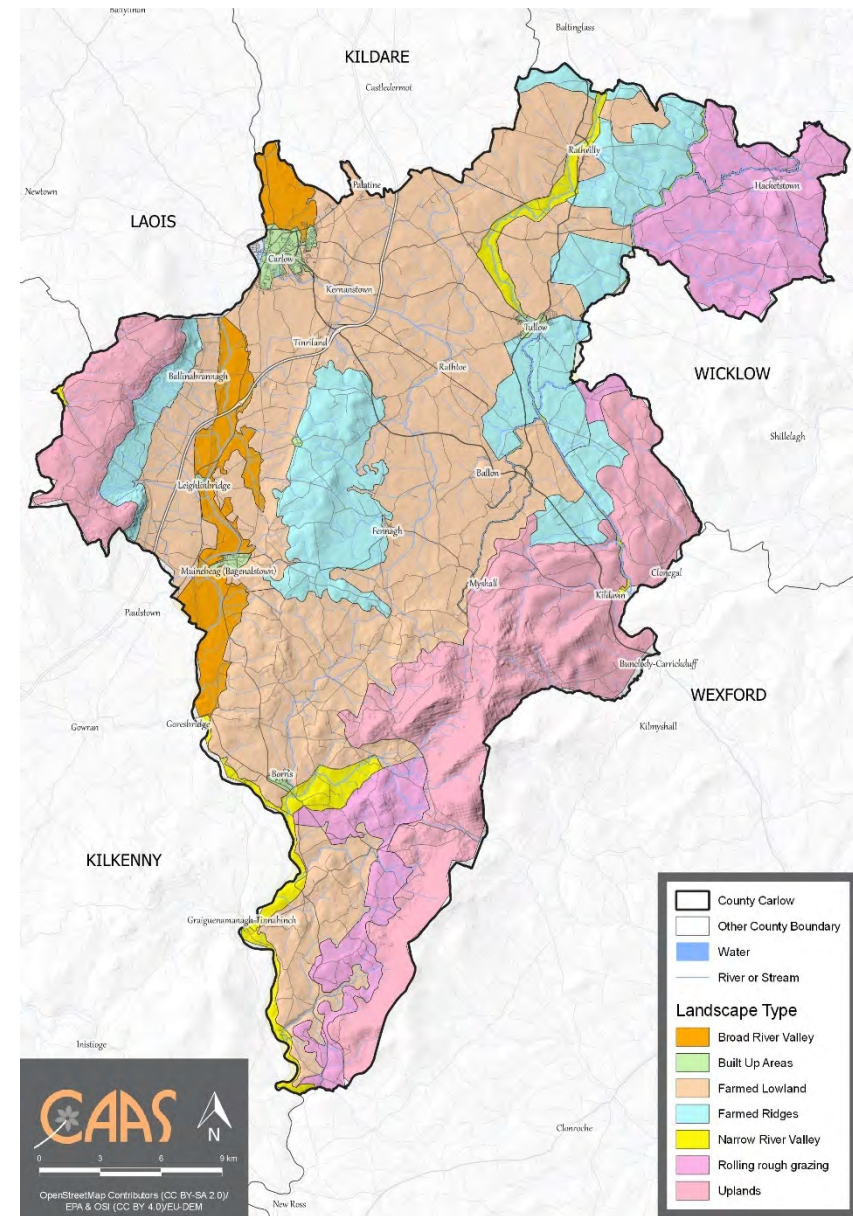


Groundwater Status

Figure 2.2 Selection of Individual Environmental Sensitivities taken into account (2 of 3)



Archaeological Designations



Landscape Types

Figure 2.3 Selection of Individual Environmental Sensitivities taken into account (3 of 3)

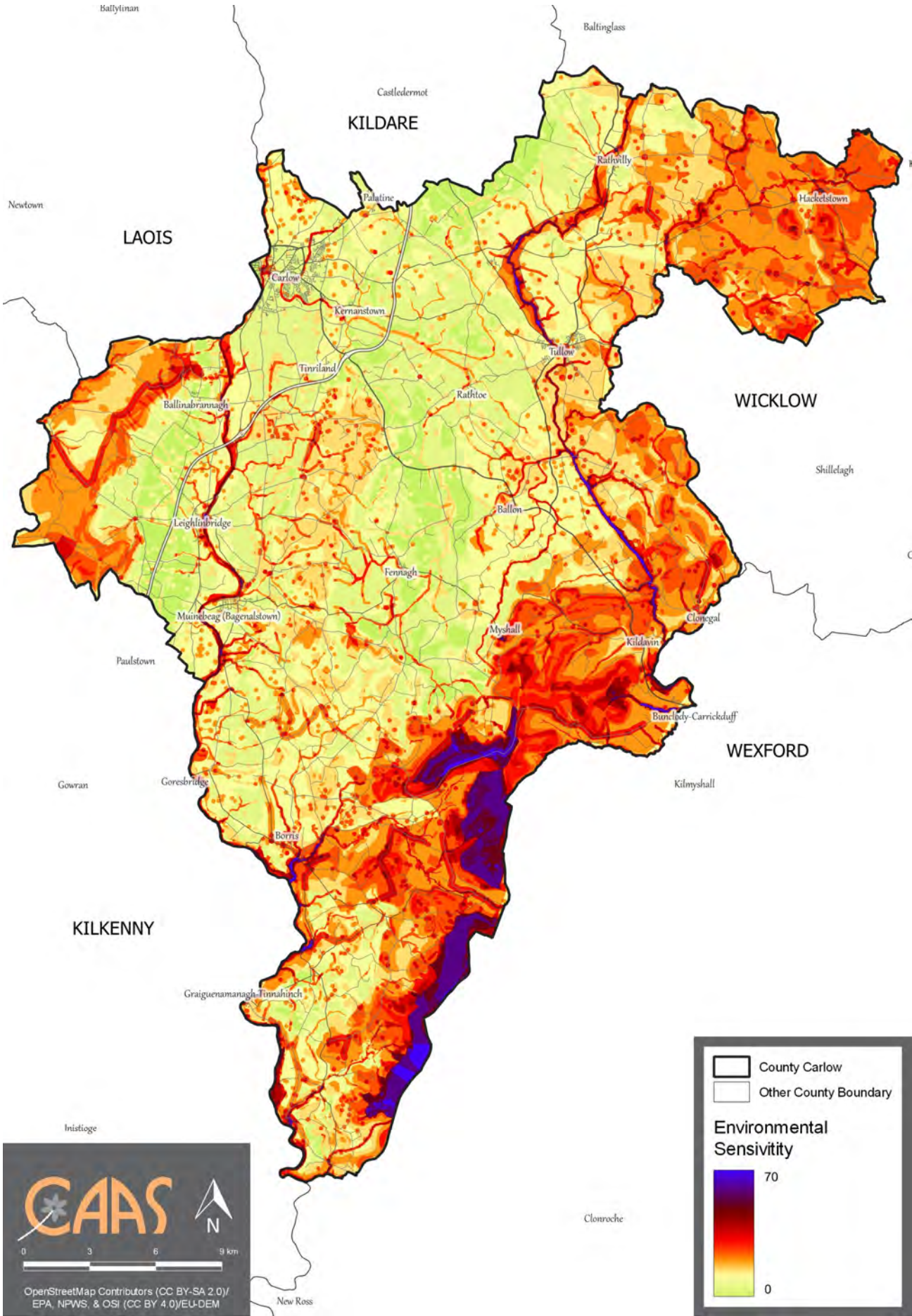


Figure 2.4 Overlay of Environmental Sensitivities

Table 2.1 Integration of Environmental Considerations

| Topic | Potentially Significant Adverse Effect, if Unmitigated | Recommendations integrated into the Plan, included in: |
|---------------------|--|--|
| Various – see below | Various – see below | <p>Strategic Environmental Assessment SEA P1: Implement the monitoring programme as set out in the SEA Environmental Report and Statement, in conjunction with the Regional Assembly and other sources as relevant. This will include the preparation of standalone SEA Monitoring Reports to accompany:</p> <p>a) The report required of the Chief Executive under section 15(2) of the Act, including information in relation to progress on, and the results of, monitoring the significant environmental effects of implementation of the development plan;</p> <p>b) In advance of the beginning of the review of the next County Development Plan (2028 – 2032) on the significant environmental effects of implementing this Plan.</p> <p>Sustainable Development Goals - Policy SDG P1: Contribute, as practicable, via this Plan, towards achievement of the 17 Sustainable Development Goals of the United Nations' 2030 Agenda for Sustainable Development.</p> <p>Ecosystems Services Approach and Natural Capital Ecosystems – Policies It is the policy of the Council to:</p> <p>ES P1: Promote an Ecosystem Services Approach in the preparation of lower-level Plans, Strategies and Development Management.</p> <p>Rural Housing Siting and Design - Policies RH P6: Ensure, in addition to the requirement to comply with the rural housing policy criteria, that applicants demonstrate compliance with all normal siting and design requirements. The siting, layout and design of a new rural house shall appropriately integrate with its physical surroundings, including the natural and built heritage of the area, taking account of:</p> <p>(i) The Rural Housing Design Guidelines in Chapter 13.</p> <p>(ii) The character, sensitivity and capacity of the County's landscape as detailed in Chapter 9.</p> <p>(iii) The capacity of the area to absorb further development, taking account of the extent of existing development in the area, the extent of ribbon development in the area, the degree of existing haphazard or piecemeal development in the area, and the degree of development on a single original landholding.</p> <p>(iv) The protection and preservation of features in the landscape that contribute to local distinctiveness, attractiveness, and ecology, and which can assist in visually absorbing rural housing into its countryside. These features include hedgerows, trees, sod/stone banks and stone walls, historic and archaeological landscapes, water bodies, ridges, skylines, topographical features and important views and prospects. Recessed development located / set back into the landscape away from the public road may be considered where the siting is appropriate to the rural context and provides for the protection of environmental, visual and residential amenities.</p> <p>(v) The ability to provide a safe vehicular entrance in accordance with Transport Infrastructure Ireland publications (Refer Section 16.10.7) and without the need to remove an extensive amount of hedgerow or trees to achieve sightlines.</p> <p>(vi) The ability of a site to accommodate an on-site wastewater treatment system in compliance with the EPA Code of compliance with the 2021 EPA Code of Practice for Wastewater Treatment and Disposal Systems Serving Single Houses p.e. ≤ 10.</p> <p>(vii) The ability of a site to accommodate an appropriate on-site surface water management system in accordance with Carlow County Council SuDS Policy, and the 'SuDS Manual' CIRIA C753.</p> <p>(viii) The need to comply with the requirements of The Planning System and Flood Risk Management Guidelines for Planning Authorities DoEHLG and OPW (2009).</p> <p>(ix) The need to comply with the Spatial Planning and National Roads Guidelines for Planning Authorities DECLG (2012).</p> <p>Section 5.9 "Infrastructural Improvement Process" New roads and other transport infrastructure projects (including greenways, blueways and cycleways) referred to by this Plan that are not already provided for by plans/ programmes other than the County Development Plan or are not already permitted, are subject to the undertaking of feasibility assessment, taking into account planning need, environmental sensitivities as identified in the SEA Environmental Report and the objectives of the Plan relating to sustainable mobility. Where feasibility is established, a Corridor and Route Selection Process will be undertaken where appropriate, for relevant new road infrastructure in two stages:</p> <p>Stage 1 – Route Corridor Identification, Evaluation and Selection</p> <ul style="list-style-type: none"> • Environmental constraints (including those identified in Section 4 of the SEA Environmental Report) and opportunities (such as existing linear infrastructure) will assist in the identification of possible route corridor options; • Potentially feasible corridors within which infrastructure could be accommodated will be identified and these corridors assessed. The selection of the preferred route corridor will avoid constraints and meet opportunities to the optimum extent, as advised by the relevant specialists; and • In addition to the constraints identified above, site-specific field data may be required to identify the most appropriate corridors. <p>Stage 2 – Route Identification, Evaluation and Selection</p> <ul style="list-style-type: none"> • Potentially feasible routes within the preferred corridor will be identified and assessed. The selection of preferred routes will avoid constraints and meet opportunities |

| Topic | Potentially Significant Adverse Effect, if Unmitigated | Recommendations integrated into the Plan, included in: |
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| | | <p>to the optimum extent, as advised by the relevant specialists, taking into account project level information and potential mitigation measures that are readily achievable;</p> <ul style="list-style-type: none"> • In addition to the constraints identified above, site specific field data may be required to identify the most appropriate routes; and • In addition to environmental considerations, the identification of route corridors and the refinement of route lines is likely to be informed by other considerations. <p>Forestry – Policies</p> <p>FR P1: Encourage the development of a well-managed sustainable forestry sector with a diversity of species including native hardwood species, which maximises its contribution to the economic and social wellbeing of the county and which is;</p> <ul style="list-style-type: none"> - compatible with the protection of the environment including the avoidance of likely significant effects on Natura 2000 sites. - which does not detract substantially from landscape and visual amenity, protected or scenic views, , built heritage, archaeological / geological features, or cause pollution or degradation to wildlife habitats, natural waters or areas of ecological importance; - which does not obstruct existing public rights of way, traditional walking routes or recreational and tourism amenities and - which is planted, managed and harvested in accordance with the Forest Service Guidelines for Landscape, Forest Harvesting and Environmental, Archaeology, Biodiversity, Water Quality and requirements regarding the protection of the Freshwater Pearl Mussel. <p>Extractive Industry - Aggregates (stone, sand and gravel) and Mineral Resources - Policies</p> <p>EI P6: To ensure that development for aggregates / mineral extraction, processing and associated processes does not significantly impact the following:</p> <ul style="list-style-type: none"> - Existing and proposed European Sites; - Other areas of importance for the conservation of flora and fauna; - Areas of significant archaeological potential including recorded monuments; - Important aquifers and sensitive groundwater resources; - Sensitive landscapes; and - Established rights of way. <p>It is an objective of the Council to:</p> <p>EI O1: Support RSES policy for the adequate supply of aggregate and mineral resources to ensure the continued growth of the county and region and to ensure that all quarrying activities and projects associated with extractive industry comply with all relevant Planning and Environmental Legislation.</p> <p>EI O2: Consult with the Geological Survey of Ireland (GSI) with regard to any developments likely to have an impact on Sites of Geological Importance listed in Chapter 10 of this Plan..</p> <p>Section 16.11.10 Undergrounding Cables</p> <p>Where undergrounding of cables is being pursued, proposals should demonstrate that environmental impacts including the following are minimised:</p> <ul style="list-style-type: none"> • Habitat loss as a result of removal of field boundaries and hedgerows (right of way preparation) followed by topsoil stripping (to ensure machinery does not destroy soil structure and drainage properties); • Short to medium term impacts on the landscape where, for example, hedgerows are encountered; • Impacts on underground archaeology; • Impacts on soil structure and drainage; and • Impacts on surface waters as a result of sedimentation. <p>Section 16.11.5 Construction and Environmental Management Plans</p> <p>Construction Environment Management Plans shall be a requirement of any major planning permission for residential, community, employment or infrastructure related development and implemented throughout the construction / operational period as appropriate. The Plan shall be prepared having regard to the EPA Best Practice Guidelines for the preparation of Resource Management Plans for Construction and Demolition Waste Projects. Such plans shall incorporate relevant mitigation measures which have been integrated into the plan / project and where relevant any Environmental Impact Assessment or Appropriate Assessment.</p> <p>CEMPs typically provide details of intended construction practice for the proposed development, including:</p> <ol style="list-style-type: none"> a) location of the sites and materials compound(s) including area(s) identified for the storage of construction refuse; b) location of areas for construction site offices and staff facilities; c) details of site security fencing and hoardings; d) details of on-site car parking facilities for site workers during the course of construction; e) details of the timing and routing of construction traffic to and from the construction site and associated directional signage; f) measures to obviate queuing of construction traffic on the adjoining road network; g) measures to prevent the spillage or deposit of clay, rubble or other debris; |

