

SUBMISSION ON KERRY DRAFT COUNTY DEVELOPMENT PLAN

SSE Consultation Response

February 2021



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Introduction

SSE makes this submission for consideration as part of the *Draft Kerry County Development Plan* consultation.

We welcome the publication of the Draft County Development Plan (CDP) and support the central role it will play in guiding proper planning and sustainable development in Kerry between 2022 and 2028 as part of the National Planning Framework (NPF). While recovery from the Covid-19 pandemic has and will continue to be a key local and national priority, the climate emergency has not gone away. It is welcome to see this acknowledged in the CDP.

For its part, Ireland has committed to bold national and international targets aimed at decarbonising activity and transitioning to a more sustainable way of living and working to help build resilience across all sectors of society and the economy. In particular, the Climate Action Plan has set the goal of transitioning to 80% renewable energy generation by 2030. Though ambitious, achieving this target is an essential milestone in our journey towards a transition to net zero by 2050.

Kerry's new CDP will promote and guide development across the county for the crucial period leading up to 2030. The success or failure of our 2030 climate goals hinges on the period governed by the CDP that is currently under consideration. It is, therefore, arguable that never has it been so important to get planning policy right.

SSE offers this submission primarily in relation to Chapter 12 Energy. As one of Ireland's leading energy producers, and the largest developer of renewable energy, we hope the insights we provide can be of help in adopting a new County Development Plan during this critical time of transformation and change. We strongly welcome this consultation and would be glad to discuss this submission with members of Kerry County Council or its Executive as part of the CDP development process.

Who we are

At SSE, we are proud to make a difference. From small beginnings, we have become one of Ireland's largest energy providers, supplying green electricity and natural gas to over 700,000 homes and businesses on the island of Ireland. We are driven by our purpose: to provide energy needed today while building a better world of energy for tomorrow.

Since entering the Irish energy market in 2008, we have invested significantly in our Irish businesses, with a total economic contribution of €3.8bn to Ireland's economy over the past five years. We own and operate 890MW of onshore wind capacity across the island, 15% of the total installed wind energy capacity of the island of Ireland (n=5585MW). Our portfolio includes sites across both Northern Ireland and the Republic

of Ireland, including Ireland's largest onshore wind farm, the 174MW Galway Wind Park (jointly developed with Coillte).

As a leading developer of offshore wind energy in Great Britain, this form of energy generation has the potential to transform Ireland's response to climate change. For our part, SSE is currently developing an offshore windfarm off the coast of Co. Wicklow – Arklow Bank Wind Park Phase 2. We also plan to progress offshore wind projects in Co. Louth at Braymore Point and in the Celtic Sea.

SSE in Kerry

Leanamore Wind Farm

In Kerry, SSE Renewables has operated the 18MW Leanamore Wind Farm near Ballylongford in the north of the county at full commercial capacity since 2018. This site comprises nine turbines, can power 12,000 homes and helps to abate almost 14,500 tonnes of harmful carbon dioxide per annum.

In addition to the job creation and economic benefits that come along with the development and operation of any wind farm, those communities located in the hinterland of our wind farms also benefit significantly from the SSE Renewables Community Fund.

In 2021 alone, 108 community groups from Limerick and Kerry shared in funding of over €237,000 from Athea, Dromada, Leanamore, Rathcahill and Tournafulla wind farms. This took the company's contribution in the area to over €2.4 million (€2,447,726). There is, therefore, a significant community benefit attaching to our presence in the county.

Tarbert Power Station

SSE Thermal also owns and operates the 620MW Tarbert Power Station, which is situated on the Shannon Estuary in Tarbert. The station comprises two 60MW and two 250MW oil-fired turbines. Its principal function is to help maintain security of electricity supply in Ireland's all-island Single Electricity Market (SEM) by being available to operate on quick responses to peaks in national energy demand.

Executive Summary

SSE welcomes the publication of the Draft County Development Plan (CDP) and support the central role it will play in guiding proper planning and sustainable development in Kerry between 2022 and 2028 as part of the National Planning Framework (NPF). While recovery from the Covid-19 pandemic has and will continue to be a key local and national priority, the climate emergency has not gone away. It is welcome to see this acknowledged in the CDP.

For its part, Ireland has committed to bold national and international targets aimed at decarbonising activity and transitioning to a more sustainable way of living and working to help build resilience across all sectors of society and the economy. In particular, the Climate Action Plan has set the goal of transitioning to 80% renewable energy generation by 2030. Though ambitious, achieving this target is an essential milestone in our journey towards a transition to net zero by 2050.

