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1 Introduction

This County Wind Energy Strategy forms part of the Offaly County Development Plan 2021-2027 and should be read in conjunction with the policies and objectives contained within that Plan, the Guidelines for Planning Authorities on Wind Energy Development (DEHLG, 2006) or any revision thereof. It will guide the development of wind energy developments in the county up to 2027. This Strategy builds upon its predecessor contained in the previous Offaly County Development Plan 2014-20 and takes account of new and updated legislation, policy and guidelines at International, European, National and Regional levels.

The Objectives of this County Wind Energy Strategy are as follows;

1. Reflect and plan for technological advances in wind farms over the next number of years.
2. Support wind energy as a renewable energy source which can play a vital role in achieving national targets in relation to reductions in fossil fuel dependency and greenhouse gas emissions;
3. Identify key areas within the county that are 'Open for Consideration for Wind Energy Developments' or 'Unsuitable for Wind Energy Developments' based on wind speed, access to the electricity grid and substations, and avoidance of adverse impacts on the landscape and designated sites.
4. Consider the potential for micro-generation (generation that is less than 11 kW) wind energy developments and for small community based proposals outside key areas within the county that are 'Open for Consideration for Wind Energy Developments'
5. Ensure full compliance with the requirements of EU SEA Directive 2001/42/EC and Statutory Instrument 436 /2004 [Planning and Development (Strategic Environmental Assessment) Regulations 2004] on the assessment of the effects of certain plans and programmes on the Environment, and the Planning and Development Act 2000 (as amended), the EU Habitats Directive (92/43/EEC) and EU Birds Directive (2009/147/EC).

In tandem with the above objectives, Strategic Environmental Assessment (SEA) and Appropriate Assessment (AA) have been undertaken in relation to this County Wind Energy Strategy as part of the Draft County Development Plan and their findings have informed the preparation of the strategy. In addition, this Strategy demonstrates how it has considered the County Development Plans and Wind Energy Strategies of adjoining counties to ensure where possible a consistent approach towards Wind Energy development policy across county boundaries.

2 Wind Energy Developments

2.1 Technology

Wind turbines are used to convert the wind's kinetic energy to electricity. Wind energy proposals may constitute single turbines or groupings of turbines. Commercial wind energy development generally comprises a group of wind turbines located relatively in the same area which are then interconnected with a medium voltage power collection system together with a communications network. Wind energy development construction consists of turbine foundations, site access roads, power cables and an electrical sub-station; the installation of wind turbines; and the connection of the wind energy development site to the existing electricity grid via overhead lines (involving poles and pylons) or underground cables. The substation compound may include transformers, circuit breakers and a control building. At the substation, the medium-voltage electrical current is increased in voltage with a transformer for connection to the higher voltage transmission system.

Wind turbines typically consist of a foundation, a tower (A), a nacelle (B) a rotor (C) as shown in Figure 1 below. The foundation prevents the turbine from falling over. The tower holds up the rotor and a nacelle (or box). The nacelle contains large primary components such as the main axle, gearbox, generator, transformer (which may be housed either inside or alongside the tower as per (D) as shown in Figure 1 below) and control system. The rotor is made of the blades and the hub, which holds them in position as they turn. Most commercial wind turbines have three rotor blades on the upwind side of the tower. The rotor either has a horizontal axis, which is the most common type, or a vertical axis:

Horizontal axis turbines: These often have three blades, although this varies in some models. The blades are designed as aerofoils, which use the wind to create lift and turn the rotor. They work in a similar way to aeroplane wings. The turbine rotor is designed to face either directly into or away from the wind. They are designed with a yawing mechanism which aligns them according to the wind direction.

Vertical axis turbines: These rotate around a vertical axis, turning a shaft which is in line with the mast or tower it is mounted on. The rotors can harness wind from any direction. The generator can be located inside the top of the mast, or the shaft can pass down through the inside of the mast to drive a generator located at the base. These turbines place less stress on the tower and base, which means they can be better for roof mounting.

Wind turbines come in many different sizes, depending on the amount of energy that they are required to produce. The larger the turbine, then (generally) the greater the amount of electricity produced.

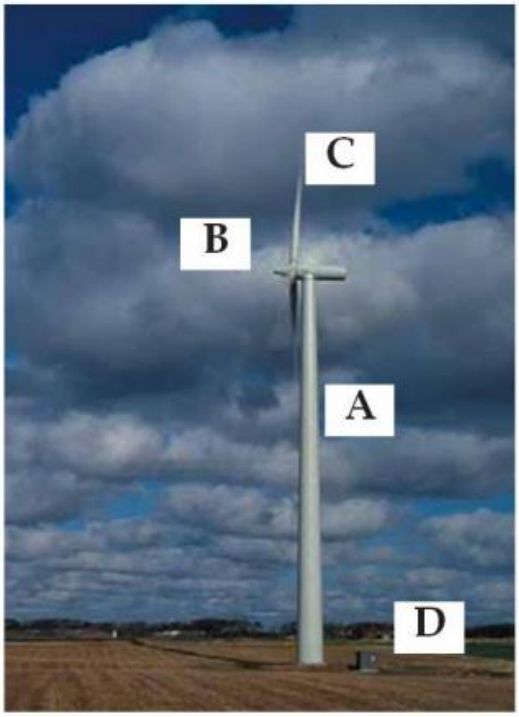


Figure 1: Typical Wind Turbine

2.2 Types of Wind Energy Developments

2.2.1 Commercial Energy Generation

Currently the highest turbines in Ireland have a tip height of approximately 180-190m, however the height on any individual development will vary depending on the circumstances and the technology available which may change in the future. This Wind Energy Strategy focuses mainly on commercial wind turbines, given the significant contribution they can make to meeting renewable energy targets and the potential wider impacts on the local environment and community, however microgeneration can also help to tackle climate change.

2.2.2 Micro-generation

Micro generation is the general term used to refer to generation that is less than 11kW. Micro-wind turbines can often be installed on rooftops or on poles in back gardens, subject to the requirement for planning permission where necessary. Micro-generators reduce the amount of electricity that would otherwise have to be bought from the grid. The benefits of micro-generation include lower electricity bills and potential protection against future electricity price rises; less greenhouse gas emissions; reduced reliance on fossil fuels; reduced electrical losses on the network; and improved Building Energy Rating.

2.2.3 Repowering

Repowering is the upgrading of older turbines with more efficient technology or replacement with larger capacity turbines. Repowering may also seek to extend the overall lifespan of the development. As wind turbine technology continues to advance, existing windfarms have the potential to greatly increase efficiency and capacity by repowering. Wind energy developments are expected to have an operational lifespan of approximately 30 years, after which time the site will be reviewed and assessed to determine whether the planning permission may be renewed, or whether the wind energy development may be repowered (requiring planning permission) or otherwise decommissioned.

3 Wind Energy Policy Context

Important documents considered by Offaly County Council in the context of preparing and adopting this Wind Energy Strategy and policies and objectives in relation to wind energy development in this County Development Plan include all relevant Ministerial planning guidelines and guidance notes, national plans, policies and strategies and in particular:

- The National Renewable Energy Action Plan 2010 (Irish Government submission to the European Commission);
- The Government's Strategy for Renewable Energy 2012 – 2020 (DCENR);
- The Government's White Paper on Energy Policy - Ireland's Transition to a Low Carbon Energy Future 2015-2030 (DCENR);
- The Government's National Mitigation Plan, July 2017 (DCCAE);
- The Government's National Planning Framework and National Development Plan, February 2018 (DHPLG);
- The Government's National Adaptation Framework, January 2018 (DCCAE); and
- The Government's Draft National Energy and Climate Plan 2021-2030 (Irish Government submission to the European Commission, December 2018).
- The Government Climate Action Plan, 2019 to tackle climate breakdown.
- Wind Energy Guidelines 2006; and
- Eastern and Midland Regional Spatial and Economic Strategy 2019-2031.

3.1 Project Ireland 2040

Project Ireland 2040 is informed by the Programme for a Partnership Government 2016, which recognises that economic and social progress go hand in hand, and is made up of the National Planning Framework to 2040 and the National Development Plan 2018-2027.

The National Planning Framework (NPF) 2018 identified the importance of climate change in National Strategic Outcome (NSO) 8, which relates to ensuring a 'Transition to a Low Carbon and Climate Resilient Society'. National Policy Objective 55 seeks to 'Promote renewable energy use and generation at appropriate locations within the built and natural environment to meet national objectives towards achieving a low carbon economy by 2050.'

The associated National Development Plan (NDP) 2018-2027 sets out the investment priorities that will underpin the implementation of the National Planning Framework, one of which is climate action, and commits to providing an additional 3,000-4,500 MW of renewable energy, full rollout of the Renewable Heat Support Scheme and the establishment of a Climate Action Fund to support initiatives that contribute to the achievement of Ireland's climate and energy targets.

