



Submission on Draft Carlow County Development Plan 2022-2028

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1 Introduction

1.1 Outline of Submission

Wind Energy Ireland (formerly the Irish Wind Energy Association) welcomes the opportunity to make this submission on the Draft Carlow County Development Plan 2022-2028 ('draft Plan').

Wind Energy Ireland (WEI) have reviewed the draft Plan and associated documents. We wish to make specific comment on the following:

Chapter 7: Climate Action and Energy

Chapter 9: Economic Development

Chapter 11: Tourism and Recreation

Appendix VI: Draft Renewable Energy Strategy

Our submissions and observations are presented below.

1.2 WEI and Wind Energy in Ireland

Ireland's 2020 energy target of 40% renewable electricity was a key driver in the development of wind power over the last decade. Ireland has just over 300 operational wind farms, which represents an investment of over €7 billion, regularly powering 65% of Ireland's electricity needs. The wind energy industry also supports 5,000 jobs and annually pays more than €45 million in commercial rates to local authorities. We are a country with enormous renewable energy resources and are world leaders at incorporating onshore wind into the national grid.

Renewable energy provided 43 per cent of Ireland's electricity in 2020, with over 38 per cent of this coming from wind energy. This is the highest share of electricity being provided by onshore wind in Europe, and this is expected to rise as we decarbonise our electricity system. In 2019, approximately €501 million in fossil fuel imports were avoided by the use of Renewables of which €248 million was avoided by wind¹. Wind Generation avoided 3.9 million tonnes of CO₂ emissions. These demonstrate the huge contribution that onshore wind is making to climate action.

Wind energy decarbonises our electricity supply, cuts our energy import bill and drives down wholesale electricity prices. To achieve this, Ireland has built just over 300 onshore wind farms, mostly since 2003, with a combined capacity of approximately 4,300 megawatts (MW) (see Fig. 1 for historical growth of wind) and over 2,500 wind turbines. Even though these wind farms are supplying Ireland with the highest share of onshore wind in any EU electricity system, the resource in Ireland is so large that Ireland's turbine density is relatively low by other EU standards. Due to a delay between the end of the REFIT scheme and start of the RESS scheme, only c.135MW was installed during 2020.

Five other EU countries have a higher number of turbines per square kilometre than Ireland, as shown in Figure 2, suggesting there is still potential for further growth.