| Topic | Potentially Significant Adverse Effect, if Unmitigated | Recommendations integrated into the Plan, included in: |
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| | | <p>h) alternative arrangements to be put in place for pedestrians and vehicles in the case of the closure of any public right of way during the course of site development works;</p> <p>i) details of appropriate mitigation measures for noise, dust and vibration, and monitoring of such levels;</p> <p>j) containment of all construction-related fuel and oil within specially constructed bunds to ensure that fuel spillages are fully contained (such bunds shall be roofed to exclude rainwater);</p> <p>k) disposal of construction/demolition waste and details of how it is proposed to manage excavated soil, including compliance with the EPA's 'Best Practice Guidelines for the Preparation of Resource Management Plans for Construction & Demolition Projects 2021, which supersedes previous 2006 Guidelines published by the Department of the Environment, Heritage and Local Government;</p> <p>l) a water and sediment management plan, providing for means to ensure that surface water runoff is controlled such that no silt or other pollutants enter local water courses or drains;</p> <p>m) details of a water quality monitoring and sampling plan;</p> <p>n) if peat is encountered - a peat storage, handling and reinstatement management plan;</p> <p>o) measures adopted during construction to prevent the spread of invasive species (such as Japanese Knotweed);</p> <p>p) appointment of an ecological clerk of works at site investigation, preparation and construction phases; and</p> <p>q) details of appropriate mitigation measures for lighting specifically designed to minimise impacts to biodiversity, including bats.</p> <p>Section 16.15.4 "Tourism Activities / Developments Based on Natural Features"</p> <p>There are a range of recreational activities based on natural resources. In many cases these are generally based in rural areas.</p> <ul style="list-style-type: none"> • All planning applications for these adventure / recreational activities involving special natural features should be accompanied by a management plan indicating projected numbers of users, hours of operation, seasons of operation, and an undertaking to protect the natural environment in the form of a risk assessment with proposed amelioration measures in respect of flora, fauna, hydrology, geology and soils. • Proposals should seek to manage any increase in visitor numbers in order to avoid significant effects including loss of habitat and disturbance, including ensuring that any new projects are a suitable distance from ecological sensitivities. Where relevant, the Council and those receiving permission for development under the Plan shall seek to manage any increase in visitor numbers and/or any change in visitor behaviour in order to avoid significant effects, including loss of habitat and disturbance. Management measures may include ensuring that new projects and activities are a suitable distance from ecological sensitivities. Visitor/Habitat Management Plans will be required for proposed projects as relevant and appropriate. • All proposals should be accessible insofar as possible by sustainable means of transport including public transport and by modes other than the car. • Where the traffic generated is likely to exceed the capacity of the local road network or require changes to the road network that would adversely affect the character of the area, these will not be permitted. • Where the activity is likely to be noise generating, a noise assessment will be required in connection with the application, measuring likely noise levels at the nearest noise sensitive recipients. Measures to mitigate any adverse impacts shall be identified. |
| Biodiversity and flora and fauna | <p>Arising from both construction and operation of development and associated infrastructure:</p> <ul style="list-style-type: none"> • Loss of/damage to biodiversity in designated sites (including European Sites and Wildlife Sites) and Annexed habitats and species, listed species, ecological connectivity and non-designated habitats; and disturbance to biodiversity and flora and fauna; | <p>Light Pollution - Policies</p> <p>It is the policy of the Council to;</p> <p>LP P1: Ensure that the design of external lighting schemes minimises the incidence of light spillage or pollution in the immediate surrounding environment and has due regard to the residential amenity of surrounding areas and the need to mitigate adverse impacts on sensitive fauna and protected species.</p> <p>LP P2: Require the use of energy efficient lighting in all new development proposals.</p> <p>LP P3: Seek to ensure that the use of energy efficient (LED) lighting, both in relation to planning applications and local authority projects, minimises any significant adverse effects on biodiversity with the use of appropriate lighting in sensitive areas.</p> <p>Natural Heritage - Policies and Objectives</p> <p>NH P1: Protect, manage and enhance the natural heritage, biodiversity, landscape and environment of County Carlow in recognition of its importance as a non-renewable resource, a unique identifier, and as a natural resource asset.</p> <p>NH P2: Ensure, as far as is practicable, that development does not adversely impact on wildlife habitats and species, and that biodiversity is conserved for the benefit of future generations in the interests of sustainability. This will include moving towards no net loss of biodiversity from plans adopted by and projects granted permission/authorised by the Council.</p> <p>NH P3: Support and co-operate with statutory authorities such as the National Parks and Wildlife Service (NPWS) and others on measures to manage designated nature conservation sites in order to achieve their conservation objectives. Specific regard shall be had to conservation objectives and conservation management plans where they exist for designated nature conservation sites.</p> <p>NH P4: Promote increased understanding and awareness of the natural heritage and biodiversity of the county.</p> |

| Topic | Potentially Significant Adverse Effect, if Unmitigated | Recommendations integrated into the Plan, included in: |
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| | <ul style="list-style-type: none"> Habitat loss, fragmentation and deterioration, including patch size and edge effects; and Disturbance (e.g. due to noise and lighting along transport corridors) and displacement of protected species such as birds and bats. | <p>NH P5: Recognise that nature conservation is not just confined to designated sites and acknowledge the need to protect non-designated biodiversity, habitats and species not otherwise protected by legislation.</p> <p>NH P6: Protect and enhance the natural environment of County Carlow and recognise the important role of the natural heritage through its diversity, quality and integrity, in terms of enhancing the image of the County and contributing to quality of life, economic growth, tourism and recreation.</p> <p>NH P7: Promote development for recreation and educational purposes that does not conflict with maintaining the favourable conservation status of designated natural heritage sites, including the achievement of their conservation objectives.</p> <p>NH P8: Promote, protect and enhance sustainable and appropriate access to the natural heritage of the county.</p> <p>NH P9: To promote the carrying out of ecological/habitat assessments to inform the layout and design of development proposals and ensure they integrate the protection and enhancement of biodiversity and landscape features wherever possible, by minimising adverse impacts on existing habitats (whether designated or not) and by including mitigation and/or compensation measures, as appropriate.</p> <p>NHO 1: Implement relevant actions from the National Biodiversity Action Plan 2017-2021 (and any superseding plan) and to prepare a County Heritage Plan and Biodiversity Action Plan during the lifetime of this County Development Plan in accordance with RPO 126 in the RSES, to ensure the protection and appreciation of heritage and nature at local level including recognition of rich biodiversity of designation of existing special areas of conservation i.e. Blackstairs Mountains, Slaney River Valley and River Barrow and River Nore SAC.</p> <p>NS P1: Support the conservation and enhancement of Natura 2000 Sites, and to protect the Natura 2000 network from any plans and projects that are likely to have a significant effect on the coherence or integrity of a Natura 2000 Site, in accordance with relevant EU Environmental Directives and applicable National Legislation, Policies, Plans and Guidelines.</p> <p>NS P2: Screening for Appropriate Assessment and if required Appropriate Assessment is undertaken for all plans to be adopted and projects to be granted permission/authorised by the Council. Where likely significant effects have been identified in respect of any plan or project not directly connected with or necessary to the management of a Natura 2000 site, either individually or in combination with other plans or projects, ensure appropriate assessment, in accordance with Article 6(3) of the Habitats Directive. The Council shall only agree to the plan or project after having ascertained that it will not adversely affect the integrity of the site concerned, unless the plan or project is subject to the provisions of Article 6(4) of the Habitats Directive.</p> <p>NS P3: Consider impacts within a plan or project's zone of influence, which may include Natura 2000 sites outside the County, when assessing whether a plan or project is likely to have significant effects on Natura 2000 sites.</p> <p>NS P4: Maintain or restore the favourable conservation status of County's Natura 2000 sites qualifying interest habitats and species.</p> <p>NS O1: Strictly protect areas designated or proposed to be designated as Natura 2000 sites, including any areas that may be proposed for designation or designated during the period of this Plan.</p> <p>NHA P1: Contribute towards the protection, from significant adverse effects, of the ecological integrity and the visual, recreational, environmental and amenity value of the County's proposed Natural Heritage Areas (pNHAs) and associated habitats, including any designated Natural Heritage Areas (NHAs) during the lifetime of this Plan.</p> <p>NHA P2: Ensure that development proposals within or adjacent to a proposed Natural Heritage Area (pNHA) or Natural Heritage Area (NHA) are designed and sited to minimise significant impacts on the biodiversity (including net loss) and ecological, geological and landscape value of the site, particularly plant and animal species listed under the Wildlife Act 1976 (as amended), the Habitats Directive and the Birds Directive, including their habitats.</p> <p>NHA P3: Restrict development within a proposed Natural Heritage Area (pNHA) or Natural Heritage Area (NHA) to development that is directly related to the area's amenity potential or development that is required for the conservation management of these sites, subject to the protection and enhancement of natural heritage and visual amenities including biodiversity and landscapes.</p> <p>NHA P4: To consult with the National Parks and Wildlife Service (NPWS) and other appropriate prescribed bodies when assessing development proposals affecting proposed Natural Heritage Areas (pNHAs) and Natural Heritage Areas (NHA).</p> <p>ND P1: Conserve the existing flora, fauna and wildlife habitats in the County, including rare and threatened plant, animal and bird species, through the preservation of ecological corridors and ecological networks.</p> <p>ND P2: Ensure that development does not have a significant adverse effect on rare and threatened species, their breeding places, resting places, habitat or environment, as applicable, including those protected under the Wildlife Acts 1976 to 2021, the Birds Directive (2009/147/EC), the Habitats Directive (92/43/EEC) and including plant species listed on the Flora (Protection) Order 2015 (S.I. No. 356 of 2015).</p> <p>ND P3: Require the submission of an Ecological Impact Assessment, where deemed necessary, for any development proposal likely to have a significant impact on existing flora, fauna and wildlife habitats, including rare and threatened plant, animal and bird species.</p> <p>ND P4: Ensure that, where evidence exists of species that are protected under the Wildlife Act 1976 (as amended), the Bird Directive 1979, and the Habitats Directive 1992, appropriate avoidance and mitigation measures are incorporated into development proposals as part of any ecological impact assessment. In the event of a proposed development impact on a site known to be a breeding or resting site of species listed in the Habitats Regulations or the Wildlife Act 1976 (as amended) a</p> |

| Topic | Potentially Significant Adverse Effect, if Unmitigated | Recommendations integrated into the Plan, included in: |
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| | | <p>derogation licence, issued by the Department of Housing, Local Government and Heritage, may be required.</p> <p>ND P5: Consult with the National Parks and Wildlife Service (NPWS) and take account of any licensing requirements when undertaking, approving and authorising development which is likely to affect plant, animal or bird species protected by law.</p> <p>ND P6: Ensure that the management of the Council's open spaces and parks is pollinator-friendly and provides more opportunities for biodiversity, supporting the objectives of the National Pollinator Plan 2021-2025. Where it is used, herbicide should be certified and applied as per the manufacturer's instructions.</p> <p>ND P7: Support the implementation of the All Ireland Pollinator Plan 2021-2025 and to incorporate actions as appropriate into a Biodiversity Plan for County Carlow providing more opportunities for biodiversity in accordance with RPO 128.</p> <p>ND P8: That biodiversity data generated during the lifetime of this Development Plan for the preparation of environmental assessment reports, shall be made available to the National Biodiversity Data Centre (NBDC).</p> <p>WT P1: Protect and manage existing woodlands, trees and hedgerow which are of amenity or biodiversity value and/or contribute to landscape character and ensure that proper provision is made for their consideration, protection and management when undertaking, approving or authorising development.</p> <p>WT P2: Ensure that hedgerow removal to facilitate development is kept to an absolute minimum and, where unavoidable, a requirement for mitigation planting will be required comprising a hedge of similar length and species composition to the original, established as close as is practicable to the original and where possible linking in to existing adjacent hedges. Native plants of a local provenance should be used for any such planting.</p> <p>WT P3: Adhere to the provisions of the Wildlife Act 1976 (as amended) in prohibiting the cutting of hedges during the bird nesting season (1st March to 31st August), except in certain legally defined circumstances.</p> <p>WT P4: Encourage the protection of historic hedgerows or significant hedgerows which serve to link habitat areas to each other and the surrounding countryside.</p> <p>WT P5: Recognise the biodiversity and archaeological importance of townland boundaries, including hedgerows, and promote their protection and retention.</p> <p>WT P6: Protect individual or groups of trees which are important for environmental, recreational, historical, biodiversity and/or aesthetic reasons or by reason of contribution to sense of place, and to discourage the felling of mature trees to facilitate development.</p> <p>WT P7: To contribute towards the protection where possible of the trees which are considered to be an important component of demesne landscapes.</p> <p>WT P8: Ensure a Tree Management Plan is provided so as existing tree planting is adequately protected during development and incorporated into the layout and design of new developments.</p> <p>WT O1: Promote the Native Woodland and Neighbourwood schemes and other initiatives that aim to establish and enhance woodlands for recreational and wildlife benefits.</p> <p>IW P1: Protect the biodiversity of rivers, streams and other watercourses, to maintain them in an open state, to discourage culverting or realignment, and where possible, uncover existing culverts and restore the watercourses to acceptable ecological standards and for the passage of fish.</p> <p>IW P2: Ensure that the County's watercourses are retained for their biodiversity and flood protection values and to conserve and enhance where possible, the wildlife habitats of the County's rivers, streams and riparian zones, including those which occur outside of designated areas, in order to provide a network of habitats and biodiversity corridors throughout the County.</p> <p>IW P3: Control the encroachment of development on watercourses and riparian zones and provide for protection measures to watercourses and their banks, including but not limited to: the prevention of pollution of the watercourse, the protection of the river bank from erosion, the retention and/or provision of wildlife corridors and the protection from light spill in sensitive locations, including during construction of permitted development.</p> <p>IW P4: Require the submission of an Ecological Impact Assessment, where deemed necessary (and where necessary an Appropriate Assessment where in relation to Natura 2000 sites), including bat and otter surveys, for development proposals along rivers, streams and canal corridors and areas of ecological importance.</p> <p>IW P5: Maintain a biodiversity protection (buffer) zone of not less than 10 metres from the top bank of all watercourses in the County, with the full extent of the protection zone to be determined on a case by case basis by the Planning Authority, based on site specific characteristics and sensitivities and consultation with Inland Fisheries Ireland.</p> <p>IW P6: Ensure that lighting proposals along water courses, rivers, streams and canal corridors, are not in conflict with bat species, and to ensure that expert advice is sought on such lighting proposals in order to mitigate the impacts of lighting on bats and other species.</p> <p>IW P7: Require that runoff from a development area will not result in deterioration of downstream watercourses or habitats, and that pollution generated by a development is treated within the developed area prior to discharge to local watercourses.</p> <p>IW P8: Ensure the protection, improvement or restoration of riverine floodplains and to promote strategic measures to accommodate flooding at appropriate locations, to protect ground and surface water quality and build resilience to climate change.</p> <p>IW P9: Ensure that development proposals do not adversely affect groundwater resources and groundwater dependent habitats and species.</p> <p>IW P10: Consult with Inland Fisheries Ireland, as appropriate, in relation to any works or development that could have potential impacts on watercourses, aquatic habitats, species, and associated riparian habitats, and to take full account of any Guidance documents issued by Inland Fisheries Ireland in this regard, including</p> |

