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Landscape Sensitivity Calibration

A Concept Methodology to Assist the Spatial Planning of Wind Energy in Ireland

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1. INTRODUCTION

MKO has been working at the cutting edge of environmental and planning practice for onshore wind energy development in Ireland for more than a decade, securing planning consent for proposed projects, identifying potential sites and quantifying the country's future onshore wind energy potential.

Landscape is a key consideration in the selection of wind energy development sites and a key determinant in the planning process for whether a proposed wind farm is deemed appropriate in a particular location. There is no national landscape policy that can be easily used as a screening tool in quantifying the country's future onshore wind potential or objectively determining a site's sensitivity to wind farm development relative to the rest of the country.

Building on an earlier working concept methodology, MKO has undertaken this Landscape Sensitivity Calibration exercise as a research project and prepared this report to demonstrate how landscape sensitivity could be used to guide wind farm development to the most appropriate locations nationally and regionally.

There is no single coherent landscape policy for Ireland. The *National Landscape Strategy 2015-2025* (DAHG 2015) has four objectives, one of which is to:

> *"...provide a policy framework, which will put in place measures at national, sectoral - including agriculture, tourism, energy, transport and marine - and local levels, together with civil society, to protect, manage and properly plan through high quality design for the sustainable stewardship of our landscape."*

No national or sectoral landscape policies have been developed since the publication of the *National Landscape Strategy* in 2015. Existing landscape policies generally originate at Local Authority level and relate to individual counties and their functional areas. Such policies often show significant incoherence and variation in terms of methodologies, terminologies and classifications across different counties.

The need for rapid decarbonisation of the Irish economy via the deployment of renewable technologies such as wind energy is clearly outlined in Government policy and national and European legislation. These international and national targets and obligations have frequently run into the barrier of local landscape policy, in the absence a coherent national or regional approach to classifying landscape sensitivity to development such as wind energy.

The need for continued development of onshore wind energy is clearly outlined in Government policies including the *Climate Action Plan 2024* (DECC 2024) and *National Planning Framework* (DHPLG 2018) and is vital if Ireland is to decarbonise its economy and meet its climate action targets.

The classification or "zoning" of lands as being potentially suitable or unsuitable for wind energy development in Ireland is currently reliant on Local Authorities developing a renewable energy strategy or dedicated wind energy strategy, usually as part of their County Development Plans for their functional areas. The methods used for designating wind energy zones varies greatly from county to county. The process for wind energy zoning often uses a sieve mapping process, involving a high-level spatial analysis of the county in mind of factors that might both be facilitators for wind energy (e.g. high wind speeds) and others that will restrict or constrain development of wind energy (e.g. ecological designations such as Special Areas of Conservation).

In some counties, landscape sensitivity or an equivalent landscape classification system or metric is strategically incorporated into the zoning of areas for wind energy development, whereas in other counties it is not considered at all. In combination with other constraints (e.g. planning or environmental factors), county landscape designations can disproportionately influence wind energy zoning in some counties, which in reality results in a very small area of wind energy zones which are considered appropriate for development.

This cross-county variance in approach to how landscape is factored into wind energy zoning can be highly problematic in the consenting process of wind energy projects. Furthermore, local policies relating to wind energy development in a specific county do not always consider the greater national need and can ultimately become a barrier to the necessary development of onshore wind energy required for Ireland to meets its national climate action targets.

This Landscape Sensitivity Calibration exercise incorporating the assignment of landscape sensitivities to wind energy in this report is a concept only, meant as an example output of a suggested methodology, which may be further advanced, modified and/or refined. This report is intended to demonstrate that determining coherent regional landscape sensitivity classifications for wind energy development is possible and can be achieved within a faster timeframe than would be required to revise or carry out comprehensive Landscape Character Assessments on a county-by-county basis, or an entirely new national Landscape Character Assessment, thereby potentially aiding in removing landscape policy roadblocks to sustainable wind energy development in the nearer future. This report demonstrates the value of the concept methodology and the outputs it could generate, in the absence of any other visible evidence to align local landscape policy and ensure it can facilitate rather than inhibit further renewable energy development.

This report presents the methodology for the calibration exercise, comprising a national-scale desk study reviewing the existing landscape policy for the Republic of Ireland, covering 26 county council areas (25 counties plus one administrative area) structured into three Regional Assemblies, with a focus on existing defined Landscape Character Areas (LCAs) and landscape sensitivity designations in local policy (i.e. County Development Plans).

This report culminates in the assignment of the new draft landscape sensitivity metric to the existing LCAs in Ireland, enabling greater consistency across county boundaries and a more logical consideration of sensitivity to wind energy development in a regional and national context. The rationale for this exercise (detailed in the next section) is to provide a coherent, practical, logical, and appropriate approach to landscape sensitivity which will align with the requirement for regional wind energy development zoning. The output of the exercise is a proposed standardised landscape sensitivity hierarchy suitable for categorising landscape sensitivity to wind energy development at the regional or national scale.

The remainder of this report is structured under the following headings:

- **Standardised Landscape Sensitivity Hierarchy** – detailed table indicating the new draft metric—the standardised Landscape Sensitivity Hierarchy, with descriptive criteria and examples of indicative landscape areas and features;
- **Policy and Guidance Review** – summary and context of relevant landscape sensitivity content in key policy and guidance documents;
- **Methodology and Results** – overview of the Landscape Sensitivity Calibration exercise methodology, including how the standardised hierarchy was devised and its application to Regional Assembly areas;
- **Limitations and Recommendations** – identifying the key limitations of this approach and recommended future work directions to encourage future applicability of the suggested calibration methodology.

This report is accompanied by four appendices: three appendices outlining the results by Regional Assembly for county landscape policy analysis, mapping and spatial analysis associated with the calibration exercise, and one appendix map showing the calibrated landscape sensitivity results.

2. STANDARDISED LANDSCAPE SENSITIVITY HIERARCHY

2.1 Concept and Criteria

Regional renewable energy strategies are currently being prepared to deliver on the *Climate Action Plan 2024's* stated action EL/234/4 to *"Publish Regional Renewable Electricity Strategies."* The updated *Draft First Revision to the National Planning Framework* (DHLGH 2024) also includes National Policy Objective 74, which states:

> *"Each Regional Assembly must plan, through their Regional Spatial and Economic Strategy, for the delivery of the regional renewable electricity capacity allocations indicated for onshore wind and solar reflected in Table 9.1 below, and identify allocations for each of the local authorities, based on the best available scientific evidence and in accordance with legislative requirements, in order to meet the overall national target."*

Please note the reference to Table 9.1 above is related to a table in the updated *Draft First Revision to the National Planning Framework*, not a table in this report.

The regional renewable energy strategies being prepared for the three regional assembly areas should be identifying an appropriate area of viable land suitable for generation of at least 9 GW of energy to be supplied by onshore wind farms by 2030, enabling Ireland to deliver on the targets set out in the national climate action plan. Landscape must be a key consideration in the strategic zoning of lands for wind energy at a regional level, or else it will continue to be a barrier for wind energy projects to progress through the planning and consenting system.

Most counties in Ireland currently have a Landscape Character Assessment which forms part of their current County Development Plan as well as some other form of landscape sensitivity, or equivalent, classification. This study aims to draw upon all current and existing county landscape designations and recalibrate them within a regional context which could appropriately inform regional wind energy zoning in mind of two key objectives:

- Ensure enough viable land (landscape areas) are included in wind energy zoning which would enable Ireland to generate the energy it must do from wind energy to meet its climate action targets,
- Ensure that future wind energy developments are directed towards the most appropriate landscape settings with the greatest capacity to absorb them and directed away from the most sensitive and highest value landscapes.

The Landscape Sensitivity Calibration exercise was conducted by MKO in 2024 and Q1 2025, involving a detailed desk study of existing policy culminating in the creation of a new draft Standardised Landscape Sensitivity hierarchy with corresponding suggested capacity to accommodate wind energy development (arranged here from most to least sensitive):

- International – No Capacity,
- National – None to Very Limited Capacity,
- Regional – Limited Capacity,
- County – Moderate Capacity,
- Local – High Capacity.

This hierarchy is the product of a high-level exercise to compile a suggested methodology, involving the necessary recalibration of current landscape sensitivity ratings used in local planning policy because of

the previously explained general incongruency of policy across county boundaries. Table 2.1 in the next section presents detailed criteria defining each level.

Among other considerations, the draft hierarchy is primarily based on the concept of identifying the attributes of a landscape that make it generally suitable for wind energy development.

The draft hierarchy criteria were determined from a high-level perspective by attempting to balance multiple influencing factors including the value and/or importance of landscapes as set out in local policy, objective factors set out in landscape guidance, the generally recognised value in terms of tourism and heritage assets, and susceptibility to change with respect to land-use, landcover, and landscape character type.

These criteria generally take the approach of key guidance (*Assessing Landscape Value Outside National Designations*, Technical Guidance Note 02/21, Landscape Institute 2021) that landscape sensitivity can be evaluated in two parts: first having to do with inherent landscape character qualities measured in terms of "value," the second having to do with "susceptibility to change" with respect to the specific type of development, in this case wind energy.

The criteria were also determined based on professional judgment as well as preliminary numerical ordering and relativity exercises that attempted to compare county sensitivity scales with one another but were unsuccessful to achieve coherency; these limitations are discussed further in Section 5.3 below.

Overall, the approach is intended as to be logical and pragmatic, drawing on all existing landscape policy, designations, zoning and geographical boundaries, as well as literature guidance for best practice methods, and professional judgement of MKO's experienced practitioners as landscape, planning and environmental consultants working on wind energy developments, to arrive at an output that is functional, fit for purpose and could be used to inform the spatial planning of future wind energy developments.

2.2 Standardised Landscape Sensitivity Hierarchy Criteria

Table 2.1: Standardised Landscape Sensitivity Hierarchy Criteria

Landscape Sensitivity	Definition	Indicative/Example Criteria	Capacity to Accommodate Wind Energy Development	Example Areas and/or Landform Features
International (highest sensitivity)	Landscape Character Area (LCA) comprising or featuring a landscape/ landform feature of internationally recognised renown/ value/ importance.	UNESCO designated landscape or landform feature considered to be of internationally recognised tourism, recreational or cultural significance.	No Capacity. LCA comprises very unique, distinctive and special landscape qualities and characteristics and a very high susceptibility to change. New wind development would most likely negatively impact the key sensitivities of the LCA.	› Brú na Bóinne, Co. Meath; › Cliffs of Moher, Co. Clare; Slieve League, Co. Donegal and similar.
National	LCA comprising or featuring a landscape/ landform feature of nationally recognised value, with important landscape characteristics and receptors.	Landscape or landform feature on the UNESCO tentative list or one considered to be nationally renowned or an important tourism, recreational or cultural asset.	None to Very Limited Capacity. LCA comprises unique, distinctive and special landscape qualities and characteristics and a very high susceptibility to change. May have very limited capacity to accommodate wind energy developments in rare circumstances, where it is clearly demonstrated that the development would not significantly negatively impact the key sensitivities of this LCA.	› Hill of Uisneach, Co. Westmeath; › Copper Coast, Co. Waterford; › Ring of Kerry Landscape; › Rugged Ridge Peninsulas, Co. Cork and similar.
Regional	LCA comprising or featuring a landscape/ landform feature of regionally recognised value, with important	Landscape or landform feature likely to be a popular tourism, recreational or cultural destination for	Limited Capacity. LCA comprises areas of distinctive and special landscape qualities and characteristics resulting in a high susceptibility to change;	› Blackstairs & Mt. Leinster, Co. Carlow; › Lough Derg, Co. Clare & Tipperary; › Achill & Clare Island Complex, Co. Mayo and similar.

Landscape Sensitivity	Definition	Indicative/Example Criteria	Capacity to Accommodate Wind Energy Development	Example Areas and/or Landform Features
	landscape characteristics and receptors.	residents of the surrounding regional counties.	capacity to accommodate wind energy development in occasional circumstances, where it is clearly demonstrated that the development would not significantly negatively impact the key sensitivities of this LCA.	
County	LCA comprising or featuring a landscape/ landform feature of prominent value recognised at the county level.	Reference given to designated high sensitivity landscape areas in local planning policy - County Development Plans (CDPs).	Moderate Capacity. Comprises a mosaic of different landscape sensitivities and capacities for wind. LCA comprises some areas of distinctive qualities and characteristics, but also features landscape areas, types and characteristics highly suitable for accommodating wind energy development e.g. modified working landscapes, marginal upland, commercial forestry, cutover bogs/peatlands, sparsely settled farmland.	› Cuilcagh Aneirin Uplands, Co. Cavan; › Castlecomer Plateau, Co. Laois; › Mullyash Uplands, Co. Monaghan and similar.
Local (lowest sensitivity)	LCA with some distinctive landscape receptors and characteristics of local value or which are commonplace.	Landscape with some value as denoted in CDPs (e.g. nearby designated scenic amenity or protected receptors) but are not entirely protected at a county level.	High Capacity. Comprises few areas of high sensitivity. LCA includes landscape types/ land uses/ land covers with characteristics resulting in low susceptibility to change and high suitability for accommodating wind energy development, e.g. modified working landscapes, marginal uplands, commercial forestry, cutover bogs/ peatlands, sparsely settled farmland.	› Fissured Fertile Middleground, Co. Cork; › Kilkenny Western Basin; › Slieve Bernagh Uplands, Co. Clare; › Southern Lowlands, Co. Kildare and similar.

3. POLICY AND GUIDANCE REVIEW

3.1 Key Sources

This methodology involved a detailed review of landscape sensitivity topics in County Development Plans (CDPs) and key guidance and literature on landscape planning and wind energy development to gain an in-depth understanding of how landscape sensitivity is presented in guidance and used to inform planning decisions. The concepts identified have informed the present methodology framework and criteria of the standardised sensitivity hierarchy. This section outlines the CDPs and key literatures consulted; all documents are listed in the Bibliography at the end of this report.

County Development Plans. This report and its associated Appendices 1, 2 and 3 structure Ireland's counties into the below-listed three Regional Assembly areas as defined by LocalGov.ie (2025), and consulted all relevant CDPs listed here:

- **Northern and Western Region**: Cavan, Donegal, Galway, Leitrim, Mayo, Monaghan, Roscommon and Sligo;
- **Eastern and Midlands Region**: Kildare, Laois, Longford, Louth, Meath, Offaly, Westmeath, Wicklow and the Fingal County Council administrative area;
- **Southern Region**: Carlow, Clare, Cork, Kerry, Kilkenny, Limerick, Tipperary, Waterford and Wexford.

Note on Urban Areas: Key urban local authority areas and large urban areas mapped in CDPs were excluded from the calibration exercise, considered as areas not suited to wind energy development and therefore not relevant; e.g. Dublin City Council, South Dublin County Council, Dun Laoghaire-Rathdown County Council, Galway City Council, Cork City Council and Limerick city. The Fingal County Council administrative area was included in the calibration exercise as many parts of this area comprise rural and sparsely settled landscapes clearly classified in the CDP[1].

Landscape Guidance Documents. In addition to CDPs, a total of 19 No. guidance documents were reviewed as an initial introduction to gain high-level understanding of how landscape sensitivity is presented and discussed in key guidance typically used for assessing landscape in planning for wind energy developments.

Examples of key landscape guidance documents for this methodology include but are not limited to the following (listed from most recent) (full bibliography provided in Section 6):

- *Reframe Landscape Character Assessment, Report No.461* (Minogue et al. & EPA, 2024) (hereafter, *Reframe LCA*),
- *Toolkit for Undertaking Landscape Character Assessment* (Minogue et al. & EPA, 2024) (*Reframe LCA Toolkit*),
- *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports* (EPA, 2022) (*EPA 2022 Guidelines*),
- *Assessing Landscape Value Outside National Designations*, Technical Guidance Note 02/21 (Landscape Institute, 2021),
- *Draft Revised Wind Energy Development Guidelines* (DHLGH 2019) (*2019 Draft Revised WEDGs*),
- *National Landscape Strategy (for Ireland) 2015-2025* (DAHG 2015),
- *Guidelines for Landscape and Visual Impact Assessment 3rd Edition* (Landscape Institute & IEMA, 2013) (*GLVIA3*),
- *Wind Energy Development Guidelines* (DEHLG, 2006) (*2006 WEDGs*).

[1] *Fingal County Development Plan 2023-2029; see Bibliography and Appendix 2: Eastern and Midlands Region.*

3.2 Summary of Landscape Sensitivity Findings

3.2.1 County Development Plans (CDPs)

The approach to identifying landscape areas and rating landscape sensitivity in the CDPs is inconsistent across counties, and some counties have not conducted Landscape Character Assessment following the aims and framework of the *National Landscape Strategy 2015-2025* (DAHG 2015) or have not updated such assessments within the last five years. This report acknowledges that many counties may be in the process of currently updating CDPs, renewable energy strategies and/or Landscape Character Assessments and therefore may not have the most up-to-date information published. It is held that this exercise is taken to represent a snapshot in time of county information currently published and available online at the time of conducting this exercise.

The information in CDPs related to Landscape Character Assessment typically included the use of the terms: Landscape Character Areas (LCAs), Landscape Character Types (LCTs) and Landscape Character Units (LCUs). All are landscape characterisation terms used to delineate geographically distinct areas of landscape under the respective county's criteria for assessment. The definitions of these terms tend to vary by county with regard to whether the delineated areas are broad or small and whether the landscapes are general or specific. This report considers the use of LCAs, LCTs and LCUs by each county to represent that county's "LCA framework" which was one component reviewed in CDPs to inform the calibration.

Examples of the main inconsistencies relevant to landscape characterisation observed in CDPs are briefly outlined below and the detailed data are available and presented in Appendices 1, 2 and 3. Figures 3.1 through 3.3 below are illustrative of example inconsistencies, followed by discussion.

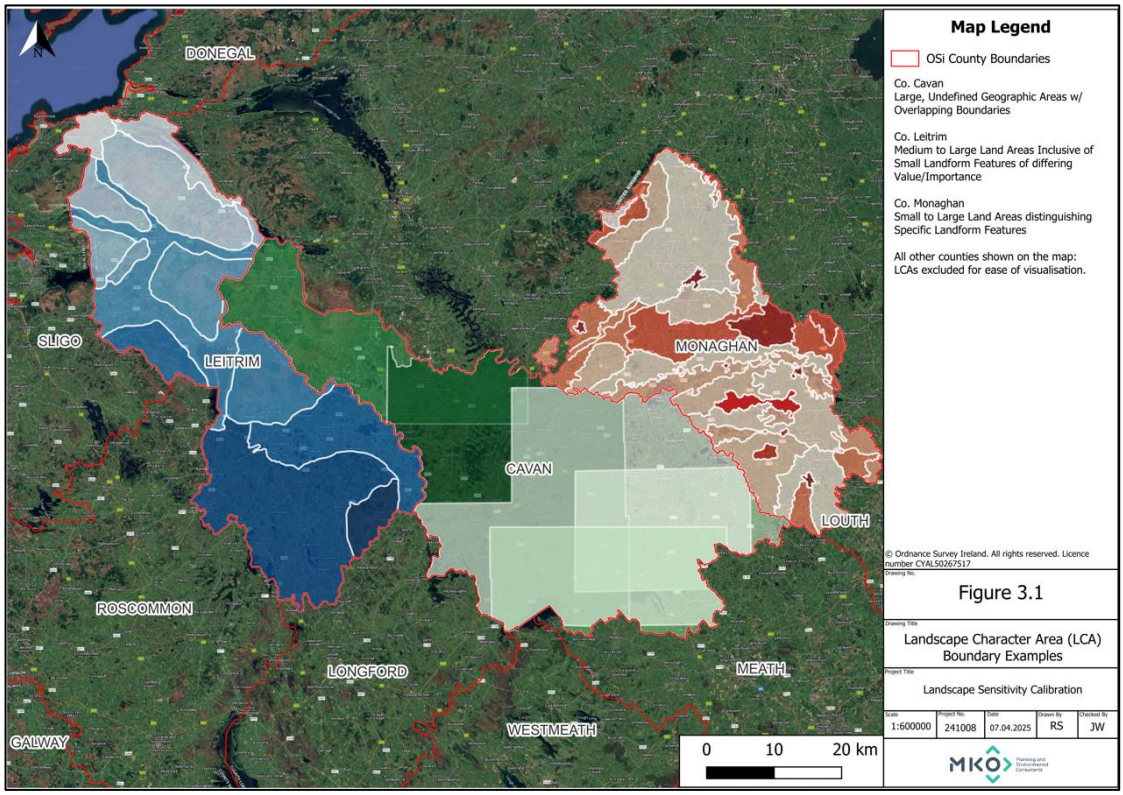

Figure 3-1: Examples of Inconsistent Approach to LCA Mapping Boundaries

Example 1 – Inconsistent Approach to LCA Framework and Mapping Boundaries. 3 No. of 26 counties (25 counties plus Fingal administrative area) either have no LCAs, meaning that no Landscape Character Assessment was conducted, or no longer recognise LCA boundaries from a previous

assessment. 14 No. of the 26 counties have a divided framework, meaning the land areas are broadly categorised and then sub-divided up to two additional times. Finally, the number of land areas within a single county varies greatly. The following list highlights the noted inconsistencies in LCA framework across the available county data:

- No LCAs.
- LCAs only.
- LCTs or LCUs only.
- LCAs divided once into LCTs/LCUs, or vice versa.
- LCAs divided first into LCTs and then divided again into LCUs, or vice versa.
- As little as four LCAs, up to as many as 76 LCAs, within one county.

In addition, some counties have mapped LCA boundaries based on individual or specific landforms (of varying size) deemed to be of higher value and/or importance that give rise to higher sensitivity ratings; for example, the Hill of Uisneach and Grand Canal in Co. Westmeath. Meanwhile, other counties have mapped broader geographical areas containing general landscape types (e.g. "rural farmland" or "uplands") which then may or may not contain individual/specific landforms deemed to be of higher value; for example, Co. Cork divides single LCAs among multiple sensitivity categories owing to features within them. One county, Cavan, has only identified large-scale geographical features which, when mapped, result in overlapping area boundaries; examples of this and similar inconsistencies are illustrated above in Figure 3-1.

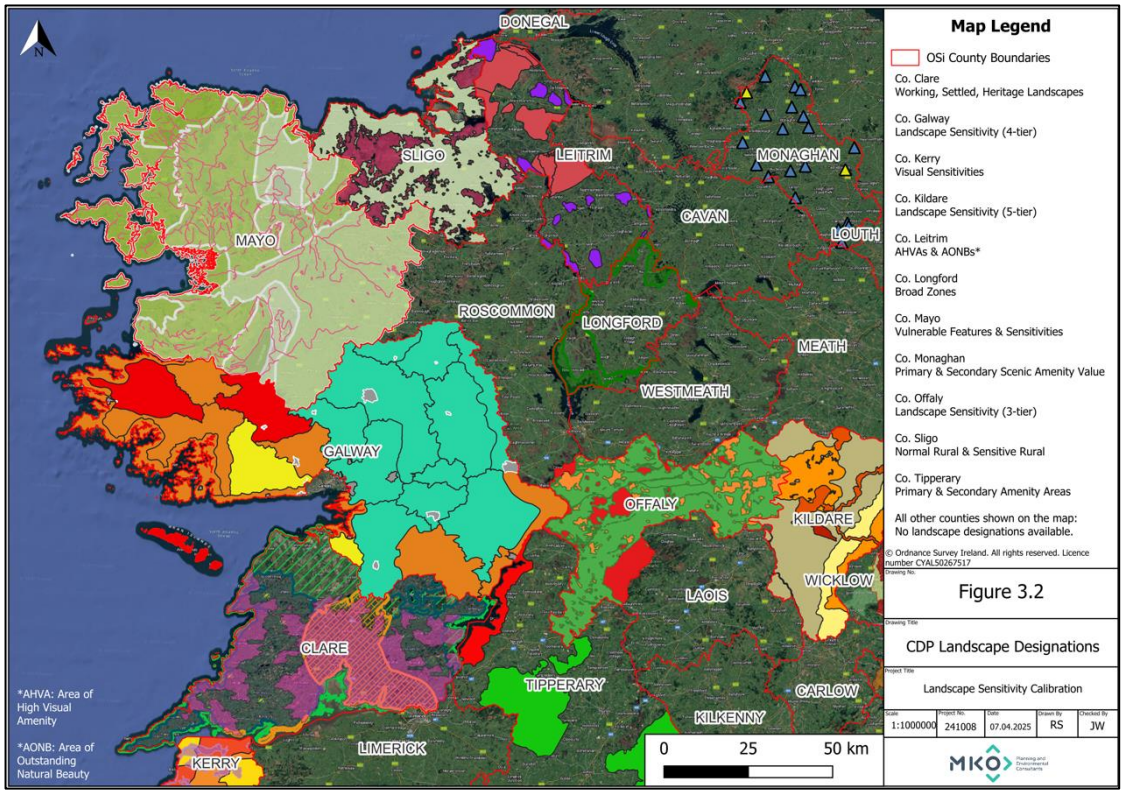

Figure 3-2: Examples of Inconsistent Approach to CDP Landscape Designations

Example 2 – Inconsistent Approach to Landscape Designations other than LCAs. 9 No. of 26 counties (25 counties plus Fingal) have not assigned any type of landscape designation indicating sensitivity, value or a similar metric, while 17 counties have done so. Of those that have, most counties use differing terminology for landscape designations; some use the term "Landscape Sensitivity" while others use different terms that suggest an equivalent rating to sensitivity, e.g. vulnerable features, primary and secondary amenity areas, heritage landscape, etc.

Further, counties use differing tiers of sensitivity rating schemes (e.g. 2-tier, 3-tier, 4-tier, or 5-tier). In addition, some counties align sensitivity designations exactly with LCA geographical boundaries, while others do not, instead aligning them with linear features (e.g. cliffs, scenic routes, etc.), point features (e.g. parks, lakes, mountains, etc.) or general landscape character types or other mapped designations.