¹ <http://www.seai.ie/publications/Energy-in-Ireland-2020-.pdf>, page 54

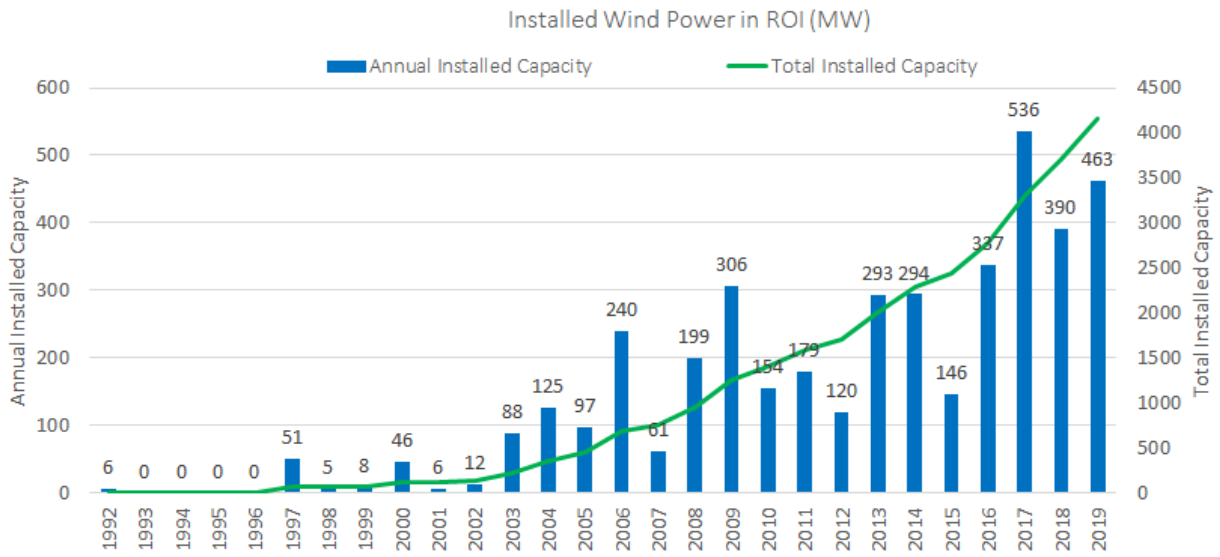


Figure 1: Installed capacity of onshore wind in Ireland since 1992

Turbine Density in Europe

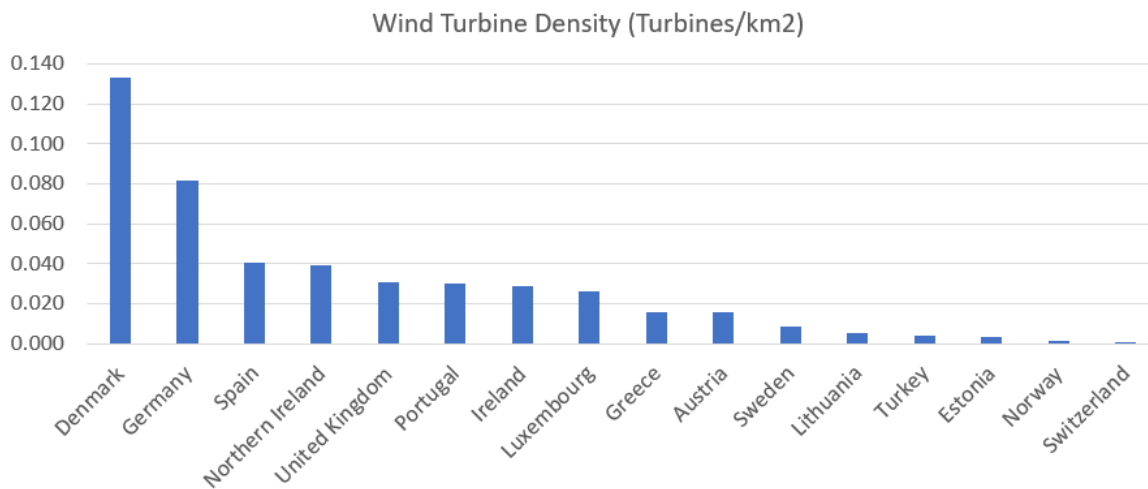


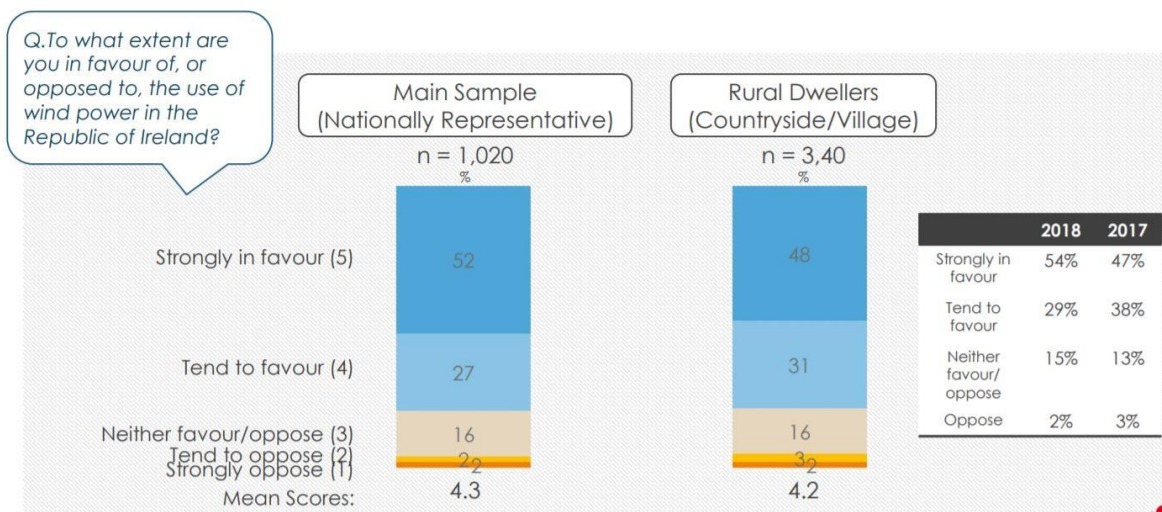
Figure 2: Turbine density in various European Countries