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| | | <p>'Planning for Watercourses in the Urban Environment, A Guide to the Protection of Watercourses through the use of Buffer Zones, Sustainable Drainage Systems, Instream Rehabilitation, Climate/Flood Risk and Recreational Planning' (2020).</p> <p>IW P11: Promote the use of watercourses for the pursuit of angling, through working with Inland Fisheries Ireland to improve water quality, to improve fish stocks and to provide safe access to fishing, where appropriate, taking full account of the requirements of the Habitats Directive and other relevant legislation.</p> <p>IW P12: Promote the natural, historical and amenity value of the County's watercourses, including public access where feasible and appropriate, in partnership with the National Parks and Wildlife Services, Waterways Ireland, Inland Fisheries Ireland, and other relevant stakeholders, while maintaining the watercourses free from inappropriate development.</p> <p>WT P1: Protect, manage, and enhance wetlands in the County, and resist development that would remove, fragment, or degrade wetlands.</p> <p>WT P2: Protect the biodiversity and flood protection value of wetlands and floodplains in the County.</p> <p>WT P3: Ensure that ecological impact assessment is carried out, where appropriate, for development proposals involving, drainage, reclamation, or infill of wetland areas.</p> <p>WT P4: To promote voluntary construction of new wet lands where deemed in accordance with proper planning and environmental considerations and where same maybe facilitated by ecological schemes.</p> <p>IW O1: Carry out a Wetlands Survey of the County during the lifetime of this Plan.</p> <p>IS P1: Prevent the spread of invasive alien species in the County, and to require landowners and developers to adhere to best practice guidance in relation to the containment and control of invasive alien species, including Invasive Species Ireland guidelines (see www.invasivespeciesireland.com)</p> <p>TII (2020) The Management of Invasive Alien Plant Species on National Roads – Standard GE-ENV-01104 https://www.tiipublications.ie/library/GE-ENV-01104-01.pdf</p> <p>TII (2020) The Management of Invasive Alien Plant Species on National Roads – Technical Guidance https://www.tiipublications.ie/library/GE-ENV-01105-01.pdf</p> <p>IS P2: To require, as appropriate, development proposals to address the presence or absence of invasive alien species, and to require the preparation of an Invasive Species Management Plan for their eradication and/or containment and control where identified on a site or in the vicinity of a site, in accordance with the requirements of the European Communities (Birds and Natural Habitats) Regulations 2011-2015.</p> <p>IS P3: Prohibit invasive alien plant species from inclusion in landscape design proposals and to require the use of native local plant species.</p> <p>IS O1: Prepare an Invasive Alien Species Management Strategy, in conjunction with a Hedge and Road Verge Maintenance Strategy, during the lifetime of this Plan.</p> <p>IS O2: To raise awareness of the potential threat of invasive alien species in the County, and to inform the public of appropriate management measures for the prevention, containment, and control of invasive alien species.</p> <p>IS O3: Undertake a programme of mapping of invasive alien species in the County and initiate control programs with relevant stakeholders and landowners on the prevention, containment and control of invasive alien species.</p> <p>Agriculture – Policies</p> <p>AG P2: Support and facilitate changes to farming practices that will adapt to climate change and a more sustainable sector, that encourage biodiversity and contribute to more sustainable methods of production.</p> <p>AG. P3: Encourage the development of environmentally sustainable agricultural practices, to ensure that development does not impinge on the visual amenity of the countryside and that watercourses, wildlife habitats and areas of ecological importance are protected from the threat of pollution.</p> <p>AG P4: Ensure that all agricultural activities comply with legislation on water quality, such as the Phosphorous Regulations, Water Framework Directive and Nitrates Directive. In relation to intensive agricultural installations (i.e. intensive pig and poultry farming), recent EPA Guidance (2021) on Assessment of the Impact of Ammonia and Nitrogen on Natura 2000 sites from intensive agriculture installations should be consulted when carrying out project assessment.</p> <p>Forestry – Policies</p> <p>FR P1: Encourage the development of a well-managed sustainable forestry sector with a diversity of species including native hardwood species, which maximises its contribution to the economic and social wellbeing of the county and which is;</p> <ul style="list-style-type: none"> - compatible with the protection of the environment including the avoidance of likely significant effects on Natura 2000 sites. - which does not detract substantially from landscape and visual amenity, protected or scenic views, , built heritage, archaeological / geological features, or cause pollution or degradation to wildlife habitats, natural waters or areas of ecological importance; - which does not obstruct existing public rights of way, traditional walking routes or recreational and tourism amenities and which is planted, managed and harvested in accordance with the Forest Service Guidelines for Landscape, Forest Harvesting and Environmental, Archaeology, Biodiversity, Water Quality and requirements regarding the protection of the Freshwater Pearl Mussel. <p>FR P3: Promote the avoidance of deforestation or commercial afforestation within Natura 2000 sites unless directly relating to the management of the site for its qualifying interests.</p> |

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| | | <p>Fisheries and Aquaculture - Policies FA P5: Require proposed services / facilities to support fisheries along water courses to undertake the required level of Appropriate Assessment in accordance with appropriate environmental assessments including Habitats Directive Assessment and planning legislation. FA P6: Ensure that the development of services / facilities along watercourses will seek to ensure the protection of water quality and will also be subject to, and consistent with, the requirements of the Water Framework Directive and the relevant South Eastern River Basin Management Plan.</p> <p>Extractive Industry - Aggregates (stone, sand and gravel) and Mineral Resources - Policies EI P6: To ensure that development for aggregates / mineral extraction, processing and associated processes does not significantly impact the following:</p> <ul style="list-style-type: none"> - Existing and proposed European Sites; - Other areas of importance for the conservation of flora and fauna; - Areas of significant archaeological potential including recorded monuments; - Important aquifers and sensitive groundwater resources; - Sensitive landscapes; and - Established rights of way. <p>EI O1: Support RSES policy for the adequate supply of aggregate and mineral resources to ensure the continued growth of the county and region and to ensure that all quarrying activities and projects associated with extractive industry comply with all relevant Planning and Environmental Legislation. EI O2: Consult with the Geological Survey of Ireland (GSI) with regard to any developments likely to have an impact on Sites of Geological Importance listed in Chapter 10 of this Plan.</p> |
| Population and human health | <ul style="list-style-type: none"> • Potential adverse effects arising from flood events. • Potential interactions if effects arising from environmental vectors. | <p>Also refer to measures under other environmental components including Soil, Water and Air and Climatic Factors.</p> <p>Air Pollution - Policies AP P1: Promote the preservation of best ambient air quality compatible with sustainable development in accordance with the EU Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive (2008/5/0/EC) and ensure that all air emissions associated with new developments are within Environmental Quality Standards set out in the Air Quality Standards Regulations 2011 (SI No. 180 of 2011) or any updated/ superseding documents. AP P2: Require activities likely to give rise to air emissions (not licenced under separate legislation) to implement measures to mitigate impacts and to undertake air quality monitoring.</p> <p>Noise Pollution - Policies NP P1: Have regard to the provisions of the Environmental Protection Agency (EPA) Acts 1992 and 2003 and the Environmental Protection Agency Act (Noise) Regulations 1994 or any amendments thereto when assessing planning applications. NP P2: Support and seek the implementation of the Carlow Noise Action Plan 2018 -2023 (and any revisions thereto during the life of this Plan). NP P3: Regulate and control activities likely to give rise to excessive noise, other than those activities which are regulated by the Environmental Protection Agency. NP P4: Ensure new development does not cause an unacceptable increase in noise levels affecting noise sensitive properties. Proposals for new development with the potential to create excessive noise will be required to submit a construction and/or operation management plan to control such emissions.</p> <p>Major Accident Directive – Policies MA P1: Have regard to the provisions of the Major Accidents Directive (European Council Directive 2012/18/EU) and any regulations under any enactment giving effect to that Directive, and the technical advice of the Health and Safety Authority (HSA) in relation to any identified SEVESO sites in the county during the life of this Plan. MA P2: Have regard to the provisions of the Major Accident Directive (EC Directive 2012/18/EU), including any regulations under any enactment giving effect to that Directive, and to the technical advice of the Health and Safety Authority (HSA), in relation to any identified SEVESO sites in the county during the lifetime of this Plan and to the control of development with respect to:</p> <ul style="list-style-type: none"> • The siting of Major Accident Hazard sites. • The modification of an existing Major Accident Hazard site. • Specified development in the vicinity of a Major Accident Hazard site. |
| Soil | <ul style="list-style-type: none"> • Potential adverse effects on the hydrogeological and ecological function of the soil resource, including as a result of development on | <p>Also refer to measures under other environmental components including Water.</p> <p>Geological Heritage - Policies It is the policy of the Council to:</p> <p>GH P1: Protect and enhance the geological and geomorphological heritage of the County. GH P2: Protect from inappropriate development the list of County Geological Sites (CGS) included in this Plan. GH P3: Consult with the Geological Survey of Ireland on development proposals which are likely to impact on County Geological Sites or involve significant ground</p> |

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| | <p>contaminated lands.</p> <ul style="list-style-type: none"> Potential for riverbank erosion. | <p>excavations.</p> <p>Geological Heritage - Objectives It an objective of the Council to:</p> <p>GH 01: Protect geological Natural Heritage Areas (NHAs) as they become designated during the lifetime of this Plan..</p> <p>Extractive Industry - Aggregates (stone, sand and gravel) and Mineral Resources - Policies EI 02: Consult with the Geological Survey of Ireland (GSI) with regard to any developments likely to have an impact on Sites of Geological Importance listed in Chapter 10 of this Plan.</p> <p>Section 16.11.6 Soil Protection, Contamination and Remediation Where appropriate adequate soil protection measures shall be outlined in planning applications submitted. Adequate and appropriate investigations shall be carried out into the nature and extent of any soil and groundwater contamination and the risks associated with site development work, where brownfield development is proposed. The EPA's publication Code of Practice: Environmental Risk Assessment for Unregulated Waste Disposal Sites (2007) shall be taken into account as relevant by proposals for development within or adjacent to old landfill sites. All undeveloped, contaminated sites shall be remediated to internationally accepted standards prior to redevelopment. All applications shall be accompanied by a report from a qualified, expert consultant on remediation incorporating international best practice and expertise on innovative ecological restoration techniques including specialist planting and green initiatives that create aesthetically improved sites, healthy environments and contribute to the provision of new green open spaces as integral parts of newly created areas. Treatment/management of any contaminated material shall comply as appropriate with the Waste Management Act 1996 (waste licence, waste facility permit), as amended, and under the EPA Act 1992 (Industrial Emissions licensing, in particular the First Schedule, Class 11 Waste), as amended. These measures will ensure that contaminated material will be managed in a manner that removes any risk to human health and ensures that the end use will be compatible with any risk. Prior to the grant of approval on contaminated sites, developers will be required to carry out a full contaminated land risk assessment to demonstrate:</p> <ul style="list-style-type: none"> How the proposed land uses will be compatible with the protection of health and safety (including the durability of structures and services) - during both construction and occupation; and How any contaminated soil or water encountered will be appropriately dealt with. <p>Section 16.11.7 Peatlands Developments sited on peatlands have the potential to increase overall carbon losses, potentially undermining expected carbon savings (in the case of renewable energy developments) and damaging rare habitats of European importance. When developing project proposals for developments on peatlands the following assessments maybe required:</p> <ul style="list-style-type: none"> Peatland stability; Carbon emissions balance; and Hydrology and Ecology. <p>Where relevant the Council will support the implementation of recommendations contained in the National Peatlands Strategy 2015.</p> |
| Water | <ul style="list-style-type: none"> Potential adverse effects upon the status of water bodies and entries to the WFD Register of Protected Areas (ecological and human value), arising from changes in quality, flow and/or morphology. Increase in flood risk and associated effects associated with flood events. | <p>Also refer to measures under other environmental components including Soil and Material Assets.</p> <p>Surface Water Drainage / SuDS- Policies and Objectives SW P1: Ensure adequate surface water drainage systems are in place which meet the requirements of the Water Framework Directive and the River Basin Management Plan. SW P2: Ensure as an alternative to underground tanks and piped outfalls to watercourses, that all development proposals incorporate Sustainable Drainage Systems and to promote the use of green infrastructure e.g. green roofs, green walls, planting and green spaces for surface water retention purposes, as an integrated part of SuDS and maximise the multi-functional potential of these systems including benefits for biodiversity and amenity value wherever possible. SW P3: Require appropriate maintenance of surface water drainage infrastructure to avoid flood risk. SW P4: To require all new developments, to provide for separated drainage systems. SW P5: Seek to minimise in as far as is practical the discharge of additional and existing surface water to combined (foul and surface water) sewers (in existing combined sewer serviced areas) in order to maximise the capacity of existing collection systems for foul water. SW P6: Require all new developments to provide a separate foul and surface water drainage system and to incorporate sustainable urban drainage systems where appropriate / viable in new development and the public realm. SW O1: Require all development (including extensions to existing development) proposals to incorporate design criteria and SuDS measures in accordance with Carlow County Council SuDS Policy in order to reduce the potential impact of existing and predicted flood risks and to improve biodiversity and amenity value.</p> |

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| | | <p>Water Quality- Policies and Objectives</p> <p>WQ P1: Support the implementation of the relevant recommendations and measures as outlined in the River Basin Management Plan 2018-2021, and any associated Programme of Measures, or any such plan that may supersede same during the lifetime of this Plan. Development proposals shall not have an unacceptable impact on the water environment, including headwaters, surface waters, groundwater quality and quantity, river corridors and associated habitats. The Council will support the application and implementation of a catchment planning and management approach to development and conservation. Site specific assessments to determine localised pressures / impacts may be required as part of the development management process.</p> <p>WQ P2: Promote and comply with the environmental standards and objectives established for (i) bodies of surface water, by the European Communities (Surface Water) Regulations 2009 and (ii) groundwater, by the European Communities (Groundwater) Regulations 2010 or as may be amended during the period of this Plan.</p> <p>WQ P3: Ensure that the Water Framework Directive, the River Basin Management Plan and any subsequent Water Management Plans or statutory guidance are fully considered throughout the planning process.</p> <p>WQ P4: Encourage the use of catchment sensitive farming practices in order to meet Water Framework Directive targets and comply with the RBMP.</p> <p>WQ O1: Ensure through the implementation of the River Basin Management Plan, and any associated legislation, the protection and improvement of all drinking water, surface water and ground waters throughout the County.</p> <p>WQ O2: Work with the Local Authority Waters Programme and other relevant State agencies to develop and implement the River Basin Management Plan 2018-2021, and any updates subject to compliance with the Habitats Directive.</p> <p>WQ O3: Implement the Blue Dot Catchment network programme under the RBMP to protect and maintain the excellent 'High' status water bodies.</p> <p>WQ P4: Promote and support locally led community initiatives aimed at improving local water quality standards subject to compliance with the Habitats Directive.</p> <p>Flood Risk Management – Policies and Objectives</p> <p>FR P1: Support, in co-operation with the OPW the implementation of the EU Flood Risk Directive (2007/60/EC) on the assessment and management of flood risks, the Flood Risk Regulations (SI No. 122 of 2010) and relevant outputs of the South Eastern Catchment and Flood Risk Assessment and Management Study.</p> <p>FR P2: Carry out flood risk assessment for the purpose of regulating, restricting and controlling development in areas at risk of flooding and to minimise the level of flood risk to people, business, infrastructure and the environment through the identification and management of existing and potential future flood risk.</p> <p>FR P3: Ensure that all development proposals comply with the requirements of the Planning System and Flood Risk Management – Guidelines for Planning Authorities (DEHLG and OPW, 2009) and Circular PL2/2014 (or any amendments thereto), in particular through the application of the sequential approach and the Development Management Justification Test.</p> <p>FR P4: Require the submission of a Site-Specific Flood Risk Assessment (FRA) in areas at risk of flooding. The assessment shall be carried out by a suitably qualified and indemnified professional, shall be appropriate to the scale and nature of the risk to the proposed development and shall consider all sources of flooding. The FRA shall be prepared in accordance with the Planning System and Flood Risk Management - Guidelines for Planning Authorities and shall address climate change, residual risk, avoidance of contamination of water sources and any proposed site-specific flood management measures.</p> <p>FR P5: To protect and enhance the county's floodplains and wetlands as "green infrastructure" which provides space for storage and conveyance of floodwater, enabling flood risk to be more effectively managed. Riparian buffer zones shall have regard to Policies contained in Section 10.7 of this Plan.</p> <p>FR P6: To ensure each flood risk management activity is examined to determine actions required to embed and provide for effective climate change adaptation as set out in the OPW Climate Change Sectoral Adaptation Plan Flood Risk Management.</p> <p>FR O1: Ensure that flood risk management is incorporated into the preparation of future statutory local area plans in accordance with the requirements of the Planning System and Flood Risk Management, Guidelines for Planning Authorities (DEHLG and OPW, 2009) and Circular PL2/2014, and any future updates of these guidelines.</p> <p>FR O2: Facilitate the provision of new, or the augmentation of existing flood defences and protective measures, where necessary including natural flood management measures where deemed appropriate and to support the implementation of proposed flood schemes while also seeking to ensure zoning or development proposals support and do not impede or prevent the progression of these schemes subject to compliance with the requirements of the EU Habitats Directive, the protection of natural and built heritage and visual amenities.</p> <p>FR O3: Seek to ensure that where flood risk management works take place that the cultural and natural heritage of rivers, streams and watercourses are protected, and improved where possible.</p> <p>Inland Waters and Riparian Zones - Policies</p> <p>IW P1: Protect the biodiversity of rivers, streams and other watercourses, to maintain them in an open state, to discourage culverting or realignment, and where possible, uncover existing culverts and restore the watercourses to acceptable ecological standards and for the passage of fish.</p> <p>IW P2: Ensure that the County's watercourses are retained for their biodiversity and flood protection values and to conserve and enhance where possible, the wildlife habitats of the County's rivers, streams and riparian zones, including those which occur outside of designated areas, in order to provide a network of habitats and</p> |