Figure 3-2 above illustrates some of the above examples, as well as examples of inconsistent approach to CDP landscape designations across county borders—for example, Galway land areas considered to have "Low Sensitivity" in the south (green) directly border with Clare land areas of "Heritage Landscape" which are considered high sensitivity (orange-hashed, see Fig.3.2 above).

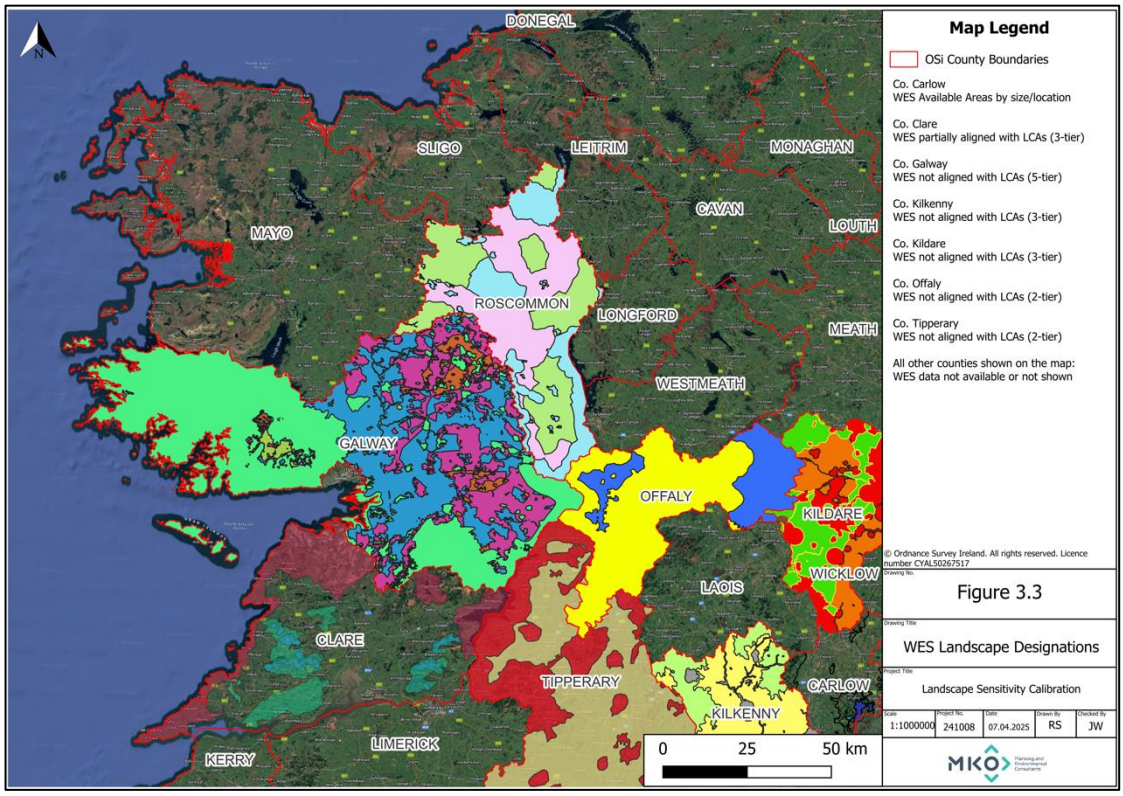

Figure 3-3: Examples of Inconsistent Approach to Wind Energy Strategy (WES)

Example 3 – Lack of Specific Landscape Sensitivity Ratings in Wind Energy Strategy (WES). At least 15 No. of 26 counties (25 counties plus Fingal) have conducted and published a current renewable energy strategy or WES appraisal, while other counties have not. Of those that have, only 2 counties (Clare and Mayo) assign specific Landscape Sensitivity to wind energy development; Mayo assigns these ratings based on Policy Area boundaries (which are similar to LCA boundaries) and Mayo's associated WES areas align with the same boundaries, while Clare assigns these ratings directly to LCAs yet Clare's associated WES areas occupy various spatial areas within and across LCA boundaries.

Further, the approach to assessment for deriving and reporting WES is inconsistent in terms of terminology, tiered rating schemes and geographical boundaries with which WES designations align, e.g. LCAs, landform features, etc. Of the counties which have published renewable energy strategies, they tend to use different terminology for the categories of suitability to wind energy development; most use the common categories of: "Acceptable in Principle, Open to Consideration, and Not Normally Permissible," while some counties use other terms such as "Available Areas," "Most Favoured," "Strategic Areas," "Areas Not Deemed Suitable," "Unsuitable," "Generally to be Discouraged," etc. In addition, counties use different tiers of WES categorisation (e.g. 2-tier, 3-tier, 4-tier, 5-tier).

Finally, some counties align WES designations exactly with LCA geographical boundaries, while others do not, instead aligning them with singular landscape features or general landscape character types and descriptions, etc. Figure 3-3 above illustrates examples of inconsistent WES landscape designations.

3.2.2 Landscape Guidance Documents

This exercise, as a high-level literature review, aims to identify and provide a baseline understanding of the current approaches for how landscape sensitivity is both acknowledged and considered within the national planning framework, whether in relation to wind energy or not.

Overall, the term "landscape sensitivity" carries different definitions across different guidance documents and is sometimes presented conceptually and other times explicitly defined. Some documents do not refer to the term specifically but do discuss related concepts, such as landscape capacity assessment or Landscape and Visual Impact Assessment (LVIA). Below, brief annotations are provided for 19 No. publications (listed from most recent) to outline how landscape sensitivity is discussed in many of the key documents currently used to assess landscape sensitivity in the context of planning.

Reframe LCA & Reframe LCA Toolkit (Minogue et al. & EPA 2024). Reframe LCA and its accompanying report, Reframe LCA Toolkit, are a combined salient guide to conducting proper Landscape Character Assessment at the county level. They present a clear and logical framework to guide Landscape Character Assessment based on at least 21 factors within natural, cultural/social and perceptual and aesthetic themes.

The key objective of Reframe LCA is stated as (p.vii, Executive Summary):

> *"...to critically review the current landscape characterisation process in Ireland and consider how it could be better adapted to contemporary spatial planning challenges."*

Within Reframe LCA, landscape sensitivity is not mentioned or discussed. Within the Reframe LCA ToolKit, landscape sensitivity and renewable energy are mentioned briefly together under the concept of "forces of change" in Ch.5 Trends in Landscape Change, where it is indicated that a separate process following LCA baseline output should be required to determine sensitivity (p.83):

> *"The preparation of landscape guidance, which relates to different land use sectors (e.g.* ***renewable energy****), is a distinct and separate process that follows from the LCA baseline output.[57] The preparation of such landscape character guidance in terms of* ***sensitivity*** *and/or capacity and impact evaluation is a distinct and separate process."*

Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA 2022). Introduces landscape sensitivity as one of four topics related to the environmental factor called "Visual Effects." Calls out general "sensitivity" as one of the environmental characteristics of "Describing the Baseline" scenario for the land area of proposed projects – the determination of sensitivity is considered as Step 5 of seven steps in Environmental Impact Assessment reporting. The general term "sensitivity" is used throughout the definitions of the "Significance of Effects" table for rating effects; conceptually, the term can be taken to refer to Landscape Sensitivity in relevant contexts. Defines "sensitivity" as follows, which again, can be taken to refer to Landscape Sensitivity in relevant contexts (p.77): "*The potential of a receptor to be significantly affected.*"

Assessing Landscape Value Outside National Designations, Technical Guidance Note 02/21 (LI 2021). Indicates that landscape sensitivity comprises two parts – value and susceptibility. As previously stated in Section 2.1 Concept and Criteria of this report, the guidance takes the approach that landscape sensitivity can be evaluated in two parts: first having to do with inherent landscape character qualities measured in terms of "value," the second having to do with "susceptibility to change" with respect to the specific type of development, in this case wind energy. It states with regard to landscape sensitivity studies (p.5):

> *"...landscape sensitivity combines judgements about the susceptibility to the specific development type/development scenario or other change being considered together with the value(s) related to that landscape and visual resource."*

Guidance - Assessing the Cumulative Landscape and Visual Impact of Onshore Wind Energy Developments (NatureScot 2021). Introduces landscape sensitivity specifically to wind energy development as one of five products contributing to the assessment of cumulative landscape and visual impacts; the other factors include distance between wind farms, distance over which wind farms are visible, overall landscape character, siting and design of wind farms and *"the way in which landscape is experienced."* It states that landscape sensitivity should be reported as part of the baseline conditions of cumulative assessment.

Landscape Sensitivity Assessment Guidance (Methodology) (NatureScot 2021). Outlines three main principles of the process called Landscape Sensitivity Assessment (LSA) as (1) Being as straightforward as possible, (2) Using a flexible approach, and (3) Focus of specific type(s) of landscape change. Defines LSA as a means to help identify locations of lower sensitivity in relation to development (p.3):

> *"Landscape Sensitivity Assessments are strategic appraisals of the relative sensitivity of landscapes to development types or land use changes. They are an important tool to help guide development to less sensitive locations."*

The guidance further indicates that LSA should be primarily used as a strategic evidence base for planning and land management policy, as well as to inform plans, policies, guidance and strategies at a range of scales, i.e. CDPs (and thus WES). It defines landscape sensitivity as (p.3):

> *"Landscape sensitivity is a measure of the ability of a landscape to accommodate change arising from specified development types or land management. It combines judgements of the susceptibility of the landscape to change and the values attached to the landscape. Sensitivity assessments or studies provide an indication of this in a manner which is robust, repeatable and capable of standing up to scrutiny."*

The guidance differentiates between the LSA and LVIA processes, as is done in the GLVIA3 and its clarifications document. Describes a five-stage approach to undertaking LSA including: (1) Define purpose and scope with relation to project outputs, (2) Establish assessment parameters with relation to development and land use scenarios, criteria and sensitivity levels, (3) Conduct the LSA, collate findings and provide guidance for siting and design of the development type, (4) Reporting & publishing to provide a clear and easy-to-read record of findings, and (5) Monitoring and updating with respect to the development plan cycle.

Regional Seascape Character Assessment for Ireland 2020 (Minogue et al. & Marine Institute 2020). Within the Regional Seascape Assessment, landscape sensitivity is not discussed. The related term of "landscape character" is referred to in the mentioning of Landscape Character Assessment, as the basis for the suggested methodology of Seascape Character Assessment. No mention of specific landscape sensitivity is given.

2019 Draft Revised WEDGs and 2006 WEDGs. Both guidance documents indicate that landscape sensitivity as determined through the sieve analysis methodology should be one of the qualifications evaluated during the development plan process when considering the aesthetics of wind energy siting and design. The WEDGs set out conceptual guidance on the potential appropriateness of wind development in landscapes of high or very high sensitivity. They consider the factor of landscape sensitivity in the siting and design of wind development with respect to the location of turbines. It is explained that landscape sensitivity is an independent issue from the general suitability of landscape character types to wind development.

Both guidance documents primarily provide guidance on incorporating landscape sensitivity as part of a stepwise process to *"identify suitable locations for wind energy development"* in CDPs. The process is to involve landscape sensitivity analysis as part of Landscape Character Assessment.

The 2019 Draft Revised WEDGs discuss landscape sensitivity as follows (p.28):

> *"Landscape sensitivity depends on the type, nature and magnitude of the proposed change as well as on the landscape's characteristics. High sensitivity indicates a landscape vulnerable to the change and vice versa. Landscape sensitivity is often used to refer to landscape studies that assesses a landscape's susceptibility to a particular type of development, for example wind energy development."*

The 2006 WEDGs present a full methodology appendix (Appendix 1) on guidance for conducting the stepwise landscape sensitivity analysis (sieve analysis) mentioned above, outlining six steps in the process: (1) Desk review, (2) Consultation with planning staff, (3) Initial field work to identify high-quality locations, (4) Public consultation by means of focus groups to inform WES, (5) Preparation of a draft sensitivity map and (6) Further fieldwork and GIS studies to test the emerging sensitivity map.

An Approach to Landscape Sensitivity Assessment - To Inform Spatial Planning and Land Management (Natural England 2019). Presents a four-step process to evaluating landscape sensitivity that includes: (1) Define purpose and scope of LSA and prepare the brief, (2) Gather information to inform the LSA through desk study and field study, (3) Assess landscape sensitivity of the assessment units identify through desk and field studies, and (4) Reporting. Provides example annexes (i.e. blank tables for data collection) for listing criteria to define visual criteria and indicators of susceptibility, and for assessing landscape sensitivity to specific development types.

Seascapes Sensitivity Assessment: Technical Report MMO1204 (MMO 2019). Relates to "seascapes" as a specific type of landscape and provides guidance on assessing the sensitivity of this landscape type to inform spatial planning. Intended as a complimentary approach to LSA as presented by Natural England (2019). As with similar guidance documents outlined above in this appendix, it outlines landscape sensitivity as a factor of combining (i) susceptibility to change and (ii) value. Provides one hypothetical example of LSA for wind energy in its Annex C, where it evaluates factors such as ecological designations, heritage assets, recreational use, etc.

Siting and Designing Windfarms in the Landscape, Version 3a (SNH 2017). Identifies landscape sensitivity as an integrated component of landscape characteristics which must be considered with respect to selecting turbine size – it expands on this in terms of sensitivity being a factor to inform the appropriate scale and dominance of turbines in the landscape, i.e. large turbines may be out of scale in lowland, settled or smaller-scale landscapes. Indicates that areas of transition between landscape character types are particularly sensitive, e.g. (p.14) *"the change from a lowland strath to upland foothills or scarp slopes."* Further, coastal areas are considered more sensitive than other landscapes. Equates landscape "capacity" studies to landscape sensitivity studies, defining both as (p.36):

> *"Research which attempts to identify the landscapes more suited to a particular type of development in a given area."*

National Landscape Strategy (DAHG 2015). No definition or discussion of landscape sensitivity is given. The term is only briefly mentioned in the Foreword (p.5) to acknowledge the growing awareness of landscapes' "sensitivity to change" but is not elaborated upon.

Spatial Planning for Onshore Wind Turbines - Natural Heritage Considerations (SNH 2015). States briefly that landscape sensitivity should be identified early in the process of landscape capacity studies with relation to undertaking Landscape Character Assessment, which can then be used to support the generation of spatial framework for wind development. The term is not elaborated upon.

GLVIA3 (LI 2013) and Notes and Clarifications on Aspects of GLVIA3 (LI 2023). Considers landscape as one type of receptor (thereby separating this concept from that of visual receptors) in the Landscape and Visual Impact Assessment (LVIA) process and likewise provides guidance on assessing the sensitivity of receptors, i.e. assessing landscape sensitivity and rating its significance of effects to development types including wind energy. Sensitivity, along with magnitude of change are factors in determining the significance of effects in the Environmental Impact Assessment (EIA) process, and the

GLVIA3 equates the phrase "nature of the receptor" with "sensitivity." Defines the "Sensitivity of Landscape Receptors" as (p.88):

> *"Landscape receptors need to be assessed firstly in terms of their sensitivity, combining judgements of their susceptibility to the type of change or development proposed and the value attached to the landscape."*

The GLVIA3 clarifications document highlights the relevance of understanding the difference between the process of LSA and identifying landscape sensitivity as part of strategic landscape planning, which are specific to landscape identification, and the process of LVIA which incorporates landscape into a larger assessment process for EIA.

Historic Landscape Characterisation in Ireland: Best Practice Guidance (Heritage Council 2013). Presents landscape sensitivity as one of several attributes informing the assessment process for Historic Landscape Characterisation (HLC). It is to be synthesised with "vulnerability to change" in the four-stage assessment and analysis process of HLC, stating that (p.55):

> *"Assessing historic landscape sensitivity thus needs to avoid equating this with 'importance' but should take account of both heritage and socio-economic values and completeness and integrity of character in presenting an overall view."*

Indicates that and landscape's "sensitivity to large-scale infrastructure" should be capable of informing development plans. Equates historical significance with sensitivity in regard to defining landscape character types. "Relict survival" and "period of origin" are stated as attributes of a landscape's sensitivity to change, as well as cultural, aesthetic and historical associations. Suggests that landscape sensitivity ratings with respect to HLC should be mapped in GIS and that overall sensitivity is a function of heritage values, considerations of physical survival and patterns of long-term change.

Topic Paper 6: Techniques and Criteria for Judging Capacity and Sensitivity (Natural England 2002). Indicates that Landscape Character Assessment should be used as a tool to inform landscape sensitivity studies. The guidance is meant to inform sensitivity (and capacity) studies by setting out key principles and defining key terms and example approaches, and it provides a literature review of "sensitivity" in the available guidance of the time, which is now more than 20 years old. Introduces the debate about whether a landscape is inherently sensitive or whether it can only be sensitive to a specific external pressure, e.g. wind energy development. It offers two definitions of landscape sensitivity as follows (p.3):

> *"Overall landscape sensitivity: This term should be used to refer primarily to the inherent sensitivity of the landscape itself, irrespective of the type of change that may be under consideration.*
>
> *Landscape sensitivity to a specific type of change: This term should be used where it is necessary to assess the sensitivity of the landscape to a particular type of change or development."*

Landscape and Landscape Assessment - Consultation Draft of Guidelines for Planning Authorities (DELG 2000). Regarding Landscape Character Assessment (p.3), the guidance indicates that landscape sensitivity should be used to correspond landscape areas with suitability for various types of development, including wind energy. In addition, this guidance dedicates an entire section to discussing landscape sensitivity (Section 2.3, p.13), placing responsibility on local authorities to first categorise landscapes according to their sensitivity, which may be measured by indicators including quality, integrity, distinctiveness, popularity, cultural meaning, sense of public ownership and social importance; and second to establish associated policy response. Defines landscape sensitivity as (p.13):

> *"The sensitivity of a landscape is the measure of its ability to accommodate change or intervention without suffering unacceptable effects to its character and values."*

4. METHODOLOGY AND RESULTS

4.1 Step 1 – Identify Existing Local Landscape Policy

Following the policy and guidance review, CDPs were researched for 25 counties plus the Fingal County Council administrative area, structured into three Regional Assemblies, focusing on identifying the relevant landscape policy and renewable energy strategies, including:

- Landscape Character Areas (or LCTs, LCUs if relevant);
- Landscape sensitivity scales, ratings and metrics;
- Landscape designations other than character areas;
- Wind Energy Strategies, capacity mapping or equivalent.

The relevant supporting information was compiled and recorded. These data are available and presented in Appendices 1, 2 and 3.

4.2 Step 2 – Mapping and Spatial Analysis

All existing LCAs (or LCTs, LCUs if relevant), Wind Energy Strategies and other designations relevant to landscape were mapped in GIS. Spatial analysis of these policy areas enabled the following to be determined for as many counties as possible:

- Wind energy policies that do / do not align with designated LCAs;
- Landscape sensitivity designations that do / do not align with designated LCAs;
- Identification of counties which have not mapped any LCAs, Wind Energy Strategies or sensitive landscape designations;
- If applicable, the area (km^2) and percentage (%) of relevant sensitivity designations in each county and the relative coverage of each county in each region.

These data are available and presented in Appendices 1, 2 and 3.

4.3 Step 3 – Create New Landscape Sensitivity Hierarchy

Based on review of all supporting information, mapping, spatial analysis and compiled data, the new draft standardised Landscape Sensitivity Hierarchy was derived, comprising five levels (highest to lowest): International, National, Regional, County, Local.

The detailed criteria, concept and indicative example landscapes and landform features were presented previously in Section 2 and Table 2.1. The hierarchy of sensitivity is described as follows:

- **International** indicates UNESCO designated landscape or landform feature considered to be of internationally recognised tourism, recreational or cultural significance;
- **National** indicates a landscape or landform feature on the UNESCO tentative list or one considered to be nationally renowned or an important tourism, recreational or cultural asset;
- **Regional** indicates a landscape or landform feature likely to be a popular tourism, recreational or cultural destination for residents of the surrounding regional counties;
- **County** indicates reference given to designated high sensitivity landscape areas in local planning policy - CDPs;

- **Local** indicates a landscape with some value as denoted in CDPs (e.g., nearby designated scenic amenity or protected receptors), but are not entirely protected at a county level.

4.4 Step 4 – Assign Existing LCAs to the New Sensitivity Hierarchy

Finally, each LCA was assigned an appropriate classification in the new draft standardised Landscape Sensitivity Hierarchy to align in a balanced manner with LCAs in its region as well as nationally, to the greatest degree possible. Classification was applied and adjusted throughout multiple rounds of discussion and evaluation, based on the collected data from methodology Steps 1 and 2 above, as well as professional judgement and all other conceptual approaches described above in Section 2. This included high-level analysis of the description of each LCA given in the CDP and any other sensitive or high value landscape designations.

4.5 Step 5 – Results and Interpretation

4.5.1 Landscape Sensitivity for All Ireland

Appendix 4 presents a full A3-size PDF map of the high-level results for all three regions: Northern and Western Region, Eastern and Midlands Region and Southern Region, showing the draft landscape sensitivity classification for all of Ireland based on this suggested methodology. A smaller version of this map is previewed below in Figure 4-1.

Following the map, Table 4.1 provides a breakdown of the entire country's area and relative percentage areas, according to the five landscape sensitivity classifications and the unrated urban areas. Table 4.2 provides the same areas and percentages to Regional Assembly level. Table 4.3 lists the collates the results of the 25 counties plus Fingal in terms of the total percentage of landscape area assigned within the landscape sensitivity hierarchy categories. Figure 4-2, Figure 4-3 and Figure 4-4 illustrate key findings of the data in pie chart and bar graph form. The following Section 4.5.2 provides brief discussion of the high-level interpretation of the results which can be considered at this stage.

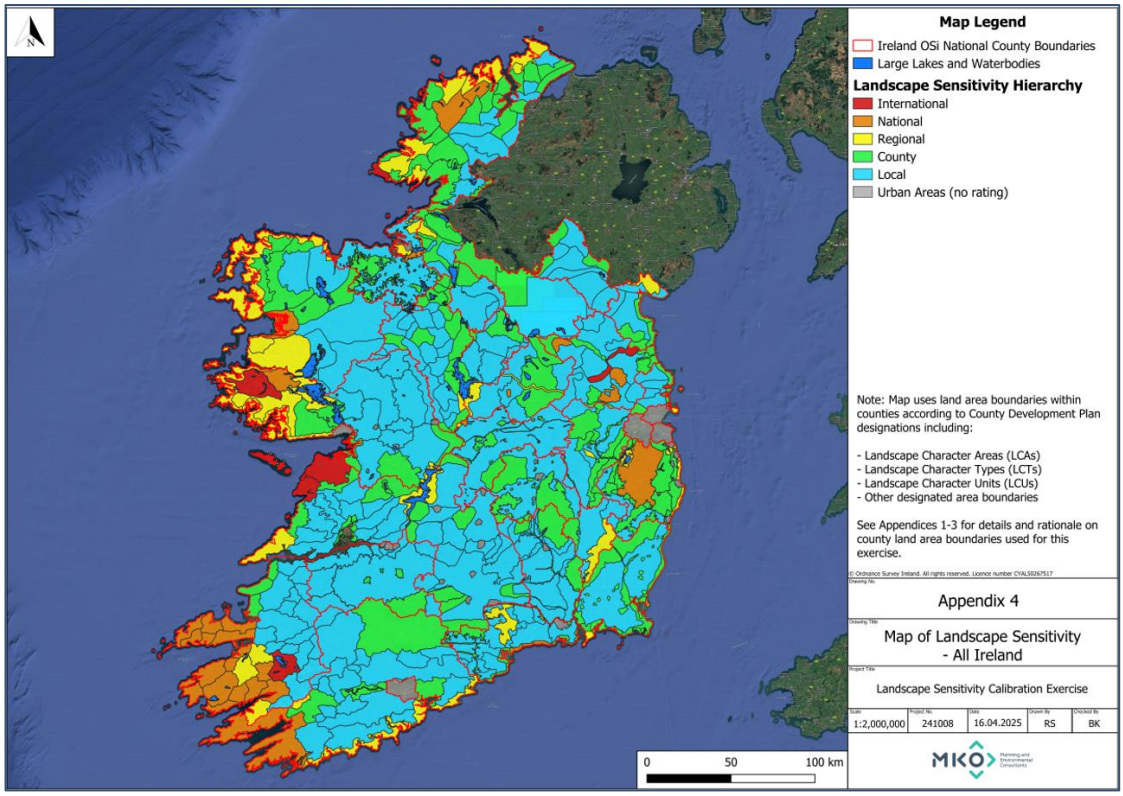

Figure 4-1: Preview Version of Appendix 4 – Map of Landscape Sensitivity for All Ireland

Table 4.1: Collated National Results of Landscape Sensitivity Classification

	Area and % of Country in each Landscape Sensitivity Category	
	Percent	Area
International	1.7%	1,213km^2
National	6.2%	4,476km^2
Regional	8.4%	6,016km^2
County	26.0%	18,694km^2
Local	56.1%	40,348km^2
Urban (No Rating)	1.6%	1,168km^2