Onshore wind needs to continue growing in Ireland to meet future renewable energy targets with Ireland’s Climate Action Plan proposing an increase from ~4200 MW at the end of 2020 to ~8200MW by 2030. That is why it is critical that the new Carlow Renewable Energy Strategy (RES) and Wind Energy Strategy (WES) provides every opportunity to get as many of the projects currently in development through the planning and approvals system to enable them to contribute to hitting our 2030 targets. This is discussed in more detail in section 1.4 below.

1.3 Wind Energy is Popular

The most recent opinion poll carried out for WEI by Interactions found that 79 per cent of Irish people were strongly in favour of, or tended to favour, wind energy (Figure 3). It is important to reiterate that these figures have been replicated over the years and with different polling companies. An Ipsos MRBI poll from February 2016 found support for wind energy at 70 per cent and polls from the same company in 2014 and 2013 found that opposition to wind energy only once, in 2014, reached double figures at 12 per cent. A 2016 opinion poll carried out by Research Now for the ESRI put support for wind energy at 78 per cent positive versus 10 per cent negative making it more popular than gas, coal and biomass² (Figure). The Irish people support clean, renewable, indigenous energy.

Favourability towards Wind Power



Consistent with previous waves, 4 in 5 Irish of those surveyed are in favour of wind power in Ireland.



² ESRI Working Paper 545. October 2016.

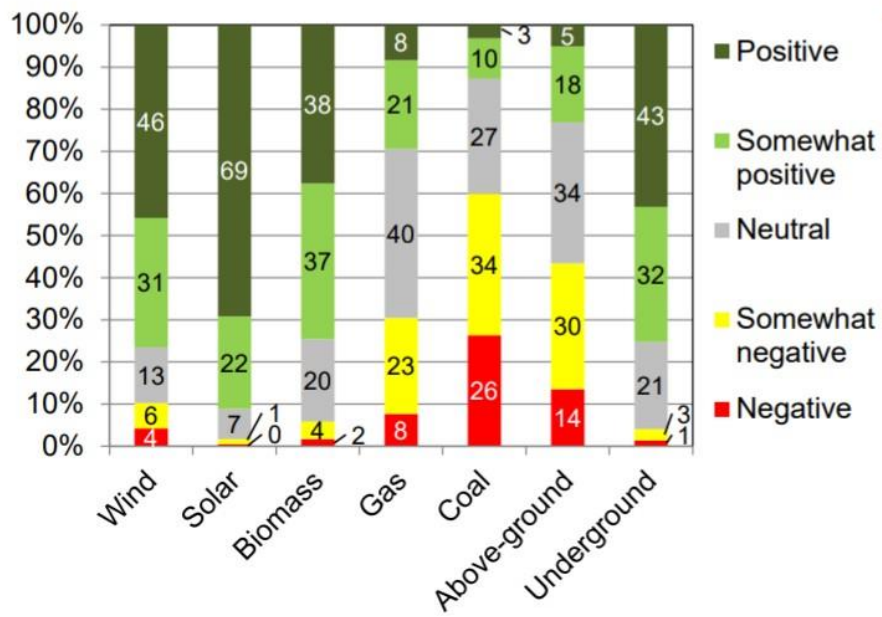


Figure 4: Irish Residents Views of Energy-Related Technologies (Bertsch et al., ESRI, Journal of Energy Policy 2017³)