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| | | <p>biodiversity corridors throughout the County.</p> <p>IW P3: Control the encroachment of development on watercourses and riparian zones and provide for protection measures to watercourses and their banks, including but not limited to: the prevention of pollution of the watercourse, the protection of the river bank from erosion, the retention and/or provision of wildlife corridors and the protection from light spill in sensitive locations, including during construction of permitted development.</p> <p>IW P4: Require the submission of an Ecological Impact Assessment, where deemed necessary (and where necessary an Appropriate Assessment where in relation to Natura 2000 sites), including bat and otter surveys, for development proposals along rivers, streams and canal corridors and areas of ecological importance.</p> <p>IW P5: Maintain a biodiversity protection (buffer) zone of not less than 10 metres from the top bank of all watercourses in the County, with the full extent of the protection zone to be determined on a case by case basis by the Planning Authority, based on site specific characteristics and sensitivities and consultation with Inland Fisheries Ireland.</p> <p>IW P6: Ensure that lighting proposals along water courses, rivers, streams and canal corridors, are not in conflict with bat species, and to ensure that expert advice is sought on such lighting proposals in order to mitigate the impacts of lighting on bats and other species.</p> <p>IW P7: Require that runoff from a development area will not result in deterioration of downstream watercourses or habitats, and that pollution generated by a development is treated within the developed area prior to discharge to local watercourses.</p> <p>IW P8: Ensure the protection, improvement or restoration of riverine floodplains and to promote strategic measures to accommodate flooding at appropriate locations, to protect ground and surface water quality and build resilience to climate change.</p> <p>IW P9: Ensure that development proposals do not adversely affect groundwater resources and groundwater dependent habitats and species.</p> <p>IW P10: Consult with Inland Fisheries Ireland, as appropriate, in relation to any works or development that could have potential impacts on watercourses, aquatic habitats, species, and associated riparian habitats, and to take full account of any Guidance documents issued by Inland Fisheries Ireland in this regard, including 'Planning for Watercourses in the Urban Environment, A Guide to the Protection of Watercourses through the use of Buffer Zones, Sustainable Drainage Systems, Instream Rehabilitation, Climate/Flood Risk and Recreational Planning' (2020).</p> <p>IW P11: Promote the use of watercourses for the pursuit of angling, through working with Inland Fisheries Ireland to improve water quality, to improve fish stocks and to provide safe access to fishing, where appropriate, taking full account of the requirements of the Habitats Directive and other relevant legislation.</p> <p>IW P12: Promote the natural, historical and amenity value of the County's watercourses, including public access where feasible and appropriate, in partnership with the National Parks and Wildlife Services, Waterways Ireland, Inland Fisheries Ireland, and other relevant stakeholders, while maintaining the watercourses free from inappropriate development.</p> <p>Wetlands - Policies</p> <p>WT P1: Protect, manage, and enhance wetlands in the County, and resist development that would remove, fragment, or degrade wetlands.</p> <p>WT P2: Protect the biodiversity and flood protection value of wetlands and floodplains in the County.</p> <p>WT P3: Ensure that ecological impact assessment is carried out, where appropriate, for development proposals involving, drainage, reclamation, or infill of wetland areas.</p> <p>WT P4: To promote voluntary construction of new wet lands where deemed in accordance with proper planning and environmental considerations and where same maybe facilitated by ecological schemes.</p> <p>Agriculture – Policies</p> <p>AG. P3: Encourage the development of environmentally sustainable agricultural practices, to ensure that development does not impinge on the visual amenity of the countryside and that watercourses, wildlife habitats and areas of ecological importance are protected from the threat of pollution.</p> <p>AG P4: Ensure that all agricultural activities comply with legislation on water quality, such as the Phosphorous Regulations, Water Framework Directive and Nitrates Directive. In relation to intensive agricultural installations (i.e. intensive pig and poultry farming), recent EPA Guidance (2021) on Assessment of the Impact of Ammonia and Nitrogen on Natura 2000 sites from intensive agriculture installations should be consulted when carrying out project assessment.</p> <p>Forestry – Policies</p> <p>FR P1: Encourage the development of a well-managed sustainable forestry sector with a diversity of species including native hardwood species, which maximises its contribution to the economic and social wellbeing of the county and which is;</p> <ul style="list-style-type: none"> - compatible with the protection of the environment including the avoidance of likely significant effects on Natura 2000 sites. - which does not detract substantially from landscape and visual amenity, protected or scenic views, , built heritage, archaeological / geological features, or cause pollution or degradation to wildlife habitats, natural waters or areas of ecological importance; - which does not obstruct existing public rights of way, traditional walking routes or recreational and tourism amenities and - which is planted, managed and harvested in accordance with the Forest Service Guidelines for Landscape, Forest Harvesting and Environmental, Archaeology, Biodiversity, Water Quality and requirements regarding the protection of the Freshwater Pearl Mussel. |

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| Air and Climatic Factors | <ul style="list-style-type: none"> Potential conflict between development under the Plan and aiming to reduce carbon emissions in line with local, national and European environmental objectives. Potential conflicts between transport emissions, including those from cars, and air quality. Potential conflicts between increased frequency of noise emissions and protection of sensitive receptors. Potential conflicts with climate adaptation measures including those relating to flood risk management. | Fisheries and Aquaculture - Policies FA P5: Require proposed services / facilities to support fisheries along water courses to undertake the required level of Appropriate Assessment in accordance with appropriate environmental assessments including Habitats Directive Assessment and planning legislation. FA P6: Ensure that the development of services / facilities along watercourses will seek to ensure the protection of water quality and will also be subject to, and consistent with, the requirements of the Water Framework Directive and the relevant South Eastern River Basin Management Plan. |
| | | Also refer to Plan's various sustainable transport provisions and detailed measures for Climate Action to Section 8.6 of the SEA Environmental Report "Integration of Climate Action into the Plan" Air Pollution - Policies AP P1: Promote the preservation of best ambient air quality compatible with sustainable development in accordance with the EU Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive (2008/5/0/EC) and ensure that all air emissions associated with new developments are within Environmental Quality Standards set out in the Air Quality Standards Regulations 2011 (SI No. 180 of 2011) or any updated/ superseding documents. AP P2: Require activities likely to give rise to air emissions (not licenced under separate legislation) to implement measures to mitigate impacts and to undertake air quality monitoring. Noise Pollution - Policies NP P1: Have regard to the provisions of the Environmental Protection Agency (EPA) Acts 1992 and 2003 and the Environmental Protection Agency Act (Noise) Regulations 1994 or any amendments thereto when assessing planning applications. NP P2: Support and seek the implementation of the Carlow Noise Action Plan 2018 -2023 (and any revisions thereto during the life of this Plan). NP P3: Regulate and control activities likely to give rise to excessive noise, other than those activities which are regulated by the Environmental Protection Agency. NP P4: Ensure new development does not cause an unacceptable increase in noise levels affecting noise sensitive properties. Proposals for new development with the potential to create excessive noise will be required to submit a construction and/or operation management plan to control such emissions. |
| Material Assets | <ul style="list-style-type: none"> Failure to provide adequate and appropriate waste water treatment (water services infrastructure and capacity ensures the mitigation of potential conflicts). Failure to adequately treat surface water run-off that is discharged to water bodies (water services infrastructure and capacity ensures the mitigation of potential conflicts). Failure to comply with drinking water | Also refer to measures under other environmental components including Population and Human Health, Cultural Heritage, Soil, Water, Air, various Land Use and Phasing provisions. Water Supply -Policies and Objectives WS P1: Work in conjunction with Irish Water to protect existing water and associated drainage infrastructure and to promote investment in the water and drainage network to support environmental protection and facilitate the sustainable growth of the County. WS P2: Collaborate with Irish Water in relation to the preparation of their Investment Plans in order to align the supply of water services with the Core Strategy and Settlement Hierarchy. WS P3: To support Irish Water in delivering key water service projects to meet the future needs of the County subject to compliance with all relevant EU and national legislation and normal environmental and planning criteria. WS P4: Assist Irish Water in their commitment to water conservation and support efforts to address leakage including watermain rehabilitation. WS P5: Promote best practice water conservation practices in all developments including rainwater harvesting and grey water recycling and supporting the implementation of BS8515-2009 Rainwater Harvesting Systems – Code of Practice. WS P6: Require new developments where public water supply and network infrastructure is available to seek a connection to existing public water mains where viable. WS O1: Work with Irish Water to protect, manage and optimise water supply networks in the County and to seek the timely delivery of ongoing upgrades to the watermain networks in towns, villages and those serving the rural population including the significant asset of the trunk main between Rathvilly and Brownshill providing a significant portion of the water supply for the Greater Carlow Urban Area. WS O2: Work with Irish Water in progressing the upgrade of Rathvilly Water Treatment Plant, provision of additional reservoir storage at Leighlinbridge, and improved |

| Topic | Potentially Significant Adverse Effect, if Unmitigated | Recommendations integrated into the Plan, included in: |
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| | <p>regulations and serve new development with adequate drinking water (water services infrastructure and capacity ensures the mitigation of potential conflicts).</p> <ul style="list-style-type: none"> Increases in waste levels. Potential impacts upon public assets and infrastructure. Interactions between agriculture and soil, water, biodiversity and human health - including phosphorous and nitrogen deposition as a result of agricultural activities and the production of secondary inorganic particulate matter. | <p>resilience of supply in the Carlow Central Region, Hacketstown and Bilboa.</p> <p>WS O3: Work with Irish Water to ensure expansion of water supply to meet the future needs of the County in the medium to long term.</p> <p>WS O4: Support the implementation of the Rural Water Programme.</p> <p>Wastewater Policies and Objectives</p> <p>It is the policy of the Council to:</p> <p>PW P1: Support strategic wastewater treatment infrastructure investment by Irish Water and to support Irish Water in providing and maintaining adequate and appropriate wastewater treatment infrastructure to service zoned lands, towns and villages and developments over the period of the Plan in accordance with the Core Strategy and Settlement Hierarchy.</p> <p>PW P2: Facilitate Irish Water in the delivery of public wastewater services which address the residential, commercial and industrial needs of the County subject to compliance with all relevant EU and national legislation and normal planning and environmental criteria.</p> <p>PW P3: Encourage and support a changeover from septic tanks/ private wastewater treatment plants to public collection networks wherever feasible, subject to connection agreements with Irish Water and to ensure that any future development connects to the public wastewater infrastructure where it is available.</p> <p>PW O1: Facilitate the required upgrade of wastewater projects that may arise during the lifetime of this Plan subject to compliance with all relevant EU and national legislation and normal planning and environmental criteria including upgrade and improvement works on current and planned IW schemes for Tullow WWTP, Bagenalstown/Leighlinbridge WWTP, Mortarstown WWTP, and Borris WWTP.</p> <p>PW O2: Work and support Irish Water in progressing the "Small Towns and Villages Growth Programme" which is intended to provide growth capacity at WWTPs (and WTPs) in smaller settlements which would not otherwise be provided for in the current Investment Plan.</p> <p>PW O3: Work and support Irish Water, other public infrastructure agencies and local communities to develop the programme for "new homes in small towns and villages" through land activation and supportive works (e.g. serviced sites) as set out in NPO 18b of the National Planning Framework.</p> <p>WW P1: Require that private wastewater treatment systems for individual houses where permitted, comply with the recommendations contained within the EPA Code of Practice for Domestic Waste Water Treatment Systems (2021) Serving Single Houses (population equivalent less than or equal to 10) or any updated version during the period of this Plan, the Water Framework Directive, the National River Basin Management Plan 2018-2021 (as maybe updated) and the Habitats Directive.</p> <p>WT P1: Ensure that the proposed wastewater treatment system for development in unserved areas complies with the relevant EPA Code of Practice, the Water Framework Directive, the National River Basin Management Plan 2018-2021 (as maybe updated) and the Habitats Directive. There will be a general presumption that development will be focused into areas that are serviced by public wastewater collection networks where available.</p> <p>WT P2: Prohibit the use of shared wastewater treatment systems for new multi-house developments in unserved rural areas.</p> <p>Waste Management Infrastructure Policies and Objectives</p> <p>WM P1: Implement European Union, National and Regional waste related environmental policy, legislation, guidance and codes of practice to improve management of material resources and wastes.</p> <p>WM P2: Encourage the transition from a waste management economy to a green circular economy in accordance with A Waste Action Plan for a Circular Economy, Ireland's National Waste Policy 2020-2025', to enhance employment and increase the value recovery and recirculation of resources.</p> <p>WM P3: Support the circular economy, and to provide, promote and facilitate high quality sustainable waste recovery and disposal infrastructure and technology in keeping with the EU waste hierarchy subject to economic and technical feasibility and environmental assessments.</p> <p>WM P4: Seek the provision of adequately sized public recycling facilities in association with new commercial developments and in tandem with significant change of use / extensions of existing commercial developments where appropriate.</p> <p>WM P5: Require the appropriate provision for the sustainable management of waste within developments, including the provision of facilities for storage, separation and collection of waste.</p> <p>WM P6: Ensure that all waste that is disposed of by private waste companies is done so in compliance with the requirements of the Environmental Protection Agency and the Waste Management Legislation and in accordance with the Planning Code.</p> <p>WM O1: Implement the provisions of the Southern Region Waste Management Plan 2015-2021, and any updates thereto during the life of this Plan, subject to compliance with the Habitats Directive and normal planning and environmental considerations.</p> <p>WM O2: Continue to rehabilitate the former Powerstown landfill site and following completion of these works to accommodate an appropriate end-use that is compatible with the local environment.</p> <p>WM O3: Implement the Litter Management Plan 2021-2023 and updates during the life of this Plan.</p> <p>WM O4: Use statutory powers to prohibit the illegal deposit and disposal of waste, refuse and litter, and to authorise and regulate waste disposal within the County in an environmentally sensitive manner.</p> <p>WM O5: Implement the legislative provisions in relation to historic landfill sites in the County and to undertake risk assessments where required and any subsequent</p> |

| Topic | Potentially Significant Adverse Effect, if Unmitigated | Recommendations integrated into the Plan, included in: |
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| | | remedial measures where necessary. |
| Cultural Heritage | <ul style="list-style-type: none"> Potential effects on protected and unknown archaeology and protected architecture arising from construction and operation activities | <p>General: Built Heritage - Policies</p> <p>BH P1: Promote the conservation and reuse of early traditional structures, roofscapes of historic centres and the recognition of interrelationships between sites and landscape features in terms of the insertion of new buildings and managing their impact on the historic environment.</p> <p>BH P2: Promote the development of heritage-led regeneration, to plan for the reuse and conservation of core-built heritage and archaeological sites within urban centres as an integral part of the evolution of the historic place and its significance.</p> <p>BH P3: Promote best conservation practice and to lead by example through the management and safeguarding of historic sites and properties in the ownership of the Local Authority.</p> <p>BH P4: Support the development of sustainable infill in town back lands that is appropriate in scale and character to that of the historic centre, that transitions and accommodates surviving structures and retains the historic streetscape form particularly within sensitive areas of built and archaeological importance.</p> <p>BH P5: Co-ordinate significant infrastructural projects such as public realm works, flood relief works and new transport routes to the benefit of surviving historic sites in order to improve their enjoyment, presentation and enhanced accessibility.</p> <p>BH P6: Promote awareness and the appropriate adaptation of the County's architectural and archaeological heritage to deal with the effects of climate change.</p> <p>Archaeological Heritage - Policies</p> <p>AH P1: Secure the preservation (either in situ or by record) of all archaeological monuments included in the Record of Monuments and Places (RMP) and their settings, and of all sites and features of significant archaeological or historical interest, including potential and previously unknown sites or features, in consultation with the National Monuments Service in the Department of Housing, Local Government and Heritage.</p> <p>AH P2: Protect and conserve underwater archaeological heritage in the inland waters of the County, including potential and previously unknown sites or features, in consultation with the National Monuments Service in the Department of Housing, Local Government and Heritage.</p> <p>AH P3: Protect, conserve and enhance the archaeological heritage of the County, and to manage development in a manner that avoids adverse impacts on sites, monuments, features or objects of significant archaeological or historical interest, including areas and sites of archaeological potential. There will be a presumption in favour of the 'preservation in situ' of archaeological heritage in accordance with the 'Framework and Principles for the Protection of Archaeological Heritage (DAGHI 1999) or any superseding national policy document.</p> <p>AH P4: Ensure that any development proposal that may, by reason of location, scale, nature, layout or design, have potential implications for archaeological heritage (including areas and sites of archaeological potential), shall be subject to an archaeological assessment. The archaeological assessment will seek to ensure that the development proposal can be sited and designed to avoid impacting on archaeological heritage. Any archaeological excavation shall be carried out in accordance with best practice outlined by the NMS, the National Museum of Ireland and the Institute of Archaeologists of Ireland. In all such cases the Planning Authority shall consult with the National Monuments Service in the Department of Housing, Local Government and Heritage.</p> <p>AH P5: Have regard to the Record of Monuments (RMP) and Places, the Urban Archaeology Survey and archaeological sites identified subsequent to the publication of the RMP when assessing planning applications for development. No development shall be permitted in the vicinity of a recorded feature, where it detracts from the setting of the feature or which is injurious to its cultural or educational value.</p> <p>AH P6: Protect the Zones of Archaeological Potential (Zones of Archaeological Notification) located within both urban and rural areas as identified in the Record of Monuments and Places (RMP).</p> <p>AH P7: Protect and conserve historic burial grounds within the County, including through the avoidance of extensions to them that would have an inappropriate level of impact on sub-surface archaeological remains or on their setting and amenity, and encourage their management and maintenance in accordance with best practice conservation principles, including 'Guidance for the Care, Conservation and Recording of Historic Graveyards' (The Heritage Council 2011) and 'Ireland's Historic Churches and Graveyards' (The Heritage Council), and in consultation with the National Monuments Service in the Department of Housing, Local Government and Heritage.</p> <p>AH P8: Promote public awareness of the archaeological heritage of the County, and encourage where appropriate and practicable, the provision of appropriately designed and located signage, interpretative material, and public access (including disabled access) for archaeological sites under the direct ownership, guardianship or control of the Council and/or the state.</p> <p>AH P 9: Support community initiatives and projects regarding the preservation, presentation and access to archaeological heritage and underwater cultural heritage, provided such are compatible with appropriate conservation policies and standards, having regard to the guidance and advice of the Department of Housing, Local Government and Heritage.</p> <p>AH P10: Support the incorporation of recorded monuments into designated open spaces and public amenity spaces, provided this is done in a manner compatible with the protection and proper management and conservation of the monument in question. Accordingly, where such incorporation takes place an appropriate and enforceable permanent management and conservation plan will be required..</p> |