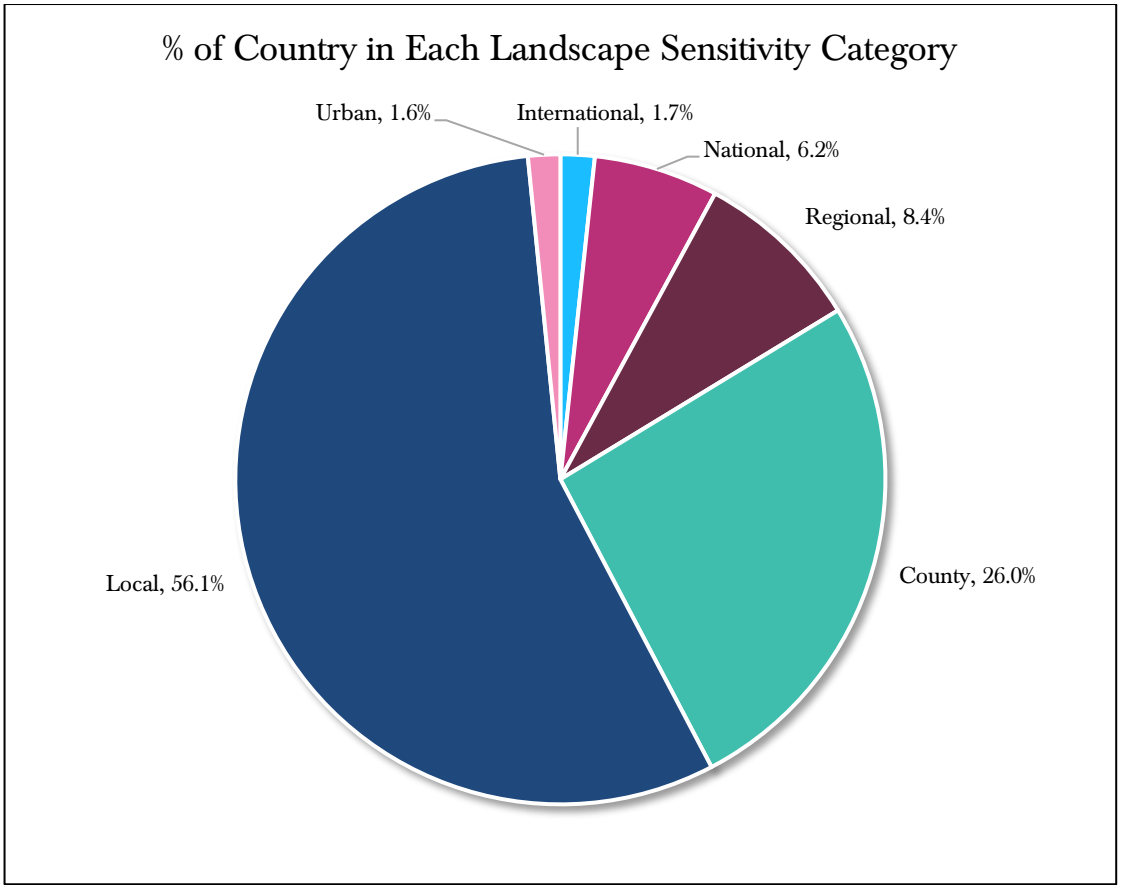

Figure 4-2: Pie Chart Representing % of Country in Each Landscape Sensitivity Category

Table 4.2: Collated Results of Landscape Sensitivity Classification by Regional Assembly Area

	Area and % of each Regional Assembly Area in each Landscape Sensitivity Category									
	Local		County		Regional		National		International	
	%	km²	%	km²	%	km²	%	km²	%	km²
Northern & Western Region	50.5%	13,903	30.8%	4,498	13.6%	3,748	3.1%	855	1.4%	397
Eastern & Midlands Region	55.2%	8,004	30.4%	4,399	3.2%	469	6.1%	883	0.8%	113
Southern Region	61.7%	18,441	19.4%	5,798	6.0%	1,799	9.2%	2,737	2.4%	702

Table 4.3: Collated Results of Landscape Sensitivity Classification by County

	Area and % of each County in each Landscape Sensitivity Category									
	Local		County		Regional		National		International	
	%	km²	%	km²	%	km²	%	km²	%	km²
Northern & Western Region										
Cavan	57.5%	2,156	42.5%	1,592	-	-	-	-	-	-
Donegal	25.4%	1,240	**46.1%**	**2,252**	19.3%	941	8.4%	410	0.8%	38
Galway	**53.4%**	**3,263**	17.5%	1,057	19.2%	1,184	2.8%	173	5.9%	360
Leitrim	55.1%	875	41.8%	663	3.1%	50	-	-	-	-
Mayo	47.6%	2,616	22.9%	1,259	**25.3%**	**1,394**	4.2%	233	-	-
Monaghan	81.0%	1,048	19.0%	246	-	-	-	-	-	-
Roscommon	59.7%	1,523	38.6%	983	1.7%	42	-	-	-	-
Sligo	66.5%	1,183	25.1%	446	2.2%	110	6.2%	40	-	-
Eastern & Midlands Region										
Fingal	69.9%	326	27.2%	127	2.9%	14	-	-	-	-
Kildare	54.9%	931	44.0%	745	1.1%	18	-	-	-	-
Laois	51.4%	883	46.2%	793	-	-	-	-	-	-
Longford	72.7%	793	27.3%	298	-	-	-	-	-	-
Louth	58.1%	480	29.8%	247	12.1%	100	-	-	-	-
Meath	70.0%	1,637	16.2%	378	-	-	9.0%	210	4.8%	113
Offaly	**83.9%**	**1,683**	13.2%	264	2.1%	42	0.8%	16	-	-
Westmeath	51.2%	940	39.0%	719	**9.3%**	**170**	0.5%	10	-	-
Wicklow	16.4%	332	**40.9%**	**829**	6.2%	126	32.0%	647	-	-
Southern Region										
Carlow	62.3%	559	13.0%	117	24.6%	221	-	-	-	-
Clare	55.0%	1,791	19.2%	625	11.0%	358	-	-	14.8%	483
Cork	**55.7%**	**4,061**	**25.3%**	**1,840**	**6.7%**	**486**	12.3%	898	-	-
Kerry	43.6%	2,074	5.4%	257	8.8%	418	37.6%	1788	4.6%	219
Kilkenny	73.1%	1,513	26.3%	543	-	-	-	-	-	-
Limerick	88.0%	2,365	10.4%	280	-	-	-	-	-	-
Tipperary	76.7%	3,264	18.4%	784	2.2%	95	-	-	-	-
Waterford	68.9%	1,321	16.2%	310	9.7%	185	2.6%	50	-	-
Wexford	58.1%	1,494	40.6%	1,043	1.3%	34	-	-	-	-

Note: The highest values for Local, County and Regional Sensitivity categories within each region are highlighted in green with bold font–these same counties are featured below in Figure 4.4 Sensitivity Results Pie Charts. Area values are rounded to the nearest 1km².

Sensitivity Results for All of Ireland (Bar Graphs). Figure 4-3 below isolates the results of the Local, County and Regional Sensitivity categories, with the counties arranged left to right in order of greatest to smallest total land area in km². Theoretically, Local Sensitivity represents the most ideal category for accommodating wind energy development, so the amount of land area in Local Sensitivity is shown first (in blue), followed by County Sensitivity (in green) and Regional Sensitivity (in yellow). According to the analysis, the top three counties in all of Ireland for each sensitivity category containing the highest amount of land area are labelled in the charts with red arrowpoints.

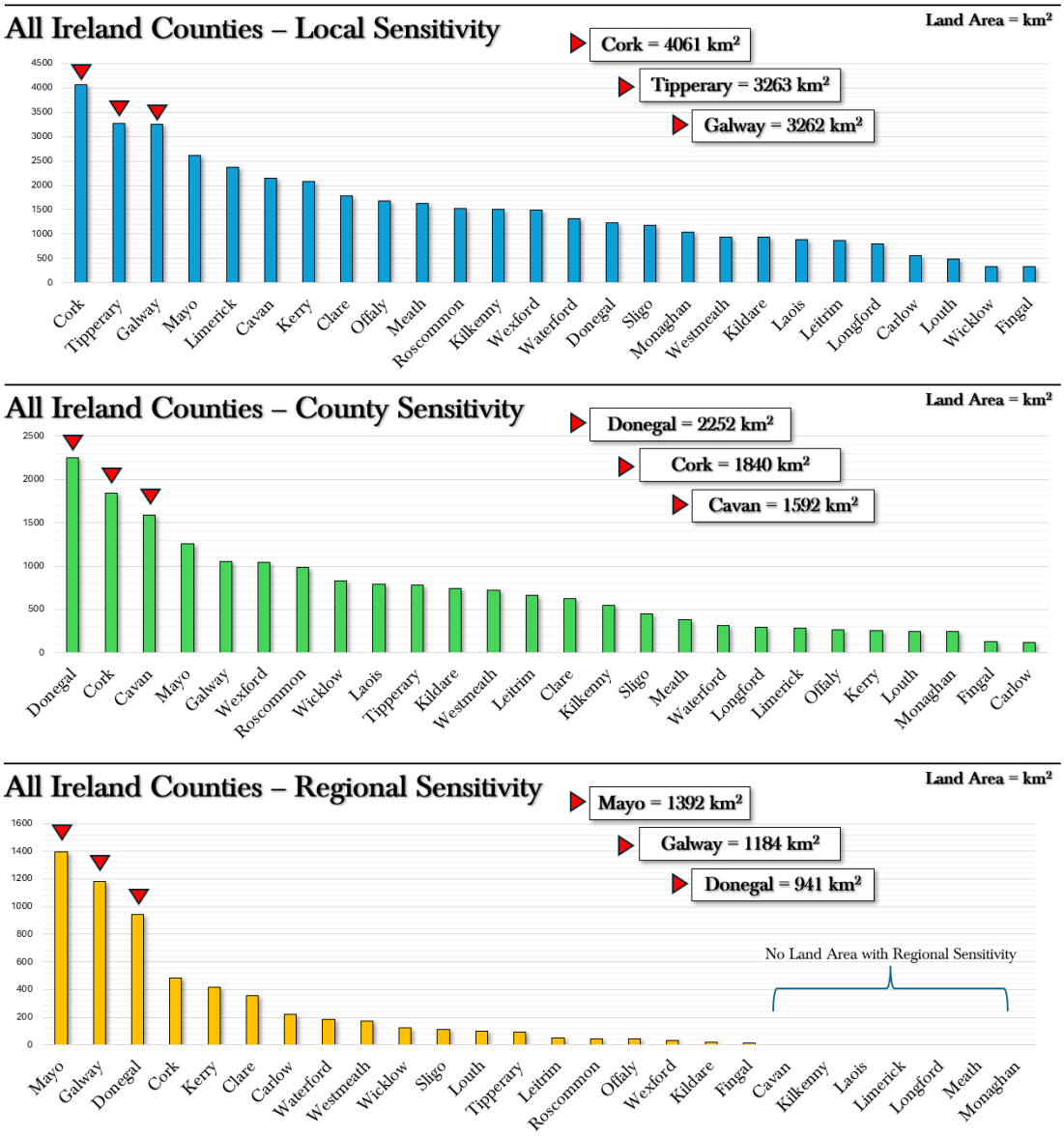

Figure 4-3: Sensitivity Results Bar Graphs – Highest Land Area for All of Ireland Counties

Sensitivity Results by Regional Assembly (Pie Charts). Figure 4-4 below compares the same data as the previous Table 4.3 and Figure 4-3 but separates the findings proportionally by Regional Assembly. According to the analysis, in the Northern and Western Region, Galway has the most land area rating as Local Sensitivity, while Donegal and Mayo have the most County and Regional Sensitivity land areas, respectively. In the Eastern and Midlands Region, Westmeath has the most land area rating as Local Sensitivity, while Wicklow and Offaly have the most County and Regional Sensitivity land areas, respectively. In the Southern Region, Cork has the highest amount of land area in all three sensitivity categories. The counties highlighted in Table 4.3 above are labelled below in the charts.

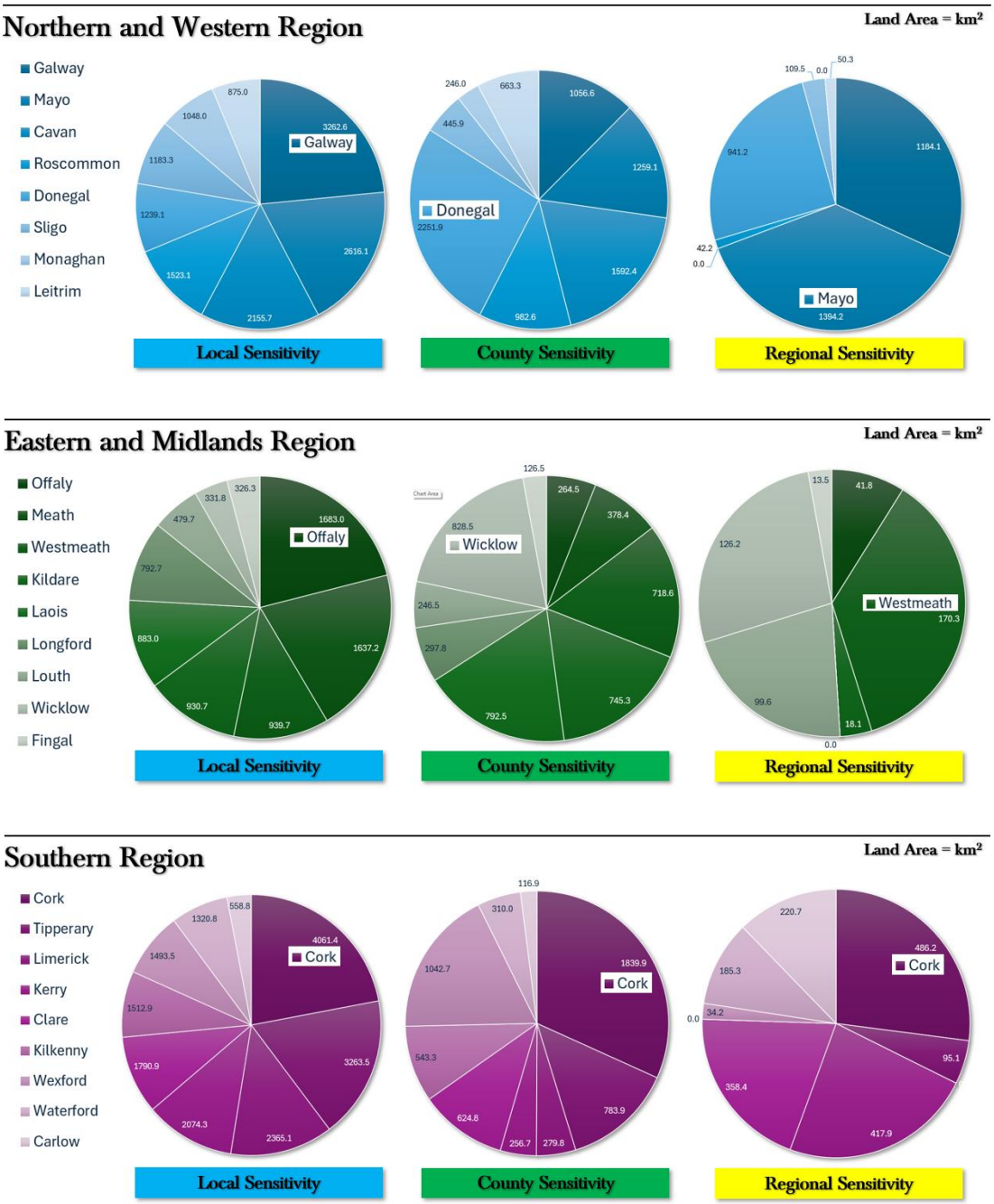

Figure 4-4: Sensitivity Results Pie Charts – Highest Land Area by Regional Assembly

4.5.2 Interpretation of Results

The results of this research exercise demonstrate that when landscape sensitivity is considered at a high level and broad geographical scale, the relative landscape sensitivity can differ significantly from that assigned when only classified at a county-level scale. To date, Local Authorities have not been expected to consider the sensitivity of their county's landscape either beyond their functional area or relative to any other Local Authority's landscape. With this in mind, the assessment of landscape capacity or sensitivity at the county-level can be expected to rate certain areas as high, some as medium and others as low, if for example, a three-point scale is used. However, the high-sensitivity landscapes in one county, if considered objectively and relatively across a larger geographical area, might only be classified as low-sensitivity on a regional or national scale. This research exercise demonstrates the value of and need for a landscape sensitivity calibration exercise being undertaken at the regional or national scale, specifically to guide and inform the spatial planning of wind energy developments.

This research exercise also clearly demonstrates that when landscape sensitivity is considered at a high level and broad geographical scale, the landscape sensitivity to wind energy development for a large proportion of the country results in it being classified as Local (56.1%) or County (26.0%) landscape sensitivity. If the areas identified as such are not sufficient to achieve the Government's targets for onshore wind energy deployment, it may be necessary to consider the areas classified as being of Regional landscape sensitivity, or higher.

5. LIMITATIONS AND RECOMMENDATIONS

5.1 High-Level Approach

It is emphasised that this is a high-level exercise and concept methodology. The assignment of landscape sensitivities in this report is intended to demonstrate an example output of this concept methodology, which can be further advanced, modified and/or refined. This exercise is intended only to demonstrate that determining coherent regional landscape sensitivity designations may be possible to achieve within a relatively short timeframe suitable to facilitate meeting short-term wind energy deployment targets, while comprehensive and proper Landscape Character Assessment such as the framework developed by EPA Reframe LCA (2024) may require a longer time to implement.

5.2 Professional Judgement

The methodology employed in this exercise was designed and conducted by MKO Landscape and Visual Impact Assessment (LVIA) specialists, with input from other environmental scientists and planners also working for MKO, with up to 20+ years of experience in conducting LVIA for Environmental Impact Assessment Reports accompanying onshore wind farm development planning applications. This experience has provided a good sense of basic landscape types and qualities that tend to be generally suitable for wind energy development.

5.3 Preliminary Numerical Ordering and Relativity Exercise

This methodology comprises a preliminary landscape sensitivity calibration exercise conducted in 2023 that was refined in 2024 and 2025 for this report. The preliminary works included trial numerical ordering and relativity exercises which were a first attempt to calibrate LCA qualities across county boundaries, the outcomes of which informed the direction of the calibration methodology framework but ultimately were not successful in achieving good calibration on their own. These works are described below.

Numerical Ordering. First, for each county within a selected trial region (Munster), a table was created listing the current sensitivity hierarchy used in that county. The sensitivity scale for each county was given a numerical scoring relative to the number of classifications used, with "1" being the most sensitive; the score of each class increased as sensitivity decreased. These tables allowed for similarities and differences between the landscape sensitivity hierarchies used in each county to be identified.

Relativity Exercise. Next, the relativity exercise was conducted to identify the greatest range of landscape sensitivity existing in the trial region by comparing all numerical sensitivity classifications relative to each other. The numerical tables for each county were assembled adjacent to each other and re-organised relative to each other considering the sensitivity of different designations in each county. This exercise was conducted using relatively subjective determinations; however, it was only used as a starting point to define the range of the new classification scale. Where possible, an evidence-based approach was used to consider the relative positioning of each county looking at the most sensitive landscape designations first. Overall, the trial numerical ordering and relativity exercises were a useful step as a starting point in defining a new sensitivity scale, but the concept of comparing one county scale with another was ultimately not useful for assigning sensitivity to existing LCAs.

5.4 Geospatial Data Quality

To complete the high-level Mapping and Spatial Analysis (refer to Step 2 in the previous Section 4.2), it was required to acquire or generate landscape GIS datasets files available from sources at the county level such as County Councils, and the data obtained were not scrutinised for quality. While conducting the exercise, it was noticed that some inaccuracies existed in the attribute tables of relevant landscape GIS files (e.g. LCA boundary files), such as small land-area calculations being reported as negative values, and other inconsistencies. While it is possible for such inaccuracies to be identified and corrected for the purposes of conducting comprehensive and robust GIS analysis, such work was outside the high-level scope of this research exercise and therefore was not performed. As a result, related statistics such as those reported above in Tables 4.1 to 4.3 may be somewhat misrepresentative of the actual values. It would not be anticipated for such values to be greatly differ from the actual values; however, it is noted here that the level of scope of the current exercise did not allow for verification of such inaccuracies.

5.5 Approach to LCA Frameworks and Mapping Boundaries

This exercise has revealed one major limitation to assigning landscape sensitivity at the LCA framework level, which is the inconsistency of approach by counties in terms of what aspects of the landscape should be used for mapping LCA boundaries—essentially, amounting to inconsistent methods of Landscape Character Assessment.

For example, some counties have determined LCA boundaries by distinguishing specific landforms of higher sensitivity, while others have mapped broad areas containing smaller landforms/features of varying sensitivity values. Still other counties have not mapped LCAs at all.

Given this inconsistency and the relatively long timescale required to carry out comprehensive and robust Landscape Character Assessment, one important aspect of future calibration methods at the regional/national scale is to devise a landscape/landform-based approach to mapping that allows for appropriate distinguishing of important features when considering a landscape's sensitivity rating specifically to wind energy development.

5.6 Recommendations for Future Directions

5.6.1 Robust Sensitivity Classification based on Additional Landscape Factors

First, it is recommended that the suggested methodology presented in this report be taken up by relevant actors and further advanced, modified and/or refined for application at the regional or national level.

It is anticipated that such works will involve detailed investigation and evaluation of both subjective and objective factors related to landscape sensitivity to arrive at a robust classification scheme that accurately represents landscape sensitivity to wind energy development coherently across regions.

It may be necessary to re-map or sub-divide the geographic boundaries of certain LCAs, to avoid mapping very large areas containing smaller features of varying sensitivity.

5.6.2 Comprehensive Geospatial Analysis

Lastly, it is recommended to conduct a more comprehensive and robust landscape geospatial analysis in GIS, working with the available data from county-level sources such as County Councils.

It should be ensured that all data obtained are the most recent, up-to-date information available from the source and are scrutinised for quality and accuracy. For example, it should be ensured that LCA geographical boundaries are spatially verified and that no gaps exist in terms of land area between them; further, all statistical calculations such as land area should be conducted and verified internally to ensure that no data are missed and that all areas and important landform features are accounted for.

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APPENDIX 1

NORTHERN AND WESTERN REGIONAL ASSEMBLY AREA – COUNTY LANDSCAPE POLICY ANALYSIS

Appendix 1: Northern and Western Region

County Councils included:

1. Co. Cavan
2. Co. Donegal
3. Co. Galway
4. Co. Leitrim
5. Co. Mayo
6. Co. Monaghan
7. Co. Roscommon
8. Co. Sligo

***Note** – Urban area councils are not included.

Cavan County Development Plan 2022-2028

10.16.1 Landscape Categories

There are five main Landscape Character Areas within the County. These areas have been chosen mainly due to their physical geological and geomorphological features which make them distinctive in the County.

1. Cuilcagh-Anierin Uplands of West Cavan;
2. The Lakelands;
3. Lake Catchments of South Cavan;
4. Drumlin Belt and Uplands of East Cavan;
5. Highlands of East Cavan.

Roscommon County Development Plan 2022-2028

Values

- Exceptional Value
- Very High Value
- High Value
- Moderate Value

Sligo County Council Development Planning Unit

- Normal Rural Landscape
- Sensitive Rural Landscape
- Visually Vulnerable Areas
- Scenic Routes

Galway County Development Plan 2022-2028

- 4 - Iconic
- 3 - Special
- 2 - High
- 1 - Low
- Urban Areas

Comhairle Contae Dhún na nGall Donegal County Council

- Views ~ Radhairc
- Areas of Especially High Scenic Amenity (EHSA) ~ Limstéar Cónlaiste Go hAairithe Ardscéimhe
- Areas of High Scenic Amenity ~ Limstéar Cónlaiste Ardscéimhe
- Areas of Moderate Scenic Amenity ~ Limstéar Cónlaiste Measartha scéimhe

Comhairle Chontae Liatroma Leitrim County Council

Area of Outstanding Natural Beauty (AONB)	
A1	Leitrim Coast
A2	Lough Melvin
A3	Mountains and Glens of North Leitrim
A4	Lough Gill, Leean Mountain and Environs
A5	Benbo
A6	The Boleybrack Mountains
A7	Lough Allen
A8	Slieve Anierin and Bencroy

Area of High Visual Amenity (AHVA)	
B1	Farmed hinterland of Arroo and Tievebaun
B2	Gulladoo Lake and Environs
B3	Dough Mountain
B4	Thur Mountain
B5	Lough Macnean Upper and Environs
B6	Sheemore
B7	Corry Mountain
B8	Laheen Lough, Kilnamar Lough and Environs
B9	Lough Scur, St John's Lough and Environs
B10	Lough Garadice and Environs
B11	River Shannon and Lakes
B12	Lough Rynn, Lough Errew and Environs

MAYO COUNTY DEVELOPMENT PLAN 2022 - 2028

Development Impact - Landscape Sensitivity Matrix

	Wind farms	Power lines	Quarrying/ Extraction	Forestry	Communi-cation Masts	Industrial/ Commercial	Rural Dwellings	Road Projects
Policy Area 1								
Policy Area 2								
Policy Area 3								
Policy Area 4								

Key

- High potential to create adverse impacts on the existing landscape character. Having regard to the intrinsic physical and visual characteristics of the landscape area, it is unlikely that such impacts can be reduced to a widely acceptable level.
- Medium potential to create adverse impacts on the existing landscape character. Such developments are likely to be clearly discernible and distinctive, however with careful siting and good design, the significance and extent of impacts can be minimised to an acceptable level.
- Low potential to create adverse impacts on the existing landscape character. Such development is likely to be widely conceived as normal and appropriate unless siting and design are poor.

Results of CDP Review for Existing Landscape Designations

Countys	LCA Framework	CDP Sensitivity	Specific Sensitivity to Wind	Sensitivity Tier-category used in CDP/WES	Landscape Area Designation used for this Exercise	Notes/Issues	Other CDP Landscape Designations
Cavan	5 LCAs.	None.	None.	None.	LCA boundaries with no assigned sensitivity.	Improper boundary overlap in the county SHP file.	Areas of High Value, Areas of Special Landscape Interest.
Donegal	None. 44 LCAs from previous CDP are no longer recognised.	Areas of Scenic Amenity.	None. WES areas mapped in CDP different land area boundaries, but no specific sensitivity.	3-tier in CDP: Moderate (Scenic Amenity) High Especially High	Previous LCA boundaries which are not currently recognised, no assigned sensitivity or scenic amenity.	Scenic Amenity area boundaries not suitable for this exercise as they are scattered and non-continuous; therefore, we adopted the LCA boundaries from previous CDP.	None.
Galway	10 LCTs divided into 29 LCUs plus urban areas.	Landscape Sensitivity.	None.	4-tier in CDP: Low (Sensitivity) High Special Iconic	LCU boundaries with sensitivity, plus urban.	No issues.	None.