³ <http://dx.doi.org/10.1016/j.enpol.2017.04.008>

2 Carbon Emissions and Renewable Energy Targets

On the 9th August 2021, the Intergovernmental Panel on Climate Change (IPCC) published its 6th Assessment Report (AR6) with the overarching assertion that, “*It is unequivocal that human influence has warmed the atmosphere, ocean and land*”. This report confirms with alarming certainty the detrimental and linear relationship of CO₂ emissions and global temperature rise in D1.1⁴:

“This Report reaffirms with high confidence the AR5 finding that there is a near-linear relationship between cumulative anthropogenic CO₂ emissions and the global warming they cause.....This relationship implies that reaching net zero anthropogenic CO₂ emissions is a requirement to stabilize human-induced global temperature increase at any level, but that limiting global temperature increase to a specific level would imply limiting cumulative CO₂ emissions to within a carbon budget.”

The detrimental effects of rising global temperatures are evidenced in regionally intensified weather patterns. Severe heat waves that happened only once every 50 years are now happening roughly once a decade. Tropical cyclones are getting stronger. Most land areas are seeing more rain or snow fall in a year. Severe droughts are happening 1.7 times as often while fire seasons are getting longer and more intense. Ireland is not immune to these climatic changes, with average temperatures exceeding long-term averages in 23 of the past 25 years. The urgency with which Ireland and the rest of the world need to tackle climate breakdown is clear and reflected in our national targets outlined below, with the electricity sector a key component in reaching decarbonization.

The criticality of onshore wind in Ireland’s energy mix is apparent when the near-term trajectories in the Clean Energy Package Governance Regulation (2019) are considered. This requires all member states to submit National Energy and Climate Plans (NECP) setting out how each member state will contribute to the decarbonisation objectives of the European Union. Section (34) of the document notes (emphasis added):

⁴ IPCC AR6 WGI 'Summary for Policy Makers': https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf

*“Integrated national energy and climate plans should be stable to ensure the transparency and predictability of national policies and measures in order to ensure investment certainty. National plans should however be updated once during the ten-year period covered to give Member States the opportunity to adapt to significant changing circumstances. For the plans covering the period 2021 to 2030, Member States should update their plans by 30 June 2024. **Objectives, targets and contributions should only be modified to reflect an increased overall ambition in particular as regards the 2030 targets for energy and climate.** As part of the updates, Member States should make efforts to mitigate any adverse environmental impacts that become apparent as part of the integrated reporting”.*

In addition, on 17th June 2019 the Government published the ‘Climate Action Plan 2019’ (CAP). This sets out the agreed course of action over the coming years to tackle climate breakdown. It is a visionary and transformational plan and at its heart recognises that *“We [Ireland] are close to a tipping point”* and *“decarbonisation is now a must if the world is to contain the damage and build resilience in the face of such a profound challenge.”* (Exec. Summary pg. 8). In particular, the CAP places the decarbonisation of the electricity sector at the centre of its ambitions. In real terms it mandates this sector to move from 12 million tonnes of CO₂ equivalent emissions in 2017, to 4.5 million tonnes by 2030. In other words, a massive reduction of 7.5 million tonnes (62.5%).

Other sectors, namely transport, the built environment, agriculture and industry are also tasked with significant CO₂ emission reductions but of a comparatively lower order namely 37.5%, 31.25%, 7.5% and 6.25% respectively. This makes transforming the electricity sector the single greatest lever in the CAP in terms of CO₂ reduction (Ref. EirGrid Strategy Launch 2019, CEO presentation).

The 2019 CAP provides a roadmap of what must be achieved and in relation to electricity, requires 70% of all our demand to come from renewable energy sources by 2030. This almost doubles the previous target of 40% by 2020. To achieve the 70% target, the CAP earmarks a target of 3.5GW off-shore wind and a doubling of existing on-shore wind from circa 4GW (today) to 8.2GW by 2030, signalling onshore wind as crucial in the roadmap to decarbonization.

To put the scale of the ambition into further context it should be noted that it has taken 20+ years to achieve the current level of renewable penetration onto the Grid. The challenge is now to achieve twice as much in half the time. This is of particular significance in the context of the lifetime of the draft Plan to 2028.