Kerry's new CDP will promote and guide development across the county for the crucial period leading up to 2030. The success or failure of our 2030 climate goals hinges on the period governed by the CDP that is currently under consideration. It is, therefore, arguable that never has it been so important to get planning policy right.

SSE offers this submission primarily in relation to Chapter 12 Energy. As one of Ireland's leading energy producers, and the largest developer of renewable energy, we hope the insights we provide can be of help in refining the county's energy policy during this critical time. We strongly welcome this consultation and would be glad to discuss this submission with members of Kerry County Council or its Executive as part of the CDP development process.

Our key observations and recommendations can be summarised as follows:

Energy Conservation & Efficiency

- The electrification of transport is key alongside encouraging a modal shift towards public transport and active travel.
- Deploying targeted electric vehicle charging infrastructure across the county is vital to meeting the changing needs of people living and working in Kerry.
- SSE recommends that Kerry County Council:
 - Drive the electrification of transport through a spatial planning approach.
 - Go further than the policies currently outlined to identify areas where electric vehicle charge points could be installed and competitively tender for these assets.

Security of Supply and Renewable Energy Transition

- European environmental policies, including the Industrial Emissions Directive, are necessitating a move away from traditional fossil fuel powered stations.
- The Climate Action Plan 2021 also sets out how green hydrogen could address some of the challenges

faced by the energy sector, such as providing a back-up for variable renewables.

- SSE recommends that Kerry County Council:
 - Recognise the ongoing importance of security of supply in the CDP and the continued need for flexible generation capacity on the Irish grid.
 - Recognise the importance of ensuring the continued use, reuse or repowering of existing infrastructure where appropriate to allow Ireland to enable Ireland to meet its energy needs.
 - Support opportunities for shared CCS and hydrogen infrastructure to decarbonise conventional generation, industry and transport.

Onshore Wind Development

- Ireland currently boasts nearly 4309MW of installed onshore wind generation capacity (Wind Energy Ireland, 2022), 18% (n=742Mw) of which is based in Kerry's c.25 wind farms, which collectively host 362 constructed wind turbines.
- Kerry has played a remarkable role in developing the onshore wind capabilities of the Southern Region, and Ireland as a whole.
- It is concerning to see such a limited scope set out in Map 5 'Wind Zoning' for future onshore wind development. The Draft CDP proposes an approx. 90% reduction to 59 Km² in areas designated as 'Open to Consideration' for onshore wind energy development when compared to the 546Km² set out in the current CDP. This would severely limit the development of new projects in the county in addition to placing significant constraints on wind farm operators in extending the life of existing installations.

Designated 'Repowering Areas'

- As the stock of wind turbines ages over the coming decade, the process of repowering will emerge as an increasingly important part of the county and State's toolkit for achieving the targeted move to 80% renewable energy generation by 2030.
- The demarcation of specific 'Repowering Areas' in Map 12.4 of the CDP (replicated in Figure 1 in the main body of the document) is a significant concern for SSE.
- Designating specific 'Repowering Areas' could significantly constrain the sustained use of sites and infrastructure that may otherwise be eminently suitable for continued wind energy generation.
- SSE recommends that Kerry County Council:
 - Adopt a presumption in favour of repowering existing renewable energy sites. This includes an assumption that a site already used for a wind farm development retains an ongoing suitability for new and repowered wind developments.
 - Make clear that applications for repowering will be considered on a case-by-case basis by designating all areas with current or planned wind development as 'Acceptable in Principle' for repowering.

Areas Deemed 'Acceptable in Principle' for Wind Development

- The Draft Revised Wind Energy Development Guidelines 2019, ('the Guidelines'), set out a step-by-step approach for use by local authorities to identify suitable areas for onshore wind development.
- The purpose is to provide 'a clear framework' (pp.18) indicating where development should be located and the factors to be considered in assessing such proposals.
- The Wind Zoning Map produced by Kerry County Council using this methodology does not subscribe to the format as it does not indicate areas 'Acceptable in Principle' or 'Not Normally Permissible'.

- The number of areas designated as 'Open to Consideration' are extremely limited.
- SSE recommends that Kerry County Council:
 - Examine how the methodology has been designed and applied to determine how it might be refined to identify additional areas where wind development is 'Acceptable in Principle'.
 - Consult the methodology as applied in other local authority areas to ensure a more consistent approach to interpreting national guidelines.