(table continued)

Results of CDP Review for Existing Landscape Designations

County	LCA Framework	CDP Sensitivity	Specific Sensitivity to Wind	Sensitivity Tier-category used in CDP/WES	Landscape Area Designation used for this Exercise	Notes/Issues	Other CDP Landscape Designations
Leitrim	14 LCAs divided into 17 LCTs.	None.	None.	None.	LCA boundaries with no assigned sensitivity.	LCT boundaries not suitable for this exercise as they are scattered and non-continuous.	Areas of Outstanding Beauty, Areas of High Visual Amenity.
Mayo	4 Policy Areas and 2 Sub-Policy Areas divided into 16 LCUs.	Development Impact – Landscape Sensitivity Matrix.	WES uses same sensitivity matrix table as CDP.	4-tier in CDP/WES: Low (Sensitivity to Wind) Medium Medium to High High	LCU boundaries with sensitivity to wind.	No issues.	Dark Sky Park.
Monaghan	9 LCAs divided into 14 LCTs.	None.	None.	None.	LCA boundaries with no assigned sensitivity.	LCT boundaries not suitable for this exercise as they do not contain sensitivity descriptions. LCAs have potential for determining sensitivity manually based on descriptions in CDP.	Areas of Primary & Secondary Amenity.

(table continued)

Results of CDP Review for Existing Landscape Designations

County	LCA Framework	CDP Sensitivity	Specific Sensitivity to Wind	Sensitivity Tier-category used in CDP/WES	Landscape Area Designation used for this Exercise	Notes/Issues	Other CDP Landscape Designations
Roscommon	7 LCTs divided into 36 LCAs.	Landscape Value.	RES maps Areas Suitable to Wind Farm Development, but no specific sensitivity.	4-tier in CDP: Moderate (Value) High Very High Exceptional	LCA boundaries with assigned value.	RES land area boundaries mapped for wind area suitability are not relevant for this exercise as they do not fully align with LCAs and are not named, described or assigned sensitivity in the CDP.	None. Nature Designations are only related to Heritage Sensitivity.
Sligo	None.	Rural Landscapes.	None.	2-tier in CDP: Normal Rural Sensitive Rural	Rural Landscape boundaries with general sensitivity.	Rural area boundaries not ideal for the exercise as they are scattered and non-continuous, with only two types; however, they were used as no LCA boundaries are available.	None. Visually Vulnerable Areas are line features in GIS.

(table end)

Co. Cavan

- LCA Framework: **5 LCAs**
- CDP Sensitivity based on: **(no sensitivity rating)**
- Rating Name: **(n/a)**
- Specific Landscape Sensitivity for Wind: **(none)**

Sensitivity Rating as per CDP	(n/a)
No. of LCTs	--
Total Area	XX km^2
Percent of Co. Area	XX %

Source:

Cavan County Development Plan 2022-2028

Written Statement, Ch.10 Natural Heritage, Sections 10.14, 10.15, 10.16, 10.17, 10.18 and Appendices Vol.1, Appendix 14 Landscape Categorisation

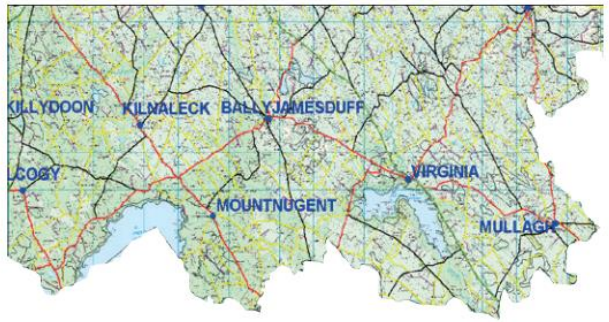
10.16.1 Landscape Categories

There are five main Landscape Character Areas within the County. These areas have been chosen mainly due to their physical geological and geomorphological features which make them distinctive in the County.

1. Cuilcagh-Anierin Uplands of West Cavan;
2. The Lakelands;
3. Lake Catchments of South Cavan;
4. Drumlin Belt and Uplands of East Cavan;
5. Highlands of East Cavan.

Area 1: The Cuilcagh-Anierin Uplands of West Cavan

Area 3: Lake Catchments of South East Cavan



Area 2: The Lakeland

Area 4: Drumlin Belt and Uplands of East Cavan

Area 5: Highlands of East Cavan

Other Sensitivity Classifications:

Lakeside and Riverside Amenity Areas

Areas of High Value and Special Landscape Interest

Major Lakes and Lake Environs

County Heritage Sites, Special Heritage Sites

Co. Donegal

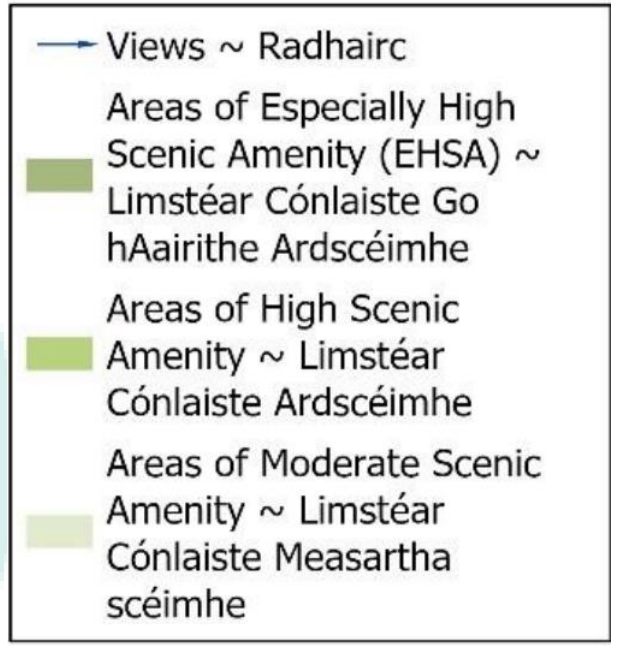
- LCA Framework: **(none) 44 LCAs from previous CDP are no longer recognised.**
- CDP Sensitivity based on: **Unnamed land area boundaries are mapped for scenic amenity.**
- Rating Name: '**Areas of Scenic Amenity**'
- Specific Landscape Sensitivity for Wind: **(none)**

Source:

Donegal County Development Plan 2024-2030

Ch.11 Natural and Built Heritage, p.210

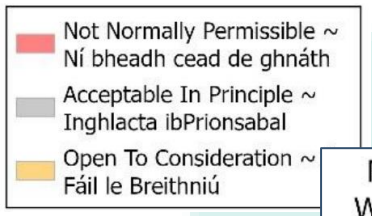
Sensitivity Rating as per CDP	'Areas of Moderate Scenic Amenity'	'Areas of High Scenic Amenity'	'Areas of Especially High Scenic Amenity'
No. of LCAs	Areas not aligned to any LCA framework (see extracted image below), thus require detailed spatial analysis to calculate statistics.		
Total Area	n/a	n/a	n/a
Percent of Co. Area	n/a	n/a	n/a



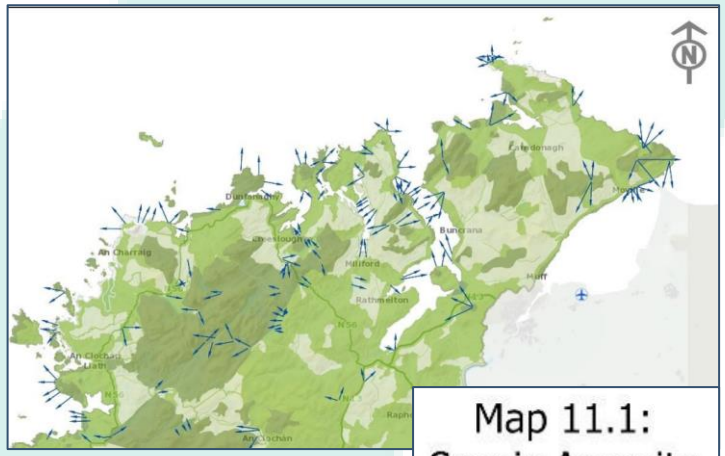
Other Sensitivity Classifications:

No other landscape designations.

Wind Energy (DCDP, Map 9.2.1) maps strategy areas unrelated to LCAs.



Map 9.2.1: Wind Energy



Map 11.1: Scenic Amenity

Note: Landscape Character Assessment no longer recognized.

A Landscape Character Assessment was "*prepared & endorsed*" but "*is not to be construed as an accompanying policy document of this Plan*" (p.208 of the Draft DCDP 2024-2030)

Co. Galway

- LCA Framework: **10 LCTs divided into 29 LCUs**
- CDP Sensitivity based on: **29 LCUs**
- Rating Name: **'Landscape Sensitivity'**
- Specific Landscape Sensitivity for Wind: **(none)**

Source:

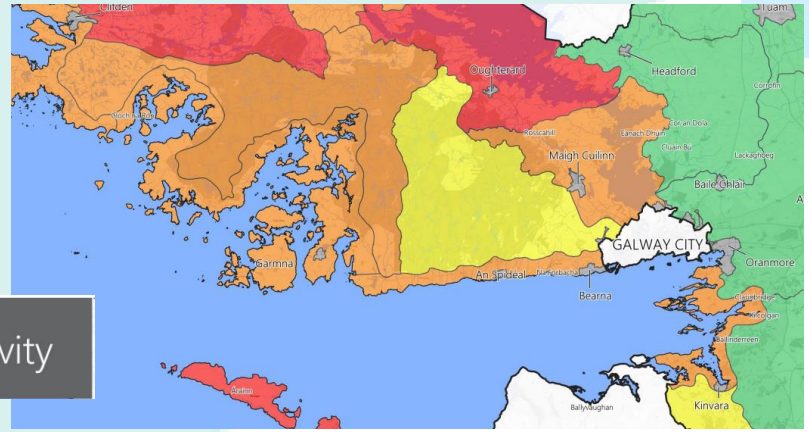
Galway County Development Plan 2022-2028

Vol.1, Ch.8 Tourism and Landscape and Appendix 4 Landscape Character Assessment

Sensitivity Rating as per CDP	'Low'	'High'	'Special'	'Iconic'
No. of LCAs	11	2	13	3
Total Area	3911.1 km^2	347.3 km^2	1776.5 km^2	649.5 km^2
Percent of Co. Area	57.9 %	5.1 %	26.3 %	9.6 %

Other Sensitivity Classifications:

No other landscape designations.



Map 06 - Landscape Sensitivity

Co. Leitrim

- LCA Framework: **14 LCAs divided into 17 LCTs**
- CDP Sensitivity based on: **(no sensitivity rating)**
- Rating Name: **(n/a)**
- Specific Landscape Sensitivity for Wind: **(none)**

Sensitivity Rating as per CDP	(n/a)
No. of LCAs	--
Total Area	n/a
Percent of Co. Area	n/a

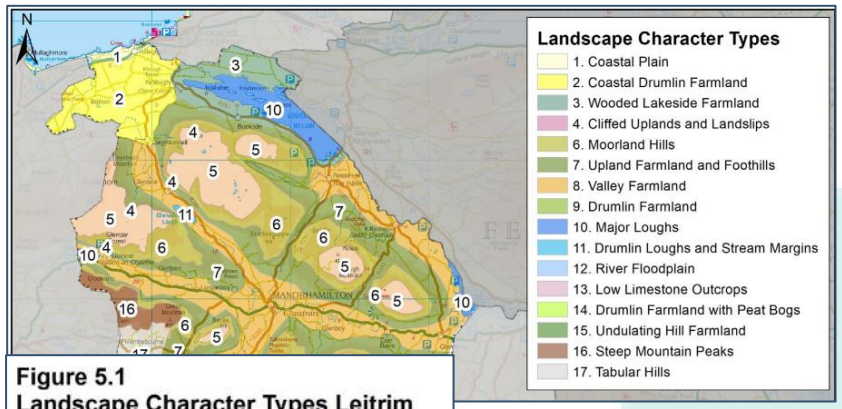


Figure 5.1
Landscape Character Types Leitrim County Development Plan 2023-2029

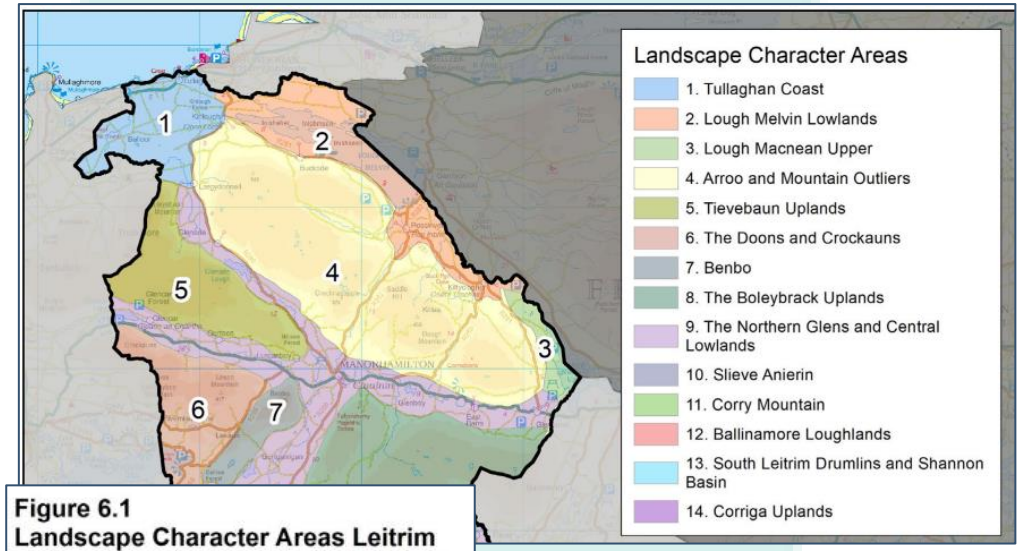


Figure 6.1
Landscape Character Areas Leitrim County Development Plan 2023-2029

Other Sensitivity Classifications:

Areas of Outstanding Natural Beauty (AONB)

Areas of High Visual Amenity (AHVA)

Source:

[Leitrim County Development Plan 2023-2029]

Appendix VII Landscape Character Assessment

Area of Outstanding Natural Beauty (AONB)	
A1	Leitrim Coast
A2	Lough Melvin
A3	Mountains and Glens of North Leitrim
A4	Lough Gill, Leean Mountain and Environs
A5	Benbo
A6	The Boleybrack Mountains
A7	Lough Allen
A8	Slieve Anierin and Bencroy

Area of High Visual Amenity (AHVA)	
B1	Farmed hinterland of Arroo and Tievebaun
B2	Gulladoo Lake and Environs
B3	Dough Mountain
B4	Thur Mountain
B5	Lough Macnean Upper and Environs
B6	Sheemore
B7	Corry Mountain
B8	Laheen Lough, Kilnamar Lough and Environs
B9	Lough Scur, St John's Lough and Environs
B10	Lough Garadice and Environs
B11	River Shannon and Lakes
B12	Lough Rynn, Lough Errew and Environs

Source:

Appendix VIII Landscape Designations, p.58, Figure 5.1

Co. Mayo

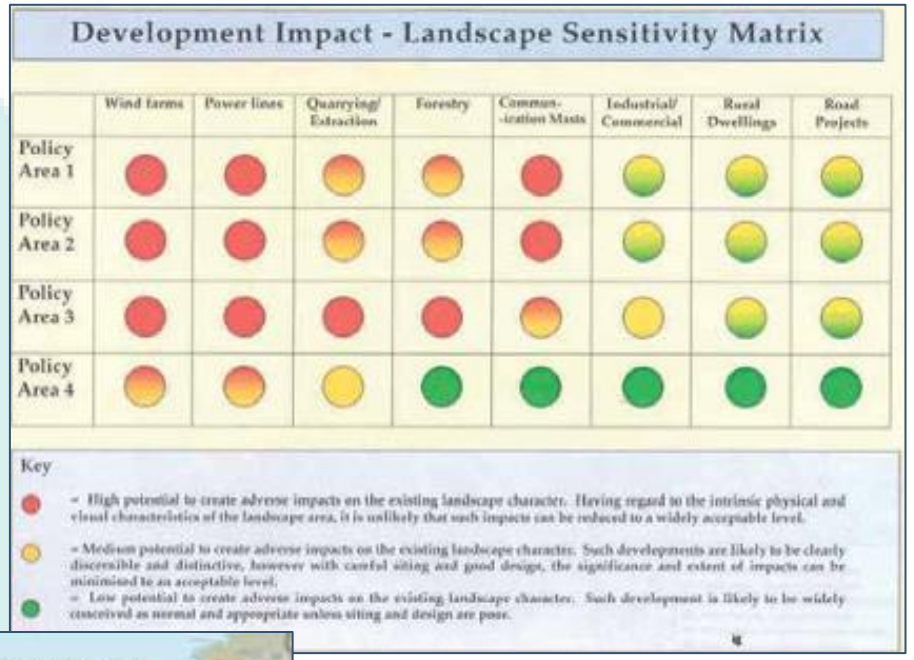
- LCA Framework: **4 Policy Areas and 2 Sub-Policy Areas divided into 16 LCUs.**
- CDP Sensitivity based on: **Development Impact – Landscape Sensitivity Matrix**
- Rating Name: **'Landscape Sensitivity Matrix'**
- Specific Landscape Sensitivity for Wind: **Yes – Vol.1, Ch.10, p.197, Fig.10.1**

Sensitivity Rating as per CDP	'Low'	'Medium'	'Medium to High'	'High'
No. of LCAs	0	0	1	3
Total Area	n/a	n/a	2201.4 km^2	3322.3 km^2
Percent of Co. Area	n/a	n/a	39.9 %	60.1 %

Source:

Mayo County Development Plan 2022-2028

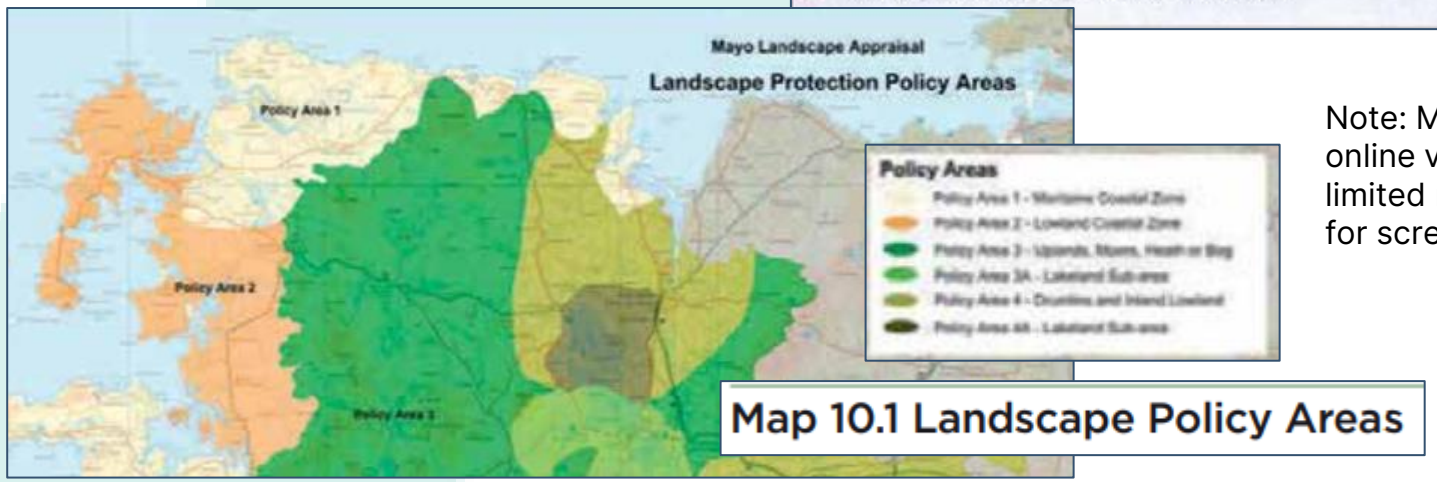
Vol.1 Written Statement, Ch.10 Natural Environment, p.186



Other Sensitivity Classifications:

Dark Sky Park at Wild Nephin Ballycroy National Park

(p.195 – NEO 46)



Map 10.1 Landscape Policy Areas

Note: MCDP 2022-2028 online version has limited resolution quality for screenshots.

Co. Monaghan

- LCA Framework: **9 LCAs divided to 14 LCTs**
- CDP Sensitivity based on: **(no sensitivity ratings)**
- Rating Name: **(n/a)**
- Specific Landscape Sensitivity for Wind: **(none)**

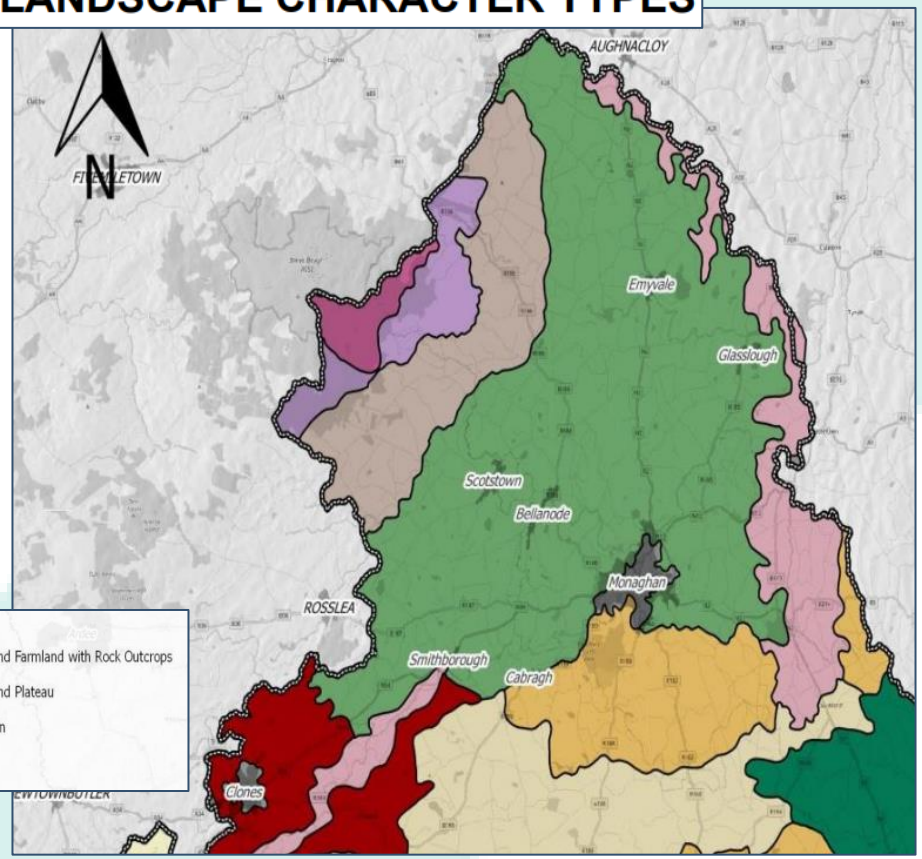
Source:

[Monaghan County Development Plan 2025-2031]

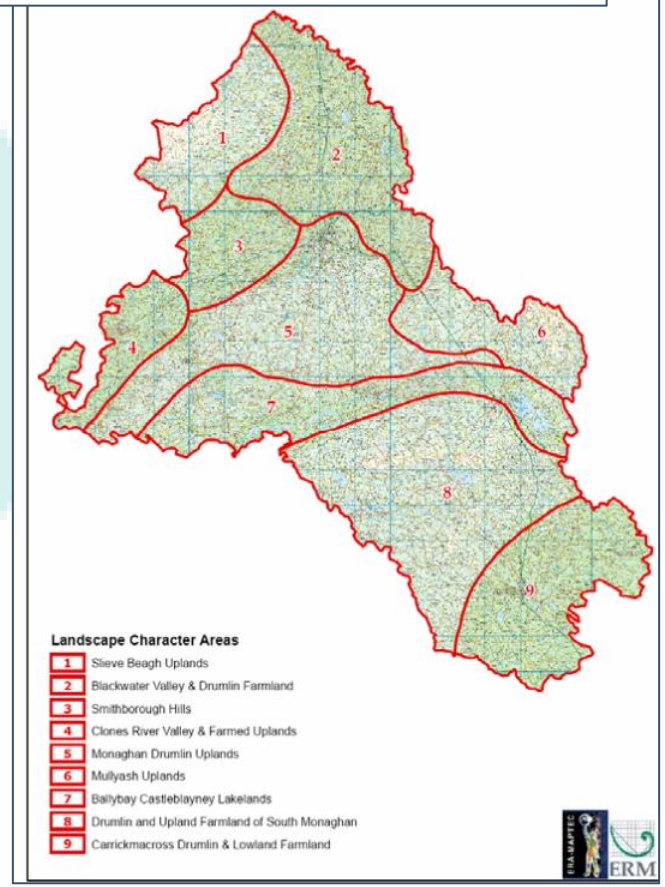
Vol.1 Written Statement, Ch.6 Heritage, Conservation and Landscape, Section 6.3 Landscape and 6.4 Landscape Character Assessment, p.103

Sensitivity Rating as per CDP	n/a
No. of LCAs	--
Total Area	n/a
Percent of Co. Area	n/a

LANDSCAPE CHARACTER TYPES



LANDSCAPE CHARACTER AREAS



Other Sensitivity Classifications:

Areas of Primary/Secondary Amenity

Co. Roscommon

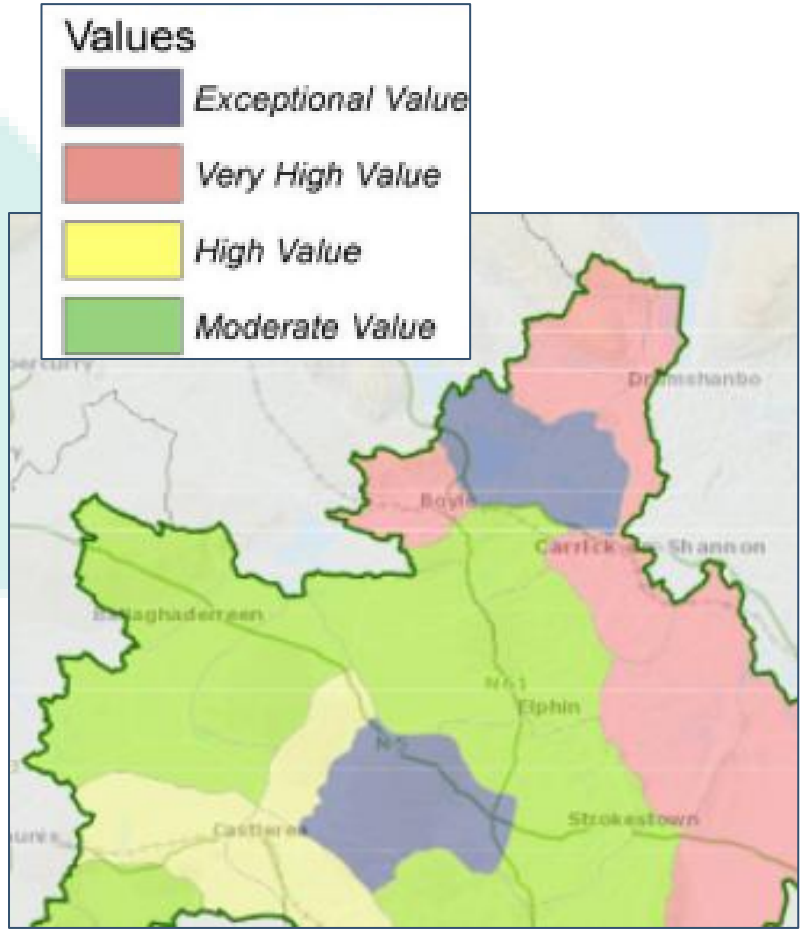
- LCA Framework: **7 LCTs divided to 36 LCAs**
- CDP Sensitivity based on: **36 LCAs**
- Rating Name: **'Landscape Value'**
- Specific Landscape Sensitivity for Wind: **(none)**

Source:

[Roscommon County Development Plan 2022-2028]

Vol.1 Ch.10.13 Landscape Character – Associated Documents – Landscape Character Assessment.