It should be noted the 2020 programme for government commits to an average 7% per annum reduction in overall greenhouse gas emissions from 2021 to 2030 (a 51% reduction over the decade) and to move to net zero emissions by 2050. The 2050 target was set into law by the Climate Action and Low Carbon (Amendment) Act 2021 as passed through the Oireachtas and signed into law 23rd July, 2021. This increases the CAP offshore target to 5GW; proposes a strengthened role for the Climate Change Advisory Council, proposes an annually revised Climate Action Plan and new oversight and accountability by the Oireachtas. Every sector, including the energy sector, must contribute to meeting the 2050 target by implementing policy changes as outlined throughout the programme for government.

WEI believes that planners working in all tiers of government (national, regional, local) and the planning profession in general needs to step forward and frame this national CO₂ reduction ambition and the associated requirement for renewable energy, in the form of plan-led 'Renewable Energy Strategies' (RESs) as an utmost priority.

The targets discussed will not be achievable without a functioning onshore wind sector, and there is likely to be considerable reliance on wind to deliver on our intermediate targets to 2025 and 2027. Given the relatively high likelihood that a significant portion of new offshore capacity will only start to be delivered onto the system post 2027, (and in volumes that may fall short of the targets set out in the NECP), these requirements clearly point to a need to maintain focus on the delivery of new onshore capacity, which will be better placed to support these earlier intermediate targets, in addition to making a material ongoing contribution to the long term decarbonisation targets.

3 Chapter 7: Social and Community Development

The Energy Sector is a key sector for job growth, throughout the lifetime of the Plan. Wind Energy development can generate significant construction and operation jobs throughout its lifetime and contribute to rural communities through community benefit funds and to the local authority through rates.

WEI is also committed to ensuring that local communities' benefit from having a wind farm in their locality in terms of a Community Benefit Fund which supports the development of local recreation amenities and provides additional community project funding. Community benefit schemes relating to RESS projects will have significant community benefit, providing an opportunity to transform rural communities where projects are located. The Public Consultation on Good Practice Principles for Community Benefit Funds under the RESS^[1] published 30th March 2021 provided welcome guidance on Community Benefit Funds administration, structure, and quantity, indicating a 50MW project will create approximately €300,000 annually. We are also working hard around Community Investment and examining how communities could be given the opportunity to invest in a wind farm project.

4 Chapter 9: Economic Development

WEI statistics confirm that in terms of initial capital investment, every megawatt (MW) of wind energy capacity installed gives rise to an investment of approximately €1.25 million. Ongoing investment and economic development benefits during the 30+ year operational lifespan of wind farms, take the form of rents payable to landowners, financial support for local communities in the form of community benefit schemes and commercial rates payable to local authorities. Combined, these amount to approximately €25,000 per MW per annum. A review carried out by WEI indicated over €1,000,000 was paid to the Council from wind farms in the form of commercial rates in 2020.

Therefore, WEI believe that wind energy is of strategic importance to the county both in addressing Climate Change and in growing the Carlow economy and providing employment opportunities in both rural and urban communities.

5 Renewable Energy Strategy and Spatial Planning of Wind Energy

5.1 Policy Ambition

To-date, there does not appear to be any central Government or Regional Assembly guidance on how many MW or GW of new wind energy development each Local Authority like Carlow and County Council will need to be making provision for. In this absence of such guidance, WCCC should seize the opportunity and seek to identify enough land to accommodate as much as possible of the additional 4.2GW of additional onshore wind energy required by the Climate Action Plan by 2030.

The quantum of land identified as potentially suitable for wind energy development must go far beyond the actual amount required, to allow for a natural attrition rate across development sites and projects.