Designation of Lough Leane Catchment as Unsuitable for Wind Development

- The Wind Zoning Methodology in Appendix 6 designates the entirety of the Lough Leane Catchment as unsuitable for wind energy development.
- SSE contends that this is not substantiated by the recommendations contained within the study commissioned by Kerry County Council and undertaken by Kirk McClure Morton (2003) to investigate the causes and solutions to the severe algal bloom observed in Lough Leane in 1997.
- None of the issues raised in the context of the *Lough Leane Catchment Monitoring and Management System* study preclude onshore wind generation in areas otherwise suited to this form of development. The findings clearly indicate the greatest threat of phosphorus overloading is from agriculture taking place within the catchment.
- It is highly problematic that the entirety of the catchment has been deemed by the local authority as unsuitable for wind development.
- The evidence that exists with respect to the impact of wind development and forestry on water quality in the Lough Leane Catchment supports the assertion that the development of the Cummeenabuddoge Wind Farm poses no significant risk of increasing phosphorus loading in the Lough Leane catchment.
- It is essential that Kerry County Council revisit the validity of the assumptions made in the RES 2012 which deemed the entire Lough Leane catchment as unsuitable for wind development.
- SSE recommends that Kerry County Council:
 - Remove the categorisation of 'Unsuitable for Wind Development' from the Cummeenabuddoge Wind Farm site and designate it either as 'Open to Consideration' or 'Acceptable in Principle' for wind development.
 - Remove the categorisation of 'Unsuitable for Wind Development' from the Lough Leane catchment within the context of the Wind Zoning Methodology to ensure this is not in itself a barrier to wind development in the area. Instead, allow for case-by-case decision-making based on rigorous site-specific assessments of specific sites.
 - Work with stakeholders such as SSE in assessing the merits of wind development in this part of the county to ensure the most recent evidence is gathered and assessed.

Impact of setback distances on areas 'Open to Consideration' for wind development

- Although 59 Km² of Kerry County Council's functional area has been designated as 'Open to Consideration' for wind development, the true level of land made available is, in fact, zero. When a setback distance of 500m is overlayed on Map 12.4, there is no remaining land for wind development.
- The result is that no new wind development projects could be permitted during the lifetime of the next CDP should it be adopted in its current form.
- This is extremely concerning given the increased target of 80% set out in the Climate Plan 2021 for transition to renewable energy by 2030 and Kerry's significant potential in continuing to contribute to Ireland's renewable energy targets.
- SSE recommends that Kerry County Council:

- Revisit and adjust the Wind Zoning methodology used to identify potential areas for wind development as part of the CDP, taking account of the impact setback distances have on the availability of land for wind development.

Battery Storage for Renewable Energy

- SSE welcomes Objective 12.30 to facilitate sustainable development of Battery Energy Storage Systems (BESS) in appropriate locations.
- Planning policy should clarify that co-locating renewables developments that include certain other types of low carbon supporting infrastructure should be considered as single renewables developments.
- SSE's energy storage facilities subscribe to a range of robust safety standards, outlined in this paper.
- SSE Recommends that Kerry County Council:
 - Facilitate co-location of renewables developments with other low carbon technologies and supporting infrastructure, with weighting in favour of such developments in-line with standalone renewables developments.
 - Take note of the extensive risk mitigation strategies employed by battery storage operators when assessing planning applications for their development.

COMMENTS ON THE DRAFT KERRY COUNTY DEVELOPMENT PLAN

Overview

As one of Ireland's leading energy producers, and the largest developer of renewable energy, we hope the insights provided in this submission are of help to Kerry County Council as it nears the final stages of the draft county development plan process.

This submission focuses on specific elements of Chapter 12 of the Draft CDPs Written Statement while also referencing the Wind Zoning Methodology and related maps. To facilitate cross-referencing for readers, we have placed our comments in the order the subject-matter is set out in the Draft CDP. The headings examined are in the forthcoming sections are:

1. Energy Conservation & Efficiency
2. Security of Supply and Renewable Energy Transition
3. Onshore Wind Development
4. Battery Storage for Renewable Energy
5. Conclusion
6. References

We strongly welcome this consultation and would be glad to discuss this submission with members of Kerry County Council or its Executive as part of the CDP development process.

Energy Conservation & Efficiency

Objective 12.11: Facilitate the sustainable provision of charging infrastructure for electric vehicles.

Objective 14.4: Promote and support the expansion of the Electric Vehicle charging network (through direct provision by state agencies and in partnership with energy suppliers e.g., in the hospitality sector) and an increase in the numbers and usage of Electric Vehicles.