3.2 Climate Action Plan 2019 to Tackle Climate Breakdown

The Climate Action Plan 2019 is committed to achieving a net zero carbon energy system for Irish society, a resilient and sustainable country. Decarbonisation is a must if the world is to contain the damage from the impact of greenhouse gas emissions and build resilience for our countries and communities. The far-reaching Plan sets out over 180 actions, together with hundreds of sub-actions, that need to be taken at a time when the warning signs are growing, and the time for taking action is rapidly reducing.

This Plan identifies how Ireland will achieve its 2030 targets for carbon emissions, and puts us on a trajectory to achieve net zero carbon emissions by 2050. The Plan embraces every relevant sector: electricity, enterprise, housing, heating, transport, agriculture, waste, and the public sector.

In relation to electricity, the key objectives are outlined below:

- Increase reliance on renewables from 30% to 70% adding up to 8.2 GW of renewable onshore wind energy capacity with some of this delivered by private contracts via corporate power purchase agreements;
- Deliver the Renewable Electricity Support Scheme (RESS) which will provide support for renewable electricity projects in Ireland through a series of scheduled, competitive auctions;
- Put in place a coherent support scheme for micro-generation with a price for selling power to the grid;
- Open up opportunity for community participation in renewable generation as well as community gain arrangements;
- Streamline the consent system, the connection arrangements and the funding supports for the new technologies both onshore and off shore.

3.3 Eastern and Midland Regional Spatial and Economic Strategy 2019-2031

The Eastern and Midland Regional Spatial and Economic Strategy (RSES) supports an increase in the amount of new renewable energy sources in the region stating that the renewable energy needs of the region, in the form of wind, solar and biomass, will be likely to be met in rural areas. The Strategy acknowledges that Bord Na Mónas Strategic Framework for the Future Use of Peatlands indicates that their cutaway bogs may be suitable for renewable energy as long term alternative uses of these sites.

Regional Policy Objective 7.35 of the RSES states that Eastern Midland Regional Authority shall, in conjunction with local authorities in the Region, identify Strategic Energy Zones as areas suitable for larger energy generating projects, the role of community and micro energy production in urban and rural settings and the potential for renewable energy within industrial areas. It is stated that Strategic Energy Zones for the Region will ensure all environmental constraints are addressed in the analysis and that a regional landscape strategy could be developed to support delivery of projects within the Strategic Energy Zones.

4 Review of Wind Energy Development and Future Energy Requirements in Offaly

Table 1 shows County Offaly's current total installed wind capacity to date comprising 3 wind farms with a combined installed capacity of 98.5 MW and a total of 36 turbines.

Table 1: Installed Wind Capacity in County Offaly (Source: Offaly County Council Planning Register, 2019)

Location	Capacity MW	No. of Turbines
Leabeg	4.5	2
Meenwaun	10	5
Mount Lucas	84	29
Total	**98.5**	**36**

Based on the national installed wind capacity of 3,748 MW from Quarter 2 of 2019[1], the installed wind capacity in County Offaly represents 2.63% of the total installed wind capacity in the Republic of Ireland to date.

[1] Irish Wind Energy Association (IWEA) Quarter 2 Report 2019 (covering April, May and June). The figures in the IWEA Quarterly Report are based on data provided by EirGrid, ESB Networks, the SEAI and its members. Some figures are provisional and may change as new data comes in.

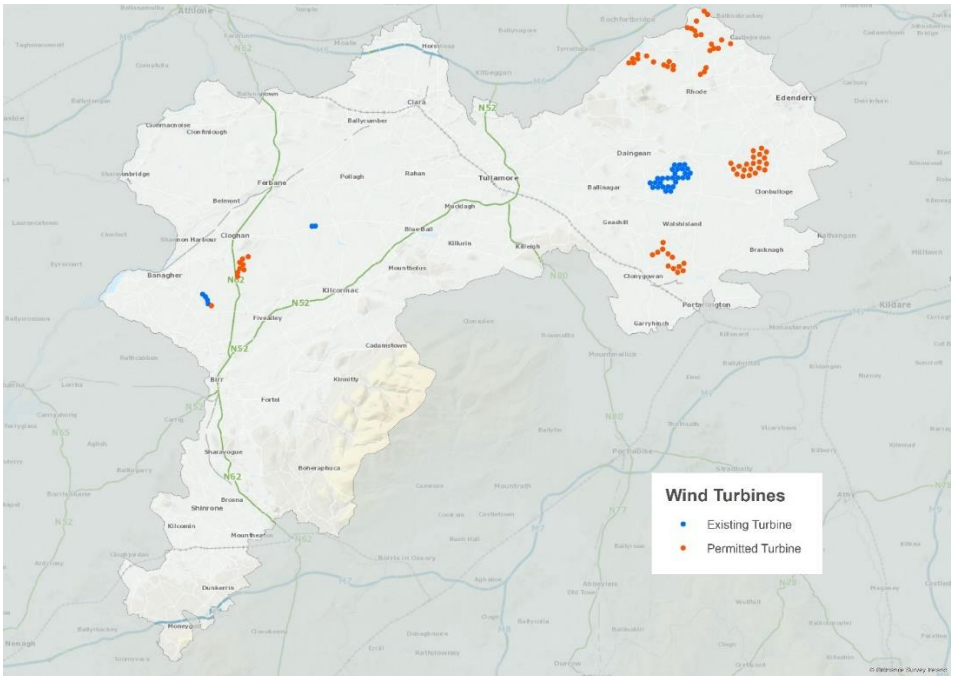
In line with the Climate Action Plan 2019, Ireland aims to increase reliance on renewables from 30% to 70% adding up to 8.2 GW of renewable onshore wind energy capacity by 2030. Using Offaly share of the national population from Census 2016, 1.63% as a proxy, as a minimum County Offaly is required to generate 133.66 MW of renewable energy by 2030.

In addition, as Table 2 below shows, there are an additional 4 permissions in place for windfarms, which if constructed, will bring the total output in Offaly to 336.3 MW.

Table 2: Permitted and undeveloped Wind Farms in County Offaly (Source: Offaly County Council Planning Register, 2019)

Location	Capacity MW	No. of Turbines
Derrinlough	28.8	9
Cloncreen	63	21
Yellow River	96	29
Moanvane	50	12
Total	**237.8**	**71**

Map No. 1 below shows the location of existing and permitted wind farms as referred to in Tables 1 and 2 above.



Map No. 1: Location of developed and permitted but not yet developed wind farms in County Offaly, 2020

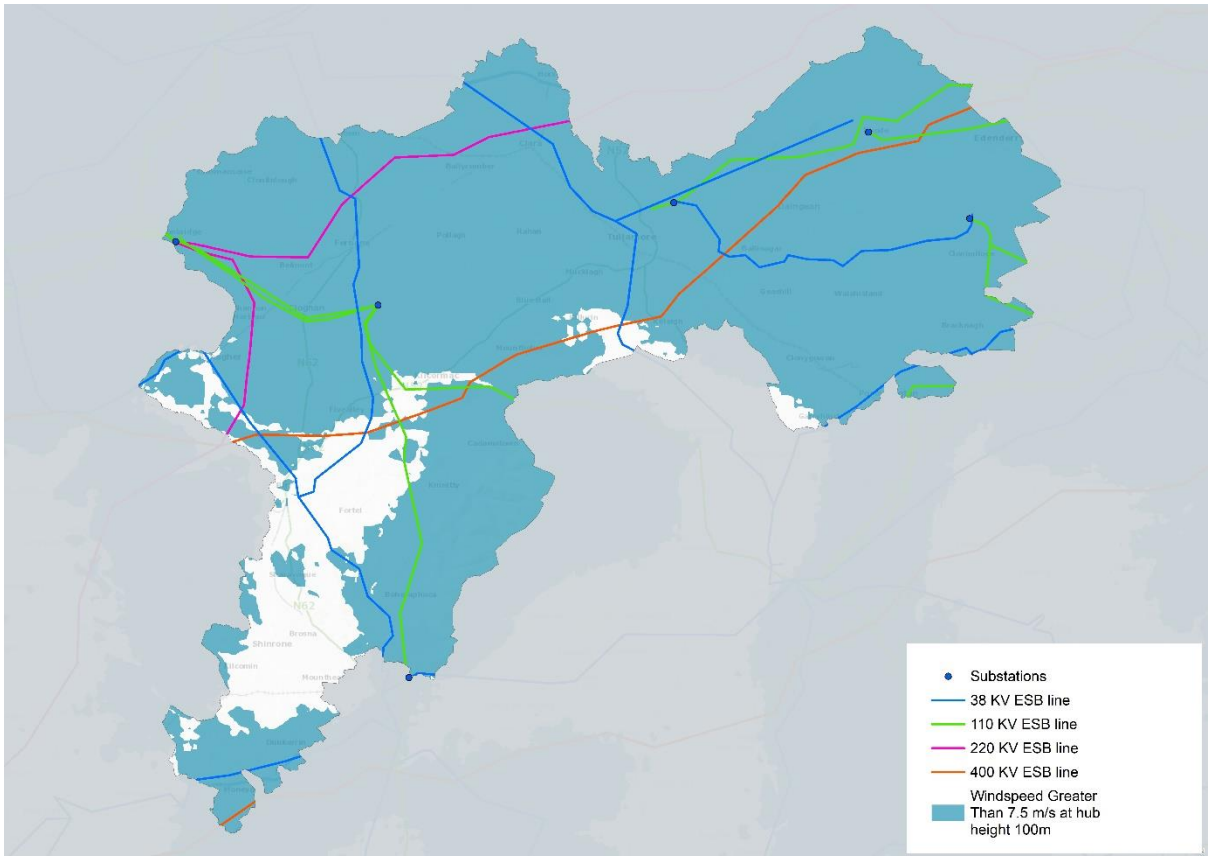
5 Identifying Suitable Areas in County Offaly for Wind Energy Development