Sensitivity Rating as per CDP	'Moderate Value'	'High Value'	'Very High Value'	'Exceptional Value'
No. of LCAs	15	7	12	2
Total Area	1100.6 km^2	527.6 km^2	724.1 km^2	194.8 km^2
Percent of Co. Area	43.2 %	20.7 %	28.4 %	7.7 %



Other Sensitivity Classifications:

Nature Designations

Renewable Energy Strategy maps 'Areas Suitable for Wind Development' but these have no sensitivity and do not fully align with LCA or LCT geographic boundaries.

Co. Sligo

- LCA Framework: **(none)**
- CDP Sensitivity based on: **Unnamed 'Rural' land area boundaries are mapped with 2-tier sensitivity.**
- Rating Name: **Normal or Sensitive**
- Specific Landscape Sensitivity for Wind: **(none)**

Sensitivity Rating as per CDP	(n/a)
No. of LCAs	Requires detailed spatial analysis to calculate by unnamed land area boundaries.
Total Area	
Percent of Co. Area	

Other Sensitivity Classifications:

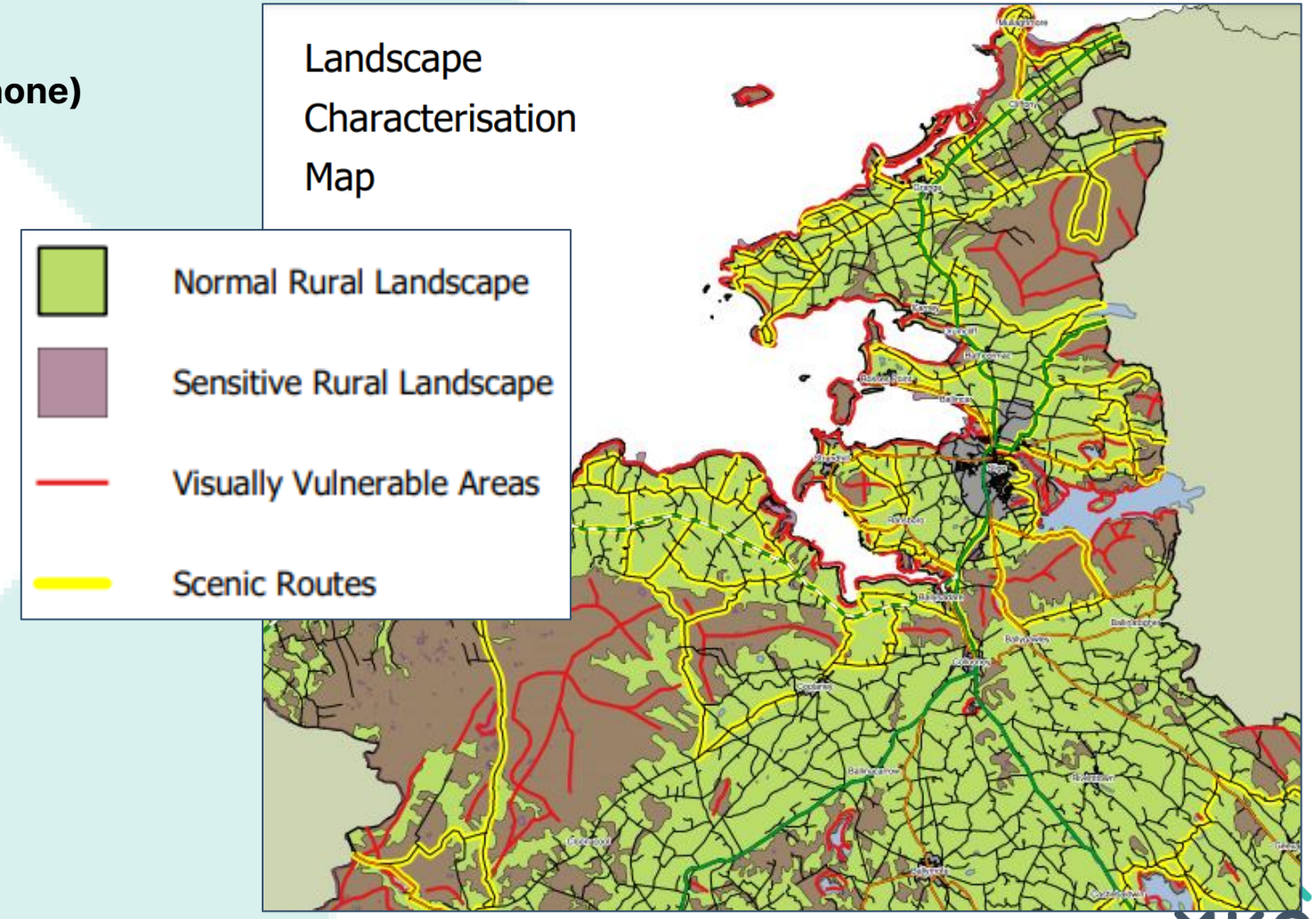
No other landscape designations.

Note: 'Visually Vulnerable Areas' are line features in GIS.

Source:

[Sligo County Development Plan 2024-2030]

Vol.3 Ch.23 Landscape Character and 'Landscape Characterisation Map'



APPENDIX 2

SOUTHERN REGIONAL ASSEMBLY AREA – COUNTY LANDSCAPE POLICY ANALYSIS

Appendix 2: Eastern and Midlands Region

County Councils included:

1. Fingal Co. Council
2. Co. Kildare
3. Co. Laois
4. Co. Longford
5. Co. Louth
6. Co. Meath
7. Co. Offaly
8. Co. Westmeath
9. Co. Wicklow

***Note** – Fingal County Council Administrative Area is included. All other urban areas are excluded.

WICKLOW COUNTY Development Plan 2016 - 2022

Table 17.1 Wicklow Landscape categories

HIERARCHY	1	2	3	4	5	6
LANDSCAPE CATEGORY	Mountain and Lakeshore AONB	Coastal Areas AONB	Areas of High Amenity	Corridor Area	Lowlands	Urban Area
LANDSCAPE AREA	The Mountain Uplands The Blessington Lakes Area The Bray Mountains Group The North Eastern Valley / Glencree	Northern Coastal Area Southern Coastal Area	North East Mountain Lowlands South East Mountain Lowlands Southern Hills Baltinglass Hills Transitional Lands	N11 Corridor N81 corridor	Rolling Lowland Areas 1-6	All towns ranging from Levels 1-6 of the Wicklow Settlement Hierarchy

Kildare County Council
Planning & Strategic Development Department
Áras Chill Dara,
Devoy Park, Naas, Co Kildare.

Legend
Areas of Sensitivity

- Class 5 - Unique
- Class 4 - Special
- Class 3 - High Sensitivity
- Class 2 - Medium Sensitivity
- Class 1 - Low Sensitivity

FINGAL DEVELOPMENT PLAN 2023-2029

Landscape Sensitivity

- Medium
- High
- Low

Louth County Development Plan 2021-2027

Landscape Character Areas	Importance
• Carlingford Lough and Mountains incl. West Feede Uplands	International
• Boyne & Mattock Valley	National
• Dundalk Bay Coast • Dunany to Boyne Estuary Coast • Uplands of Collon and Monasterboice	Regional
• Cooley Lowlands and Coastal Area • Lower Faughart, Castletown and Flurry River basin • Louth Drumlin and Lake Areas • Muirhevna Plain	Local

Comhairle Chontae Uibh Fhaili
Offaly County Council

Landscape Classification

- High Landscape Sensitivity
- Medium Landscape Sensitivity
- Low Landscape Sensitivity

2021 - 2027
LAOIS COUNTY COUNCIL
CHOMHAIRLE CHONTAE LAOISE

MAP 11.7 - LANDSCAPE CHARACTER ASSESSMENT

- Mountain, Hills and Upland Areas
- Rolling Hills
- Lowland Agricultural Areas
- Peatland Areas
- Urban Fringe Areas

Meath County Development Plan 2021-2027

Box 4

Criteria for Defining Sensitivity

High Sensitivity: A vulnerable landscape likely to be fragile and susceptible to change. Frequency and sensitivity of users is likely to be high. The introduction of a change is likely to significantly alter the character to the extent that it would be difficult or impossible to restore.

Medium Sensitivity: A landscape that can accommodate a certain amount of change without affecting the overall character. There are unlikely to be large numbers of people using or viewing this landscape.

Low Sensitivity: A resilient landscape that is robust and/ or tolerant of change. It is likely to be easily restored and the frequency and sensitivity of users is likely to be low.

LONGFORD COUNTY DEVELOPMENT PLAN 2021-2027

Table 14.1: *County Longford's Landscape Character Type and Sensitivity*

Landscape Character Type	Landscape Sensitivity
Unit 1 – Northern Drumlin Lakeland	Sensitivity of much of this landscape can be classified as LOW to MEDIUM with some HIGH sensitivity in the vicinity of the lakes and designated scenic routes
Unit 2 – Northern Upland	Sensitivity of much of this landscape can be classified as MEDIUM to HIGH
Unit 3 – Shannon Basin/Lough Ree	Sensitivity of the landscapes in this unit range from MEDIUM - along the south-eastern border of the unit- to HIGH sensitivity- along the shores of the lake, islands, the riverbanks, and in the vicinity of the Aquifer.
Unit 4 – Central Corridor	Sensitivity of the landscapes in this unit are generally LOW. Potential areas of MEDIUM to HIGH sensitivity exist in the vicinity of protected woodlands, riverbanks and in the vicinity of the Aquifer.
Unit 5 – Inny Basin	Sensitivity of the landscapes in this unit are generally LOW. Potential areas of MEDIUM to HIGH sensitivity exist in the vicinity of protected woodlands, riverbanks.
Unit 6 – Peatlands	Visual Sensitivity of the landscapes are generally LOW, as their flat nature allows development to be accommodated with minimum screening needed to achieve integration into its surrounds. An exception to this designation is the vicinity of the Royal Canal, where sensitivity is HIGH. In Environmental terms, sensitivity can be generally termed MEDIUM to HIGH due to the limited capacity of the receiving environment to cater for additional effluent loading.
Unit 7 – Open Agricultural	Visual sensitivity of the landscapes in this unit are generally LOW to MEDIUM. An exception to this designation is the vicinity of the Royal Canal, the River Inny, in Upland Areas with designated scenic views, and in proximity to the heritage village of Ardagh where sensitivity is HIGH.

Table 11.6: Landscape Sensitivity

Sensitivity	Landscape Character Area and Special Features	Description
Low Sensitivity	Lowland Agricultural Areas, Urban Fringes	Areas with the capacity to generally accommodate a wide range of uses without significant adverse effects on the appearance or character of the area
Medium Sensitivity	Rolling Hills and Hills and Upland Areas	Areas with the capacity to accommodate a range of uses without significant adverse effects on the appearance or character of the landscape having regards to localised sensitivity factors

Results of CDP Review for Existing Landscape Designations

County	LCA Framework	CDP Sensitivity	Specific Sensitivity to Wind	Sensitivity Tier-category used in CDP/WES	Landscape Area Designation used for this Exercise	Notes/Issues	Other CDP Landscape Designations
Fingal Co. Council Admin. Area	6 LCTs in the CDP. 3 LCAs in the WES.	Landscape Sensitivity.	None. WES mapping uses different land area boundaries, but no specific sensitivity.	3-tier in CDP: Low (Sensitivity) Medium High	LCT boundaries with general sensitivity.	LCA boundaries in the WES not suitable for this exercise as it uses different land areas to LCTs and do not have specific sensitivity.	Landscape Value (aligns with LCTs), Highly Sensitive Landscapes (do not align with LCTs).
Kildare	8 LCAs.	Landscape Sensitivity Classification.	None. Compatibility to Windfarm does not indicate sensitivity.	5-tier in CDP: Class 1 Low (Sensitivity) Class 2 Medium Class 3 High Class 4 Special Class 5 Unique	LCA boundaries with general sensitivity.	Compatibility to Windfarm numerical ratings are separate to sensitivity classification.	Highly Sensitive Areas of Amenity.
Laois	7 LCAs.	Landscape Sensitivity.	None. WES mapping uses different land area boundaries, but no specific sensitivity.	3-tier in CDP: Low (Sensitivity) Medium High	LCA boundaries with general sensitivity.	WES land areas do not spatially align with LCAs and do not cover the whole county, and do not have specific sensitivity.	European Sites are considered High Sensitivity.

(table continued)

Results of CDP Review for Existing Landscape Designations

County	LCA Framework	CDP Sensitivity	Specific Sensitivity to Wind	Sensitivity Tier-category used in CDP/WES	Landscape Area Designation used for this Exercise	Notes/Issues	Other CDP Landscape Designations
Longford	7 LCTs.	Landscape Sensitivity.	None. CDP maps Areas of Wind Farm Potential separate from LCTs.	4-tier in CDP: Low (Sensitivity) Low to Medium Medium Medium to High	LCT boundaries with general sensitivity.	WES land areas do not spatially align with LCTs and do not cover the whole county, and do not have specific sensitivity.	None.
Louth	9 LCAs.	Importance.	None.	4-tier in CDP: Local (Importance) Regional National International	LCA boundaries with assigned importance.	No issues.	Areas of Outstanding Natural Beauty, Areas of High Scenic Quality, Contains two Tentative UNESCO sites, Borders with UNESCO site in Meath.

(table continued)

Results of CDP Review for Existing Landscape Designations

County	LCA Framework	CDP Sensitivity	Specific Sensitivity to Wind	Sensitivity Tier-category used in CDP/WES	Landscape Area Designation used for this Exercise	Notes/Issues	Other CDP Landscape Designations
Meath	4 LCTs divided into 20 LCAs.	Landscape Sensitivity.	Landscape Capacity for Wind Turbines.	3-tier in CDP: Low (Sensitivity) Medium/Moderate High	LCA boundaries with general sensitivity.	No issues. WES capacity ratings are assigned by LCA and used the same 3-tier hierarchy.	Landscape Value, Landscape Importance, UNESCO World Heritage Site.
Offaly	None.	Landscape Sensitivity Areas.	None. WES maps separate Potential Wind Areas, but no specific sensitivity.	3-tier in CDP: Low (Sensitivity Areas) Medium High	'Character Area' boundaries as described in CDP with general sensitivity.	In the CDP, 10 'character area' types are named, described and assigned sensitivity, amounting to 14 areas total. GIS SHP file was constructed in-house following these.	Areas of High Amenity.
Westmeath	11 LCAs.	None.	None.	None.	LCA boundaries with no assigned sensitivity.	No issues.	Lake Amenities, High Amenity Areas, Tentative UNESCO site.

(table continued)

Results of CDP Review for Existing Landscape Designations

County	LCA Framework	CDP Sensitivity	Specific Sensitivity to Wind	Sensitivity Tier-category used in CDP/WES	Landscape Area Designation used for this Exercise	Notes/Issues	Other CDP Landscape Designations
Wicklow	6 Landscape Categories divided into 15 LCAs.	Vulnerability (aligns with LCAs). Landscape Sensitivity (does not align with LCAs).	None.	4-tier CDP (Vulnerability): Low Medium High Very High 5-tier CDP (Sensitivity): Low Low to Medium Medium Medium to High High	LCA boundaries with assigned vulnerability.	CDP sensitivity spatial boundaries not suitable for this exercise as the areas are small, scattered and non-continuous, and do not align with LCA boundaries.	None.

(table end)

Fingal Co. Council Admin. Area

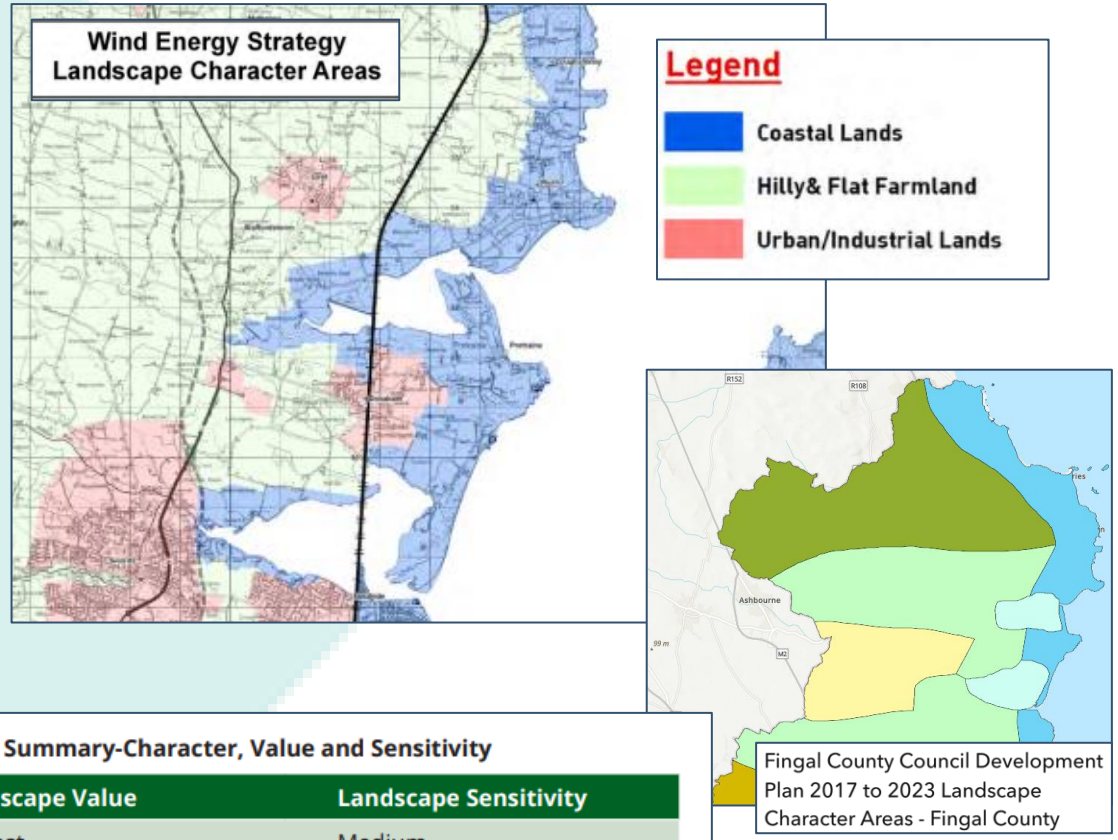
- LCA Framework: **6 LCTs in CDP and 3 LCAs in WES**
- CDP Sensitivity based on: **6 LCTs in CDP**
- Rating Name: **'Landscape Sensitivity'**
- Specific Landscape Sensitivity for Wind: **None**, but WES maps 3 LCAs with different geographical boundaries to the CDP LCTs, as strategy areas.

Sensitivity Rating as per CDP	'Class 1 - Low'	'Class 2 - Medium'	'Class 3 - High'
No. of LCAs	1	1	4
Total Area	169.4 km^2	43.8 km^2	253.1 km^2
Percent of Co. Area	36.3 %	9.4 %	54.3 %

Source:

Fingal Development Plan 2023-2029

Ch.9 Green Infrastructure and Natural Heritage, Section 9.6.14 Landscape Character Assessment



Note: Fingal CC opensource data for LCAs are from previous CDP 2017-2023.

Other Sensitivity Classifications:

Landscape Value (aligns with LCTs in CDP)

Highly Sensitive Landscapes (do not align with LCTs)

Table 9.3: Landscape Character Assessment Summary-Character, Value and Sensitivity

Landscape Character Types	Landscape Value	Landscape Sensitivity
Rolling Hills Type	Modest	Medium
High Lying Type	High	High
Low Lying Type	Modest	Low
Estuary Type	Exceptional	High
Coastal Type	Exceptional	High
River Valley and Canal Type	High	High

Co. Kildare

- LCA Framework: **8 LCAs**
- CDP Sensitivity based on: **8 LCAs**
- Rating Name: **'Landscape Sensitivity'**
- Specific Landscape Sensitivity for Wind: **None –** but 'Compatibility to Windfarm' is indicated, Vol.1, Ch.13, p.447 – Table 13.3

Sensitivity Rating as per CDP	'Class 1 - Low'	'Class 2 - Medium'	'Class 3 - High'
No. of LCAs	4	2	2
Total Area	930.7 km^2	230.6 km^2	370.8 km^2
Percent of Co. Area	55 %	13.6 %	21.9 %

Other Sensitivity Classifications:

Sub-ordinate Landscape Areas – Special and Unique Sensitivity

Areas of High Amenity = Highly Sensitive

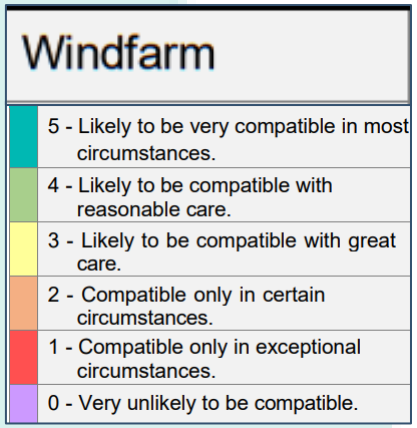
Demesne Landscapes – Historic Gardens and Designed Landscapes

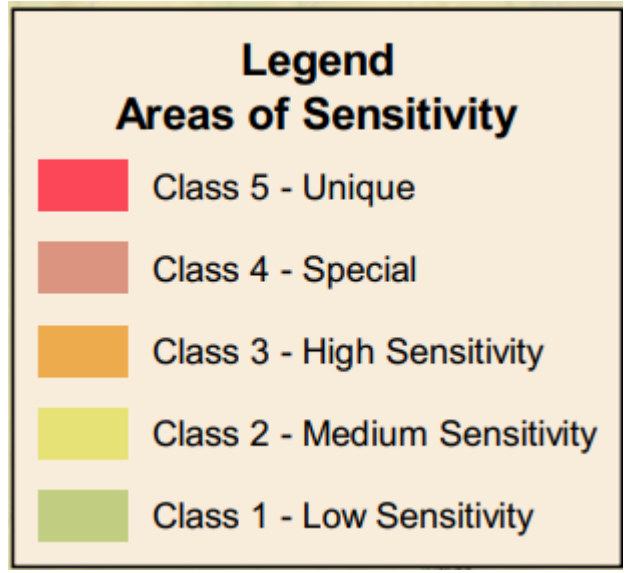
Dun Ailinne is being assessed for consideration for addition to the UNESCO World Heritage Sites Tentative List

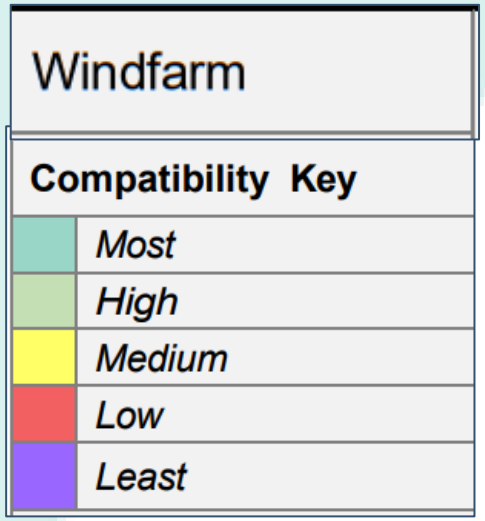
Source:

Kildare County Development Plan 2023-2029

Vol.1, Ch.13, p.444, Table 13.1, Fig. Landscape Sensitivity Areas







Sensitivity of Principal Landscape Character Assessment (Dominant Sensitivity Outlined)	Class 1 Low Sensitivity	Class 2 Medium Sensitivity	Class 3 High Sensitivity	Class 4 Special Sensitivity	Class 5 Unique Sensitivity
Southern Lowlands	Class 1				
Eastern Transition		Class 2			
Eastern Uplands			Class 3		
South-Eastern Uplands		Class 2			
Sub-ordinate Landscape Areas					
Northern Hills				Class 4	
Chair of Kildare				Class 4	
The Curragh					Class 5

Co. Laois

- LCA Framework: **7 LCAs**
- CDP Sensitivity based on: **7 LCAs**
- Rating Name: **'Landscape Sensitivity'**
- Specific Landscape Sensitivity for Wind: **(none)**

Sensitivity Rating as per CDP	'Low'	'Medium'	'High'
No. of LCAs	2	2	3
Total Area	919.3 km^2	757.5 km^2	34.8 km^2
Percent of Co. Area	53.6 %	44.2 %	2.2 %

Other Sensitivity Classifications:

European Sites are considered highly sensitive

Note: Appendix 5 WES maps different land area boundaries to LCAs.