Transport as a sector is the most significant contributor to our national Green House Gas (GHG) emissions. Sustainable transport policies are particularly important given the predominance of private vehicle use across the country, particularly in rural areas. Encouraging a modal shift towards public transport and active travel is key, as is the electrification of transport. The Climate Action Plan envisages one million electric vehicles on Ireland's roads by 2030 and SSE is playing an active part in making that happen.

Deploying targeted electric vehicle charging infrastructure across the county is vital to meeting the

changing needs of people living and working in Kerry. We welcome the objective to encourage the use of electric vehicles by ensuring charging infrastructure is in place, and to work with transport providers to develop public transport options across the county, both in urban and rural areas.

SSE Recommendation:

- Spatial planning at a local authority level is critical in driving the electrification of transport. Kerry's CDP should go further than the policies currently outlined to identify areas where electric vehicle charge points could be installed and competitively tender for these assets.

Security of Supply and Renewable Energy Transition

Objective 12.2: Promote renewable gas leading to carbon emission reduction in agriculture, industry, heating and transport as well as sustainable local employment opportunities.

Objective 12.4: Support investment in sustainably developing renewable gas and provision of Compressed Natural Gas (CNG) refuelling infrastructure.

Objective 12.12: Maximise the development of all renewable energies at appropriate locations in a manner consistent with the proper planning and sustainable development of the County.

European environmental policies, including the Industrial Emissions Directive, are necessitating a move away from traditional fossil fuel powered stations. SSE is Ireland's largest renewable energy developer, boasting 29 onshore wind farms and with plans to develop Ireland's first large-scale offshore wind farm at Arklow Bay in Wicklow. We are leading the way in growing Ireland's renewable energy share.

While the increase in renewables is necessary and to be strongly welcomed, flexible, thermal generation which can provide efficient baseload power will continue to be required. It is needed to provide system stability and to support a renewables-led transition, for example when demand is high and wind or solar generation is low. Ireland's Single Electricity Market has signals to ensure renewable generation is dispatched first and ensure sufficient volume of capacity is procured to meet security of supply through the Capacity Market.

The *Generation Capacity Statement 2021 – 2030* examines projected electricity demand and supply over the coming decade. It forecasts that,

On a combined, All-Island basis, the growth in energy demand from 2021 through to 2030 varies between 18% in the low demand scenario, to 43% in the high demand scenario. (Eirgrid and SONI, 2021, p. 7)

This is due to the expected expansion of many large energy users, primarily Data Centres. Even with the new North-South Interconnector, the authors predict the potential emergence of energy deficits from as

early as 2023, stating,

Generator availability performance has been poor and has been trending downwards for the last number of years. Analysis shows that for the Median demand level and low availability scenario, this gives rise to adequacy deficits in 2024¹³, meaning that deficits are at least 2 years sooner than previously forecast arising in the capacity year 2023/2024. EirGrid considers this scenario the most credible. (Eirgrid and SONI, 2021, p. 8)

This study highlights the potential challenges Ireland's electricity system may face as we approach the critical milestone of 2030. It further underlines the ongoing importance of dispatchable generation to ensure security of supply.

SSE Thermal currently operates two 104MW 'peaker' plants (Tawnaghmore Power Station in Mayo and Rhode Power Station in Offaly), the 460MW Great Island Power Station in Wexford, and the 620MW Tarbert Power Station in Kerry. These facilities play a pivotal role in ensuring security of supply within the Irish energy market. The future direction and growth of SSE Thermal is, however, focused on becoming the leading provider of flexible thermal energy in a net zero world. We aim to achieve this by developing cutting-edge carbon capture and hydrogen solutions, which aligns well with the aspirations set out in the CDP to promote and develop alternatives to fossil-fuel based energy production.

It remains to be seen how policy and market signals for thermal generation in Ireland will develop. We may see opportunities for Carbon Capture and Storage (CCS) or Hydrogen emerge over time to decarbonise new and existing thermal stations. This is certainly the aspiration set out in The Climate Action Plan 2021 (Department of the Environment, Climate and Communications, 2021), which identifies the potential of green hydrogen and CCS to support decarbonisation across several sectors.