This Wind Energy Strategy proposes that Local Authorities use a 'step by step' sieve mapping analysis of the key environmental, landscape and technical criteria which must be balanced in order to identify the most suitable location for wind energy development. This Section applies the steps below to identify suitable locations for wind energy development in development plans.

5.1 Step 1: Existing Wind Speeds and accessibility to electricity transmission and distribution grids

Available wind speed has been long acknowledged as a key factor in determining the economic viability of potential wind energy locations. Generally, to date, the areas considered economically viable have wind speeds above 7.5 metres per second. Map No. 2 shows the current viable wind speed areas in County Offaly at a hub height of 100 metres above ground level based on the Sustainable Energy Authority of Ireland (SEAI) Wind Atlas 2013 in recognition that turbines are getting larger potentially generating more power. Most of the county has a wind speed of at least 7.5 m/s.

Proximity to transmission lines and the ability to connect into these lines is a significant consideration for the siting of commercial wind farms. In addition to wind speed, Map No. 2 shows the existing transmission network (400 kV, 220 kV and 110 kV lines) in Offaly. Offaly has an excellent electricity transmission network with no area in the county being over 15 km of an electricity transmission line and it is not deemed necessary to exclude any areas on this basis. In turn, in order to facilitate the expansion in electricity generation installation from wind farms and other sources, the grid in the midlands may itself require development and expansion. It is therefore prudent for the future development and electricity and wind farms in County Offaly that these strategic pieces of infrastructure are protected from inappropriate development in their immediate environs and that their scope for development is maintained. In this regard, Chapter 13 of Volume 1 of the County Development Plan titled Development Management Standards requires consideration of the provision of sufficient falling distance plus an additional flashover distance between turbines and overhead transmission lines in relation to wind energy developments.



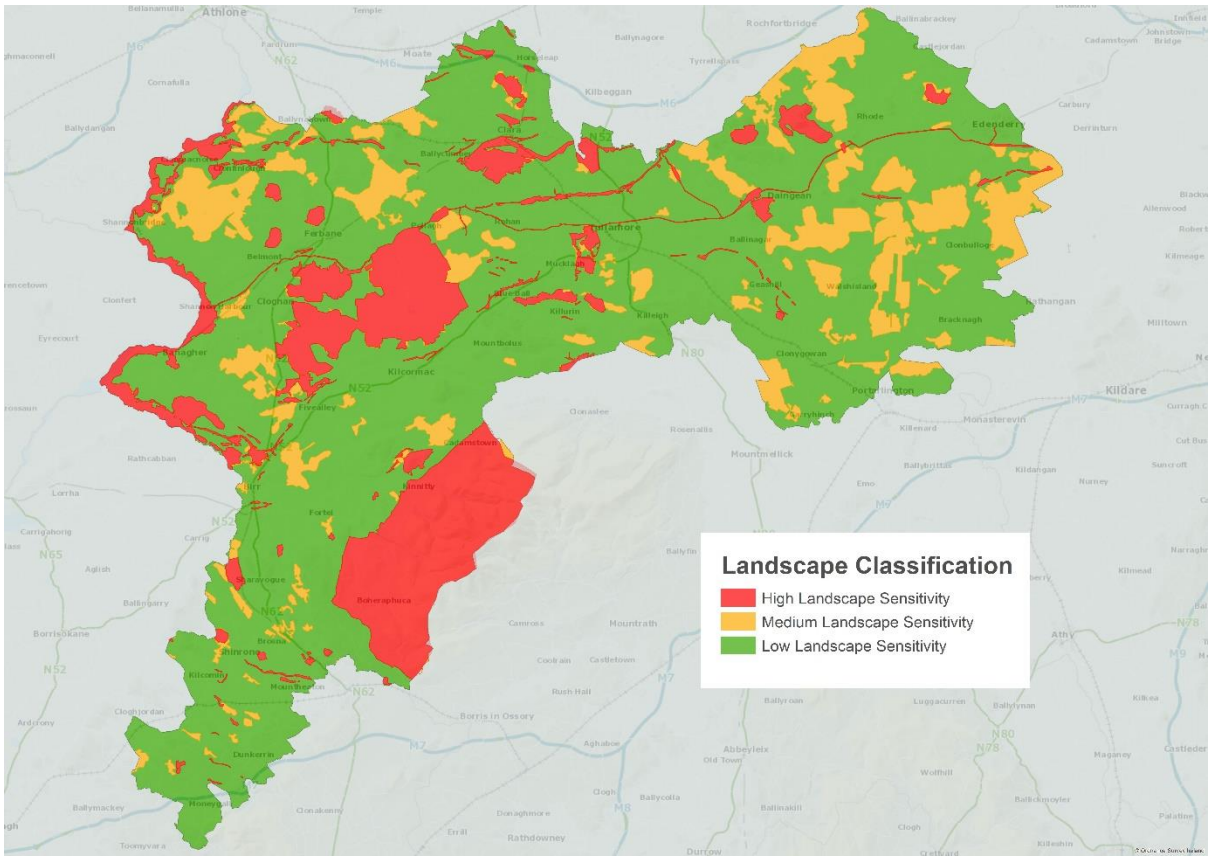
Map No. 2: Wind speeds over 7.5 m/s available at hub height of 100 metres (Source: Sustainable Energy Authority of Ireland (SEAI) Wind Atlas 2013)

5.2 Step 2: Evaluation of the landscape and its sensitivity for wind energy developments

5.2.1 Landscape Character Assessment

The sensitivity of a landscape is a measure of its ability to accommodate change or intervention, without suffering unacceptable effects to its character. Differing landscapes, based on their sensitivity, have the capacity to absorb different levels of development. Offaly County Councils Landscape Character Assessment, contained within Chapter 4 'Biodiversity and Landscape' of Volume 1 of this County Development Plan, classifies landscapes into ten character areas according to their sensitivity to different types of development. The wetlands, designated bog land areas, eskers, River Shannon and Callows and archaeological and historical landscapes are identified as being of high sensitivity in recognition of the value placed on them on account of their scenic and amenity potential. Rural, agricultural and cutaway bog are identified as a mix of low and moderate sensitivity. Map No. 3 below shows areas ranging from low, moderate and high sensitivity as classified in Chapter 4 of this Plan. High Landscape Sensitivity areas include the Slieve Bloom Mountains, Croghan Hill and its environs, the River Shannon and its Callows, the Grand Canal Corridor, important wetlands such as Lough Boora, the esker landscape and archaeological and historical landscapes. These 'High

Landscape Sensitivity Areas' have not been included in 'Areas Open for Consideration for Wind Energy Developments' in Map 10: Wind Energy Designations.