| Topic | Potentially Significant Adverse Effect, if Unmitigated | Recommendations integrated into the Plan, included in: |
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| Landscape | <ul style="list-style-type: none"> • Occurrence of adverse visual impacts and conflicts with the appropriate protection of designations relating to the landscape. | <p>Also refer to measures under Biodiversity and Flora and Fauna and Cultural Heritage.</p> <p>Landscape – Policies and Objectives</p> <p>LA P1: Protect and maintain the overall integrity of the County's landscape, by recognising its capacity to sustainably integrate and absorb appropriate development, and by ensuring that development protects, retains and, where necessary, enhances the appearance and character of the landscape, and does not unduly damage or detract from those features which contribute to its value, character, distinctiveness and sensitivity e.g. landform, habitats, scenic quality, settlement pattern, historic heritage, amenity, land use and tranquillity.</p> <p>LA P2: Ensure that development will not have a disproportionate landscape or visual impact in sensitive upland areas of the County (due to siting, layout, design or excessive scale, height and bulk) and will not significantly interfere with or detract from scenic upland vistas, when viewed from the surrounding environment, including nearby areas, scenic views and routes, and from settlements.</p> <p>LA P3: Adopt a presumption against developments which are located on elevated or visually exposed sites or areas with open exposed vistas, and where the landscape cannot accommodate such development with appropriate mitigation.</p> <p>LA P4: Ensure that developments on steep slopes or ridges will not be conspicuous or have disproportionate landscape or visual impacts when viewed from the surrounding environment, including from nearby areas, scenic views and routes, and from settlements.</p> <p>LA P5: Protect and maintain the landscape quality and visual integrity of river valleys and river corridors, and to ensure development in these sensitive landscape areas does not adversely affect or detract from scenic views, including views from bridges, or from distinct linear sections such as open floodplains.</p> <p>LA P6: Require all developments, having regard to their landscape setting, to be appropriate in siting, layout, design and scale, in order to ensure any potential adverse or landscape and visual impacts are minimised and/or removed where necessary, and that natural site features and characteristics are retained and maintained.</p> <p>LA P7: Facilitate, where appropriate, developments that have a functional and locational requirement to be situated on steep or elevated sites (e.g. reservoir, telecommunication masts or wind energy structures) where residual adverse visual impacts are minimised or mitigated.</p> <p>LA P8: Require, where appropriate, Landscape/Visual Impact Assessments to be prepared by suitably qualified professionals, for development proposals which may have significant landscape or visual impacts, and/or which are located within or adjacent to sensitive landscapes.</p> <p>LA P9: Have regard to the potential for screening vegetation when evaluating proposals for development within the uplands.</p> <p>LA P10: Ensure that features which contribute to local landscape character, including historic features and buildings, trees, hedgerows, shelter belts and stone walls, are retained, protected, and enhanced where appropriate, so as to preserve the appearance and local landscape character of an area, whilst supporting sustainable landscape change and development. Development proposals necessitating the removal of such features will be discouraged.</p> <p>LA P11: Protect and preserve the established appearance and aesthetic attributes of views and prospects that contribute to the inherent quality of the County's landscape, including views, prospects and scenic routes listed in Tables 9.3 and 9.4 , and particularly views to and from mountains, hills, river valleys and river corridors, and views of historical or cultural value (including buildings and townscapes) and views of natural beauty.</p> <p>LA O1: Ensure that the management and assessment of development throughout the County takes account of the recommendations and assigned Landscape Character Areas, Landscape Types, and Landscape Sensitivity, and the Schedule of Views, Prospects and Scenic Routes, as contained in this Plan, and in accordance with Government Guidance on Landscape Character Assessment and the National Landscape Strategy.</p> <p>LA O2: Ensure landscape/visual impact assessment will be a key consideration in the assessment of development proposals within the County.</p> |

Section 3 Environmental Report and Submissions/ Observations

3.1 Introduction

This section details how both the Environmental Report and submissions and observations made to Carlow County Council on the Environmental Report and SEA process have been taken into account during the preparation of the Plan and the SEA.

3.2 SEA Scoping Notices and Submissions

As part of the scoping process for preparation of the Plan, environmental authorities³ were notified that a submission or observation in relation to the scope and level of detail of the information to be included in the Environmental Report could be made to the Council.

One submission was received, from the Environmental Protection Agency, in response to the SEA Scoping Notices. Another submission was received as part of the pre-draft consultation that was from an environmental authority (the Department of Communications, Climate Action and Environment) and was of particular relevance to the SEA. The issues raised in these submissions and how these issues have been taken into account during preparation of the Plan and the SEA are provided on Table 3.1 below. Taking into account these submissions included integrating environmental considerations into the Plan, including through the selection of Plan provisions identified on Table 2.1).

³ The following authorities were notified: Department of Agriculture, Food and the Marine; Department of Culture, Heritage, and the Gaeltacht; Department of Communications, Climate Action and Environment; Department of Housing, Planning and Local Government; Environmental Protection Agency; Wicklow County Council; Wexford County Council; Kilkenny County Council; Laois County Council; and Kildare County Council.

Table 3.1 Taking into account SEA Scoping Submissions

| No. | Submission text | Response |
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| 1 SEA scoping submission from the Environmental Protection Agency | | |
| A | We acknowledge your notice, dated 22nd June 2020, in relation to the Pre-Draft Public Consultation on the proposed Carlow County Development Plan 2022-2028 (the 'Plan'). | Noted. |
| B | The EPA is one of five statutory environmental authorities under the SEA Regulations. In our role as an SEA environmental authority, we focus on promoting the full and transparent integration of the findings of the Environmental Assessment into the Plan and advocating that the key environmental challenges for Ireland are addressed as relevant and appropriate to the plan. Our functions as an SEA environmental authority do not include approving or enforcing SEAs or plans. | Noted. |
| C | As a priority, we focus our efforts on reviewing and commenting on key sector plans. We again attach our guidance document ' <i>SEA of Local Authority Land Use Plans – EPA Recommendations and Resources</i> '. This document is updated regularly and sets out our key recommendations for integrating environmental considerations into Local Authority land use Plans. We recommend that you take this guidance document into account in preparing the Plan and SEA. | The ' <i>SEA of Local Authority Land Use Plans – EPA Recommendations and Resources</i> ' document have been considered in the preparation of this SEA Scoping Report and will be kept on file for reference throughout the SEA process. |
| D | In preparing the Plan, Carlow County Council should also ensure that the Plan aligns with key relevant higher-level plans and programmes and is consistent with the relevant objectives and policy commitments of the National Planning Framework and the Regional Spatial and Economic Strategy for the Southern Region. | These plans and programmes will be considered as part of the preparation of the Plan and associated environmental assessments, as relevant. |
| E | <p>Specific Comments</p> <p><i>Climate Action</i></p> <p>In preparing the Plan, you should take into account the need to align with national commitments on climate change mitigation and adaptation, including those set out in the <i>Climate Action Plan 2019</i>, as well as incorporating any relevant recommendations and measures in sectoral, regional and local climate adaptation and mitigation plans.</p> <p>The Agency recently published <i>Ireland's Greenhouse Gas Emissions Projections for 2018-2040</i> (EPA, 2019) which should be taken into account in preparing the Plan, as appropriate and relevant.</p> <p>The Agency has also published an update of the existing good practice guidance note on how to incorporate climatic factors into plans and programmes falling under the remit of the SEA Directive – <i>Integrating Climatic Factors into the Strategic Environmental Assessment Process in Ireland</i> (EPA, 2019). Key climate-related aspects to consider in the Plan and SEA, where relevant, include:</p> <ul style="list-style-type: none"> - Direct and indirect impacts of the Plan on greenhouse gas emissions and removals (Mitigation) - Direct and indirect impacts of climate change on the implementation of the Plan, e.g. the resilience of critical water service infrastructure to flooding and drought (Adaptation) - The linkages between mitigation and adaptation (inter-relationships). | The SEA will seek to ensure that the Plan aligns with national commitments on climate change and adaptation, as well as relevant sectoral, regional and local adaptation plans. |
| F | <p>Biodiversity</p> <p>Carlow County Council should promote the need to protect non-designated aspects of biodiversity including ecological corridors / linkages / green infrastructure, areas of important local biodiversity etc. To help protect and/or to enhance biodiversity in the Plan area, there is merit in assessing and incorporating any relevant habitat mapping available.</p> | Relevant surveys and habitat mapping will be considered as part of the preparation of the Plan and associated environmental assessments, as relevant. |
| G | <p>Invasive Alien Species Control and Management</p> <p>A clear commitment should be included to ensure that implementation of the Plan, in particular, any proposed development associated with the Plan, addresses the control and management of invasive species.</p> | Management of invasive species will be addressed by the Plan. |
| H | <p>Key Plans and Programmes</p> <p><i>Some suggested national / regional / sectoral plans to consider in preparing the Plan and SEA are listed below.</i></p> <p>Spatial Planning</p> <ul style="list-style-type: none"> - <i>Local Authority Development Plans</i> | These plans and programmes will be considered as part of the preparation of the Plan and |

| No. | Submission text | Response |
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| | <p>Sustainable Development</p> <ul style="list-style-type: none"> - National Implementation Plan for the Sustainable Development Goals <p>Tourism</p> <ul style="list-style-type: none"> - National Greenways Strategy - Local authority tourism strategies <p>Climate</p> <ul style="list-style-type: none"> - Relevant sectoral, regional and local authority climate adaptation and mitigation plans/strategies – including Climate Change Adaptation Plan for Built and Archaeological Heritage (DCHG, in preparation). - Relevant OPW Flood Risk Managements Plans and associated flood risk mapping - National Climate Action Plan 2019 - National Energy and Climate Plan (DCCAE, in preparation) - National Mitigation Plan - National Adaptation Framework <p>Biodiversity</p> <ul style="list-style-type: none"> - National Biodiversity Action Plan - All Island Pollinator Plan - Any available biodiversity/heritage plans and habitat mapping <p>Water & Water Services</p> <ul style="list-style-type: none"> - River Basin Management Plan for Ireland 2018-2021 - Water Services Strategic Plan / Capital Investment Programme and Draft National Water Resources Plan (Irish Water) <p>Transport</p> <ul style="list-style-type: none"> - Planning Land Use and Transport – Outlook 2040 (DTTAS, in prep) <p>Air & Noise</p> <ul style="list-style-type: none"> - Local Authority Noise Action Plans - National Clean Air Strategy (DCCAE, in prep) - National Air Pollution Control Programme (DCCAE, 2019) | <p>associated environmental assessments, as relevant.</p> |
| I | <p>Available Guidance & Resources</p> <p>Our website contains various SEA resources and guidance, including:</p> <ul style="list-style-type: none"> - SEA process guidance and checklists - Inventory of spatial datasets relevant to SEA - topic specific SEA guidance (including Good practice note on Cumulative Effects Assessment (EPA, 2020), Guidance on SEA Statements and Monitoring (EPA, 2020), Integrating climatic factors into SEA (EPA, 2019), Developing and Assessing Alternatives in SEA (EPA, 2015), and Integrated Biodiversity Impact Assessment (EPA, 2012)) <p>You can access these resources at: www.epa.ie/monitoringassessment/assessment/sea/</p> | <p>Available online EPA resources, including mapping resources, and guidance have been considered in the preparation of this report and will be considered throughout the SEA and AA processes.</p> |
| J | <p>Environmental Sensitivity Mapping (ESM) Webtool</p> <p>The ESM Webtool is a new decision support tool to assist SEA and planning processes in Ireland. The tool brings together over 100 datasets and allows users to explore environmental considerations within a particular area and create plan-specific environmental sensitivity maps. These maps can help planners anticipate potential land-use conflicts and help identify suitable development locations, while also protecting the environment. The ESM Webtool is available at www.enviromap.ie.</p> | |
| K | <p>EPA SEA WebGIS Tool</p> <p>Our SEA WebGIS Tool, available through the EDEN portal (https://gis.epa.ie/EIS_SEA/), allows public authorities to produce an indicative report on key aspects of the environment in a specific geographic area. It is intended to assist in SEA screening and scoping exercises.</p> | |
| L | <p>EPA WFD Application</p> <p>Our WFD Application provides a single point of access to water quality and catchment data from the national WFD monitoring programme. The Application is accessed through EDEN https://wfd.edenireland.ie/ and is available to public agencies. Publicly available data can be accessed via the Catchments.ie website.</p> | |
| M | <p>EPA AA GeoTool</p> <p>Our AA GeoTool application has been developed in partnership with the NPWS. It allows users to select a location, specify a search area and gather available information for each European Site within the area. It is available at: http://www.epa.ie/terminalfour/AppropAssess/index.jsp</p> | |
| N | <p>State of the Environment Report – Ireland's Environment 2016</p> <p>In preparing the Plan and SEA, the recommendations, key issues and challenges described within our most recent State of the Environment Report Ireland's Environment – An Assessment 2016 (EPA, 2016) should be considered, as relevant and appropriate to the Plan.</p> | <p>The recommendations, key issues and challenges described within Ireland's Environment will be considered in the preparation of the Plan.</p> |
| O | <p>Transition to a low carbon climate resilient economy and society</p> <p>You should ensure that the Plan aligns with national commitments on climate change mitigation and adaptation, as well as relevant sectoral, regional and local adaptation plans.</p> | <p>The SEA will seek to ensure that the Plan aligns with national</p> |

| No. | Submission text | Response |
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| | | commitments on climate change mitigation and adaptation, as well as relevant sectoral, regional and local adaptation plans. |
| P | Environmental Authorities Under the SEA Regulations, you should also consult with: <ul style="list-style-type: none"> • The Minister for Housing, Planning and Local Government, • The Minister for Agriculture, Food and the Marine, and the Minister for Communications, Climate Action and Environment, where it appears to you as the competent authority that the plan or programme, or modification to a plan or programme, might have significant effects on fisheries or the marine environment, • The Minister for Culture, Heritage and the Gaeltacht where it appears to you as the competent authority that the plan or programme, or modification to a plan or programme, might have significant effects in relation to the architectural or archaeological heritage or to nature conservation, and • any adjoining planning authority whose area is contiguous to the area of a planning authority which prepared a draft plan, proposed variation or local area plan. | Notice has also been given to relevant environmental authorities as part of the SEA scoping process. |
| 2 Pre-Draft Consultation Submission from the Department of Communications, Climate Action and Environment (Geological Survey Ireland) | | |
| A | With reference to your letter dated June 22, concerning the Pre-draft public consultation on the preparation of Carlow County Development Plan 2022-2028, Geological Survey Ireland (a division of Department of Communications, Climate Action and Environment) would like to make the following comments. | Noted. |
| B | Geoheritage The Geological heritage county audit was completed in 2004. The resulting report was an action of the County Carlow Heritage Plan 2003-2007. GSI welcomes the mention of the County Geological Sites (CGSs) within the draft county development plan. The 6 County Geological Sites (CGS) play an important part in Carlow's natural heritage and landscape and require protection and preservation from potential over development, pollution, and illegal dumping. The following points are suggested by the Irish Geological Heritage Programme of Geological Survey Ireland, as appropriate ways in which to address the need to protect geological heritage in any one of Ireland's local authority areas: As a minimum, GSI would like the Local Authority to include a policy objective with wording such as: <i>"to protect from inappropriate development the scheduled list of geological heritage sites [Appendix X]."</i> Or <i>"to protect from inappropriate development the following list of County Geological Sites"</i> The IGH Programme views the Local Authorities as critical partners in protecting, through the planning system, those CGS which fall within their county limits. In many cases these are often sites of high amenity or educational value, already zoned or listed in the plan. Listing in the CDP provides protection of the sites against potentially damaging developments that normally require planning permission, such as building, quarrying, landfilling or forestry. It is also important that the democratic process of public consultation and approval by councillors of the CDP means that stakeholders in the sites and all the local community can buy into the process. CGSs have been adopted in the National Heritage Plan, and will form a major strand of geological nature conservation to complement the various ecological and cultural conservation measures. It is important to note however, that management issues for the majority of geological heritage sites may differ from ecological sites, and in some cases development may facilitate enhanced geological understanding of a site by exposing more rock sections - for example, in a quarry extension. Consultation at the earliest stages can identify any issues relevant to an individual site or proposed development. County Geological Sites are the optimal way of addressing the responsibility of each authority under the Planning and Development Act 2000 and its amendments, to protect sites of geological interest. It would also be necessary to include a policy objective to protect geological NHAs as they become designated and notified to the Local Authority, during the lifetime of the Plan. As always we are available if you require any further information, please feel free to contact Clare Glanville (Clare.Glanville@gsi.ie). | Relevant County Geological Sites have been considered in the preparation of this report and will be considered throughout the SEA process. |
| C | Culture and Tourism Over the past number of years geology has become a large part of Irish tourism. Ireland currently has three UNESCO Global Geoparks, with one aspiring Geopark, Joyce Country and Western Lakes Aspiring Geopark. These Geoparks, along with other tourism initiatives such | Noted. This information and recommendations will be considered throughout the SEA |