The Climate Action Plan 2021 also sets out how green hydrogen could address some of the challenges faced by the energy sector, such as providing a back-up for variable renewables. A key target set out in the Climate Action Plan is to carry out a work programme to identify a route to deliver one to three terra-watt hours of zero emissions gas (including green hydrogen) by 2030. It is expected that a green hydrogen strategy will form part of the next iteration of the Climate Action Plan, due for publication in Q4 of 2022. (Houses of the Oireachtas, 2022)

SSE Recommendation:

- Recognise the ongoing importance of security of supply in the CDP and the continued need for flexible generation capacity on the Irish grid.
- Recognise the importance of ensuring the continued use, reuse or repowering of existing infrastructure where appropriate to enable Ireland to meet its energy needs.
- Identify and support opportunities for CCS and hydrogen infrastructure to decarbonise conventional generation, industry and transport.

Onshore Wind Development

Ireland currently boasts nearly 4309MW of installed onshore wind generation capacity (Wind Energy Ireland, 2022), 18% (n=742Mw) of which is based in Kerry's c.25 wind farms, which collectively host 362 constructed wind turbines. In short, Kerry has had a significant role in developing the onshore wind capabilities of the Southern Region, and Ireland as a whole. Given its considerable wind resource, Kerry has an important role to play in achieving the national target of transitioning to 80% renewables energy production by 2030.

SSE welcomes the commitment in the CDP to promote growth in the county's renewable energy generation infrastructure through solar, offshore wind, biomass, and green technologies. However, it is concerning to see such a limited scope set out in Map 5 'Wind Zoning' for future onshore wind development. The Draft CDP proposes an approx. 90% reduction to 59 Km² in areas designated as 'Open to Consideration' for onshore wind energy development when compared to the 546Km² set out in the current CDP. This would severely limit the development of new projects in the county in addition to placing significant constraints on wind farm operators in extending the life of or repowering existing installations.

Onshore wind has played a crucial role in developing Ireland's renewable energy capacity to date. Having grown throughout the 2000s, onshore wind now accounts for over 80% of all renewable energy produced in Ireland (SEAI, 2021). While other sources and new technologies continue to emerge, and should be promoted and facilitated, continued growth in onshore wind generation is essential to transitioning to 80% renewable energy production by 2030.

Identifying Wind Development Areas

Objective 12.13: Ensure that projects shall be designed and developed in line with the Draft Revised Wind Energy Development Guidelines (DHPLG, 2019) and any update of these guidelines in terms of siting, layout and environmental studies.

Objective 12.14: Facilitate the sustainable development of wind energy development within open-to-consideration areas at appropriate locations where it can be demonstrated to the satisfaction of the planning authority that there will be no significant adverse impact on residential amenity, on the built and natural environment, or on the visual character of the landscape.

SSE has four specific concerns over the wind zoning set out in the draft CDP, they are:

- Demarcation of 'Repowering Areas'
- Failure to identify additional areas that are 'Acceptable in Principle'
- Designation of the entire Lough Leane Catchment as unsuitable for wind development
- Impact of setback distances on areas 'Open to Consideration' for wind development

1. 'Repowering Areas'

Objective 12.16:

(a) Facilitate the sustainable replacement of turbines or repower energy projects in areas shown as 'Repower areas' and areas 'Open-to-Consideration'.

(b) Ensure that repowering proposals within or in proximity to SPAs designated for Breeding Hen Harrier shall not result in insufficient habitat for the Hen Harrier in line with the conservation objectives of the SPA. As part of this re-powering, proposals will not be permitted to result in the taking out of additional Hen Harrier foraging habitat within the SPA.

(c) Ensure that all mitigation measures outlined in a Natura Impact Statement, submitted in support of Repowering proposals within or in proximity to SPAs designated for Breeding Hen Harrier shall be certain beyond all reasonable scientific doubt and shall be supported by robust evidence including at least 2 years of annual ornithological survey work.

(d) Ensure that repowering proposals within or in proximity to SPAs designated for Breeding Hen Harrier do not constitute an unacceptable collision risk to Hen Harrier.

Objective 12.17: Ensure that all applications are accompanied by a Natura Impact Statement under Article 6 of the Habitats Directive if the site is located within or within close proximity to a (candidate) Special Area of Conservation or Special Protection Area or if the site is within the catchment of a (candidate) Special Area of Conservation.

Context

As with any technology, wind turbines have a finite lifespan. Although modern turbines have a design life of 30 years, opening the opportunity for circa 35 years operational life, those installed during the 1990s and 2000s were typically designed to operate for approx. 20 years. As this equipment reaches the end of that window, developers face 3 options:

1. Decommission – Close the wind farm.
2. Lifetime extension – Extend the consented operational life of the windfarm without the need for major equipment replacement or investment provided the equipment is in good and safe working condition.
3. Full repower – Replace the wind farm with a new, more modern installation on the same site. This results in a wind farm with a new planning consent.