To deliver 4.2GW of new wind energy capacity onshore by 2030 to meet the Climate Action Plan’s target, will require a sufficient quantum of land to accommodate many multiples of 4.2GW to be classified as suitable for wind energy. This multiple is

required to allow for the natural attrition rate of the wind energy development process, where every site or area that has theoretical potential,

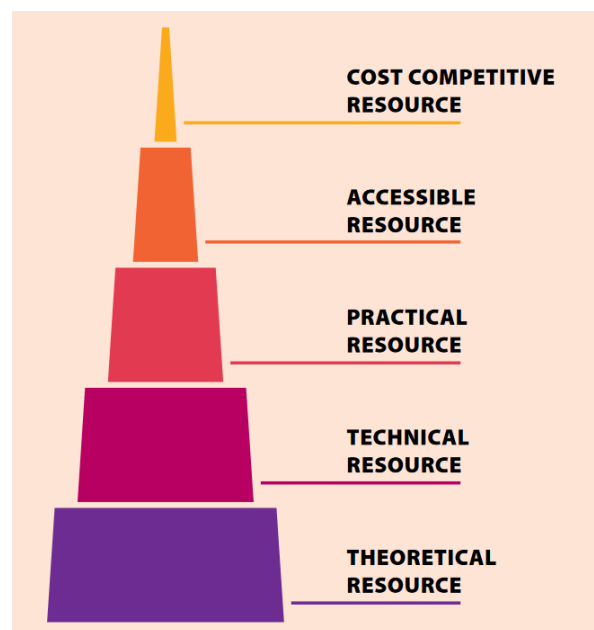


Figure 5: Geographical representation of sieve analysis approach (Methodology for Local Authority Renewable Energy Strategies, SEAI)

cannot convert that theoretical potential into actual potential, as illustrated in the graphic opposite, taken from the SEAI Methodology for Local Authority Renewable Energy Strategies.

The theoretical resource is reduced for many reasons. Even where a site is considered suitable for a wind energy development in a WES, landowners may not be agreeable to accommodating a project on their lands. If landowners are agreeable, site-specific environmental constraints such as bird activity, peat depth/stability or a high concentration of neighbouring properties might rule a site out. If no such constraints exist, a project’s planning application could still be refused permission, or

if granted, overturned on judicial review. If granted permission, a project may not be able to secure an economically viable grid connection or be able to find a route to market for its electricity that make the construction of the project a commercially viable proposition. These are just a few examples of the hurdles a project must clear to convert theoretical potential to actual, delivered capacity. To deliver 4.2GW of new onshore wind by 2030, is likely to require a quantum of land sufficient to accommodate 15-20GW of land to be identified as suitable for wind energy if we want to see 4.2GW actually delivered and connected based on a theoretical analysis and a view from WEI members on likely success rates.

WEI strongly suggests that the CDP and WES for Carlow must classify a sufficient quantum of land as being suitable for wind energy, to ensure national renewable energy targets can be achieved, and demonstrate how the quantum of land classified as suitable is sufficient for this purpose. An example of suitable figures is outlined in section 8.3 of this submission. A clear policy ambition in the CDP and WES for County Carlow is critical to guide the strategy and the identification of a sufficient quantum of potentially suitable land.

5.2 Methodology

Carlow County Council will be aware of the Department of Housing, Planning and Local Government's (DHPLG) recent public consultation on the Draft Revised Wind Energy Development Guidelines, and specifically Chapter 3 of the draft guidelines on planning for wind energy development through the Local Authority development plans and wind or renewable energy strategies.

In our submission to DHPLG on the Draft Revised Wind Energy Development Guidelines, WEI has already suggested that the step-by-step guide outlined in Section 3.6 Draft Revised Wind Energy Development Guidelines should be strengthened to give clearer direction to planning authorities on the need to consult with neighbouring planning authorities to ensure a consistent approach across county boundaries, and that this interaction with adjoining Local Authorities be made a mandatory part of the preparation of the WES. WEI notes that while the County Development Plans and Wind

Energy Strategies of adjacent counties have been reviewed by Carlow County Council, we encourage the Council to engage with the adjacent County Councils to ensure a consistent approach is taken across county boundaries as each Local Authority moves to prepare or review its WES.