| No. | Submission text | Response |
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| | as the Wild Atlantic Way, Irelands Ancient East, and Irelands Hidden Heartlands have bolstered tourism in various parts of Ireland and helped to increase its levels in areas that were previously not as popular with tourists. We would encourage Carlow County Council to continue this trend, and continue to use the geological audit information making it easily available to the general public. We would encourage geology to be a significant part of any tourism initiative that may be introduced. | process. |
| E | <p>Groundwater</p> <p>Groundwater is important as a source of drinking water, and it supports river flows, lake levels and ecosystems. It contains natural substances dissolved from the soils and rocks that it flows through, and can also be contaminated by human actions on the land surface. As a clean, but vulnerable, resource, groundwater needs to be understood, managed and protected.</p> <p>Through our Groundwater Programme, Geological Survey Ireland provides advice and maps to members of the public, consultancies and public bodies about groundwater quality, quantity and distribution. Geological Survey Ireland monitors groundwater nationwide by characterising aquifers, investigating karst landscapes and landforms and by helping to protect public and group scheme water supplies. We recommend the use of GSI's National Aquifer, Vulnerability and Recharge maps within the CDP. Further information is available on our Map viewer.</p> <p>With regard to Flood Risk Management, there is a need to identify areas for integrated mitigation and management. Our GWflood project is a groundwater flood monitoring and mapping programme aimed at addressing the knowledge gaps surrounding groundwater flooding in Ireland. The project is providing the data and analysis tools required by local and national authorities to make scientifically-informed decisions regarding groundwater flooding. Although primarily focused on karst areas, there may be some useful information at a broader scale to benefit the CDP. We recommend using the GSI's GWflood tools found under our programme activities to this end.</p> <p>With regards to Climate Change, there is a need to improve the monitoring capacity of groundwater levels in Ireland so that the potential impacts of climate change can be monitored and assessed. In this context the GSI has established the GWClimate project in January 2020. GWClimate will 1) establish a long-term strategic groundwater level monitoring network and 2) develop modelling and analytical approaches for evaluating the impacts of Climate Change to Irish groundwater systems. Further information can be found on the Groundwater flooding page of the Groundwater Programme.</p> <p>This data may be useful in developing the county development plan under the 9 thematic areas and high level goals listed in the section on Environment and Climate Change.</p> | <p>Mineral resources will be recognised as a material asset by the SEA.</p> <p>Aquifer productivity and vulnerability mapping will be included in the SEA Environmental Report and the SEA will reference datasets available from GSI that may be useful to lower-tier project planning, including those relating to Aquifer Productivity, Aquifer Vulnerability, Bedrock Geology, Quaternary Geology, Geothermal energy potential, Mineral deposits, Groundwater Resources and Geohazards, such as Landslide Events and Landslide Susceptibility Mapping.</p> |
| F | <p>Geohazards</p> <p>Geohazards can cause widespread damage to landscapes, wildlife, human property and human life. While in Ireland, landslides are the most prevalent of these hazards flooding is becoming an increasing risk. Geological Survey Ireland has information available on past landslides for viewing as a layer on our Map Viewer. Geological Survey Ireland also engages in national projects such as Landslide Susceptibility Mapping and Groundwater Flooding (GWflood). We recommend that geohazards and particularly flooding be taken into consideration, especially when developing areas where these risks are prevalent, and we encourage the use of our data when doing so. Additionally, we welcome use of Geological Survey Ireland's online mapping data sets for Landslide Events and Landslide Susceptibility to identify areas at risk in the CDP. This data may be useful in developing the county development plan under the 9 thematic areas and high level goals listed in the section on Environment and Climate Change.</p> | The flood mapping referred to will also be considered by the Strategic Flood Risk Assessment, the findings of which inform the SEA. |
| G | <p>Geothermal Energy</p> <p>Geothermal energy harnesses the heat beneath the surface of the Earth for heating applications and electricity generation, and has proven to be secure, environmentally sustainable and cost effective over long time periods. Geothermal applications can range in depth from a few metres below the surface to several kilometres. Ireland has widespread shallow geothermal resources for small and medium-scale heating applications, which can be explored online through Geological Survey Ireland's Geothermal Suitability maps for both domestic and commercial use. We recommend use of our Geothermal Suitability maps to determine the most suitable type of ground source heat collector for use with heat pump technologies. The Geothermal Suitability maps could also be considered as part of the Renewable Energy Potential for the CDP. Ireland also has recognised potential for 'deep' (>400m) geothermal resources. Geological Survey Ireland currently supports and funds research into this national energy resource. Along with our partners in research and industry we have been investigating the potential for geothermal energy in Ireland. Although Ireland does not possess high temperature (high enthalpy) reserves such as those in Iceland or the Azores, we do have the potential to use our resources for low enthalpy application such as district heating and industrial processes that require heating/cooling. We are currently completing a roadmap for geothermal energy use in Ireland which we expect to publish in 2020. For further information please see our geoenergy pages on our website or contact the Groundwater Programme of the Geological Survey Ireland directly.</p> | |

| No. | Submission text | Response |
|----------|--|---|
| H | <p>Natural Resources (Minerals/Aggregates)</p> <p>Minerals are needed for the production of renewable energy resources; using local minerals further promotes sustainable development as the carbon footprint of sourcing materials may be reduced. Data, maps, interpretations and advice on matters related to minerals, their use and their development can be found in our Minerals section of the website.</p> <p>We would like to draw your attention to our 'Active Quarries', 'Mineral Localities' and 'Aggregate Potential' layers on our Map Viewer. These can be used to promote sustainable development and reduce the carbon footprint of buildings by using local stone to build. We will be happy to assist in any way with advice on the sourcing of local building materials.</p> <p>We note the mention of Sand and Gravel Extraction within the Rural Development section of the issues paper. It should be noted 4 of the 6 County Geological Sites are quarries and additionally, there are several pits associated with the Ballymoon Esker, Bagenalstown. The following guidelines below may be of assistance to the scoping and preparation of the county development plan:</p> <ul style="list-style-type: none"> • Department of Environment, Heritage and Local Government, 2004. Quarries and Ancillary Activities, Guidelines for Planning Authorities. • Environmental Protection Agency, 2006. Environmental Management in the Extractive Industry: Non-Scheduled Minerals. • Geological Survey of Ireland - Irish Concrete Federation, 2008. Geological Heritage Guidelines for the Extractive Industry. <p>The Geoheritage Programme tries to promote a partnership between geological heritage and active quarrying, with such measures as those outlined in the 'Geological Heritage Guidelines for the Extractive Industry', which can be downloaded here. This document, written in association with Irish Concrete Federation, acts as a comprehensive guide in the sustainable extraction of natural resources while preserving the geological heritage of Ireland.</p> <p>We also encourage discussion on end-of-life plans for quarries and would be happy to recommend ways to promote the geology to the public or develop tourism or educational resources if appropriate. Geological Survey Ireland would like to offer help with interpretative signs where interesting geological features have been exposed, if appropriate.</p> <p>Our data can be used to support and inform your chapters on sustainable communities in response to the first question issued in terms of sustainable resource use and management of sustainable local infrastructure projects, as well as under other sections such as environment and climate change, and economic development enterprise and employment.</p> | |
| I | <p>Dimension Stone/Stone Built Ireland</p> <p>Geological Survey Ireland recently signed a research collaboration agreement between GSI, TCD & OPW, to run for a 2 year period with the aim of documenting building and decorative stone in Ireland to inform government agencies, building owners and conservationists of the sources for suitable replacement stone in restoration work and to develop a greater awareness among the general public. In addition to promoting citizen science and awareness of local materials, the inventory will aid the public in complying with part 4 of the Planning and Development Act 2000, which requires owners to conserve protected structures. It will also assist local authorities in issuing Section 57 Declarations, which outline 'the type of works which it considers would or would not materially affect the character of the structure or any element of the structure'.</p> <p>This project will build on work already completed funded by the Irish Research Council (March 2019-September 2020) that carried on primary research on the topic and developed a simple database and web-based platform as well as hosting various heritage displays at venues.</p> | <p>Noted – such issues will be taken into account when preparing SEA recommendations relating to cultural heritage.</p> |

3.3 Submissions on the Environmental Report for the Draft Plan

Various submissions were made on the Draft Plan, Proposed Material Alterations and/or associated environmental assessment documents while these documents were on public display.

Updates made on foot of submissions include:

- To add the following subsection to SEA Environmental Report Section 7 "Evaluation of Alternatives" (new text in **bold**):

"Section 7.4 Selected Alternatives

Selected alternatives for the Plan from each of the five types of alternatives that emerged from the planning/SEA process are indicated above.

These alternatives have been incorporated into the Plan having regard to both:

- 1. The environmental effects which are identified by the SEA and are detailed above; and**
- 2. Planning - including social and economic - effects."**

- To update the following SEO from the SEA Environmental Report Monitoring Programme (new text in **bold**, text to be deleted in ~~strike through~~):
- Enhance biodiversity in line with the National Biodiversity ~~Strategy~~ **Action Plan** and its targets
- To update the SEA Monitoring Programme at Section 10 of the SEA Environmental Report will be updated to identify that monitoring reports will be made publicly available.

- Update sources from Section 10 of the SEA Environmental Report as follows (new text in **bold**):

- Under Water: EPA Monitoring Programme for WFD compliance⁴
- Under Biodiversity and Flora and Fauna: DHLGH report of the implementation of the measures contained in the Habitats Directive - as required by Article 17 of the Directive (every 6 years)⁵
- Under Biodiversity and Flora and Fauna: DHLGH National Birds Directive Monitoring Report for the under Article 12 (every 3 years)⁶
- Under Biodiversity and Flora and Fauna: Consultations with the NPWS⁷
- Under Biodiversity and Flora and Fauna: Internal monitoring of likely significant environmental effects of grants of permission⁸

⁴ Including monitoring of water quality and nitrogen deposition due to bioenergy and agricultural projects where available

⁵ Including confirmation with development management that the following impacts have been considered and including use of monitoring data, where available: biodiversity/habitat loss; nitrogen deposition impacts on Natura 2000 sites; recreational disturbance resulting from implementation of tourism and recreation policies and objectives particularly in riparian areas; biodiversity enhancement; and disturbance /visitor pressure impacts of recreation, amenity and tourism development

⁶ Including confirmation with development management that the following impacts have been considered and including use of monitoring data, where available: biodiversity/habitat loss; nitrogen deposition impacts on Natura 2000 sites; recreational disturbance resulting from implementation of tourism and recreation policies and objectives particularly in riparian areas; biodiversity enhancement; and disturbance /visitor pressure impacts of recreation, amenity and tourism development

⁷ Including confirmation with development management that the following impacts have been considered and including use of monitoring data, where available: biodiversity/habitat loss; nitrogen deposition impacts on Natura 2000 sites; recreational disturbance resulting from implementation of tourism and recreation policies and objectives particularly in riparian areas; biodiversity enhancement; and disturbance /visitor pressure impacts of recreation, amenity and tourism development

⁸ Including confirmation with development management that the following impacts have been considered and including use of monitoring data, where available: biodiversity/habitat loss; nitrogen deposition impacts on Natura 2000 sites; recreational disturbance resulting from implementation of tourism and recreation policies and objectives particularly in riparian areas; biodiversity enhancement; and disturbance /visitor pressure impacts of recreation, amenity and tourism development

- To update the environmental protection and management provisions contained in the Draft Plan to take account of submissions and to update the SEA and AA Reports to take account of these changes, including in relation to new on-site wastewater treatment systems.

become a final Environmental Report that is consistent with the adopted Plan, taking into account all changes that were made to the original Draft Plan that was placed on public display.

For further information on how submissions were considered, refer to the Chief Executive's Report on submissions received on the Draft Plan and associated documents and the Chief Executive's Report on submissions received on the Proposed Material Alterations and associated documentation – both available at <https://consult.carlow.ie/>.

All parts of the Plan-preparation process were informed by the SEA, AA and SFRA processes - this includes the preparation of the Chief Executive's Draft Plan, Members' Amendments to that Plan in advance of public display, Proposed Material Alterations and Further Modifications. The mitigation integrated into the final, adopted Plan includes that identified in Section 9 of this report. There were no Material Alterations to the Draft Plan, modified or otherwise, that were advised against by the SEA and adopted as part of the final Plan.

3.4 SEA documents including SEA Environmental Report

The Draft Plan and accompanying documents (including SEA Environmental Report and AA and SFRA documents) were placed on public display, having integrated various recommendations arising from the SEA, AA and SFRA processes. Responses to submissions made during the period of public display of a Draft Plan were integrated into a Chief Executive's Report and considered by Carlow County Council.

A number of material alterations were proposed after public display of the Draft Plan. The Proposed Material Alterations were subject to Screening for SEA and AA and a selection of Alterations were subject to SEA and Stage 2 AA.

On adoption of the Plan, the Environmental Report that had been placed on public display alongside the Draft Plan was updated to

Section 4 Summary of Alternatives considered

4.1 Introduction

The SEA Directive requires that reasonable alternatives (taking into account the objectives and the geographical scope of the plan or programme) are identified, described and evaluated for their likely significant effects on the environment. Whether or not alternatives for the County Development Plan are available has been identified by Carlow County Council.

4.2 Limitations in Available Alternatives

The Plan is required to be prepared by the Planning and Development Act 2000 (as amended), which specifies various types of objectives that must be provided for by the Plan.

The alternatives available for the Plan are limited by the provisions of higher-level planning objectives, including those of the National Planning Framework (NPF) and the Regional Spatial and Economic Strategy (RSES) for the Southern Region. These documents set out various requirements for the content of the Plan including on topics such as settlement typology, land use zoning and the sustainable development of rural areas.

In considering significant realistic alternatives for placing of individual settlements under alternative typologies, the planning authority has taken into account the objectives of the NPF and the Southern RSES. As a result, there are no significant strategic reasonable alternatives available for: placing settlements under the settlement hierarchy contained in the Plan; or population allocations under the settlement hierarchy contained in the Plan.

4.3 Type 1: Alternatives for an Ecosystem Services Approach to the Plan

Although many natural capital⁹ and ecosystem¹⁰ service issues have been taken into account over previous Plan periods, the importance of these in fulfilling environmental obligations has increasingly emerged. An Ecosystems Services Approach would provide a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way.

Alternative A: “A Plan follows an Ecosystems Services Approach to a greater degree” would integrate a strategy throughout the Plan for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way.

Principles that would be integrated throughout the Plan, in a coordinated and comprehensive manner, would include:

- Consideration of natural systems - by using knowledge of interactions in nature and how ecosystems function
- Taking into account of the services that ecosystems provide - including those that underpin social and economic well-being, such as flood and climate regulation or recreation, culture and quality of life
- Involving people - those who benefit from the ecosystem services and those managing them need to be involved in decisions that affect them.

⁹ Renewable and non-renewable resources (e.g. plants, animals, air, water, soils, minerals)

¹⁰ Ecosystems are multifunctional communities of living organisms interacting with each other and their environment. Ecosystems provide a series of services for human well-being (ecosystem services) either directly or indirectly contributing towards human wellbeing

This would mean that there would be:

- An increased likelihood in the extent, magnitude and frequency of positive effects occurring with regard to natural capital¹¹ and ecosystem service issues, such as the management of air quality, noise pollution, light pollution, pollination, flood risk, water bodies and river basins and natural resources supporting energy production and recreation; and
- A decreased likelihood in the extent, magnitude and frequency of adverse effects on natural capital and ecosystem services.