The option chosen by developers depends on an array of engineering and commercial considerations. What should be clear, however, is that for Ireland to have a reasonable chance of reaching our renewable energy and decarbonisation objectives we cannot afford to have projects decommission.

Despite the possibility of 'lifetime extension,' projects eventually need to be fully repowered to continue operating. It is, therefore, key that once the principle of a wind farm exists on a site there should be a presumption in favour of its continued use for this purpose.

It is important to note that repowered sites are likely to need larger turbines. Turbines installed some 20 years ago are no longer manufactured having been replaced by modern turbines, which are bigger and significantly more efficient. As noted in the IEA's *Renewables 2020* report:

Repowering old turbines with new technology usually results in higher capacity and generation from fewer turbines, while taking advantage of existing grid infrastructure and land. If supporting policies are introduced in a timely manner, repowering may provide an additional boost to onshore wind additions and mitigate the adverse effects of first-generation wind turbine retirement. (IEA, 2020, p. 80)

These efficiencies can also result in important dividends for consumers, who may stand to gain from reduced energy costs and prices and a greater degree of energy security.

Designated 'Repowering Areas'

As the stock of wind turbines ages over the coming decade, the process of repowering will emerge as an increasingly important part of the county and state's toolkit for achieving the targeted move to 80% renewable energy generation by 2030. The pivotal role played by Kerry in developing onshore wind capacity in the Southern Region, the state, and the island, means repowering will become an increasingly salient issue in the decades to come.

The demarcation of specific 'Repowering Areas' in Map 12.4 of the CDP (replicated in Figure 1 above) is, however, a significant concern for SSE. It is our fear that it could constrain the sustained use of sites and infrastructure that may otherwise be eminently suitable for continued wind energy generation. It also risks establishing a policy approach that, if replicated in future CDPs, could have a cumulative and detrimental effect on Kerry's ability to contribute to our decarbonisation targets.

Moving to 80% renewable energy production by 2030 is just the start of the journey towards net zero by 2050. Gains made over the past decade and the coming decade must not be taken for granted, nor must they be rolled back on, which could well be what happens if repowering is too severely limited at a policy level.

The broad policy-level approach to pre-determining the suitability of areas for repowering makes it impossible to take account of factors that are unique to each site and that may emerge into the future, including, though not limited to, technological or other advancements. Indeed, repowering assumption is part and parcel of national policy targets. A CDP-level decision to curtail repowering in a general sense will have a catastrophic impact on the 2030 targets and net zero ambitions. It is more appropriate to decide upon applications for repowering on a case-by-case basis, with a presumption in favour. This would be in line with the common-sense approach currently taken to developing existing wind development locations.

SSE, therefore, recommends a presumption in favour of repowering existing renewable energy sites. This includes an assumption that a site already used for a wind farm development retains an ongoing suitability for new and repowered wind developments.

SSE Recommendations:

- Adopt a presumption in favour of repowering existing renewable energy sites, and an assumption that a site already used for a wind farm development retains an ongoing suitability for new and repowered wind developments.

- Make clear that applications for repowering will be considered on a case-by-case basis by designating all areas with current or planned wind development as ‘Acceptable in Principle’ for repowering.

2. Failure to include areas ‘Acceptable in Principle’

The Draft Revised Wind Energy Development Guidelines 2019, (‘the Guidelines’), state that,

The development plan must achieve a reasonable balance between responding to overall Government Policy on renewable energy and enabling the wind energy resources of the planning authority’s area to be harnessed in a manner that is consistent with proper planning and sustainable development. (Department of Housing, Local Government and Heritage, 2019, p. 15)

To achieve this, the Guidelines set out a step-by-step approach for use by local authorities in identifying suitable areas for onshore wind energy development. The purpose is to provide ‘a clear framework’ (pp.18) indicating where development should be located and the factors to be considered in assessing such proposals. The sieve mapping process set out in the Guidelines involves overlaying wind energy mapping and landscape assessment with development plan designations. The aim of which is to,

produce a basis for **identifying broadly**, the areas where wind energy developments would be ‘**acceptable in principle**’, where they would be ‘**open for consideration**’, and where they would be ‘**not normally permissible**’. (Department of Housing, Local Government and Heritage, 2019, p. 18)

As illustrated in Figure 1 below, the Wind Zoning Map produced using this methodology does not subscribe to the format set out in the Draft Wind Energy Development Guidelines 2019. The Draft Kerry CDP includes an additional designation of ‘Repowering Areas’, which SSE views as problematic for the various reasons outlined in the previous section. Meanwhile, Map 12.4, as illustrated in Figure 1 does not feature any areas deemed ‘Acceptable in Principle’ or ‘Not Normally Permissible’.