When finalising the new WES for Carlow, WEI urges Carlow County Council **not** to consider the following potential constraints or facilitators in the process of identifying areas as being potentially suitable for wind energy developments:

1. **Grid Capacity** - Existing or planned electricity grid capacity should not be considered a constraint for the purposes of determining whether areas of County Carlow are suitable or unsuitable for wind energy development. Grid capacity is a technical and electrical engineering constraint that is managed by the TSO/DSO and new infrastructure is often provided on the basis of there being a need to connect wind energy developments to the electricity grid, thereby further reinforcing grid infrastructure in counties where this work would not otherwise have occurred without wind energy development. However, given the extent of grid within the County, lack of grid capacity is not seen as a major constraint.
2. **Wind Speed** - Wind speed should not be used as a constraint for site suitability or unsuitability at the strategy preparation stage, as wind turbine technology is quickly evolving to be able to harness lower wind speeds than was not thought possible only a few years ago. The SEAI Wind Atlas of Ireland is also derived from a computer model and would not be as accurate as on-site wind measurements which are used by wind energy developers to verify a site's wind regime as being viable. Therefore, for these two reasons, to exclude areas solely on the basis of wind speeds derived from a national wind atlas would be an overly conservative approach and would unnecessarily prevent a suitable classification being applied to what otherwise could be a perfectly viable site. The Draft RES indeed agrees with this, however areas of 7.5m/s at 75m and above were identified, excluding otherwise potentially available lands.
3. **Nature Conservation Areas** - Areas designated for nature conservation should also not be automatically excluded from accommodating new or repowered wind energy projects. This is because, for example, in such constraints-led studies, Special Protection Areas (SPAs) would typically be deemed unsuitable. However, there is greater than 1GW (1,000MW) of wind energy developments currently in operation in SPAs within Ireland.

5.3 Landscape Capacity and Landscape Sensitivity

Historic Renewable or Wind Energy Strategies providing locational guidance for the siting of wind farms, have traditionally directed them towards landscapes of lower sensitivity. These lower sensitivity landscapes would generally be considered to have a higher capacity to accommodate wind energy developments, or in fact any type of development. As illustrated in Figure 6 below, the least sensitive landscapes would generally be considered to have the most capacity to accommodate development, while the most sensitive landscapes would generally be considered to have the least capacity to accommodate development.

As decarbonisation and renewable energy ambitions increase, wind energy developments will have to extend from the least sensitive landscape areas with the most capacity, into areas of slightly more sensitive landscape.