Source:

Laois County Development Plan 2021-2027

Vol.1, Ch.11 Biodiversity and Natural Heritage, p.277

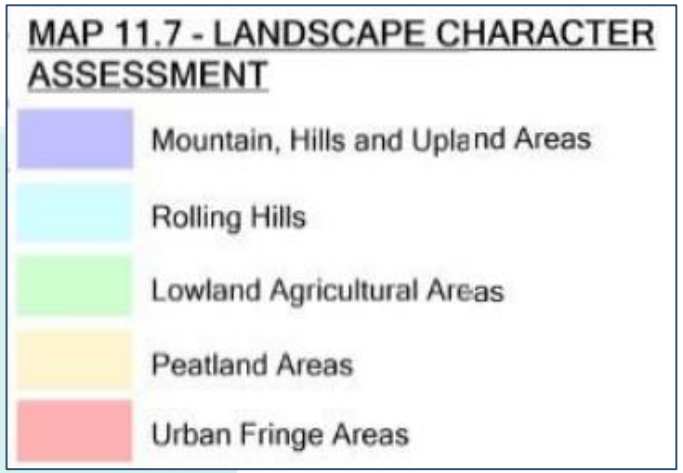


Table 11.6: Landscape Sensitivity

Sensitivity	Landscape Character Area and Special Features	Description
Low Sensitivity	Lowland Agricultural Areas, Urban Fringes	Areas with the capacity to generally accommodate a wide range of uses without significant adverse effects on the appearance or character of the area
Medium Sensitivity	Rolling Hills and Hills and Upland Areas	Areas with the capacity to accommodate a range of uses without significant adverse effects on the appearance or character of the landscape having regards to localised sensitivity factors
High Sensitivity	Peatlands, River Corridors and Lakes, Mountain Areas, European Sites	Areas with reduced capacity to accommodate uses without significant adverse effects on the appearance or character of the landscapehaving regard to prevalent sensitivity factors or special sensitivity factors

Co. Longford

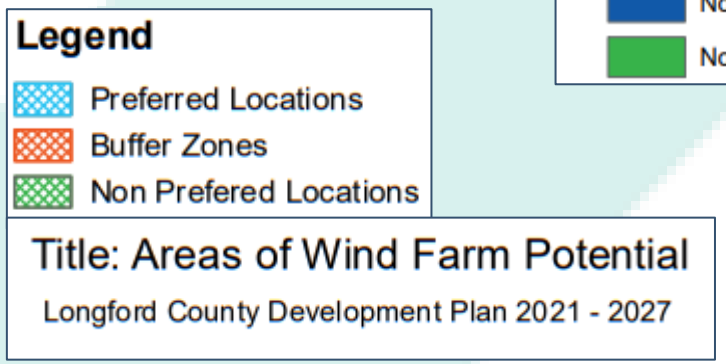
- LCA Framework: **7 LCTs**
- CDP Sensitivity based on: **7 LCTs**
- Rating Name: **'Landscape Sensitivity'**
- Specific Landscape Sensitivity for Wind: **(none)**

Sensitivity Rating as per CDP	'Low'	'Low to Medium'	'Medium'	'Medium to High'
No. of LCAs	2	2	1	2
Total Area	311.8 km^2	293.5 km^2	120.4 km^2	364.4 km^2
Percent of Co. Area	28.6 %	26.9 %	11.1 %	33.4 %

Other Sensitivity Classifications:

None.

Note: CDP maps 'Areas of Wind Farm Potential' that do not align with LCT boundaries.



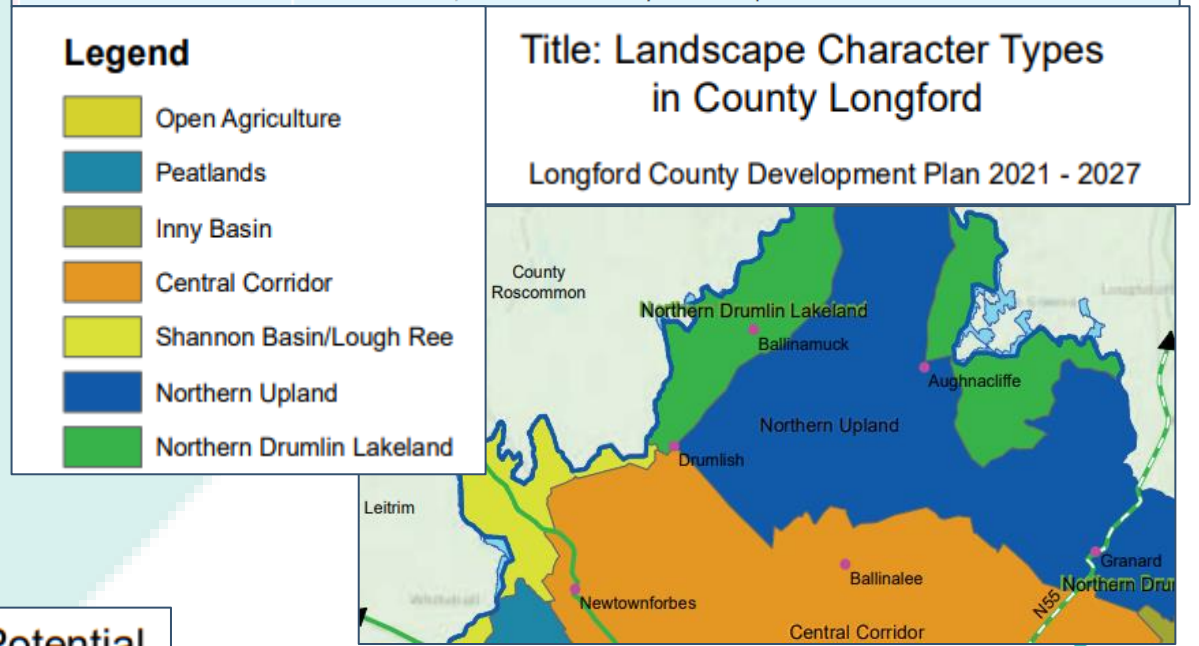
Source:

Longford County Development Plan 2021-2027

LCDP 2021-27 – Vol.1, Ch.14 Landscape Character, Section 14.5, p.385

Table 14.1: *County Longford's Landscape Character Type and Sensitivity*

Landscape Character Type	Landscape Sensitivity
Unit 1 – Northern Drumlin Lakeland	Sensitivity of much of this landscape can be classified as LOW to MEDIUM with some HIGH sensitivity in the vicinity of the lakes and designated scenic routes
Unit 2 – Northern Upland	Sensitivity of much of this landscape can be classified as MEDIUM to HIGH
Unit 3 – Shannon Basin/Lough Ree	Sensitivity of the landscapes in this unit range from MEDIUM - along the south-eastern border of the unit- to HIGH sensitivity- along the shores of the lake, islands, the riverbanks, and in the vicinity of the Aquifer.



Co. Louth

- LCA Framework: **9 LCAs**
- CDP Sensitivity based on: **9 LCAs**
- Rating Name: **'Importance'**
- Specific Landscape Sensitivity for Wind: **(none)**

Sensitivity Rating as per CDP	'Local'	'Regional'	'National'	'International'
No. of LCAs	4	3	1	1
Total Area	813.2 km²	332.9 km²	83.6 km²	169.3 km²
Percent of Co. Area	58.1 %	23.8 %	6 %	12.1 %

Other Sensitivity Classifications:

Tentative World Heritage Sites: Monasterboice, Battle of the Boyne Battlefield Site

Borders with UNESCO World Heritage Site Brú na Bóinne in Co. Meath

Areas of Outstanding Natural Beauty

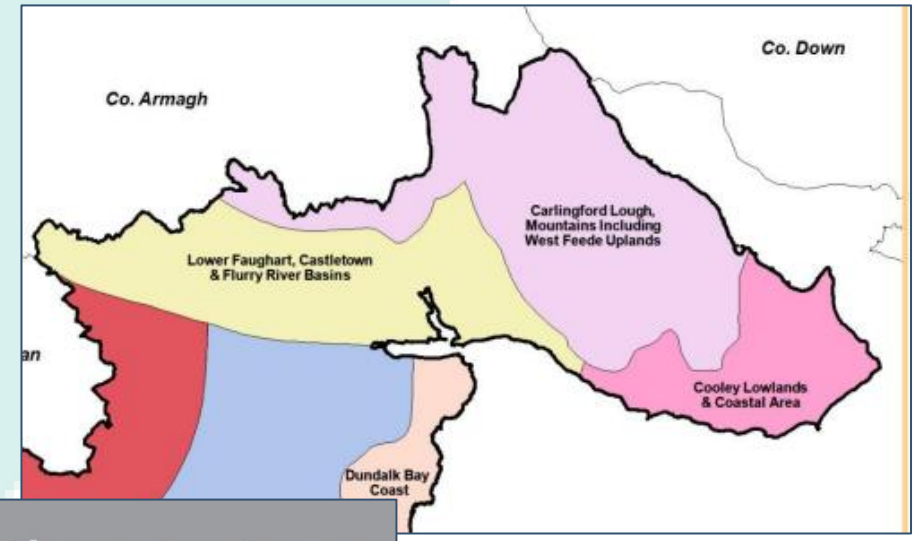
Areas of High Scenic Quality

Source:

Louth County Development Plan 2021-2027

Vol.1 Ch.8 Natural Heritage, Green Infrastructure and Biodiversity, pp.8-18 and 8-19

Landscape Character Areas	Importance
• Carlingford Lough and Mountains incl. West Feede Uplands	International
• Boyne & Mattock Valley	National
• Dundalk Bay Coast • Dunany to Boyne Estuary Coast • Uplands of Collon and Monasterboice	Regional
• Cooley Lowlands and Coastal Area • Lower Faughart, Castletown and Flurry River basin • Louth Drumlin and Lake Areas • Muirhevna Plain	Local



Landscape Character Areas

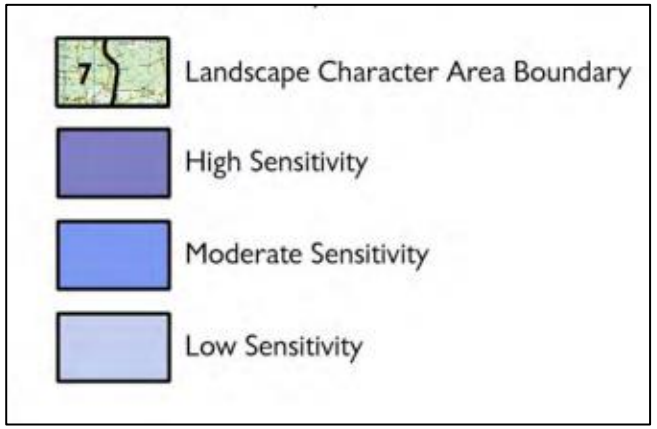
Co. Meath

Source:

[Meath County Development Plan 2021-2017](#)

Appendix A.05, Ch.9, p.91

- LCA Framework: **4 LCTs divided into 20 LCAs**
- CDP Sensitivity based on: **20 LCAs**
- Rating Name: **'Landscape Sensitivity'**
- Specific Landscape Sensitivity for Wind: **'Landscape Capacity for Wind Turbines'** does not indicate specific sensitivity – Appendix A.05, Map 4, p.92, 'Summary of Landscape Capacity'



Sensitivity Rating as per CDP	'Low'	'Medium' 'Moderate'	'High'
No. of LCAs	1	9	10
Total Area	108.5 km^2	1442.6 km^2	890.9 km^2
Percent of Co. Area	4.4 %	59.1 %	36.5 %

Box 4

Criteria for Defining Sensitivity

High Sensitivity: A vulnerable landscape likely to be fragile and susceptible to change. Frequency and sensitivity of users is likely to be high. The introduction of a change is likely to significantly alter the character to the extent that it would be difficult or impossible to restore.

Medium Sensitivity: A landscape that can accommodate a certain amount of change without affecting the overall character. There are unlikely to be large numbers of people using or viewing this landscape.

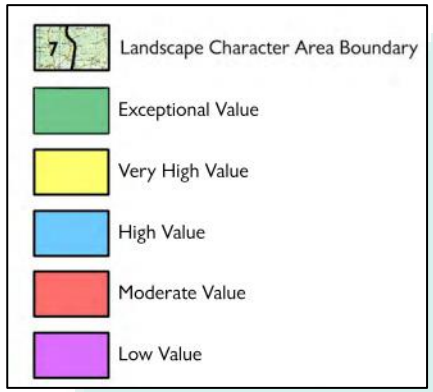
Low Sensitivity: A resilient landscape that is robust and/ or tolerant of change. It is likely to be easily restored and the frequency and sensitivity of users is likely to be low.

Other Sensitivity Classifications:

UNESCO World Heritage Site of Brú na Bóinne

Landscape Value

Landscape Importance

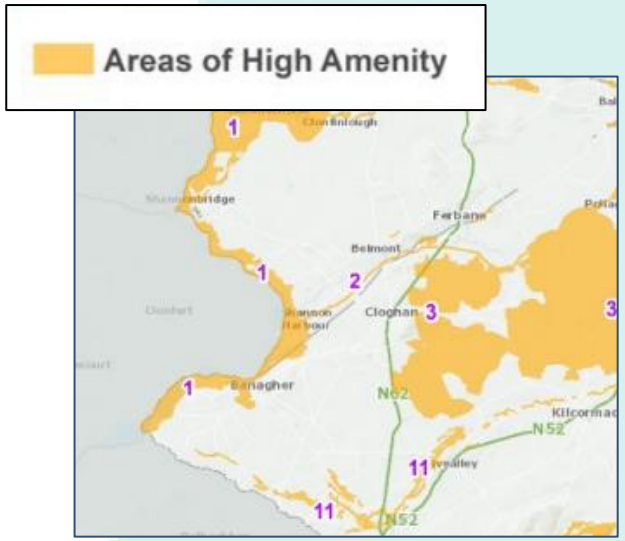


Landscape Character Area	Importance: International National Regional Local
5. Boyne Valley	International
8. Nanny Valley	Regional
14. Royal Canal	Regional
20. Blackwater Valley	Regional
3. North Navan Lowlands	Regional
6. Central Lowlands	Regional
10. The Ward Lowlands	Regional
11. South East Lowlands	Regional
13. Rathmoylon Lowlands	National
15. South West Lowlands	Regional
16. West Navan Lowlands	Local
17. South West Kells Lowlands	Local

Co. Offaly

- LCA Framework: **(none)**
- CDP Sensitivity based on: **'Landscape Sensitivity Areas'** as mapped in CDP and WES
- Rating Name: '**Landscape Classification**'
- Specific Landscape Sensitivity for Wind: **None –** WES maps separate 'Potential Wind Areas'

Sensitivity Rating as per CDP	(n/a)
No. of LCAs	---
Total Area	n/a
Percent of Co. Area	n/a



Other Sensitivity Classifications:

Areas of High Amenity

The River Shannon and Callows

The Grand Canal Corridor

Wetlands, Peatlands

Croghan Hill and its Environs

Raised and Blanket Bogland Areas

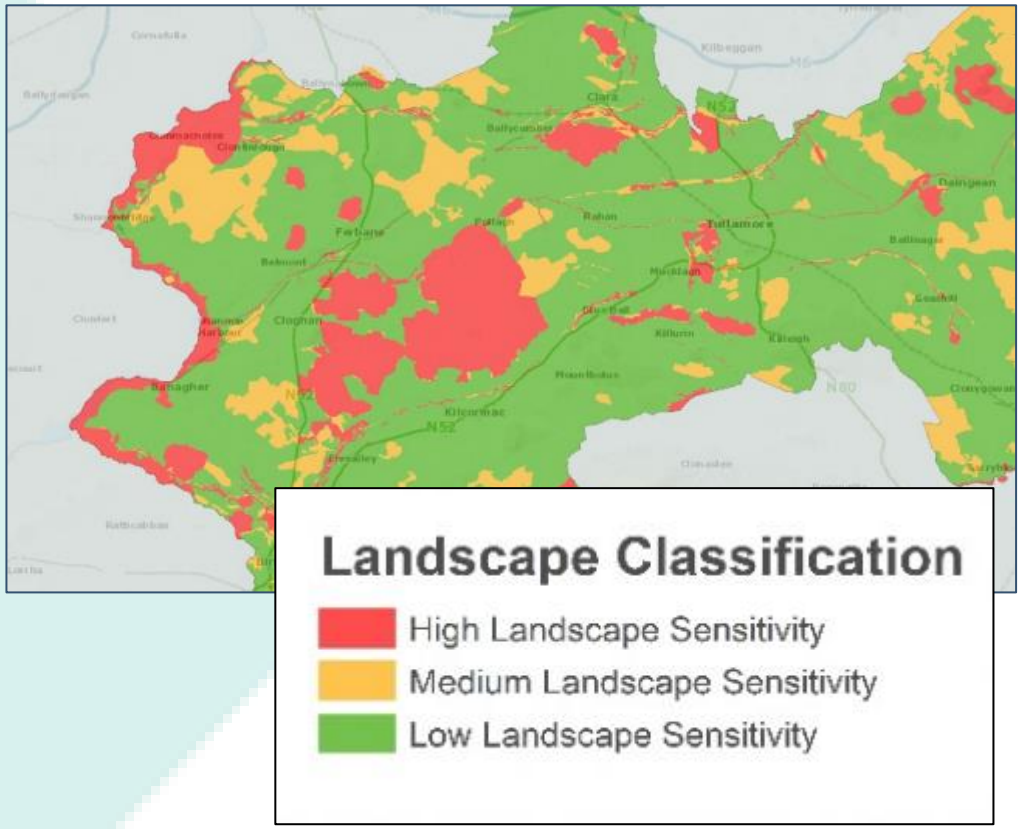
The Esker Landscape

Archaeological and Historical Landscapes

Source:

[Offaly County Development Plan 2021-2017](#)

Vol.1, Ch.4 Biodiversity and Landscape and WES



Map No. 7: Potential Wind Energy Areas (12)

Co. Westmeath

- LCA Framework: **11 LCAs**
- CDP Sensitivity based on: **No landscape sensitivity designations**
- Rating Name: **(n/a)**
- Specific Landscape Sensitivity for Wind: **(none) – however , 'Wind Capacity' is indicated.**

Sensitivity Rating as per CDP	(n/a)
No. of LCAs	---
Total Area	n/a
Percent of Co. Area	n/a

Other Sensitivity Classifications:

The UNESCO tentative List – Hill of Uisneac

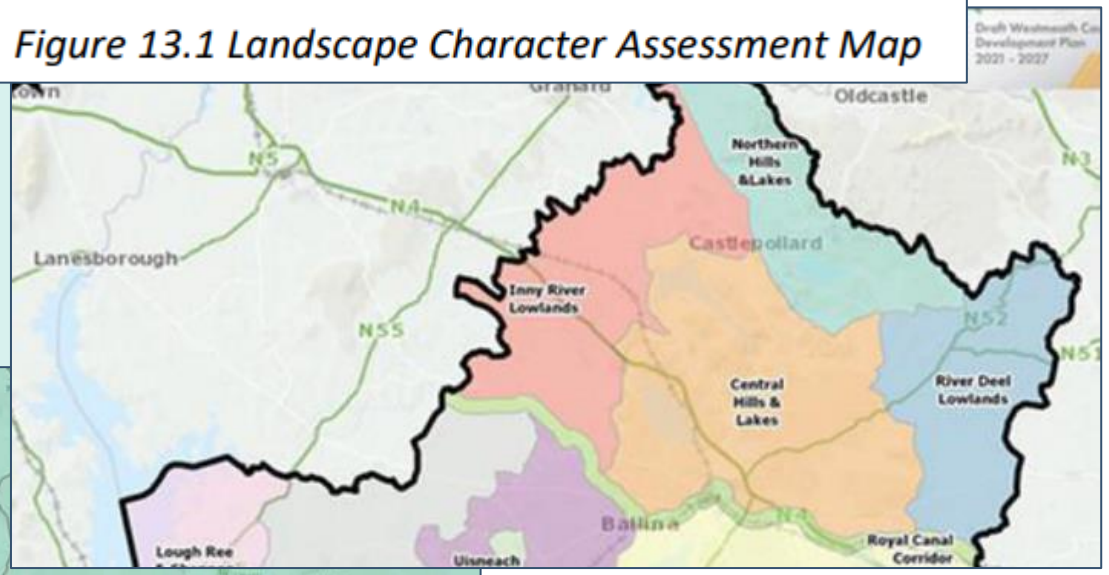
Lake Amenities and High Amenity Areas – Highly Sensitive

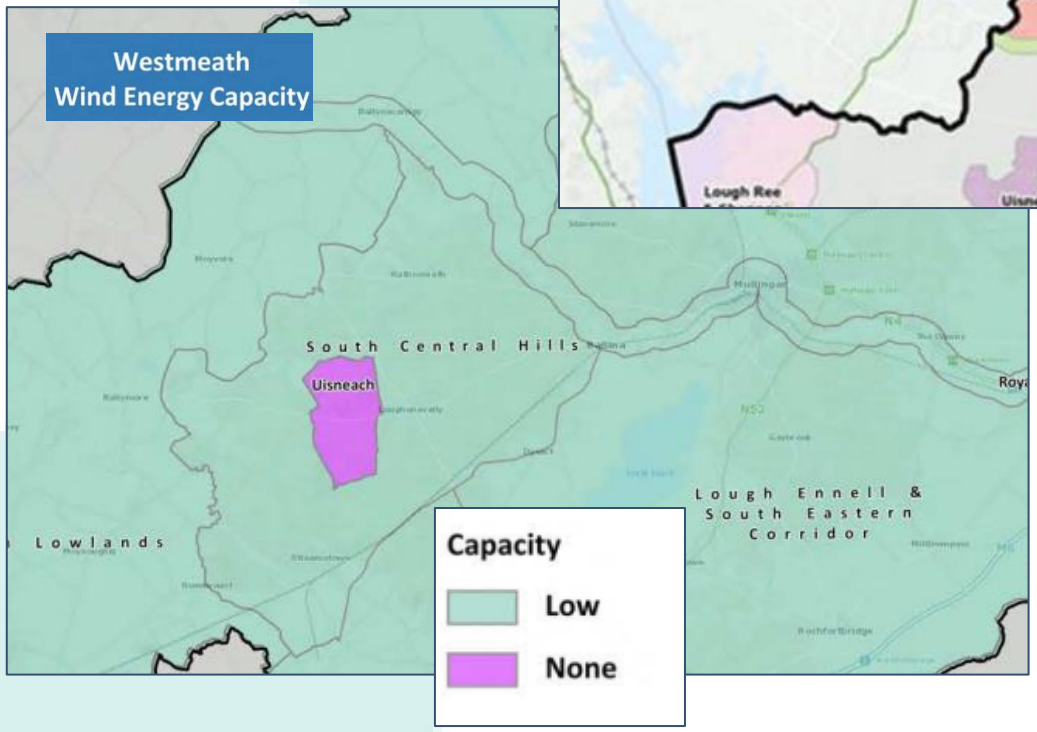
Source:

[Westmeath County Development Plan 2021-2027]

Vol.1, Ch.13 Landscape and Lake Amenities

Figure 13.1 Landscape Character Assessment Map





***Note** - **'Wind Capacity'** – Designates all of Westmeath as low capacity to wind with no capacity at the Hill of Uisneac.

Source – Vol.2, Book of Maps, Map 69, p.71

Co. Wicklow

- LCA Framework: **6 Landscape Categories divided into 15 LCAs**
- CDP Sensitivity based on: **Landscape Categorisation** (from 2010)
- Rating Name: Combines **Landscape Sensitivity/Vulnerability**
- Specific Landscape Sensitivity for Wind: **None,** but WES is influenced by Landscape Categories

Source:

[Wicklow County Development Plan 2016-2022]

Vol.3, Appendix 5 Landscape Assessment, p.28, Table 4.7

Note: CDP is out of date.

Sensitivity Rating as per CDP	1 Very High Vulnerability (highest sens.)	2 Very High Vulnerability (second highest sens.)	3 High Vulnerability	4 Medium Vulnerability (third lowest sens.)	5 Medium Vulnerability (second lowest sens.)	6 (Low)
No. of LCAs	4	2	5	2	1	1
Total Area	1241.1 km^2	92.4 km^2	984.9 km^2	314.5 km^2	548.5 km^2	127.7 km^2
Percent of Co. Area	37.5 %	2.7 %	29.8 %	9.5%	16.6%	3.9%

Table 17.1 Wicklow Landscape categories

HIERARCHY	1	2	3	4	5	6
LANDSCAPE CATEGORY	Mountain and Lakeshore AONB	Coastal Areas AONB	Areas of High Amenity	Corridor Area	Lowlands	Urban Area
LANDSCAPE AREA	The Mountain Uplands The Blessington Lakes Area The Bray Mountains Group The North Eastern Valley / Glencree	Northern Coastal Area Southern Coastal Area	North East Mountain Lowlands South East Mountain Lowlands Southern Hills Baltinglass Hills Transitional Lands	N11 Corridor N81 corridor	Rolling Lowland Areas 1-6	All towns ranging from Levels 1-6 of the Wicklow Settlement Hierarchy

1. Mountain and Lakeshore Areas of Outstanding Natural Beauty (ML-AONB)	
Vulnerability:	Very high
2. Coastal Areas of Outstanding Natural Beauty (C - AONB)	
Vulnerability:	Very high
3. Areas of Special Amenity (ASA)	
Vulnerability:	High
4. Access Corridor Area (ACA)	
Vulnerability:	Medium
5. Rural Area (RA)	
Vulnerability:	Medium
6. Urban Areas (UA)	
Vulnerability:	Low

Table 1.5 – Wicklow's Landscape Categories 2010-2016 County Development Plan

Other Sensitivity Classifications:

None.