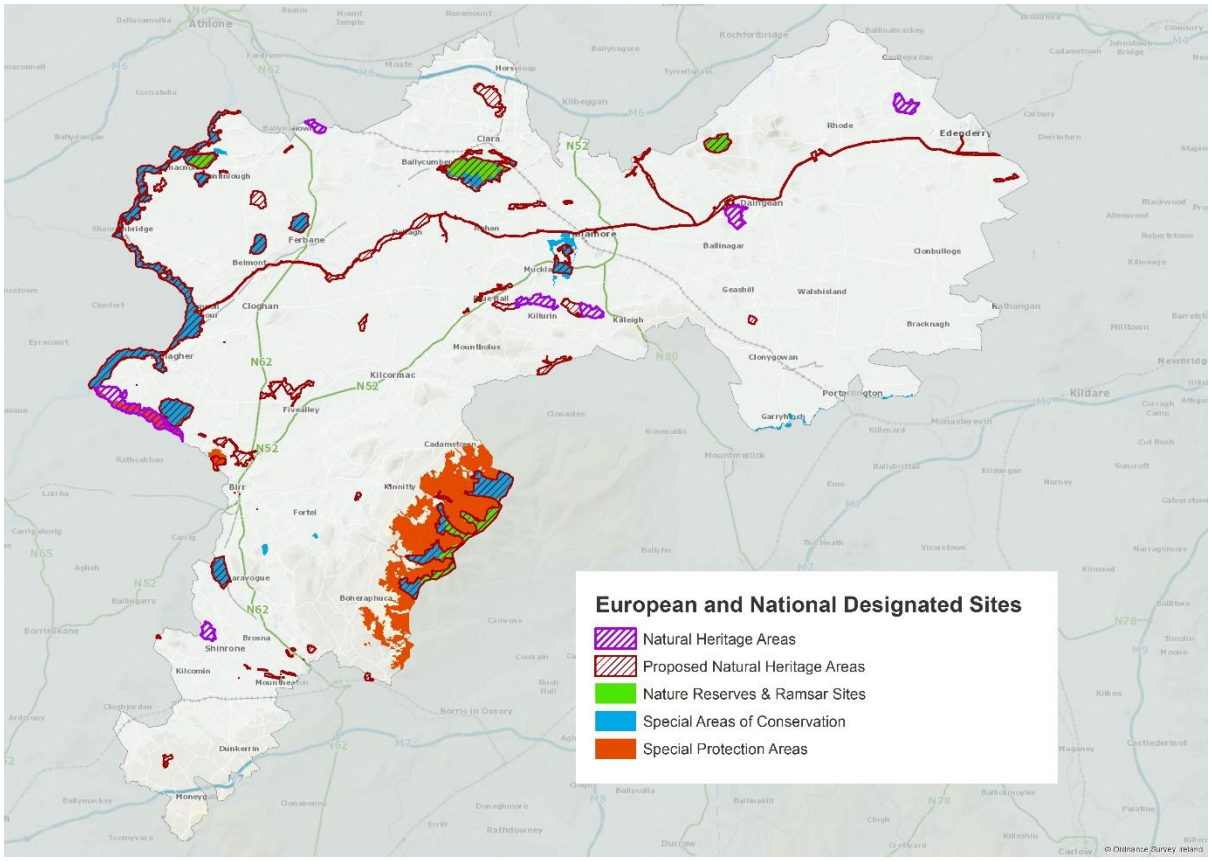


Map No. 3: Landscape Sensitivity Areas in County Offaly

5.3 Step 3: Overlay of the Wind Energy Mapping with Landscape Evaluation and Sensitivity Analysis with information regarding built and natural heritage, archaeological and amenity designations in the Development Plan and existing settlements within the county

5.3.1 Designated Sites

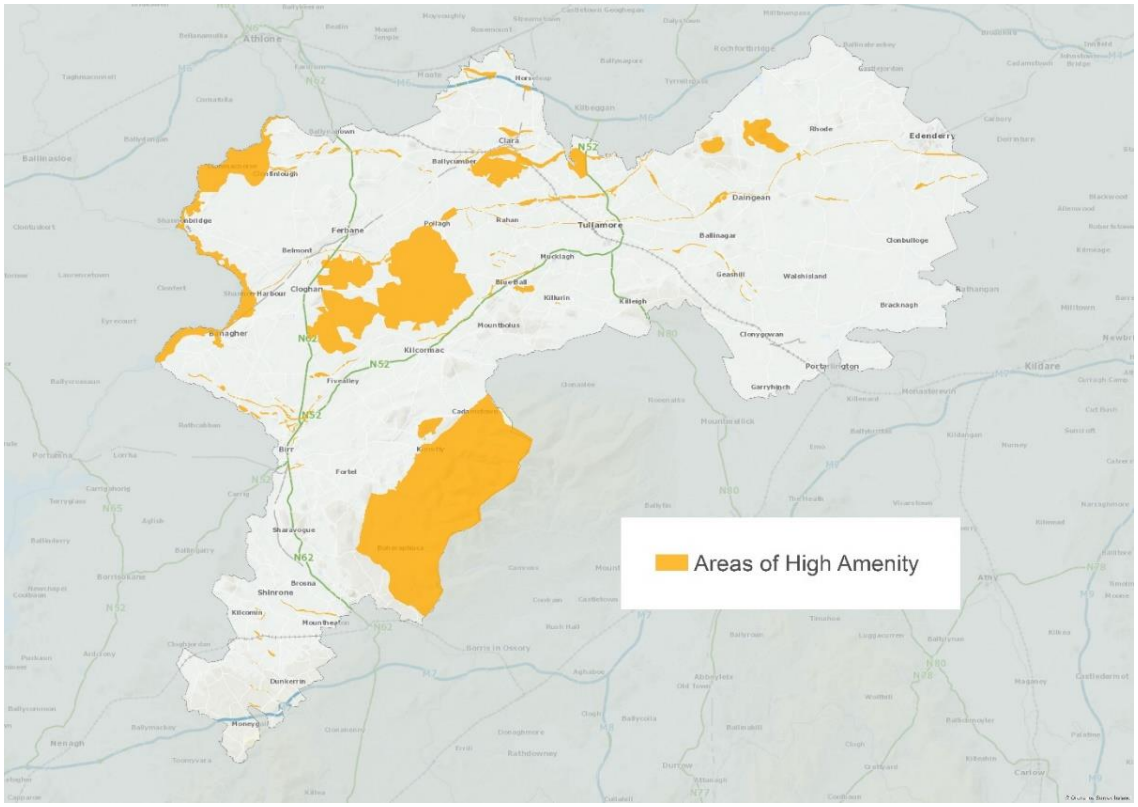
Map No. 4 below shows the extent and location of the European and National Designated sites in County Offaly as listed in Chapter 4 'Biodiversity and Landscape' in Volume 1 of this County Development Plan. All these European and National Designated Sites have not been included in Areas deemed 'Open for Consideration for Wind Energy Developments' in Map No. 10 Wind Energy Designations. Appropriate Assessment screening was undertaken to assess the potential impacts of this Wind Energy Strategy on Natura 2000 sites. In addition, Strategic Environmental Assessment has been carried out which assessed wider potential biodiversity impacts in relation to this Wind Energy Strategy.