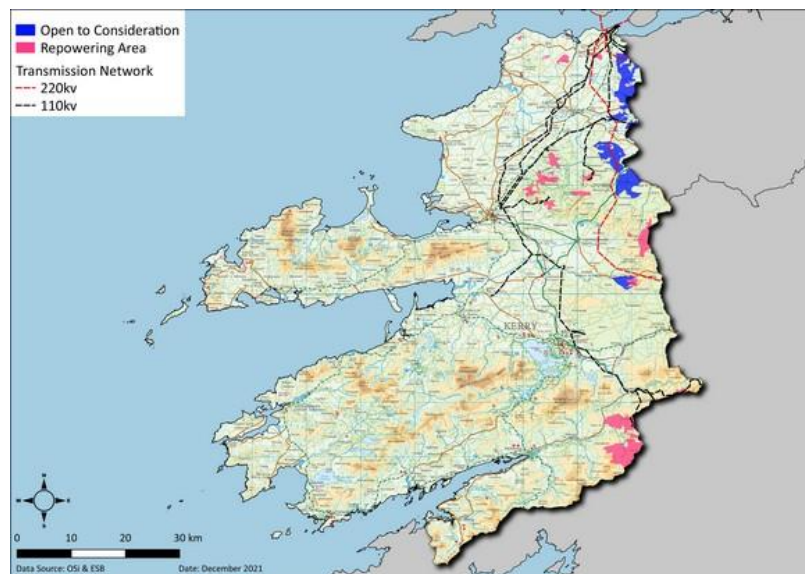


Figure 1. Map 12.4: Wind Energy Areas (Source: Draft Kerry CDP 2022 - 2028, pp.216)

In adopting this approach, the Draft Kerry CDP has diverged from the format and standard set out in national policy, which fails to meet the aim of setting out a clear and transparent framework to aid the planning authority, developers, and public alike in assessing the future development prospects of wind generation in the county.

The purpose of setting out a consistent framework for all local authorities is to ensure objective comparability and integrated use of the materials and instruments produced as part of CDPs. This departure from that framework is, of itself, problematic and must be remedied in the final CDP.

From a substantive standpoint, the absence of any areas designed 'Acceptable in Principle' means the only areas deemed to have any potential for wind development are those identified as 'Open to Consideration'. This is incredibly limiting given the small number of sites designated as 'Open to Consideration' and the impact that the setback distances set out in the national guidelines on the appropriateness of sites deemed 'Open to Consideration' for wind development.

Ireland's commitment to transition to 80% renewable energy by 2030, as set out in the Climate Action Plan 2021, relies heavily on maintaining our current stock of onshore wind and developing more. To achieve this target, it will be necessary to double our onshore wind production within this timeframe.

Though Kerry has been a leader in onshore wind development to date, failure to identify any areas as 'Acceptable in Principle' for new wind development risks having the county, and potentially the Southern Region and State fall behind in meeting these targets. This would not only be catastrophic in the short term but has the potential to severely hamper the delivery in Ireland of net zero by 2050.

To achieve these targets every available renewable energy resource must be unlocked, and it is therefore SSE's view that a re-examination of the application of the Wind Zoning Methodology is warranted to identify any potential areas of future wind development in the county.

SSE Recommendations:

- Examine how the methodology has been designed and applied to determine how it might be refined to identify additional areas where wind development is 'Acceptable in Principle'.
- Consult the methodology as applied in other local authority areas to ensure a more consistent approach to interpreting national guidelines.

3. Designation of Lough Leane Catchment as Unsuitable for Wind Development

The Wind Zoning Methodology in Appendix 6 designates the entirety of the Lough Leane Catchment as unsuitable for wind energy development. This is due to the local authority's assessed view that there is a 'potential for the release of sedimentary phosphorus arising from wind development' in this area. (Kerry County Council, 2021, p. 52) This is consistent with the county's Renewable Energy Strategy 2012.

It is SSE's contention that this decision is not substantiated by the recommendations contained within the study commissioned by Kerry County Council and undertaken by Kirk McClure Morton (2003) to investigate the causes and solutions to the severe algal bloom observed in Lough Leane in 1997. Rather, specific measures were recommended as part of that study to address the risk to the catchment from phosphorus overloading arising from agricultural landuse, the disposal of waste-water from private disposal systems

such as septic tanks and Killarney's waste-water management plant, commercial forestry, and the risk of landslide events in the area.