Alternative B: “A Plan that does not follow, or follow to a lesser degree, an Ecosystems Services Approach” would not integrate a strategy throughout the Plan for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way.

As has been the case over previous plan periods, many natural capital and ecosystem service issues would be integrated into individual Plan Policy Objectives and into decision making at lower tiers of plan preparation and development management. However, this approach would be less coordinated and comprehensive than would be the case under an Ecosystems Services Approach.

This would mean that there would be:

- A decreased likelihood in the extent, magnitude and frequency of positive effects occurring with regard to natural capital and ecosystem service issues; and
- An increased likelihood in the extent, magnitude and frequency of adverse effects on natural capital and ecosystem services.

Selected Type 1 Alternative for the Plan: Alternative A.

4.4 Type 2: Alternatives for an infrastructure led approach to the Plan

In terms of infrastructure led approach to the plan, two alternatives can be considered:

- **Alternative A:** A Plan that takes a strict infrastructure led approach.
This alternative ensures that the sustainable development of settlements occurs, with new development accompanied by adequate and appropriate infrastructure.
- **Alternative B:** A Plan that does not takes a less strict infrastructure led approach.
This alternative considers existing and future demand and capacity in infrastructure but the allocation of growth and associated policy responses are looser than under Alternative A. Decisions relating to infrastructure assessment are left to project level wherever this is possible.

Alternative A provides for a robust and transparent policy approach to manage rural housing.

Restricting the development of single dwellings in rural areas that are under strong urban influence/pressure would positively impact upon the protection and management of the environment and sustainable development. The restrictions would help to both reduce levels of greenfield development in areas immediately surrounding existing centres and encourage brownfield development within existing centres.

Single dwellings in rural areas would be facilitated as appropriate and urban development would be directed towards established settlements. This alternative would help to prevent low density urban sprawl and associated adverse effects upon sustainable mobility, climate emission reduction targets and various environmental components.

¹¹ Renewable and non-renewable resources (e.g. plants, animals, air, water, soils, minerals)

Alternative B Provides a vague and unclear policy approach to rural housing and risks facilitating a significant increase in urban-generated one-off housing in the open countryside which will undermine the role of small towns and villages and have consequences for the environment.

Not restricting the development of single dwellings in rural areas that are under strong urban influence/pressure would adversely impact upon the protection and management of the environment and sustainable development. The absence of restrictions would result in increased levels of greenfield development in areas immediately surrounding existing centres and less demand for brownfield development within existing centres.

Urban generated housing development would occur within rural areas outside of established settlements. This alternative would result in low density urban sprawl and associated adverse effects upon sustainable mobility, climate emission reduction targets and various environmental components.

4.5 Type 3: Alternatives for Rural Areas and Serviced Sites

Type 3 (i) Rural Areas under Urban Influence

- **Type 3 (i) Alternative A:** Designate Rural Areas under Urban Influence, requiring various criteria to be demonstrated and met in advance of planning permission being granted for a single dwelling for permanent occupation in such areas.
- **Type 3 (i) Alternative B:** Do not designate Rural Areas under Urban Influence and assess each planning application on its merits.

Alternative A provides for a robust and transparent policy approach to manage rural housing.

Restricting the development of single dwellings in rural areas that are under strong urban influence/pressure would positively impact upon the protection and management of the environment and sustainable development. The restrictions would help to both reduce levels of greenfield development in areas immediately surrounding existing centres and encourage brownfield development within existing centres.

Single dwellings in rural areas would be facilitated as appropriate and urban development would be directed towards established settlements. This alternative would help to prevent low density urban sprawl and associated adverse effects upon sustainable mobility, climate emission reduction targets and various environmental components.

Alternative B Provides a vague and unclear policy approach to rural housing and risks facilitating a significant increase in urban-generated one-off housing in the open countryside which will undermine the role of small towns and villages and have consequences for the environment.

Not restricting the development of single dwellings in rural areas that are under strong urban influence/pressure would adversely impact upon the protection and management of the environment and sustainable development. The absence of restrictions would result in increased levels of greenfield development in areas immediately surrounding existing centres and less demand for brownfield development within existing centres.

Urban generated housing development would occur within rural areas outside of established settlements. This alternative would result in low density urban sprawl and associated adverse effects upon sustainable mobility, climate emission reduction targets and various environmental components.

Selected Type 3 (i) Alternative for the Plan: Alternative A.

Type 3 (ii) Serviced Sites

- **Type 3 (ii) Alternative A:** Promote new homes and serviced sites in villages as an attractive alternative to one-off housing in the open countryside.

Serviced sites would be served by infrastructure (including water services infrastructure) and more likely to protect the environment including the status of ground and surface waters, water used for drinking water, human health, biodiversity and flora and fauna and the landscape. Development would be required to be subject to siting, design, protection of residential amenities and normal development management criteria, subject to the satisfactory provision of infrastructure and services and in keeping with the character of the settlement.

- **Type 3 (ii) Alternative B:** Do not promote new homes and serviced sites in villages as an attractive alternative to one-off housing in the open countryside.

Alternative B would be less likely to provide a viable alternative to one-off housing in the open countryside. Development within the open countryside would be less likely to be served by infrastructure (including water services infrastructure) and less likely to protect the environment including the status of ground and surface waters, water used for drinking water, human health, biodiversity and flora and fauna and the landscape. Alternative B would be the least sustainable of these two alternatives and would be most harmful to the environment.

Selected Type 3 (ii) Alternative for the Plan: Alternative A.

4.6 Type 4: Alternatives for Densities

Alternatives identified relating to densities comprise:

Alternative A: Application of a single standard residential density across all settlements.

The application of a low net singular residential density across the County's settlements would have the potential to push new development towards more environmentally sensitive lands that are less well-serviced and less well-connected, resulting in unnecessary potentially significant adverse effects on all environmental components.

The application of a singular high net residential density could result in a potential misalignment between the supply of zoned land to meet the projected demand for new housing. This could result in a misalignment between new development and essential services provision with associated potential for adverse effects on environmental components.

Alternative B: The Application of different densities at different locations, as appropriate, would provide for the most sustainable development, which would contribute towards environmental protection and management the most.

Higher densities would be provided where sustainable transport mode opportunities are available and lower densities would be provided where constraints are presented by, for example, wastewater and water infrastructure constraints, cultural heritage designations or the local road network. This approach would contribute towards national and regional strategic outcomes including the efficient use of land, compact growth and the transition towards a low carbon and more climate resilient society.

Alternative B would help to ensure compact, sustainable development within and adjacent to the existing built-up footprint and would conflict with the protection and management of environmental components the least. Alignment between new development and essential services provision would be most likely under Alternative B.

Taking cognisance of the range and diversity of settlements across the functional area of the draft development plan, and the settlement typology/ hierarchy, it is considered that Alternative B is the most sustainable option for delivering on the principles of compact growth, while facilitating placemaking, and the development of diverse rural areas a range of options for the housing market in terms of house type mix, tenure, design and cost, and delivering the Housing Strategy. Alternative B takes into account the objectives of the higher-level NPF and Southern RSES, and the need to comply with the densities set out in Ministerial Guidelines, including those related to *Sustainable Residential Development in Urban Areas (2009)* and *Urban Development and Building Heights (2018)*.

Selected Type 4 Alternative for the Plan: Alternative B.

4.7 Type 5: Alternatives for Land Use Zoning

Alternatives for Land Use Zoning are assessed on Table 4.1.

Table 4.1 Assessment of Type 5 Alternatives against Strategic Environmental Objectives

| Town | Alternative (selected alternatives in bold) | Commentary |
|-------------------------------------|--|---|
| Carlow Town (old Town Council area) | Alternative A: More Compact | By consolidating land use zoning and reducing unnecessary land use zoning this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. By consolidating the zoning and helping to avoid unnecessary sprawl of the settlement, this alternative would increase the likelihood of brownfield development and contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Reducing unnecessary zoning would help to minimise sprawl and would avoid potential adverse environmental effects that would otherwise occur - this would benefit the protection of multiple environmental components. |
| | Alternative B: Less Compact | By not consolidating land use zoning and including unnecessary land use zoning, this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. By facilitating the unnecessary sprawl of the settlement and failing to consolidate zoning, this alternative would decrease the likelihood of brownfield development and conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Providing for unnecessary zoning would be likely to result in higher levels of sprawl and associated avoidable potential adverse environmental effects. |
| Borris | Alternative A: More Compact | By consolidating land use zoning and reducing unnecessary land use zoning this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. By consolidating the zoning and helping to avoid unnecessary sprawl of the settlement, this alternative would increase the likelihood of brownfield development and contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Reducing unnecessary zoning would help to minimise sprawl and would avoid potential adverse environmental effects that would otherwise occur - this would benefit the protection of multiple environmental components. |
| | Alternative B: Less Compact | By not consolidating land use zoning and including unnecessary land use zoning, this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. By facilitating the unnecessary sprawl of the settlement and failing to consolidate zoning, this alternative would decrease the likelihood of brownfield development and conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Providing for unnecessary zoning would be likely to result in higher levels of sprawl and associated avoidable potential adverse environmental effects. |
| Ballon | Alternative A: More Compact | By consolidating land use zoning and reducing unnecessary land use zoning this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. By consolidating the zoning and helping to avoid unnecessary sprawl of the settlement, this alternative would increase the likelihood of brownfield development and contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Reducing unnecessary zoning would help to minimise sprawl and would avoid potential adverse environmental effects that would otherwise occur - this would benefit the protection of multiple environmental components. |
| | Alternative B: Less Compact | By not consolidating land use zoning and including unnecessary land use zoning, this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. By facilitating the unnecessary sprawl of the settlement and failing to consolidate zoning, this alternative would decrease the likelihood of brownfield development and conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Providing for unnecessary zoning would be likely to result in higher levels of sprawl and associated avoidable potential adverse environmental effects. |
| Leighlinbridge | Alternative A: More Compact | By consolidating land use zoning and reducing unnecessary land use zoning this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. By consolidating the zoning and helping to avoid unnecessary sprawl of the settlement, this alternative would increase the likelihood of brownfield development and contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Reducing unnecessary zoning would help to minimise sprawl and would avoid potential adverse environmental effects that would otherwise occur - this would benefit the protection of multiple environmental components. |

| Town | Alternative (selected alternatives in bold) | Commentary |
|-------------|--|---|
| | Alternative B: Less Compact | By not consolidating land use zoning and including unnecessary land use zoning, this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. By facilitating the unnecessary sprawl of the settlement and failing to consolidate zoning, this alternative would decrease the likelihood of brownfield development and conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Providing for unnecessary zoning would be likely to result in higher levels of sprawl and associated avoidable potential adverse environmental effects. |
| Rathvilly | Alternative A: More Compact | By consolidating land use zoning and reducing unnecessary land use zoning this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. By consolidating the zoning and helping to avoid unnecessary sprawl of the settlement, this alternative would increase the likelihood of brownfield development and contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Reducing unnecessary zoning would help to minimise sprawl and would avoid potential adverse environmental effects that would otherwise occur - this would benefit the protection of multiple environmental components. |
| | Alternative B: Less Compact | By not consolidating land use zoning and including unnecessary land use zoning, this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. By facilitating the unnecessary sprawl of the settlement and failing to consolidate zoning, this alternative would decrease the likelihood of brownfield development and conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Providing for unnecessary zoning would be likely to result in higher levels of sprawl and associated avoidable potential adverse environmental effects. |
| Hacketstown | Alternative A: More Compact | By consolidating land use zoning and reducing unnecessary land use zoning this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. By consolidating the zoning and helping to avoid unnecessary sprawl of the settlement, this alternative would increase the likelihood of brownfield development and contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Reducing unnecessary zoning would help to minimise sprawl and would avoid potential adverse environmental effects that would otherwise occur - this would benefit the protection of multiple environmental components. |
| | Alternative B: Less Compact | By not consolidating land use zoning and including unnecessary land use zoning, this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. By facilitating the unnecessary sprawl of the settlement and failing to consolidate zoning, this alternative would decrease the likelihood of brownfield development and conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Providing for unnecessary zoning would be likely to result in higher levels of sprawl and associated avoidable potential adverse environmental effects. |
| Carrickduff | Alternative A: More Compact | By consolidating land use zoning and reducing unnecessary land use zoning this alternative would provide for a more compact form of development that would help to maximise benefits from infrastructural investment. By consolidating the zoning and helping to avoid unnecessary sprawl of the settlement, this alternative would increase the likelihood of brownfield development and contribute towards efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Reducing unnecessary zoning would help to minimise sprawl and would avoid potential adverse environmental effects that would otherwise occur - this would benefit the protection of multiple environmental components. |
| | Alternative B: Less Compact | By not consolidating land use zoning and including unnecessary land use zoning, this alternative would provide for a less compact form of development that would fail to maximise benefits from infrastructural investment. By facilitating the unnecessary sprawl of the settlement and failing to consolidate zoning, this alternative would decrease the likelihood of brownfield development and conflict with efforts to improve sustainable mobility (with associated effects on energy, air, noise and human health). Providing for unnecessary zoning would be likely to result in higher levels of sprawl and associated avoidable potential adverse environmental effects. |

4.8 Reasons for Choosing the Selected Alternatives in light of Other Reasonable Alternatives Considered

Selected alternatives for the Plan from each of the tiers of alternatives that emerged from the planning/SEA process are indicated above.

These alternatives have been incorporated into the Plan having regard to both:

1. The environmental effects which are identified by the SEA and are detailed above; and
2. Planning - including social and economic - effects that also were considered by the Council.

Section 5 Monitoring Measures

5.1 Introduction

The SEA Directive requires that the significant environmental effects of the implementation of plans and programmes are monitored. This section details the measures which will be used in order to monitor the likely significant effects of implementing the Plan.

Monitoring can both demonstrate the positive effects facilitated by the Plan and can enable, at an early stage, the identification of unforeseen adverse effects and the undertaking of appropriate remedial action.

The occurrence of significant adverse environmental effects not predicted and mitigated by this assessment, which are directly attributable to the implementation of the Plan, would necessitate consideration of these effects in the context of the Plan and potential remediation action(s) and/or review of part(s) of the Plan.

5.2 Indicators and Targets

Monitoring is based around indicators which allow quantitative measures of trends and progress over time relating to the Strategic Environmental Objectives identified in the main SEA Environmental Report and used in the evaluation. Each indicator to be monitored is accompanied by the target(s) which were identified with regard to the relevant strategic actions. Given the position of the Development Plan in the land use planning hierarchy beneath the Southern Regional Spatial and Economic Strategy (RSES), the measures identified in that RSES SEA have been used – as they are or having been slightly modified – in most instances. This consistency across the hierarchy of land use plans will improve the efficiency and effectiveness of future monitoring.

Table 5.1 overleaf shows the indicators and targets which have been selected for monitoring the likely significant environmental effects of implementing the Plan, if unmitigated.

Monitoring is an ongoing process and the programme allows for flexibility and the

further refinement of indicators and targets. The Monitoring Programme may be updated to deal with specific environmental issues – including unforeseen effects – as they arise.

5.3 Sources

The Plan will form part of the wider land use planning framework comprising a hierarchy of policies, plans, programmes, etc. This wider framework, including the National Planning Framework and the Southern RSES, is subject to its own SEA (and associated monitoring) requirements. At lower tiers of the hierarchy, Local Area Plans and individual projects will be subject to their own monitoring requirements as relevant.

In implementing the Monitoring Programme the Council will take into account this hierarchy of planning and environmental monitoring.

Sources for indicators may include existing monitoring databases (including those maintained by planning authorities and national/regional government departments and agencies) and the output of lower-tier environmental assessment and decision making (including a review of project approvals granted and associated documents and the output of any EIA monitoring programmes).

5.4 Reporting and Responsibility

As provided by Policy SEA P1 “Strategic Environmental Assessment”, the Council shall:

“Implement the monitoring programme as set out in the SEA Environmental Report and Statement, in conjunction with the Regional Assembly and other sources as relevant. This will include the preparation of standalone SEA Monitoring Reports to accompany:

- a) The report required of the Chief Executive under section 15(2) of the Act, including information in relation to progress on, and the results

- of, monitoring the significant environmental effects of implementation of the development plan;
- b) In advance of the beginning of the review of the next County Development Plan (2028 – 2032) on the significant environmental effects of implementing this Plan.”

Reporting will seek to address the indicators set out on Table 5.1. The Council is responsible for the ongoing review of indicators and targets, collating existing relevant monitored data, the preparation of monitoring evaluation report(s), the publication of these reports (reports will be made available to the public) and, if necessary, the carrying out of remedial action.