Map No. 4: European and National Designated Sites in County Offaly

5.3.2 Areas of High Amenity

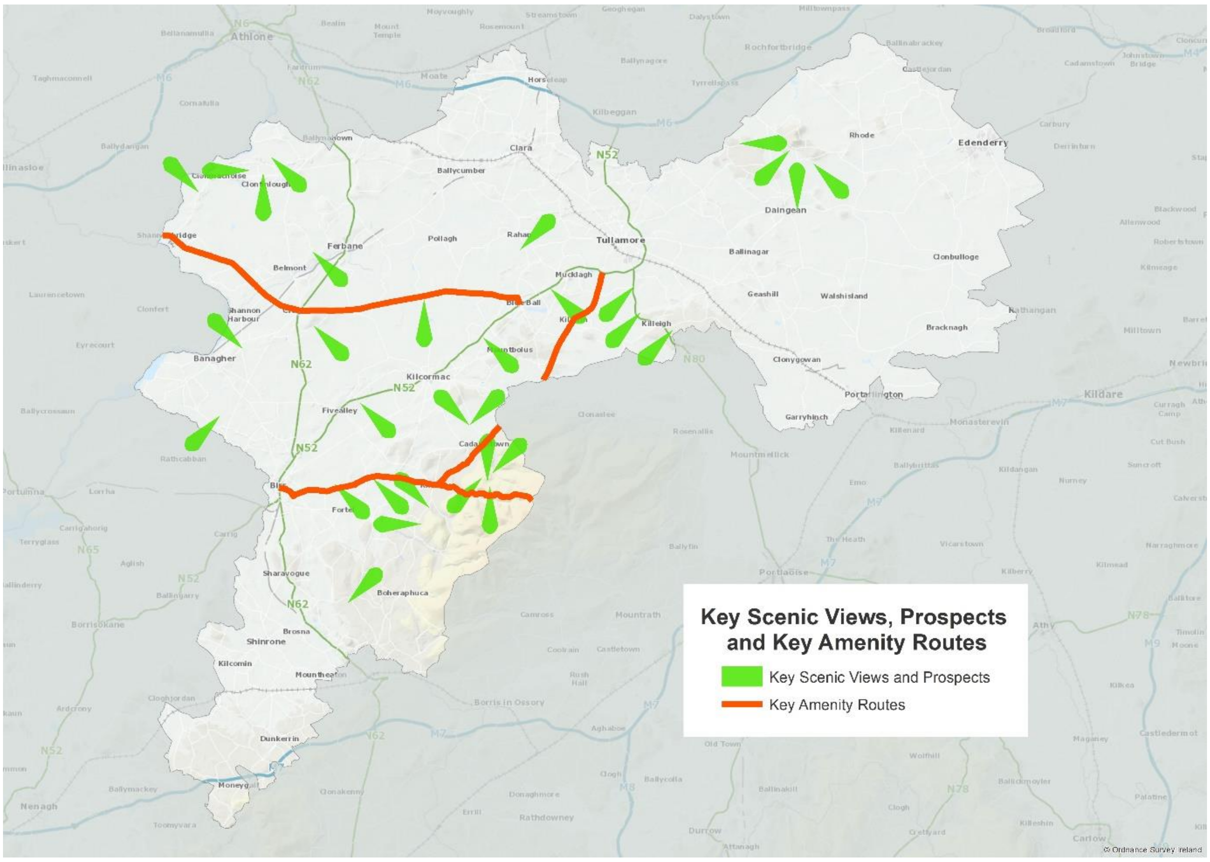
Areas of High Amenity (AHA) are special landscape areas within the county, which due to their outstanding natural beauty and/or unique interest value are generally sensitive to the impacts of development. These designations are additional to statutory environmental designations, National and European, which overlap these AHAs. Map No. 5 below shows the extent and location of the AHAs in the county as listed in Table 4.12 of Chapter 4 'Biodiversity and Landscape'. As expressed in Chapter 4 of Volume 1 of this County Development Plan, it is Council priority to protect and preserve the county's primary Areas of High Amenity, therefore, having regard to the potential significant visual impact associated with windfarms, the specific Areas of High amenity shown in Map No. 5 are not included in Areas deemed 'Open for Consideration for Wind Energy Development' on Map 10: Wind Energy Designations.



Map No. 5: Areas of High Amenity in County Offaly

5.3.3 Protected Views

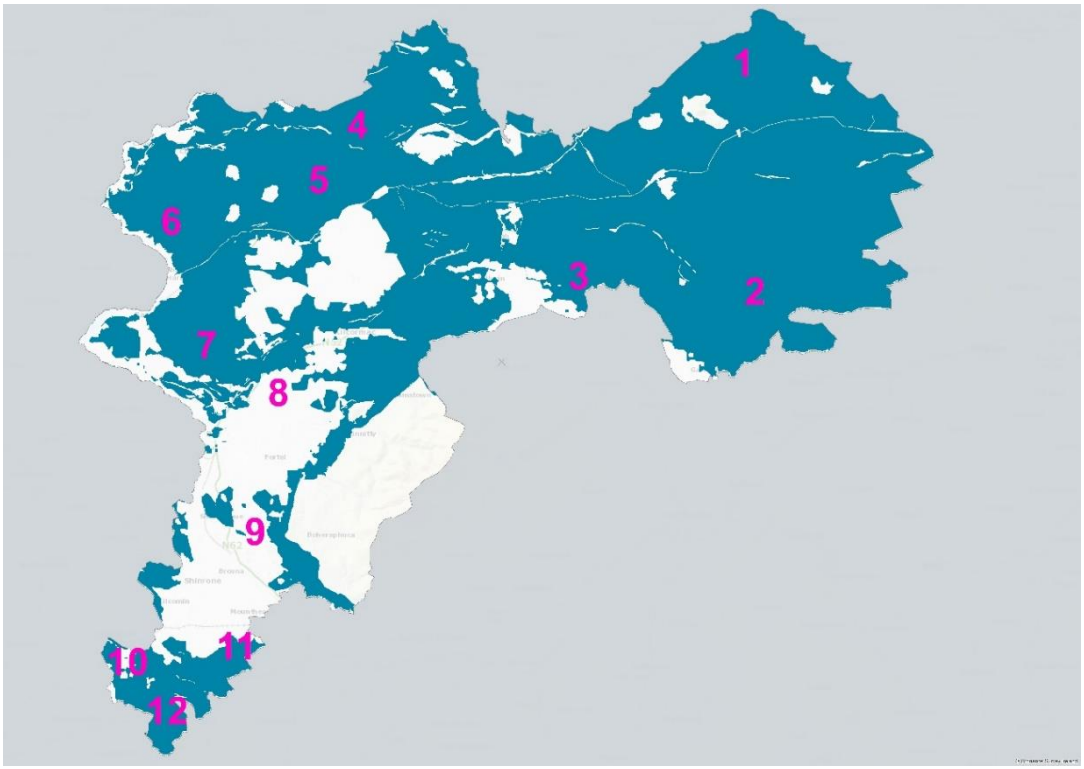
Chapter 4 of Volume 1 of this Plan identifies and lists Key Scenic Views and Prospects in County Offaly which offer a very attractive cross-sectional view and overall impression of differing landscapes as one traverses the county. Map No. 6 below shows the location of these protected views and the direction of the vistas from the specific roads or subject townlands as listed in Table 4.16 of Chapter 4 'Biodiversity and Landscape'. In addition, Figure 8.9 in Chapter 8 Sustainable Mobility and Accessibility in Volume 1 of this Plan shows a number of regional roads which are classified as restricted on the basis of their amenity value. The significance and magnitude of these views relative to wind potential areas are examined in Section 6 below.



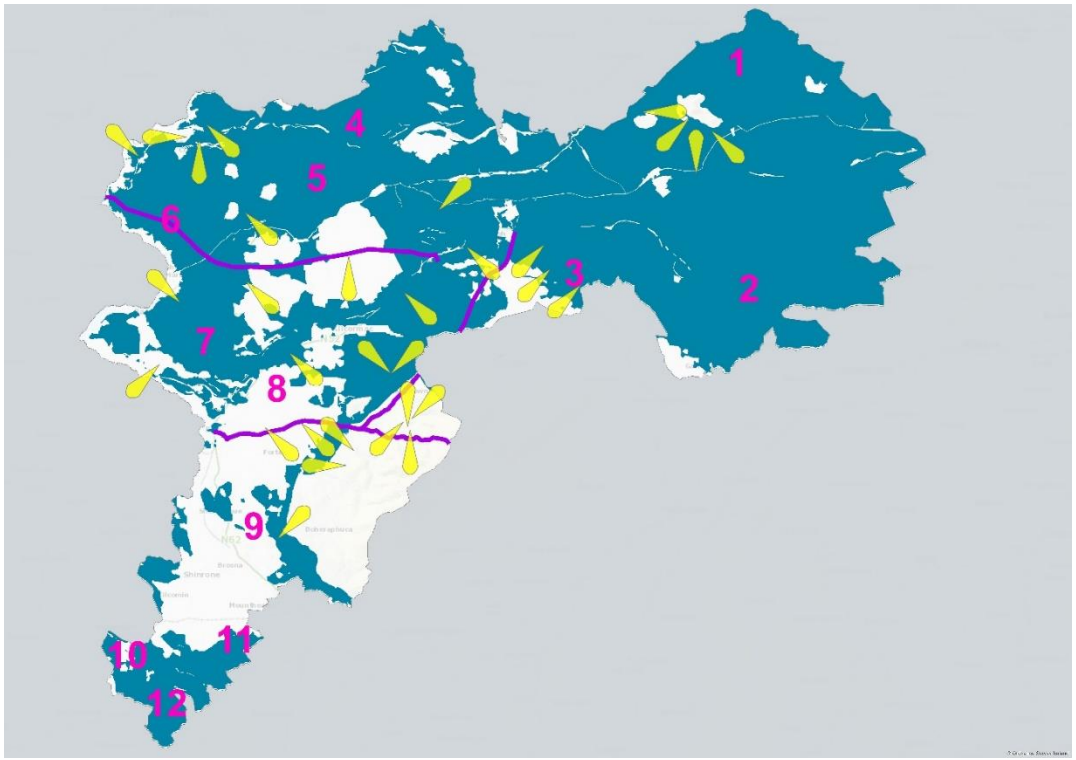
Map No. 6: Key Scenic Views, Prospects and Key Amenity Routes in County Offaly