Source – WCDP 2016-22 – Vol.3, Appendix 5, p.5, Table 1.5

APPENDIX 3

EASTERN AND MIDLANDS REGIONAL ASSEMBLY AREA – COUNTY LANDSCAPE POLICY ANALYSIS

Appendix 3: Southern Region

County Councils included:

1. Co. Carlow
2. Co. Clare
3. Co. Cork
4. Co. Kerry
5. Co. Kilkenny
6. Co. Limerick
7. Co. Tipperary
8. Co. Waterford
9. Co. Wexford

***Note** – Urban area councils are not included.

	SENSITIVITY				
	1 Least	2 Decreasing	3 Moderate	4 Increasing	5 Most
Built up areas					
Farmed Lowland				*	
Broad River Valley					
Farmed Ridges					
Narrow River Valley					
Rolling Rough Grazing					
Uplands					

CARLOW COUNTY COUNCIL

Waterford City & County Development Plan 2022 - 2028
Landscape & Seascape Character Assessment
Legend:
- Most Sensitive
- High Sensitive
- Low Sensitive
- Least Sensitive
- WCCC Boundary

Comhairle Cathrach & Contae Phort Láirge Waterford City & County Council

CORK COUNTY DEVELOPMENT PLAN 2022

	Landscape Character Type	Landscape Value	Landscape Sensitivity	Landscape Importance
1	City Harbour and Estuary	Very High	Very High	National
2	Broad Bay Coast	Very High	Very High	County
3	Indented Estuarine Coast	Very High	Very High	National
4	Rugged Ridge Peninsulas	Very High	Very High	National
5	Fertile Plain with Moorland Ridge*	Very High	Very High	County
6a	Broad Fertile Lowland Valleys	High	High	County
6b	Broad Fertile Lowland Valleys	Medium	Medium	Local

Landscape Types Sensitivity
- Low Value
- Medium Value
- High Value
- Very High Value

Tipperary County Development Plan 2022 – 2028

Table 5.2 Sensitivity Rating of Landscape Character Areas

Range of sensitivity with a dark outline for the dominant sensitivity

		Robust	Normal	Transitional Sensitivity	Sensitive	Transitional Vulnerability	Vulnerable
A.The Plains							
Lowland Pasture & Arable	Urban and Fringe Areas [1]	Class 0					
	Thurles Hinterland [2]		Class 1				
	River Suir Central Plain / Nenagh Corridor [3,4]		Class 1				
	Templemore Plains [5]		Class 1				
	West Tipperary Farmland mosaic [6]		Class 1				
	Glen of Aherlow Farmland [20]			Class 2			
Peatlands & Wet Mixed Farmland	Borrisokane Lowlands [7]			Class 2			
	Littleton Raised Bog [8]				Class 3		
	Littleton Farmland Mosaic and Marginal Peatland [9]		Class 1				
B. The Lakelands							
Waterside	Upper Lough Derg				Class 3		
	The Shannon Callows				Class 3		
Lakeland Enclosure	River Shannon – Newport					Class 4	
	Arra Mountains – Lower Lough Derg					Class 4	
C. The Foothills							
Farmed	Slievardagh Hills Farmland mosaic			Class 2			
	Linguan Valley Marginal and Farmland Mosaic			Class 2			
Forested	Slievenamuck Marginal Mosaic				Class 3		
	Upperchurch – Kilcommomoy/ Hollyford Hills Mountain Mosaic				Class 3		
D. The Uplands							
	Silvermines – Rearcross				Class 3		
	Slievenamon Mountain Mosaic						Class 5
	Glen of Aherlow Uplands [20(B)]						Class 5
	Galtee Mountain Mosaic						Class 5
	Devilsbit Uplands						Class 5
	Knockmealdown Mountain Mosaic						Class 5

KERRY COUNTY DEVELOPMENT PLAN 2022 - 2028

Visual Sensitivity
- High
- Medium / High
- Medium
- Low / Medium
- Low

Kilkenny City and County Development Plan

Category

	Name	Sensitive	Sensitive-Normal	Normal	Robust-Normal	Robust
1	Extesive Lowlands					
2	Steep Transition Slopes					
3	Upland Ridges/Peaks					
4	Upland Enclosures					
5	Upland Plateaux					
6	Foothills/Midslopes					
7	Lowland Transitions					
8	Agricultural Lowlands					
9	River Corridors					
9a	Floodplain Slopes					
9b	Floodplains					
9c	Riverbank					

Most ← Landscape Sensitivity → Least

Uplands
Lowlands

Clare County Development Plan 2023–2029

LCA's within areas designated as Strategic Areas

LCA	Overall Sensitivity to Wind Farm Developments	Appropriate size of wind farms (turbine numbers)	Capacity	LCTs in Co. Clare. LCA and Corresponding LCTs in 2006 Planning Guidelines	Cumulative Advice from 2006 Planning Guidelines
Sliabh Callan This LCA encompasses upland hills and slopes of Sliabh	Medium to Low	Large	The rolling hills, low settlement, extensive plantations reduce the overall sensitivity of this LCA to wind farm development. The area could accommodate a number of large or medium wind farms subject to careful siting to avoid significant impacts on skylines.	Upland Hills Moorland Hills Planning Guidelines:	Acceptable, depending on topography as well as siting and design of wind energy developments involved.

Wexford County Development Plan 2022 - 2028

	Landscape Sensitivity Rating		
	Low	Moderate	High
Uplands			
Lowlands			
River Valleys			
Coastal			
Distinctive Landscapes			

Results of CDP Review for Existing Landscape Designations

County	LCA Framework	CDP Sensitivity	Specific Sensitivity to Wind	Sensitivity Tier-category used in CDP/WES	Landscape Area Designation used for this Exercise	Notes/Issues	Other CDP Landscape Designations
Carlow	4 LCAs divided into 7 LCTs.	Landscape Sensitivity of LCTs.	Capacity of LCAs to accommodate Wind Farming in WES, but no specific sensitivity.	5-tier in CDP: (Sensitivity) Least Decreasing Moderate Increasing Most	LCA boundaries with no assigned sensitivity.	LCT boundaries with sensitivity designations were less suitable to this exercise as the LCA boundaries are clearly assigned suitability to wind.	None.
Clare	26 LCTs divided into 21 LCAs.	No general sensitivity.	LCAs only: Overall Sensitivity to Wind Farm Developments.	4-tier in WES: (Sensitivity) Medium to Low Medium Medium to High High	LCA boundaries with sensitivity to wind, from WES.	LCT boundaries not suitable for this exercise as the LCAs are clearly assigned sensitivity to wind.	Working, Settled and Heritage Landscapes, Seascape Character Areas.
Cork	16 LCTs divided into 76 LCAs.	Landscape Sensitivity.	None. WES maps 'Important Landscape' areas as constraints, but these do not align with LCTs/LCAs and do not have specific sensitivity.	5-tier in CDP: (Sensitivity) Low Medium to Low Medium High Very High	LCT boundaries with general sensitivity.	LCAs not suitable for this exercise as the CDP focuses only on LCTs with clearly assigned sensitivity.	High Value Landscapes, Landscape Value, Landscape Importance.

(table continued)

Results of CDP Review for Existing Landscape Designations

County	LCA Framework	CDP Sensitivity	Specific Sensitivity to Wind	Sensitivity Tier-category used in CDP/WES	Landscape Area Designation used for this Exercise	Notes/Issues	Other CDP Landscape Designations
Kerry	40 LCAs.	Visual Sensitivity.	None.	5-tier in CDP: (Visual Sensitivity) Low Low/Medium Medium Medium/High High	LCA boundaries with visual sensitivity.	No issues.	None.
Kilkenny	4 LCTs divided into 8 Principal LCAs sub-divided into14 specifically named LCAs.	Landscape Sensitivity.	None. WES maps 'Wind Strategy Areas', but no specific sensitivity.	5-tier in CDP: (Sensitivity) Robust Robust/Normal Normal Normal/Sensitive Sensitive	Specifically named LCA boundaries – which the CDP further subdivides to include 'Transition' areas, with general sensitivity.	Exact LCA boundaries are unclear as the CDP uses 4 LCTs, 8 LCAs and 14 sub-LCAs, but only lists 12 LCAs in the sensitivity ratings table. Meanwhile, county SHP files indicate 10 LCAs sub-divided into 24 land areas, which is not consistent with CDP frameworks.	Highly Scenic Areas, Greater Sensitivity Landscapes, Areas of High Amenity.

(table continued)

Results of CDP Review for Existing Landscape Designations

County	LCA Framework	CDP Sensitivity	Specific Sensitivity to Wind	Sensitivity Tier-category used in CDP/WES	Landscape Area Designation used for this Exercise	Notes/Issues	Other CDP Landscape Designations
Limerick	10 LCAs plus urban areas.	None.	None.	None.	LCA boundaries with no assigned sensitivity.	No issues. LCAs are described in CDP with reference to the design of Wind Farm Development.	Special Control Areas.
Tipperary **(continues on next page)**	4 generalised LCAs divided into 7 LCTs sub-divided into 23 LCAs.	Sensitivity Rating of sub-divided LCAs.	Sub-divided LCA Compatibility with Windfarm. Landscape Sensitivity Factor Compatibility with Windfarm.	6-tier in CDP (General Sensitivity): Class 0 Robust Class 1 Normal Class 2 Transitional Sens. Class 3 Sensitive Class 4 Transitional Vuln. Class 5 Vulnerable **(this column continues on next page)**	Sub-divided 23 LCA boundaries with 6-tier general sensitivity.	Generalised LCAs and LCTs not suitable for this exercise as the CDP focuses only on the 23 sub-divided LCAs with clearly assigned sensitivity both with and without considering wind energy as a factor.	Primary & Secondary Amenity Areas.

(table continued)

Results of CDP Review for Existing Landscape Designations

County	LCA Framework	CDP Sensitivity	Specific Sensitivity to Wind	Sensitivity Tier-category used in CDP/WES	Landscape Area Designation used for this Exercise	Notes/Issues	Other CDP Landscape Designations
Tipperary (cont.)				5-tier in CDP (LCA Compatibility to Wind): Least Low Medium High Most 6-tier in CDP (Sensitivity Factor Compatibility to Wind): 0 – Unlikely to be compatible, 1 – Compatible only in exceptional circumstances, 2 – Compatible only in certain circumstances, 3 – Likely to be compatible if sited and deigned with great care, 4 – Likely to be compatible with reasonable care, 5 – Likely to be very compatible in most circumstances.			

(table continued)

Results of CDP Review for Existing Landscape Designations

County	LCA Framework	CDP Sensitivity	Specific Sensitivity to Wind	Sensitivity Tier-category used in CDP/WES	Landscape Area Designation used for this Exercise	Notes/Issues	Other CDP Landscape Designations
Waterford	7 LCTs divided into 29 LCUs.	Landscape Sensitivity of LCTs.	None. WES mapping uses different land area boundaries, but no specific sensitivity.	4-tier in CDP: (Sensitivity) Least Low High Most	LCT boundaries, which are subdivided by place names, with general sensitivity.	No issues.	None.
Wexford	4 general LCUs plus 1 Distinctive Landscapes LCU, divided into 41 LCAs by name.	Landscape Sensitivity of LCUs.	None. WES maps Landscape Capacity for Wind Energy Developments in LCAs, but no specific sensitivity to wind.	3-tier in CDP: (Sensitivity) Low to Moderate Moderate to High High	LCA boundaries assigned with LCU sensitivity ratings.	WES Capacity descriptions do not contain ratings of any kind, only general descriptions of LCA capacity to wind. LCAs are named using broad LCU names and specific Distinctive Landscape feature names. CDP focusses on LCU categories to assign sensitivity ratings.	Distinctive Landscapes are features of high sensitivity within the 4 broad LCU areas, considered as one collective LCU, making 5 LCUs total. Distinctive Landscapes are further sub-divided into: Hills, Waterbodies, Coastal Promontories, Peninsulas, Kettle & Kame, Sloblands and Islands.

(table end)

Co. Carlow

- LCA Framework: **4 LCAs divided into 7 LCTs**
- CDP Sensitivity based on: **7 LCTs**
- Rating Name: **' Landscape Sensitivity'**
- Specific Landscape Sensitivity for Wind: **Capacity of 4 LCAs to accommodate Wind Farming but no specific sensitivity:** CCDP Appendix VI RES, Section 6.1.5.1 Landscape and Visual Capacity, Table 6-3 on p.39.

Sensitivity Rating as per CDP	Least	Decreasing	Moderate	Increasing	Most
No. of LCTs	1	1 LCT is divided across these categories		2 LCTs + 1 portion of another LCT	3
Total Area	9.0 km^2	Unable to calculate	Unable to calculate	Unable to calculate	358.0 km^2
Percent of Co. Area	0.9 %	Unable to calculate	Unable to calculate	Unable to calculate	36.3 %

Other Sensitivity Classifications:

No other designations.

Note: Unable to calculate three Sensitivity categories because one of the LCT types 'Farmed Lowland' is divided between these three categories without specification of land area in each category.

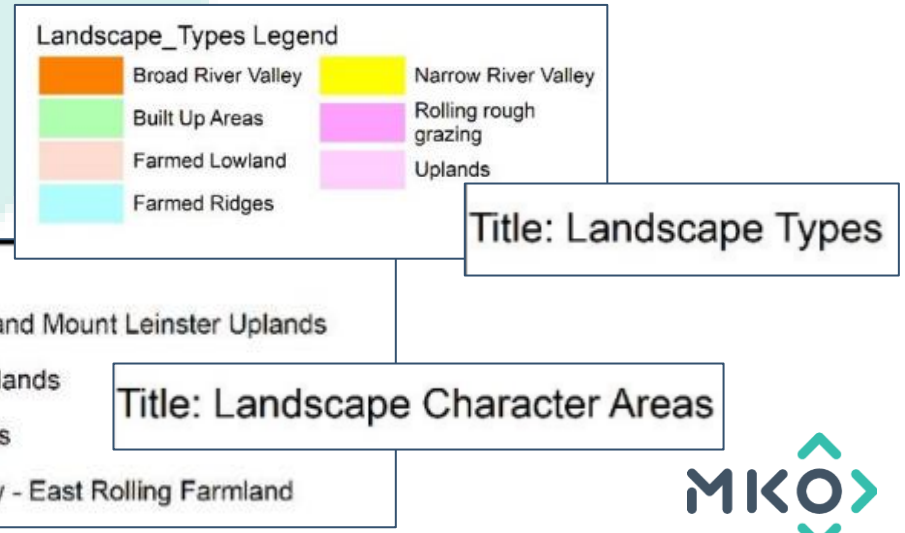
Source:

[Carlow County Development Plan 2022-2028]

Vol.1 Ch.9 Landscape and Green Infrastructure, Table 9.1

Land Use type	Mount Leinster - Blackstairs	Central lowlands	River Slaney - East Rolling Farmland	Killeshin Hills
Wind farming	Low	Moderate	Moderate	Moderate

	SENSITIVITY				
	1 Least	2 Decreasing	3 Moderate	4 Increasing	5 Most
Built up areas					
Farmed Lowland					
Broad River Valley					
Farmed Ridges					
Narrow River Valley					
Rolling Rough Grazing					
Uplands					



Co. Clare

- LCA Framework: **26 LCTs divided into 21 LCAs**
- CDP Sensitivity based on: **None – no general sensitivity**
- Rating Name: **(n/a)**
- Specific Landscape Sensitivity for Wind: **Yes** – CWES Table 4a, 'Overall Sensitivity to Wind Farm Developments'

Sensitivity Rating as per CWES	'Medium to Low'	'Medium'	'Medium to High'	'High'
No. of LCAs	4	6	1	10
Total Area	733.5 km^2	827.5 km^2	177.0 km^2	1519.1 km^2
Percent of Co. Area	21.5 %	25.4 %	5.4 %	46.6 %

LCA's within areas designated as Strategic Areas

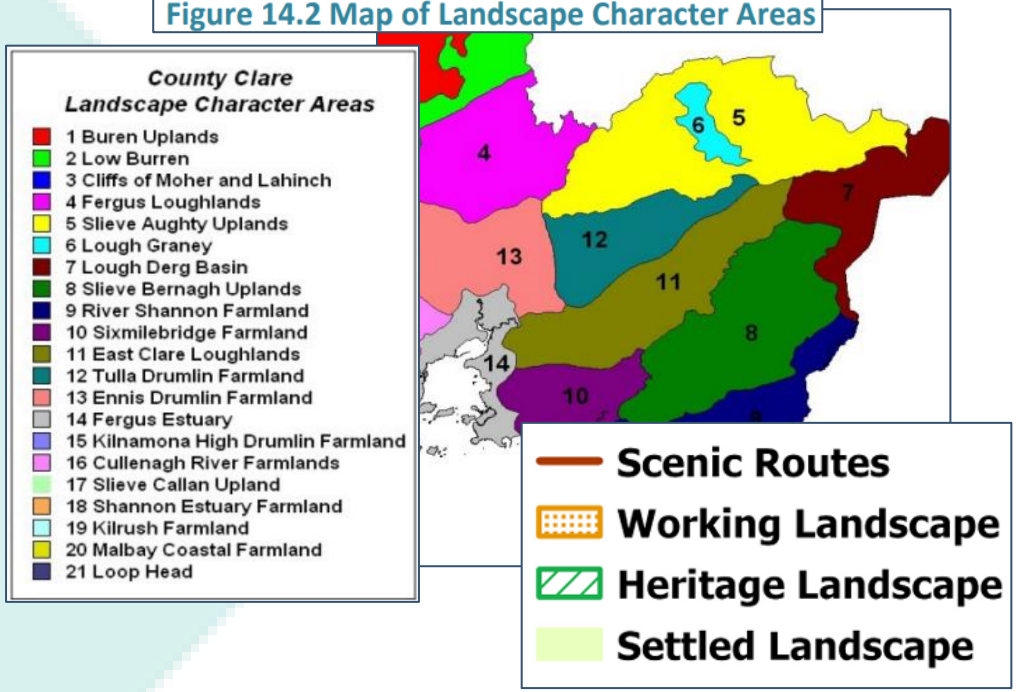
LCA	Overall Sensitivity to Wind Farm Developments	Appropriate size of wind farms (turbine numbers)	Capacity	LCTs in Co. Clare. LCA and Corresponding LCTs in 2006 Planning Guidelines	Cumulative Advice from 2006 Planning Guidelines
Sliabh Callan This LCA encompasses upland hills and slopes of Sliabh	Medium to Low	Large	The rolling hills, low settlement, extensive plantations reduce the overall sensitivity of this LCA to wind farm development. The area could accommodate a number of large or medium wind farms subject to careful siting to avoid significant impacts on skylines.	Upland Hills Moorland Hills Planning Guidelines:	Acceptable, depending on topography as well as siting and design of wind energy developments involved.

Source:

Clare County Development Plan 2023-2029

Vol.1, Ch.14 Landscape, p.342 and Vol.6 Clare Wind Energy Strategy (CWES), Table 4a, p.36

Figure 14.2 Map of Landscape Character Areas



Other Sensitivity Classifications:

Living Landscapes: Settled, Working, Heritage

'Heritage Landscapes' = highly sensitive

Seascape Character Areas = highly sensitive

Co. Cork

- LCA Framework: **16 LCTs divided into 76 LCAs**
- CDP Sensitivity based on: **16 LCTs**
- Rating Name: **'Landscape Sensitivity'**
- Specific Landscape Sensitivity for Wind: **(none)**

Sensitivity Rating as per CDP	'Low'	'Medium to Low'	'Medium'	'High'	'Very High'
No. of LCTs	Unable to count	1	Unable to count no. of LCTs in these categories		3
Total Area	125.9 km^2	143.7 km^2	2115.2 km^2	3555.8 km^2	1345.4 km^2
Percent of Co. Area	1.7 %	2.0 %	29.0 %	48.8 %	18.5 %

Other Sensitivity Classifications:

High Value Landscapes

Landscape Value

Landscape Importance

Note: Unable to calculate number of LCTs in certain categories because the CDP splits Landscape Sensitivity ratings across LCTs. However, land areas are provided.

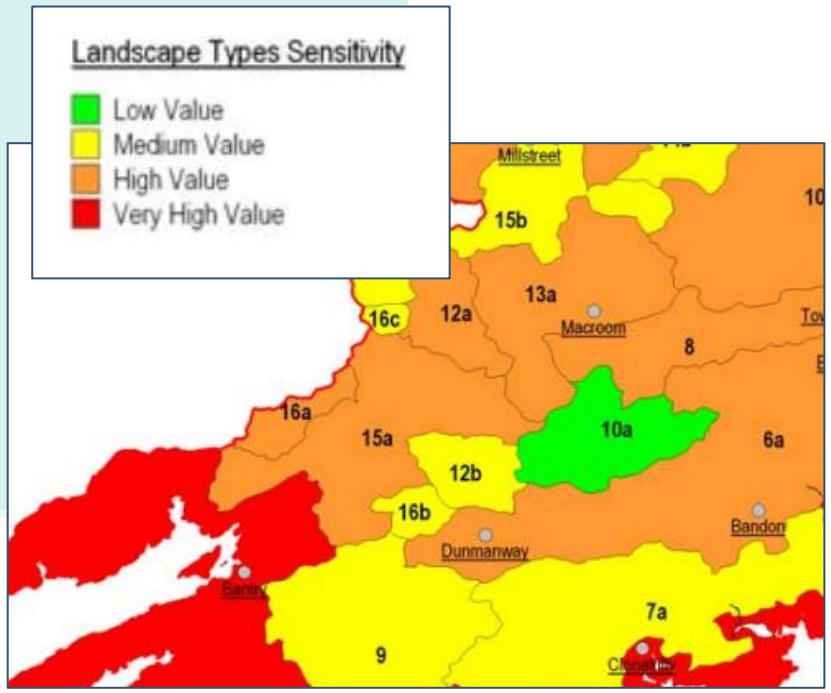
Note : LCTs only described in the 2007 Draft Landscape Strategy.

Source:

Cork County Development Plan 2022-2028

Vol.1, Appendix F Landscape Character Assessment, p.513

	Landscape Character Type	Landscape Value	Landscape Sensitivity	Landscape Importance
1	City Harbour and Estuary	Very High	Very High	National
2	Broad Bay Coast	Very High	Very High	County
3	Indented Estuarine Coast	Very High	Very High	National
4	Rugged Ridge Peninsulas	Very High	Very High	National
5	Fertile Plain with Moorland Ridge*	Very High	Very High	County
6a	Broad Fertile Lowland Valleys	High	High	County
6b	Broad Fertile Lowland Valleys	Medium	Medium	Local



Note: WES in CDP p.297 Fig. 13.2 maps separate 'Important Landscape' areas that do not align with LCTs/LCAs or have specific sensitivity.

Co. Kerry

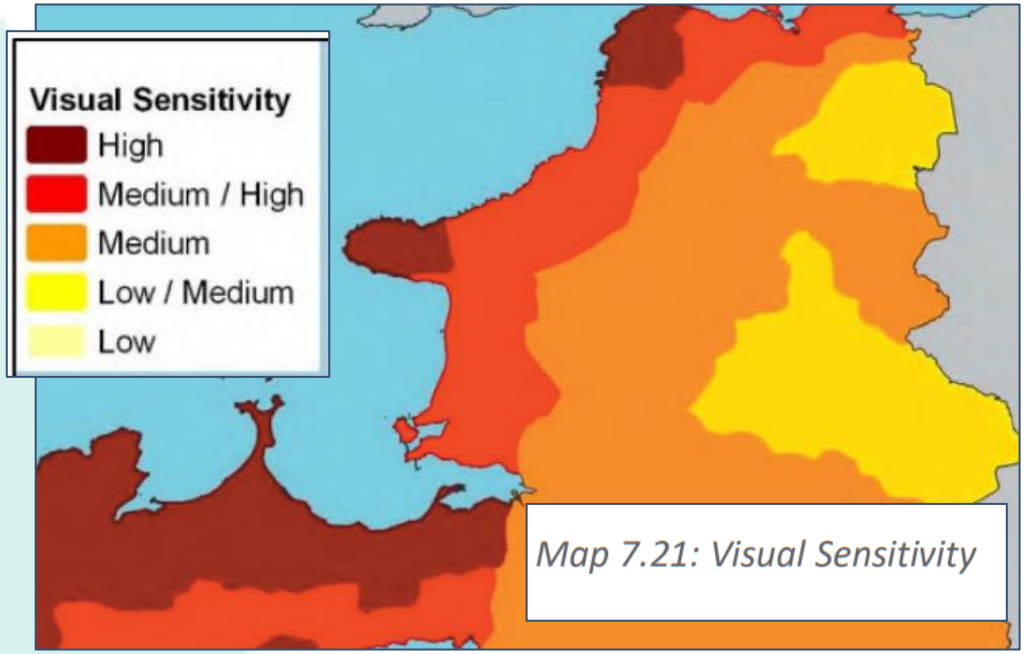
- LCA Framework: **40 LCAs**
- CDP Sensitivity based on: **LCAs**
- Rating Name: **'Visual Sensitivity'**
- Specific Landscape Sensitivity for Wind: **(none)**

Source:

Kerry County Development Plan 2022-2028

Vol.1, Ch.11 Environment, Section 11.6.2 Landscape Sensitivity, p.245 and Appendix 7 Landscape Review, p.183

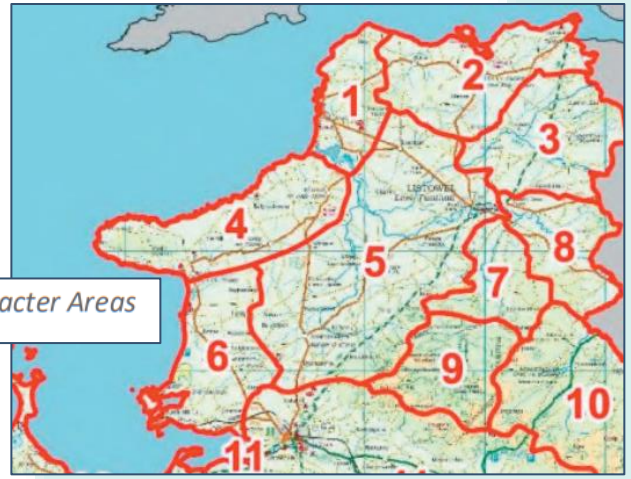
Sensitivity Rating as per CDP	'Low' (see note)	'Low/ Medium'	'Medium'	'Medium/ High'	'High'
No. of LCAs	0	4	10	16	12
Total Area	(n/a)	379.3 km^2	1417.3 km^2	1711.8 km^2	1247.9 km^2
Percent of Co. Area	(n/a)	8.0 %	29.8 %	36.0 %	26.2 %



Map 7.21: Visual Sensitivity

Other Sensitivity Classifications:

None.