Table 5.1 Indicators, Targets, Sources and Remedial Action

| Environmental Component | SEO Code | Indicators | Targets | Sources | Remedial Action |
|--------------------------------------|----------|---|---|--|---|
| Biodiversity, Flora and Fauna | BFF | <ul style="list-style-type: none"> Condition of European sites | <ul style="list-style-type: none"> Require all local level land use plans to include ecosystem services and green/blue infrastructure provisions in their land use plans and as a minimum, to have regard to the required targets in relation to the conservation of European sites, other nature conservation sites, ecological networks, and protected species Implement and review, as relevant, the County Heritage Plan and Biodiversity Action Plan, the preparation of which is committed to by the Plan | <ul style="list-style-type: none"> DHLGH report of the implementation of the measures contained in the Habitats Directive - as required by Article 17 of the Directive (every 6 years)¹² DHLGH National Birds Directive Monitoring Report for the under Article 12 (every 3 years)¹³ Consultations with the NPWS¹⁴ | <ul style="list-style-type: none"> Where condition of European sites is found to be deteriorating this will be investigated with the Regional Assembly and the DHLGH to establish if the pressures are related to Plan actions / activities. A tailored response will be developed in consultation with these stakeholders in such a circumstance. |
| | | <ul style="list-style-type: none"> Number of spatial plans that have included ecosystem services content, mapping and policy to protect ecosystem services when their relevant plans are either revised or drafted | <ul style="list-style-type: none"> Require all local level land use plans to include ecosystem services and green/blue infrastructure provisions in their land use plans and as a minimum, to have regard to the required targets in relation to the conservation of European sites, other nature conservation sites, ecological networks, and protected species Implement and review, as relevant, the County Heritage Plan and Biodiversity Action Plan, the preparation of which is committed to by the Plan | <ul style="list-style-type: none"> Internal review of local land use plans | <ul style="list-style-type: none"> Review internal systems |
| | | <ul style="list-style-type: none"> SEAs and AAs as relevant for new Council policies, plans, programmes etc. | <ul style="list-style-type: none"> Screen for and undertake SEA and AA as relevant for new Council policies, plans, programmes etc. | <ul style="list-style-type: none"> Internal monitoring of preparation of local land use plans | <ul style="list-style-type: none"> Review internal systems |
| | | <ul style="list-style-type: none"> Status of water quality in the County's water bodies | <ul style="list-style-type: none"> Included under Water below | <ul style="list-style-type: none"> Included under Water below | <ul style="list-style-type: none"> Included under Water below |
| | | <ul style="list-style-type: none"> Compliance of planning permissions with Plan measures providing for the protection of Biodiversity and flora and fauna – see Chapter 10 “Natural and Built Heritage” | <ul style="list-style-type: none"> For planning permission to be only granted when applications demonstrate that they comply with all Plan measures providing for the protection of biodiversity and flora and fauna – see Chapter 10 “Natural and Built Heritage” | <ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission¹⁵ | <ul style="list-style-type: none"> Review internal systems |

¹² Including confirmation with development management that the following impacts have been considered and including use of monitoring data, where available: biodiversity/habitat loss; nitrogen deposition impacts on Natura 2000 sites; recreational disturbance resulting from implementation of tourism and recreation policies and objectives particularly in riparian areas; biodiversity enhancement; and disturbance /visitor pressure impacts of recreation, amenity and tourism development.

¹³ Including confirmation with development management that the following impacts have been considered and including use of monitoring data, where available: biodiversity/habitat loss; nitrogen deposition impacts on Natura 2000 sites; recreational disturbance resulting from implementation of tourism and recreation policies and objectives particularly in riparian areas; biodiversity enhancement; and disturbance /visitor pressure impacts of recreation, amenity and tourism development.

¹⁴ Including confirmation with development management that the following impacts have been considered and including use of monitoring data, where available: biodiversity/habitat loss; nitrogen deposition impacts on Natura 2000 sites; recreational disturbance resulting from implementation of tourism and recreation policies and objectives particularly in riparian areas; biodiversity enhancement; and disturbance /visitor pressure impacts of recreation, amenity and tourism development.

¹⁵ Including confirmation with development management that the following impacts have been considered and including use of monitoring data, where available: biodiversity/habitat loss; nitrogen deposition impacts on Natura 2000 sites; recreational disturbance resulting from implementation of tourism and recreation policies and objectives particularly in riparian areas; biodiversity enhancement; and disturbance /visitor pressure impacts of recreation, amenity and tourism development.

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| Environmental Component | SEO Code | Indicators | Targets | Sources | Remedial Action |
|------------------------------------|----------|--|---|---|--|
| Population and Human Health | PHH | <ul style="list-style-type: none"> Implementation of Plan measures relating to the promotion of economic growth as provided for by Chapter 4 "Enterprise and Employment" | <ul style="list-style-type: none"> For review of progress on implementing Plan objectives to demonstrate successful implementation of measures relating to the promotion of economic growth as provided for by Chapter 4 "Enterprise and Employment" By 2020 all citizens will have access to speeds of 30Mbps, and that 50% of citizens will be subscribing to speeds of 100Mbps (Also relevant to Material Assets) | <ul style="list-style-type: none"> Internal review of progress on implementing Plan objectives Consultations with DECC | <ul style="list-style-type: none"> Review internal systems Consultations with DECC |
| | | <ul style="list-style-type: none"> Number of spatial concentrations of health problems arising from environmental factors resulting from development permitted under the Plan | <ul style="list-style-type: none"> No spatial concentrations of health problems arising from environmental factors as a result of implementing the Plan | <ul style="list-style-type: none"> Consultations with the Health Service Executive and EPA | <ul style="list-style-type: none"> Consultations with the Health Service Executive and EPA |
| | | <ul style="list-style-type: none"> Proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures | <ul style="list-style-type: none"> Increase in the proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures | <ul style="list-style-type: none"> CSO data Monitoring of Carlow County Council's Climate Change Adaptation Strategy 2019-2024 | <ul style="list-style-type: none"> Where proportion of population shows increase in private car use above CSO 2016 figures, the Council will coordinate with the Regional Assembly, the DHLGH, DECC and NTA to develop a tailored response. |
| | | <ul style="list-style-type: none"> Number of spatial plans that include specific green infrastructure mapping | <ul style="list-style-type: none"> Require all local level land use plans to include specific green infrastructure mapping | <ul style="list-style-type: none"> Internal review of local land use plans | <ul style="list-style-type: none"> Review internal systems |
| Soil (and Land) | S | <ul style="list-style-type: none"> Proportion of population growth occurring on infill and brownfield lands compared to greenfield (also relevant to Material Assets) | <ul style="list-style-type: none"> Maintain built surface cover nationally to below the EU average of 4% as per the NPF In accordance with National Policy Objectives 3c of the National Planning Framework, a minimum of 30% of the housing growth targeted in any settlement is to be delivered within the existing built-up footprint of the settlement To map brownfield and infill land parcels across the County's settlements | <ul style="list-style-type: none"> EPA Geoportal Compilation of greenfield and brownfield development for the DHLGH AA/Screening for AA for each application | <ul style="list-style-type: none"> Where the proportion of growth on infill and brownfield sites is not keeping pace with the targets set in the NPF and the RSES, the Council will liaise with the Regional Assembly to establish reasons and coordinate actions to address constraints to doing so. |
| | | <ul style="list-style-type: none"> Instances where contaminated material generated from brownfield and infill must be disposed of | <ul style="list-style-type: none"> Dispose of contaminated material in compliance with EPA guidance and waste management requirements | <ul style="list-style-type: none"> Internal review of grants of permission where contaminated material must be disposed of | <ul style="list-style-type: none"> Consultations with the EPA and Development Management |
| | | <ul style="list-style-type: none"> Environmental assessments and AAs as relevant for applications for brownfield and infill development prior to planning permission | <ul style="list-style-type: none"> Screen for and undertake environmental assessments and AA as relevant for applications for brownfield and infill development prior to planning permission | <ul style="list-style-type: none"> Internal monitoring of grants of permission | <ul style="list-style-type: none"> Review internal systems |

| Environmental Component | SEO Code | Indicators | Targets | Sources | Remedial Action |
|-------------------------|----------|--|---|---|--|
| Water | W | <ul style="list-style-type: none"> Status of water bodies as reported by the EPA Water Monitoring Programme for the WFD | <ul style="list-style-type: none"> Not to cause deterioration in the status of any surface water or affect the ability of any surface water to achieve 'good status' Implementation of the objectives of the River Basin Management Plan | <ul style="list-style-type: none"> EPA Monitoring Programme for WFD compliance¹⁶ | <ul style="list-style-type: none"> Where water bodies are failing to meet at least good status this will be investigated with the DHLGH Water Section, the EPA Catchment Unit, the Regional Assembly and, as relevant, Irish Water to establish if the pressures are related to Plan actions / activities. A tailored response will be developed in consultation with these stakeholders in such a circumstance. Where planning applications are rejected due to insufficient capacity in the WWTP or failure of the WWTP to meet Emission Limit Values, the Council will consider whether it is necessary to coordinate a response with the Regional Assembly, EPA and Irish Water to achieve the necessary capacity. |
| | | <ul style="list-style-type: none"> Number of incompatible developments permitted within flood risk areas | <ul style="list-style-type: none"> Minimise developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk | <ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission | <ul style="list-style-type: none"> Where planning applications are being permitted on flood zones, the Council will ensure that such grants are in compliance with the Flood Risk Management Guidelines and include appropriate flood risk mitigation and management measures. |
| Material Assets | MA | <ul style="list-style-type: none"> Programmed delivery of Irish Water infrastructure for all key growth towns in line with Irish Water Investment Plan and prioritisation programme to ensure sustainable growth can be accommodated Number of new developments granted permission which can be adequately and appropriately served with waste water treatment over the lifetime of the Plan | <ul style="list-style-type: none"> All new developments granted permission to be connected to and adequately and appropriately served by waste water treatment over the lifetime of the Plan Where septic tanks are proposed, for planning permission to be only granted when applications demonstrate that the outfall from the septic tank will not – in combination with other septic tanks – contribute towards any surface or ground water body not meeting the objective of good status under the Water Framework Directive Facilitate, as appropriate, Irish Water in developing water and wastewater infrastructure See also targets relating to greenfield and brownfield development of land under Soil and broadband under Population and Human Health | <ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission Consultations with the Irish Water DHLGH in conjunction with Local Authorities | <ul style="list-style-type: none"> Where planning applications are rejected due to insufficient capacity in the WWTP or failure of the WWTP to meet Emission Limit Values, the Council will consider whether it is necessary to coordinate a response with the Regional Assembly, EPA and Irish Water to achieve the necessary capacity. |
| | | <ul style="list-style-type: none"> Proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures | <ul style="list-style-type: none"> Increase in the proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures | <ul style="list-style-type: none"> CSO data Monitoring of Carlow County Council's Climate Change Adaptation Strategy 2019-2024 | <ul style="list-style-type: none"> Where proportion of population shows increase in private car use above CSO 2016 figures, the Council will coordinate with the Regional Assembly, the DHLGH, DECC and NTA to develop a tailored response. |

¹⁶ Including monitoring of water quality and nitrogen deposition due to bioenergy and agricultural projects where available

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| Environmental Component | SEO Code | Indicators | Targets | Sources | Remedial Action |
|-------------------------|----------|--|--|---|---|
| Air | A | <ul style="list-style-type: none"> Proportion of journeys made by private fossil fuel-based car compared to 2016 National Travel Survey levels of 74% NO_x, SO_x, PM10 and PM2.5 as part of Ambient Air Quality Monitoring | <ul style="list-style-type: none"> Decrease in proportion of journeys made by private fossil fuel-based car compared to 2016 National Travel Survey levels Improvement in Air Quality trends, particularly in relation to transport related emissions of NO_x and particulate matter | <ul style="list-style-type: none"> CSO data Data from the National Travel Survey EPA Air Quality Monitoring Consultations with Department of Transport and Department of Environment, Climate and Communications | <ul style="list-style-type: none"> Where proportion of population shows increase in private car use above CSO 2016 figures, Council will coordinate with the Regional Assembly, DHLGH, DECC and NTA to develop a tailored response. See also entry under Population and human health above |
| Climatic Factors | C | <ul style="list-style-type: none"> Implementation of Plan measures relating to climate reduction targets | <ul style="list-style-type: none"> For review of progress on implementing Plan objectives to demonstrate successful implementation of measures relating to climate reduction targets | <ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission | <ul style="list-style-type: none"> Review internal systems |
| | | <ul style="list-style-type: none"> A competitive, low-carbon, climate-resilient and environmentally sustainable economy | <ul style="list-style-type: none"> Contribute towards transition to a competitive, low-carbon, climate-resilient and environmentally sustainable economy by 2050 | <ul style="list-style-type: none"> Monitoring of Carlow County Council's Climate Change Adaptation Strategy 2019-2024 EPA Annual National Greenhouse Gas Emissions Inventory reporting Climate Action Regional Office Consultations with DECC | <ul style="list-style-type: none"> Where targets are not achieved, the Council will liaise with the Regional Assembly and the Eastern and Midlands Climate Action Regional Office to establish reasons and develop solutions. |
| | | <ul style="list-style-type: none"> Share of renewable energy in transport | <ul style="list-style-type: none"> Contribute towards the target of the Renewable Energy Directive (2009/28/EC), for all Member States to reach a 10% share of renewable energy in transport by facilitating the development of electricity charging and transmission infrastructure, in compliance with the provisions of the Plan | | |
| | | <ul style="list-style-type: none"> Carbon dioxide (CO₂) emissions across the electricity generation, built environment and transport sectors | <ul style="list-style-type: none"> Contribute towards the target of aggregate reduction in carbon dioxide (CO₂) emissions of at least 80% (compared to 1990 levels) by 2050 across the electricity generation, built environment and transport sectors | | |
| | | <ul style="list-style-type: none"> Energy consumption, the uptake of renewable options and solid fuels for residential heating | <ul style="list-style-type: none"> To promote reduced energy consumption and support the uptake of renewable options and a move away from solid fuels for residential heating | | |
| | | <ul style="list-style-type: none"> Proportion of journeys made by private fossil fuel-based car compared to 2016 levels | <ul style="list-style-type: none"> Decrease in the proportion of journeys made by residents of the County using private fossil fuel-based car compared to 2016 levels | <ul style="list-style-type: none"> CSO data Monitoring of Carlow County Council's Climate Change Adaptation Strategy 2019-2024 | <ul style="list-style-type: none"> Where trends toward carbon reduction are not recorded, the Council will liaise with the Regional Assembly and the Eastern and Midlands Climate Action Regional Office to establish reasons and develop solutions. |
| | | <ul style="list-style-type: none"> Proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures | <ul style="list-style-type: none"> Increase in the proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures | <ul style="list-style-type: none"> CSO data Monitoring of Carlow County Council's Climate Change Adaptation Strategy 2019-2024 | <ul style="list-style-type: none"> Where proportion of population shows increase in private car use above CSO 2016 figures, the Council will coordinate with the Regional Assembly, the DHLGH, DECC and NTA to develop a tailored response. |

| Environmental Component | SEO Code | Indicators | Targets | Sources | Remedial Action |
|--------------------------|----------|--|---|---|---|
| Cultural Heritage | CH | <ul style="list-style-type: none"> Percentage of entries to the Record of Monuments and Places, and the context these entries within the surrounding landscape where relevant, protected from adverse effects resulting from development which is granted permission under the Plan | <ul style="list-style-type: none"> Protect entries to the Record of Monuments and Places, and the context of these entries within the surrounding landscape where relevant, from adverse effects resulting from development which is granted permission under the Plan | <ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission | <ul style="list-style-type: none"> Where monitoring reveals visitor or development pressure is causing negative effects on designated archaeological or architectural heritage, the Council will work with the Regional Assembly, Fáilte Ireland and the National Monuments Service and other stakeholders, as relevant, to address pressures through additional mitigation. |
| | | <ul style="list-style-type: none"> Percentage of entries to the Record of Protected Structures and Architectural Conservation Areas and their context protected from significant adverse effects arising from new development granted permission under the Plan | <ul style="list-style-type: none"> Protect entries to the Record of Protected Structures and Architectural Conservation Areas and their context from significant adverse effects arising from new development granted permission under the Plan | <ul style="list-style-type: none"> Consultation with DHLGH | |
| Landscape | L | <ul style="list-style-type: none"> Number of developments permitted that result in avoidable adverse visual impacts on the landscape, especially with regard to landscape designations, resulting from development which is granted permission under the Plan | <ul style="list-style-type: none"> No developments permitted which result in avoidable adverse visual impacts on the landscape, especially with regard to landscape designations, resulting from development which is granted permission under the Plan | <ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission | <ul style="list-style-type: none"> Where monitoring reveals developments permitted which result in avoidable adverse visual impacts on the landscape, the Council will re-examine Plan provisions and the effectiveness of their implementation |