6 Field Analysis and Desk Top Survey of Potential Wind Energy Areas

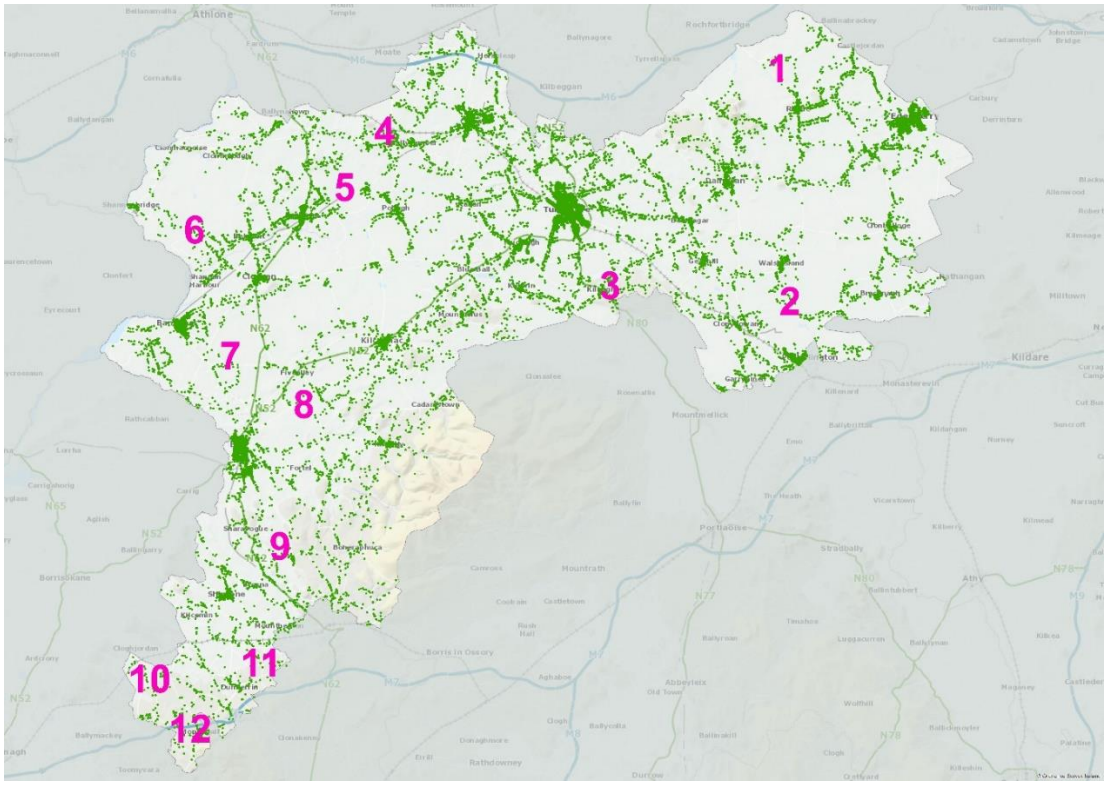
Based on the above stages of preliminary sieve analysis of the county, 12 potential wind energy areas have been identified in Map No. 7 below which have both viable wind speeds and reasonable access to the national electricity grid and are located outside the constraint areas such as designated and High Landscape Sensitivity Areas as outlined above. Table 3 below assesses these 12 potential wind energy areas as shown in Map No. 7 below, in more detail examining through field studies the significance of and relevance of protected views as shown in Map No. 8 below, patterns of residential development as shown in Map No. 9 below, along with prevailing land form and uses in these areas.



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



Map No. 8: Protected Views and Potential Wind Energy Areas



Map No. 9: Patterns of residential density based on Geodirectory data, Q3, 2019

Table 3: Assessment of Wind Energy Potential Areas

Ref. No.	Area	Recommendation
1	**Area generally north of Rhode** This area is characterised by significant tracts of peatlands and improved agricultural land to the north of the village and large landholdings. In addition, there exists a precedent of windfarm and renewable energy projects being deemed suitable while there exists both good wind speeds and electricity infrastructure in the area. There is sensitivity in relation to views of Croghan Hill to the north and west which can be mitigated by suitable layout minimising visual conflict or compromising this focal feature in the area by considering the clustering of turbines and adequate separation of turbines from the vista of Croghan Hill from Rhode village.	**Area deemed 'Open for consideration for Wind Energy development' in principle ***
2	**Area generally from Cloneygowan to Clonbullogue**	**Area deemed 'Open for consideration for Wind**

	This area is characterised by a predominantly flat and in places slightly undulating landscape with a number of significant tracts of peatlands and transitional woodlands and coniferous forestry, in particular in areas around Walsh Island, Bracknagh and Clonbulloge, along with improved agricultural land, large landholdings and a dispersed pattern of rural housing. The extensive tracts of flat peatlands in this area offer potential to accommodate a wind farm layout with depth, comprising a grid formation giving a better sense of balance and visual cohesion. In addition, there exists a precedent of windfarm and renewable energy projects developed in the area such as Mount Lucas windfarm while other projects have been deemed suitable and are awaiting commencement of development. There exists both good wind speeds and electricity infrastructure in the area.	**Energy development' in principle ***
3	**Area generally south of Tullamore from Killeigh to Kilcormac** Whilst the area south of Tullamore close to the Laois border has viable wind speeds, this area is constrained by their proximity to the Slieve Bloom Mountains and in particular protected views as listed in Chapter 4 of Volume 1 of this Plan from the townlands of: • Derryclure, Graigue and Lockclose at the top of valleys at scenic points on the heavily trafficked N80 across lowlands to the south west of the Slieve Bloom Mountains; • Bunaterin, Garbally, Kilooley and Ballywilliam between Mucklagh and Kilcormac at scenic points on the heavily trafficked N80 across lowlands to the south west of the Slieve Bloom Mountains; and • townlands of Knockhill and Drinagh on elevated land along the local road from Ballyboy to Cadamstown which allow scenic views of the Slieve Bloom Mountains. In addition, there exists a higher density of housing within the urban fringes of settlements and in the open countryside, and a fragmented pattern of landownership all of which are potential constraints to wind development in these areas.	**Area not deemed Suitable for Windfarms.**
4	**Area generally to the north and north west of Ballycumber around Corracullin Bog**	**Area deemed 'Open for consideration for Wind**

	This area around Corracullin Bog is characterised by a predominantly flat and in places slightly undulating landscape with a number of significant tracts of peatlands, transitional woodlands and coniferous forestry. There exists a very low density of housing in this area and an absence of constraints to wind farm development such as scenic views or designated sites. There exists both good wind speeds and electricity infrastructure in the area. The large landholdings and extensive tracts of flat peatlands in this area offer potential to accommodate a wind farm layout with depth, comprising a grid formation giving a better sense of balance and visual cohesion.	**Energy development' in principle ***
5	**Area generally west of Doon and north west of Ferbane** This area with the exception of Endrim Hill and Cor Hill is relatively flat and slightly undulating. There exists a number of significant tracts of peatlands, transitional woodlands and coniferous forestry at Clongawny, Clonlyon and Castletown, which having regard to the low density of housing in their vicinity and extensive tracts of flat peatlands in this area offer potential to accommodate wind farm developments.	**Area deemed 'Open for consideration for Wind Energy development' in principle ***
6	**Area generally east of Shannonbridge and south of Clonmacnoise** The landscape in this area is extremely varied with; • The monastic site of Clonmacnoise together with Mongans Bog, Fin Lough and Clonmacnoise Callows located to the north west of this area; • Esker ridge running from Shannonbridge towards Clonmacnoise; • The River Shannon and its callows, comprising river flood plains, grassland, meadows and semi natural woodland, along the west of this area; • Extensive tracts of peatlands, transitional woodlands and coniferous forestry at Tullaghbeg, Derrylahan and Clorahane. Whilst viable wind speeds are available in this area, the presence of the Clonmacnoise monastic site, the River Shannon Callows, eskers and protected views of Clonmacnoise and the River Shannon, as identified in Chapter 4 of this Plan, severely	**Area deemed 'Open for consideration for Wind Energy development' in principle ***

	limits the capacity of this area to accommodate the visual change associated with windfarm developments.	
7	**Area generally south of Cloghan and Birr Environs** **Area generally south of Cloghan** This area is characterised by a predominantly flat and in places slightly undulating landscape with a number of significant tracts of peatlands and transitional woodlands, and coniferous forestry in places. There also exists good wind speeds and reasonable access to the grid. The extensive tracts of flat peatlands in this area offer potential to accommodate a wind farm layout with depth, comprising a grid formation giving a better sense of balance and visual cohesion. In addition, there exists a precedent of windfarm and renewable energy projects developed in the area such as Meewaun windfarm while other projects have been deemed suitable and are awaiting commencement of development. There exists both good wind speeds and electricity infrastructure in the area. **Birr Environs** There are a number of constraint areas within this area however which are not included in the areas deemed Open for Consideration for Wind Energy Development in principle as shown in the Map No. 10 below; • the Little Brosna River Callows and Dovegrove Callows on account of their landscape sensitivities and presence of protected views; and • the internationally important Irish Low Frequency array (I-LOFAR) in Birr Castle which is particularly sensitive to wind turbines in its vicinity due to the Doppler effect which masks the radar signal and produces backscatter.	**Area deemed 'Open for consideration for Wind Energy development' in principle *** **Area not deemed Suitable for Windfarms.**
8	**Area generally south and west of Kilcormac** Whilst this area to the south and west of Kilcormac has viable wind speeds, this area is constrained by its proximity to the Slieve Bloom Mountains and in particular protected views as identified in Chapter 4 of Volume 1 of this Plan from the townlands of:	**Area not deemed Suitable for Windfarms.**