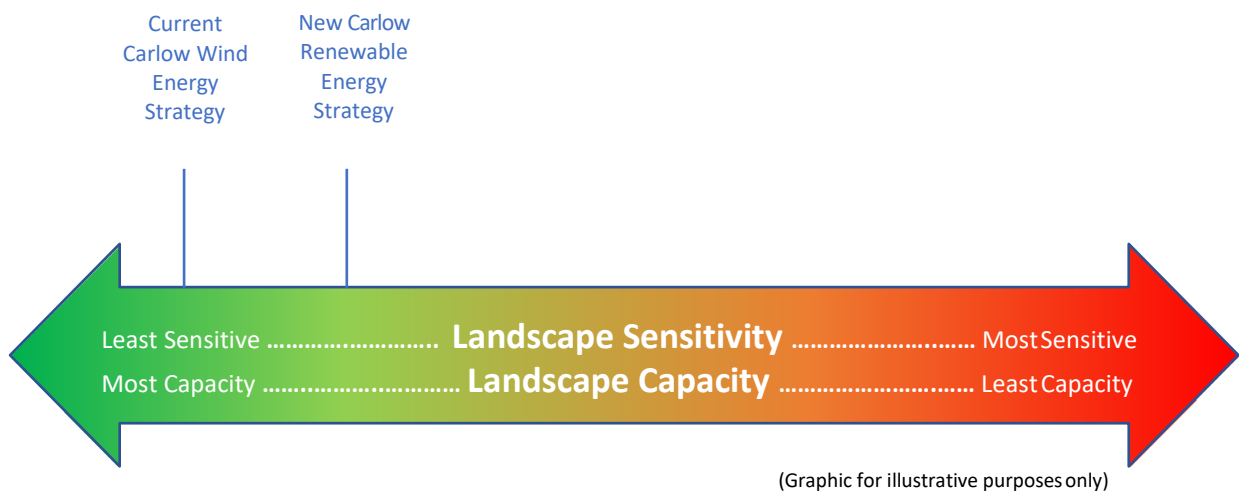


Figure 6: Landscape Sensitivity & Landscape Capacity

The Government’s Climate Action Plan will require a further 4.2GW of wind energy to be installed onshore by 2030. This additional 4.2GW will have to be located in areas of slightly greater landscape sensitivity than the 4GW already installed. However, there remains significant landscape capacity across the country and across County Carlow to fulfil the State’s onshore wind energy and renewable energy ambitions. The most scenic parts of County Carlow can still be protected and deemed not normally permissible for wind energy in the new WES for Carlow, but it will still be necessary to

extend the areas that will be considered suitable for wind farm development into slightly more sensitive landscape areas if we are to deliver on the requirements of the CAP over the coming decade.

5.4 Regional Approach

WEI acknowledges that Carlow County Council is only responsible for its own functional area and that the new CDP and WES for Carlow will only extend as far as the Carlow boundary.

WEI has been advocating for a regional-approach to the spatial planning of wind farm developments for some time, to compliment the Local Authority-level approach that has been the case to-date. WEI previously prepared a Discussion Document (available upon request) on this specific topic which outlines the following benefits of a regional approach:

- It fits within and neatly compliments the Regional Spatial and Economic Strategies (RSES) now prepared for the three regions. (As the three RSES policy documents have now been formally adopted, spatial plans for renewable energy projects can be progressed as supplementary work streams by the Regional Assemblies and compliment the RSES).
- A single, consistent methodology can be used across an entire region and across all three regions in the country, including across county and local authority boundary areas where approaches to-date have been inconsistent in many cases.
- A regional approach would ensure that the optimum locations for wind energy development are identified, and every county's potential is assessed in a regional and national context, in direct comparison with the rest of the region.
- It would ensure that national targets, objectives and requirements for the delivery of wind energy, directly translate into the identification of suitable areas and corridors, and a sufficient quantum of land is identified and deemed appropriate to ensure national targets, objectives and requirements can be delivered.
- Landscape sensitivity, value and capacity can be assessed on a broader, regional scale, rather than just within the sometimes-limited confines of an individual county. This would provide consistent, evidence-based landscape policies across local authority areas, and ensure the appropriate landscape policies are implemented irrespective of the county boundaries. This would ensure that wind and other electricity infrastructure projects that span or are visible across county boundaries, can be assessed in a consistent landscape policy context.
- Landscape sensitivity and capacity assessments could be undertaken for wind energy and other electricity infrastructure on a regional basis, without needing the National Landscape Strategy to be

completed. While the National Landscape Strategy will have to provide for all forms of development and types of land uses, the assessment of landscape sensitivity and capacity specifically for wind energy and electricity infrastructure is a much more defined work stream, that could be progressed in advance. Existing Local Authority landscape policies can be used to align landscape values across a region, to ensure existing local policy is fully considered when moving to a regional approach for the assessment of landscape sensitivity and capacity for wind energy and other electricity infrastructure.

A regional approach to the spatial planning for wind energy was suggested by WEI as far back as March 2018 and is still considered vital if the transition to a low carbon economy in the coming years is to be successful. WEI maintains it is essential to plan for this transition, on the basis of the three Regional Assembly areas, in addition to the 31 Local Authority areas as has been the case to-date. The regional approach would undoubtedly provide a more appropriate platform for ensuring national policy can be transposed effectively to local level, and ensure a consistent approach is used across the entire country that reflects Government policy.

In addition to the Local Authority-based approach to incorporating renewable strategies into their respective development plans, to compliment the Renewable Electricity Policy and Development Framework (REPDF) currently being prepared by the Department of Communications, Climate Action and the Environment (DCCA), WEI will continue to advocate for the preparation of Regional Renewable Energy Strategies to be accelerated and prioritised by the three Regional Assemblies. Only the Regional Renewable Energy Strategies can ensure that a sufficient quantum of land within each region is identified as having wind energy potential sufficient to meet the national requirements.

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