Map 7.20: Landscape Character Areas

Note: Visual Sensitivity ratings include the category 'Low' but do not assign any LCAs to this rating.

No.	Assessment Area	Sensitivity
1	Beal Hill and Ballybunion	High*
2	The Shannon Estuary	Medium*/ High
3	Bunnaruddee Bog and Galey River	Low / Medium
4	Kerry Head and Ballyduff	Medium / High*
5	Listowel and The Cashen River	Medium

Co. Kilkenny

- LCA Framework: **4 LCTs divided into 8 Principal LCAs sub-divided into 14 specifically named LCAs, but only 12 LCAs are listed in the ratings table.**
- CDP Sensitivity based on: **Unclear – Ratings table LCAs v. county SHP file LCAs are not consistent.**
- Rating Name: **'Landscape Sensitivity'**
- Specific Landscape Sensitivity for Wind: **(none)** – CDP Appendix K WES maps 'Wind Strategy Areas' without specific sensitivity

Sensitivity Rating as per CDP	'Robust'	'Robust-Normal'	'Normal'	'Sensitive-Normal'	'Sensitive'
No. of LCAs	Unable to count no. of LCAs – division of LCAs within county SHP files indicates 10 LCA labels (A through J) sub-divided into 24 areas, which differs from the CDP framework.				
Total Area	99.7 km^2	788.0 km^2	150.8 km^2	88.5 km^2	349.4 km^2
Percent of Co. Area	4.8 %	38.1 %	7.3 %	4.3 %	16.9 %

Other Sensitivity Classifications:

Highly Scenic Areas

Greater Sensitivity Landscapes

Areas of High Amenity

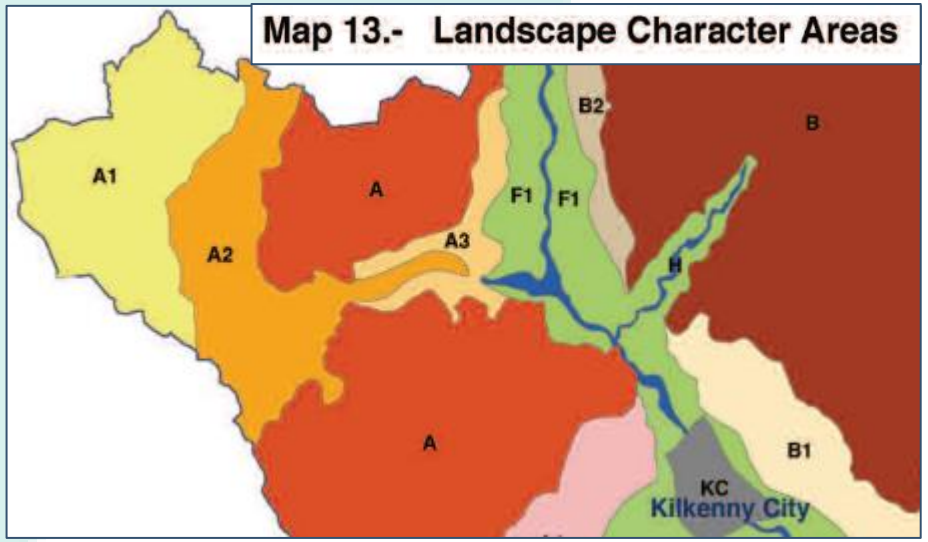
Source:

[Kilkenny City & County Development Plan 2021-2017]

Vol.1 Ch.9 Heritage, Culture and the Arts, Section 9.2.12 Landscape, p.136.

Category

	Name	Sensitive	Sensitive-Normal	Normal	Robust-Normal	Robust
1	Extesive Lowlands					
2	Steep Transition Slopes					
3	Upland Ridges/Peaks					
4	Upland Enclosures					
5	Upland Plateaux					
6	Foothills/Midslopes					
7	Lowland Transitions					
8	Agricultural Lowlands					
9	River Corridors					
9a	Floodplain Slopes					
9b	Floodplains					
9c	Riverbank					



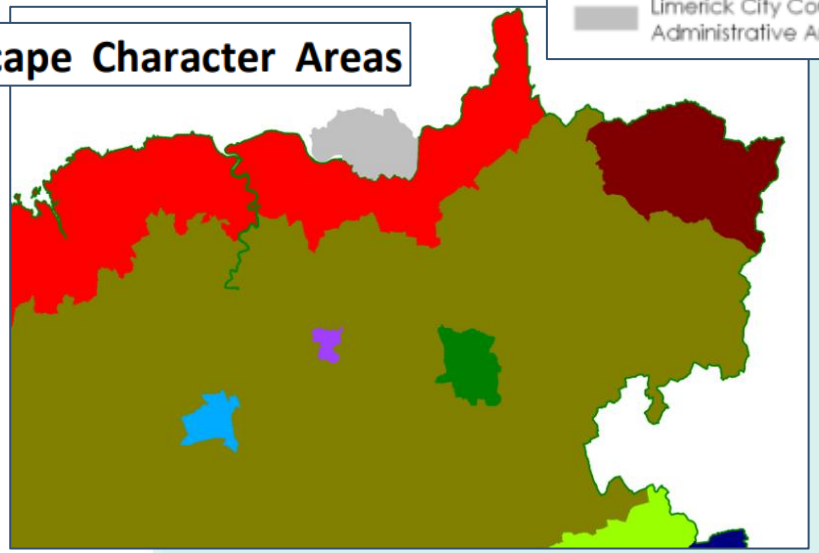
Note: CDP currently recognises LCAs of [Appendix C Landscape Character Assessment of the 2008 Development Plan]

Co. Limerick

- LCA Framework: **10 LCAs**
- CDP Sensitivity based on: **(none)**
- Rating Name: **(n/a)**
- Specific Landscape Sensitivity for Wind: **(none)**

Sensitivity Rating as per CDP	(n/a)
No. of LCAs	---
Total Area	(n/a)
Percent of Co. Area	(n/a)

Figure 6 – Landscape Character Areas



Note: LCAs mapped in the background paper follow old CDP 2010-2016.

Source:

[Limerick Development Plan 2022-2028]

Vol.1, Ch.6.4 Landscape and Visual Amenity, p.184 and [Background Paper Environment, Heritage, Landscape and Green Infrastructure], Fig.6, p.16

Table 6.1 Rural Landscape Character Areas

Character Area	Description	Specific Objectives
LCA 01 Agricultural Lowlands	This is the largest of the Landscape Character Areas in Limerick and comprises almost the entire central plain. This landscape is a farming landscape and is defined by a series of regular field boundaries, often allowed to grow to maturity. This well-developed hedgerow system is one of its main characteristics. In terms of topography, the landscape is generally rather flat with some locally prominent hills and ridges. The pastoral nature of the landscape is reinforced by the presence of farmyards.	a) Encourage, where housing is permitted, design that reflects existing housing stock, such as the two-storey farmhouses which are a feature in the area. b) Encourage retention of existing landscape features such as hedgerows and trees and their incorporation into landscaping for new developments. c) Discourage development of locally prominent sites. d) Encourage the regular arrangement of turbines with equal spacing in proposed wind farm developments, which take field boundaries into account. e) Encourage development within existing settlements.
LCA 02 Ballyhoura /Slieve Reagh	This is a locally dominant range of hills running along the Cork boundary. The lowland component of this landscape character area is generally a farmed landscape, but	a) Where housing is permitted, encourage appropriate scale and high-quality design for this landscape area, combined with sensitive site location and landscaping. Respect traditional scale particularly on elevated or locally prominent sites.

Note: 10 LCAs are described within the CDP with reference to the design of Wind Farm developments

Other Sensitivity Classifications:

Special Control Areas

Co. Tipperary

- LCA Framework: **4 generalised LCAs divided into 7 LCTs sub-divided to 23 LCAs**
- CDP Sensitivity based on: **23 sub-divided LCAs**
- Rating Name: **'Sensitivity Rating of Landscape Character Areas'**
- Specific Landscape Sensitivity for Wind: **Yes –** Vol.3 Appendix 3 Landscape Character Assessment Table 6.2 reports LCA Compatibility with 'Windfarm', along with Sensitivity Ratings.

Source:

Tipperary County Development Plan 2022-2028

Vol.1 Ch.11 Environment and Natural Assets, Section 11.7 Landscape, p.169

KEY
5 – likely to be very compatible in most circumstances
4 – likely to be compatible with reasonable care
3 – likely to be compatible if sited and designed with great care
2 – compatible only in certain circumstances
1 – compatible only in exceptional circumstances
0 – very unlikely to be compatible

Compatibility Key
Most
High
Medium
Low
Least

Table 5.2 Sensitivity Rating of Landscape Character Areas

		Range of sensitivity with a dark outline for the dominant sensitivity					
		Robust	Normal	Transitional Sensitivity	Sensitive	Transitional Vulnerability	Vulnerable
A.The Plains							
Lowland Pasture & Arable	Urban and Fringe Areas [1]	Class 0					
	Thurles Hinterland [2]		Class 1				
	River Suir Central Plain / Nenagh Corridor [3,4]		Class 1				
	Templemore Plains [5]		Class 1				
	West Tipperary Farmland mosaic [6]		Class 1				
	Glen of Aherlow Farmland [20]			Class 2			
Peatlands & Wet Mixed Farmland	Borrisokane Lowlands [7]			Class 2			
	Littleton Raised Bog [8]				Class 3		
	Littleton Farmland Mosaic and Marginal Peatland [9]		Class 1				
B. The Lakelands							
Waterside	Upper Lough Derg				Class 3		
	The Shannon Callows				Class 3		
Lakeland Enclosure	River Shannon – Newport					Class 4	
	Arra Mountains – Lower Lough Derg					Class 4	

Sensitivity Rating as per CDP	'Class 0 Robust'	'Class 1 Normal'	'Class 2 Transitional Sensitivity'	'Class 3 Sensitive'	'Class 4 Transitional Vulnerability'	'Class 5 Vulnerable'
No. of LCAs	Urban Areas only	6	4	7	2	4
Total Area	113.9 km²	1977.3 km²	797.6 km²	780.0 km²	169.5 km²	418.1 km²
Percent of Co. Area	2.7 %	46.5 %	18.7 %	18.3 %	4.0 %	9.8 %

Note: Sensitivity map Fig.5.4 does not align with LCA boundaries.

Other Sensitivity Classifications:

Primary and Secondary Amenity Areas

Note: Vol.3 RES maps Wind Energy Policy Areas with no specific sensitivity.

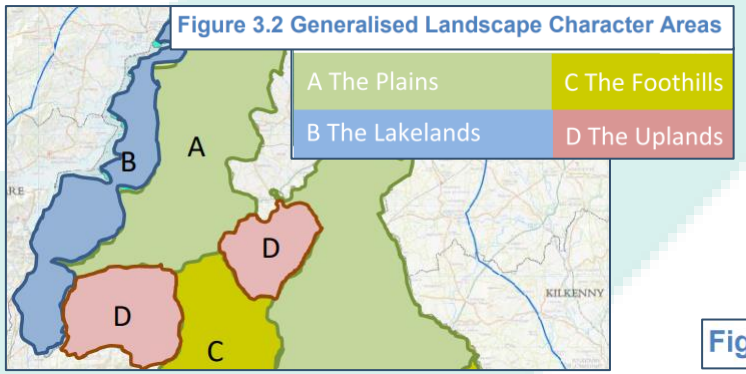


Figure 3.2 Generalised Landscape Character Areas

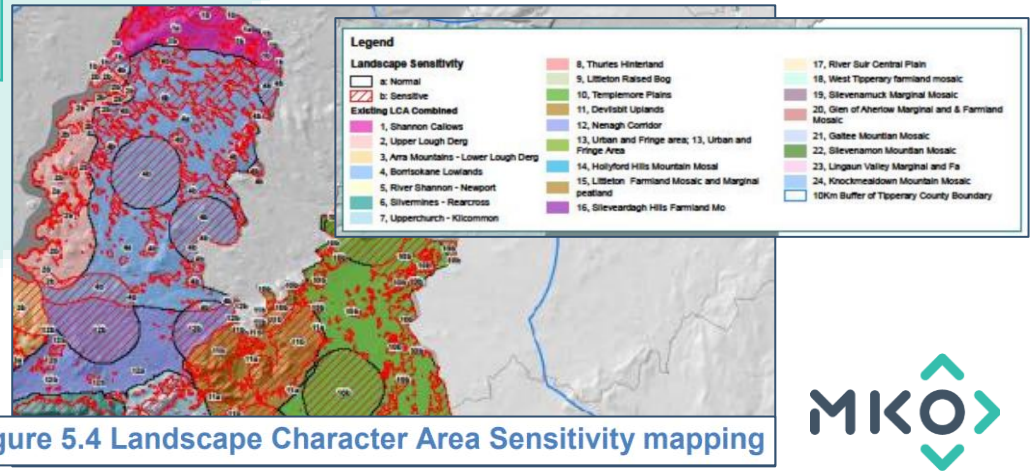


Figure 5.4 Landscape Character Area Sensitivity mapping

Co. Waterford

Waterford City & County Development Plan 2022-2028

Vol.3 Appendix 8 Landscape and Seascape Character Assessment, p.449.

- LCA Framework: **7 LCTs divided to 29 LCUs**
- CDP Sensitivity based on: **7 LCTs which align with LCU boundaries**
- Rating Name: **'Landscape Sensitivity'**
- Specific Landscape Sensitivity for Wind: **(none)**

Sensitivity Rating as per CDP	'Least Sensitive'	'Low Sensitivity '	'High Sensitivity'	'Most Sensitive'
No. of LCAs	3	8	6	12
Total Area	50.3 km^2	797.1 km^2	494.3 km^2	539.1 km^2
Percent of Co. Area	2.6 %	41.6 %	25.8 %	28.1 %

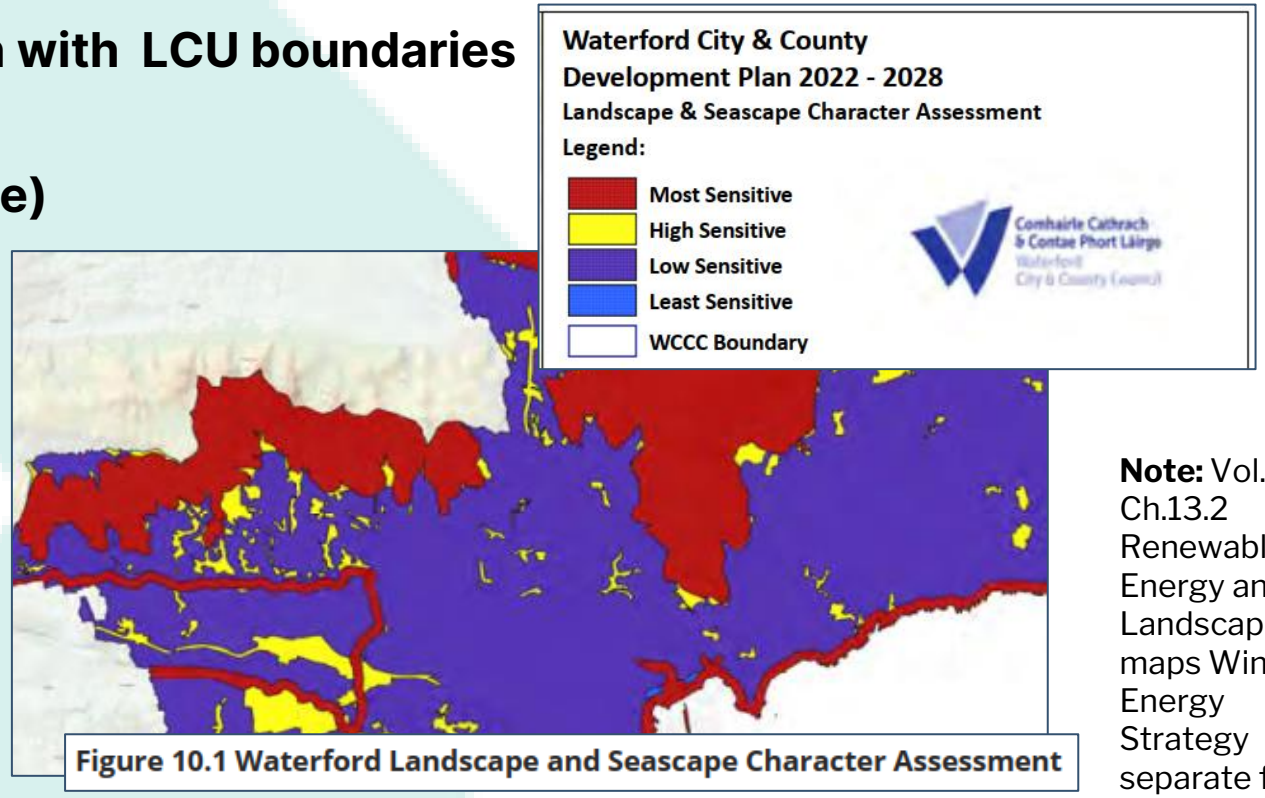
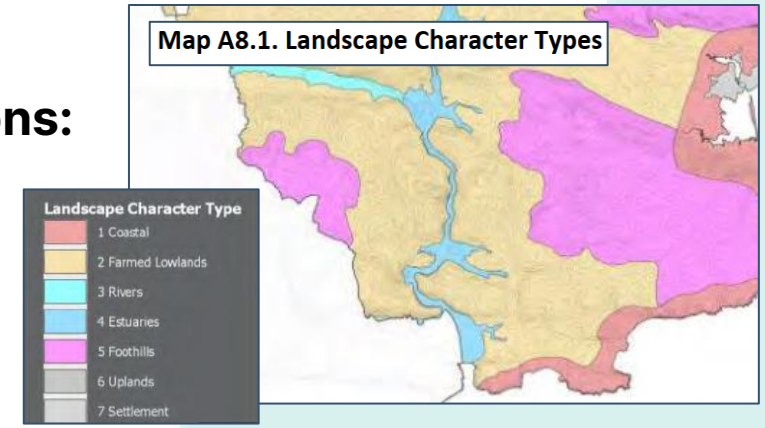


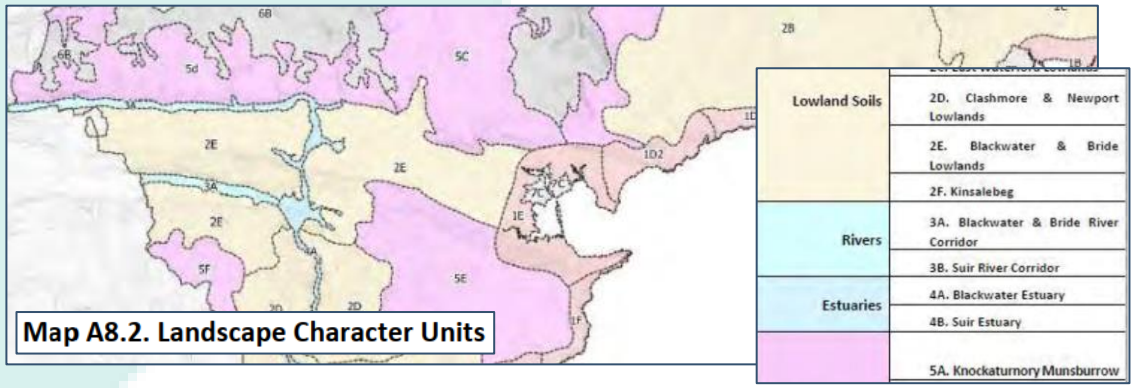
Figure 10.1 Waterford Landscape and Seascape Character Assessment

Note: Vol.3 Ch.13.2 Renewable Energy and the Landscape maps Wind Energy Strategy separate from LCT sensitivity.

Other Sensitivity Classifications:

None.





Map A8.2. Landscape Character Units

Co. Wexford

- LCA Framework: **4 general LCUs plus 1 Distinctive Landscapes LCU, totaling 5 LCUs, divided into 41 LCAs by name.**
- CDP Sensitivity based on: **5 LCUs**
- Rating Name: **'Landscape Sensitivity Rating'**
- Specific Landscape Sensitivity for Wind: **None** – general description provided on capacity of landscape for wind farm development, but no standardized rating given.

Sensitivity Rating as per CDP	'Low to Moderate'	'Moderate to High'	'High'
No. of LCAs	1	1	3
Total Area	1493.5 km^2	120.9 km^2	956.0 km^2
Percent of Co. Area	58.1 %	4.7 %	37.2 %

Table 7: Strategic Guidance on Landscape Capacity for Wind Energy Developments in Landscape Character Areas

LCA	Characteristics	Wind Resources and Wind Farm Potential	Capacity of Landscape for Wind Farm Development	LCTs in 2006 Guidelines	Appropriate Size of Wind Farms
Uplands	Low intensity agriculture and stock rearing, coniferous forestry plantations and areas of transitional vegetation.	Potential: High 220kV line runs through/adjacent to this area	Limited capacity to absorb further development.	Mountain Moorland – may be inappropriate for wind energy development for reasons of natural	No longer suitable – located in the Not Normally Permissible area.

Note: Wexford WES is given in Vol.10 Energy Strategy, Table 7 on p.53 reports Capacity for Wind Energy by LCA.

Source:

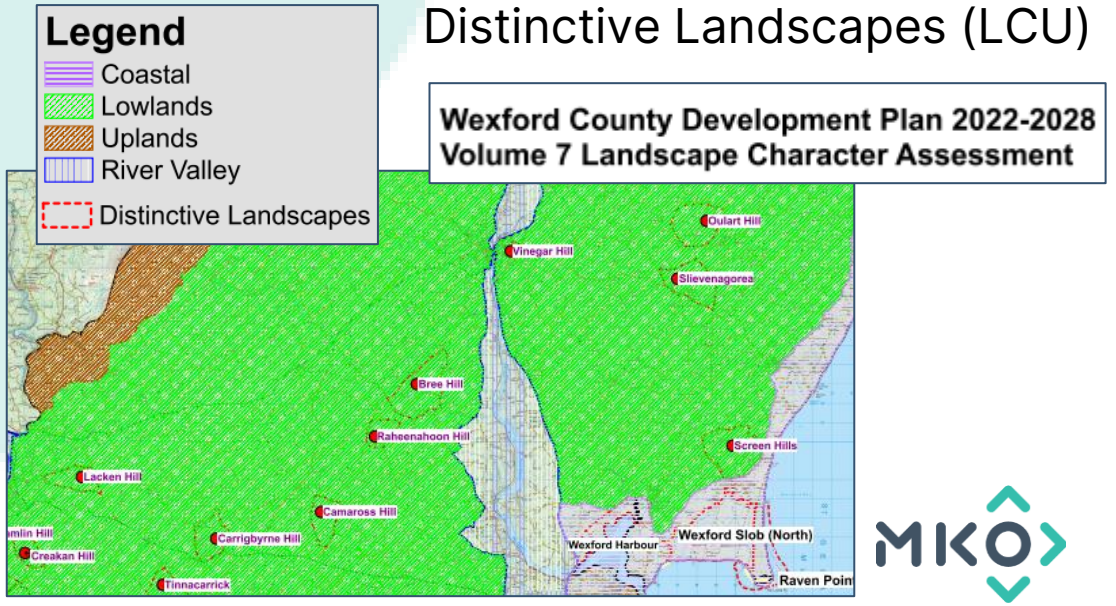
Wexford County Development Plan 2022-2028

Vol.1, Ch.11 Landscape and Green Infrastructure, Table 11.1 p.474 and Vol.7 Landscape Character Assessment, Table 7-3, p.13

	Landscape Sensitivity Rating		
	Low	Moderate	High
Uplands			
Lowlands			
River Valleys			
Coastal			
Distinctive Landscapes			

Other Sensitivity Classifications:

Distinctive Landscapes (LCU)



APPENDIX 4

NATIONAL LANDSCAPE SENSITIVITY CALIBRATION MAP

N

Map Legend

- Ireland OSi National County Boundaries
- Large Lakes and Waterbodies

Landscape Sensitivity Hierarchy

- International
- National
- Regional
- County
- Local
- Urban Areas (no rating)

Note: Map uses land area boundaries within counties according to County Development Plan designations including:

- Landscape Character Areas (LCAs)
- Landscape Character Types (LCTs)
- Landscape Character Units (LCUs)
- Other designated area boundaries

See Appendices 1-3 for details and rationale on county land area boundaries used for this exercise.

0 50 100 km

Drawing No.

Appendix 4

Drawing Title

Map of Landscape Sensitivity - All Ireland

Project Title

Landscape Sensitivity Calibration Exercise

Scale	Project No.	Date	Drawn By	Checked By
1:2,000,000	241008	16.04.2025	RS	BK

MKO Planning and Environmental Consultants