	• Eglish, Fivealley and Ballycollin at scenic points on the heavily trafficked N80 across lowlands to the south west towards the Slieve Bloom Mountains • Stonestown from the local road along the lowland plateau offering an extensive vista in a southwards direction towards the Slieve Bloom Mountains; and • Knockhill and Drinagh on elevated land along the local road from Ballyboy to Cadamstown which allow scenic views of the Slieve Bloom Mountains.	
9	**Area generally south of Kinnitty and west of Coolderry** This area south of Kinnitty and west of Coolderry is a mix of flat undulating and hilly farmland both sides of the R421 which runs through Kinnitty to Roscrea and then rugged uplands and forestry as the land rises to meet the Slieve Bloom Mountains to the east. Whilst this area has viable wind speeds, it is constrained by their proximity to the Slieve Bloom Mountains and the presence of protected views as identified in Chapter 4 of this Plan from the townlands of: • Knock along the Local Road L-04006 towards the Slieve Bloom Mountains and Leap Castle; • Kyle, Cloghanmore, Streamstown, Ballinree and Killaun at scenic points along the R440 towards the Slieve Bloom Mountains, while located in Area 7 above, the vista from these viewpoints runs through this area; and • Grange, Belhill, Longford Big and Church Land towards the Seir Kieran Monastic site. Farmsteads and houses are scattered throughout, as well as villages such as Kinnitty, Clareen and Coolderry. The large town of Roscrea is located to the south of this area.	**Area not deemed Suitable for Windfarms.**
10	**Area generally south of Cloughjordan** Key characteristics of this area are: • Intensively managed farmland on a mix of flat, undulating and hilly land; • A patchwork of fields delineated by hedgerows varying in size;	**Area not deemed Suitable for Windfarms.**

	• Farmsteads and houses scattered throughout; • The busy Regional Roads, R491 and R490, which transect the area. Whilst this area has good wind speeds and there exists two medium tracts of peatlands in the area, one of these tracts Ballintemple Bog is a pNHA and the presence of medium levels of one off housing in the open countryside and the settlement of Cloughjordan will make the locating of windfarm development in this area challenging, having regard to the separation distances required from turbines to houses and settlements as set out in the Development Management Standards section in Chapter 13 of Volume 1 of this Plan.	
11	**Area generally north of Dunkerrin** This area is characterised by: • Intensively managed farmland on a mix of flat, undulating and hilly land; • A patchwork of fields delineated by hedgerows varying in size; • Farmsteads and houses scattered throughout; • The busy Regional Road R445 and the M7 motorway which transect the area. The presence of rolling hills running north of Dunkerrin at the townlands of Frankford, Clonagannagh and Ballystanley and the proximity of same to the R445 and M7 would make any windfarm development extremely prominent and visual dominant in the local landscape. In addition, the presence of medium levels of one off housing in the open countryside and the settlements of Dunkerrin and Cloughjordan will make the locating of windfarm development in this area challenging, having regard to the separation distances required from turbines to houses and settlements as set out in the development management standards section in Chapter 13 of Volume 1 of this Plan.	**Area not deemed Suitable for Windfarms.**
12	**Area generally south of Moneygall** This area is quite elevated punctuating the generally low lying landscape of surrounding areas with prominent hill tops at Armyhill and Loyer and contours generally rising significantly in	**Area not deemed Suitable for Windfarms.**

	a south easterly direction towards Borrisnoe Mountain in County Tipperary. The population in the open countryside is sparse, concentrated in nearby Moneygall village with the landscape farmed. Having regard to the scenic quality of the area, its proximity to Borrisnoe Mountain and the visibility of the area from the M7 motorway and Regional Road, R445, this area is considered to have little capacity to accommodate the visual change associated with windfarm developments.	

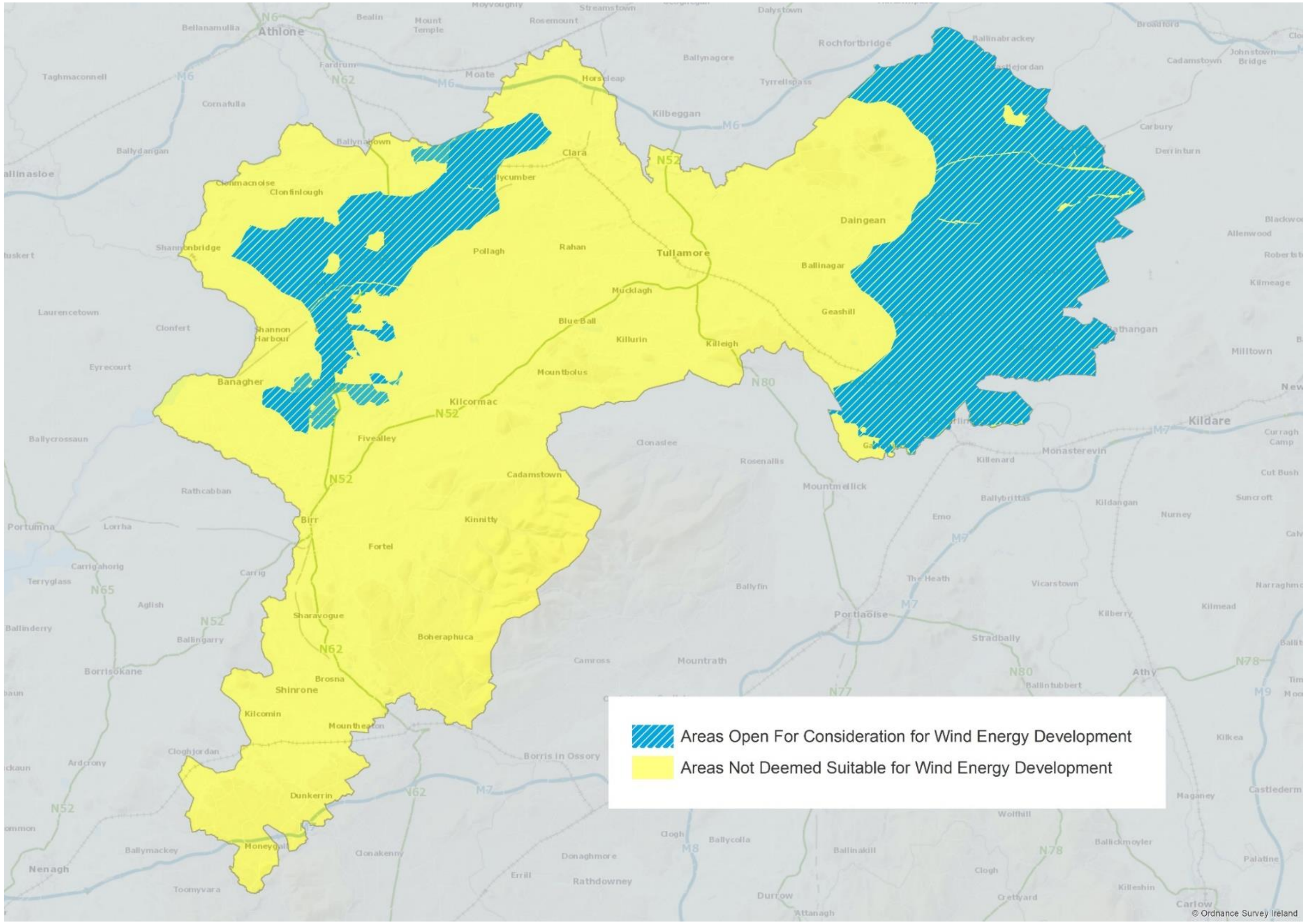
***** Wind energy developments in areas considered 'Open for Consideration for Wind Energy Development' following the below analysis does not imply 'automatic approval' as each proposal for development will be considered on their individual merits at planning application stage subject to the normal environmental and appropriate assessment, and compliance with the relevant policies and objectives, development management standards as set out in the Volume 1 of this County Development Plan and section 28 Ministerial Guidelines.

7 Results of Methodological Step by Step approach and Field Analysis of Potential Sites for Wind Energy Development

Map No. 10 shows the areas in the county designated 'Open for Consideration for Wind Energy Development'. It should be noted that areas shown 'Open for Consideration for Wind Energy Developments';

- have a viable wind speed and good access to the electricity grid;
- are free from the environmental and landscape constraints outlined in Section 5 above;
- are characterised by dispersed or sparse patterns of rural housing;
- are of a sufficient size to accommodate commercial wind farms and associated infrastructure rather than a smaller remote and dispersed area.

These areas have been identified based on the sieve mapping analysis in Section 5, a field analysis and desk top survey in Section 6, and have been informed by the Strategic Environmental Assessment (SEA) and Appropriate Assessment (AA) undertaken in relation to this County Wind Energy Strategy.



Map No. 10: Wind Energy Strategy Designations

8 Wind Energy Development Policy

It is the policy of the Council to assess proposals for new wind energy developments in accordance with Map No. 10 'Wind Energy Strategy Designations', Climate Action Energy Objective 03 (Chapter 3 Climate Action and Energy) and the following parameters:

1. Areas Deemed Open for Consideration for Wind Energy Developments

These areas are open for consideration for wind energy development as these areas are characterised by low housing densities, do not conflict with European or National designated sites and have the ability by virtue of their landscape characteristics to absorb wind farm developments. Notwithstanding this designation, wind farm developments in these areas will be evaluated on a case by case basis subject to criteria listed in Development Management Standard 109 contained in Chapter 13 of Volume 1 of this County Development Plan and the Section 28 Wind Energy Development Guidelines.

2. Areas Not Deemed Suitable for Wind Energy Developments

(a) This area is considered to be generally unsuitable for wind farm development due to significant environmental, heritage and landscape constraints and housing density.

(b) Individual small scale turbines will be considered on a case by case basis having regard to relevant exemption provisions in the Planning and Development Regulations 2001 as amended.

(c) Applications for re-powering (by replacing existing wind turbines) and extension of existing and permitted wind farms will be assessed on a case by case basis and will be subject to criteria listed in Development Management Standard 109 contained in Chapter 13 of Volume 1 of this County Development Plan and the Section 28 Wind Energy Development Guidelines.

9 Consistency with Adjacent Local Authorities' Wind Energy Strategies

This County Wind Energy Strategy has considered the County Development Plans and Wind Energy Strategies of adjoining counties as shown below in Table 4 to ensure where possible a consistent approach across county boundaries.

Table 4: Other Local Authorities Wind Strategies or policies

County	Plans and Strategies	Wind Energy Map	Level of consistency with Offaly County Wind Strategy in relation to shared borders
Galway	Galway Development Plan 2015 – 2021 – Chapter 7 Energy/Renewable Energies and Communications Technology and Appendix IV Wind Energy Strategy.	Yes	High consistency with both policies contained in both County Development Plans and mapping of County Wind Energy Strategies. It is noted that this Offaly County Wind Energy Strategy is consistent with the Galway Wind Energy Strategy in that windfarm development is not deemed suitable in the Shannon Challows area that both counties share having regard to the ecological and landscape sensitivities of the area.
Kildare	Kildare County Development Plan 2017-2023 – Chapter 8: Energy and Communications, Section 8.5 Wind Energy.	No	High consistency relating to policies in County Development Plans. Kildare County Council has not prepared a County Wind Energy Strategy to date instead including a number of wind energy policies of which the policies within Chapter 3: Climate Action and Energy of Volume 1 of this County Development Plan are consistent with.

Laois	Laois County Development Plan 2017 – 2023 - Appendix 5: Wind Energy Strategy and Ministerial Direction 2017.	Yes	Low consistency between County Wind Energy Strategies. It is noted that the inclusion of an area 'open for consideration' for wind farm development south of the shared border on the Laois side of the two counties will impact upon the 'Protected View' Ref. Number V1 in Table 4.16 'Key Scenic Views and Prospects' from Chapter 4: Biodiversity and Landscape of the Offaly County Development Plan of the Slieve Bloom Mountains from the N80 in the townlands of Ballynasragh, Pigeonhouse, Killeigh, Derryclure, Derrybeg and Cloncon. The Offaly Wind Energy Strategy deems this area not suitable for wind energy developments.
Meath	Meath County Development Plan 2013-2019 - Chapter 8: Energy and Communications and Appendix 7 Landscape Character Assessment.	No	High consistency relating to policies in County Development Plans. Meath County Council has not prepared a County Wind Energy Strategy to date instead including a number of wind energy policies of which the policies within Chapter 3: Climate Action and Energy of Volume 1 of this County Development Plan are consistent with.
Roscommon	Roscommon County Development Plan 2014-20 – Chapter 3 Economic Development Sections 3.4.3 Wind and Other Natural Resource Energy Technologies, Chapter 4 Infrastructure, Section 4..6.2 Wind Energy and Landscape Character Assessment of County Roscommon, June, 2008.	No	High consistency with both policies contained in County Development plans and mapping of County Wind Strategies. It is noted that the Offaly County Wind Energy Strategy is consistent with the Roscommon Landscape Character Assessment which informs the issue of suitability of windfarms in the county, in that windfarm development is not deemed suitable in LCA 9: Cloonown and Shannon

			Callows that both counties share having regard to the ecological and landscape sensitivities of the area.
Tipperary	Tipperary Wind Energy Strategy 2016, South Tipperary County Development Plan 2009 and North Tipperary County Development Plan 2010.	Yes	High consistency relating to policies in County Development Plans. Low consistency relating to mapping of wind energy areas. The majority of the areas of North Tipperary close to the border with Offaly are categorized as 'Areas of the County that have adequate wind resources for wind farm development' in Appendix 6 'Wind Energy Developments in North Tipperary' of the North Tipperary Development Plan. These areas are deemed eminently suitable for wind farm development subject to normal planning considerations. Much of the areas on the Offaly side of the shared order are not deemed suitable for wind energy developments due to areas being located with European designated sites, Areas of High Amenity, high landscape sensitivity areas, in close proximity to settlements and one off houses, and concerns of the visual impact of wind energy development on the scenic quality of the area.
Westmeath	Westmeath County Development Plan 2014-20, Chapter 10 Energy and Communications, Section 10.5 Wind Energy.	Yes	High consistency relating to policies in both County Development Plans. In particular, Policy P-WIN2 from Chapter 10 'Energy Communications' of the Westmeath County Development Plan, directs large scale energy production such as wind farms onto cutaway peatlands in the county subject to normal planning considerations which is consistent with a number of policies in Chapter 3: Climate Action and Energy and Chapter 5: Economic Development of Volume 1 of this County Development Plan relating to the potential of

			peatlands to accommodate renewable energy (such as wind energy developments). Medium consistency relating to mapping of wind energy areas. Whilst Westmeath County Council has not prepared a County Wind Strategy to date, from examining maps showing Landscape Characters and wind energy resources (based on the Sustainable Energy Authority Ireland Wind Atlas) in County Westmeath, it is noted that a significant area of land to the north west of the Offaly border has medium capacity to accommodate wind energy developments. Much of the areas on the Offaly side of the county border are either designated 'Open for Consideration for Wind Energy Development', with the exception of certain specific areas which are located within European designated sites, Areas of High Amenity, high landscape sensitivity areas or are in close proximity to settlements and one off houses.

10 How the SEA and AA informed the Wind Energy Strategy

Strategic Environmental Assessment (SEA) and Appropriate Assessment (AA) have been undertaken in relation to this County Wind Energy Strategy. The identification of environmental sensitivities by these processes has helped to define areas for wind energy development and ensured that highly sensitive landscape and designated sites were avoided in designating areas deemed 'Open for Consideration for Wind Energy Developments'.

11 Strategic Approach to Wind Energy Development

Offaly County Council has taken a strategic approach to developing this County Wind Strategy. It identifies key areas within the county that are 'Open for Consideration for Wind Energy Developments' or 'Unsuitable for Wind Energy Developments' based on a comprehensive assessment of wind speed, access to the electricity grid and substations, and avoidance of adverse impacts on the landscape and designated sites, all of which facilitate a more robust Plan preparation process. In particular, it is considered that this strategic approach:

- Facilitates a strategic and plan led approach to wind energy development in the county.
- permits a more accurate analysis of existing environmental resources, potential impacts and identification of mitigation measures where necessary;
- Facilitates the avoidance of particularly sensitive resources where necessary;
- Allows for a cumulative assessment of wind energy developments within the county; and
- Allows the Council a means to assess and potential a means to progress wind energy developments within robust strategic areas in the county, assisting the achieving of national renewable energy targets.