None of the issues raised in the context of the *Lough Leane Catchment Monitoring and Management System* study preclude onshore wind generation in areas otherwise suited to this form of development. The findings clearly indicate the greatest threat of phosphorus overloading is from agriculture taking place within the catchment. It is, therefore, highly problematic that the entirety of the catchment has been deemed by the local authority as unsuitable for wind development.

Indeed, it is arguable that when viewed in its totality, this report in fact demonstrates the importance of conducting site specific impact and suitability assessments with respect to proposed landuse in these areas given the range of factors that are shown to impact on phosphorus loading in the catchment. This is borne out in the findings of a range of other studies concerning phosphorus loading in the Lough Leane catchment (Dalton, et al., 2013) (Jennings, et al., 2013) and others concerning phosphorus loading more generally (Jordan, et al., 2005; Crossman, et al., 2021), which demonstrate the complex dynamics at play in managing phosphorus loading in water catchment areas.

Kerry Renewable Energy Strategy 2012 (RES 2012)

The Wind Zoning Methodology employed by Kerry County Council in producing the Draft CDP incorporates the position set out in the Kerry Renewable Energy Strategy 2012 (RES 2012) with respect to the Lough Leane Catchment. This is set out in page 52 of Appendix 6 of the current Draft CDP and is the basis on which the Lough Leane Catchment is deemed unsuitable for wind development. The RES 2012 states,

Given the potential for the release of sedimentary phosphorus arising from wind development this catchment is considered to be unsuitable for wind development.

Maintaining this provision in the final CDP will preclude onshore wind development throughout the Lough Leane catchment, including at the Clydaghroe site proposed by SSE and Future Energy Ireland (FEI) known as Cummeenabuddoge Wind Farm. The rationale for this is explained in Section 7.4.5.11 of the RES 2012, which, *inter alia*, highlights the importance of the catchment to the county's tourism industry. It also states that concerns over water quality in this catchment prompted action after a severe algal bloom in 1997. This resulted in Kerry County Council commissioning the *Lough Leane Catchment Monitoring and Management System* study to investigate the origins and potential solutions to this problem.

The final report of the study was published in November 2003 and states,

Following the severe algal bloom of 1997, a Working Group was established to co-ordinate efforts to monitor and manage water quality within the Lough Leane catchment. The Group submitted proposals for the development of a Monitoring and Management System and consultants, EG Pettit & Co. in association with Kirk McClure Morton, were appointed in July 1998. The Lough Leane Catchment Monitoring and Management System is a major catchment based initiative aimed at arresting the eutrophication process and restoring the rivers and lakes to a satisfactory state by reducing phosphorus inputs from all sources. (Kirk McClure Morton, 2003, p. 1)

To summarise the key messages in the study's final report:

1. Nutrient levels in Lough Leane have been increasing since the 1960s, resulting in an increasing threat to water quality;

2. Agriculture is the main source of phosphorus loading in the catchment;
3. Urban agglomerations and industry, septic tanks and forestry, and natural background loading also contribute to the problem to varying degrees. (Kirk McClure Morton, 2003)

Increasing Nutrient Load

Inputs of phosphorus, in the form of untreated sewage from Killarney, are likely to have been a major contributor to eutrophication pressures from the early 1960s and up to the implementation of improvements to sewage treatment plant (STP) facilities completed in the 1980s, after which diffuse (largely agricultural) sources of nutrients are prominent. (Dalton, et al., 2013, p. 10)

There have been substantial increases in human population density and associated infrastructure development in the catchment over the past 50 years. Numbers of cattle and sheep have also increased sharply from the 1970s, and 'afforestation, almost entirely restricted to upland peat soils, during the 1970s is also likely to have impinged upon catchment stability and aquatic conditions. (Dalton, et al., 2013, p. 4)

Kirk McClure Morton (2003) suggest a link between these phenomena and increases in nutrient levels. This is supported by subsequent studies of the catchment (Jennings, et al., 2013; Dalton, et al., 2013), which confirm the extent to which agricultural activities contribute to rising phosphorus loads in the catchment.

Agriculture

As the most dominant land use, special attention was paid by *Lough Leane Catchment Monitoring and Management System* study to agricultural practices through a set of agricultural special studies that formed part of the wider study. They identified 'a number of key issues pertaining to the Lough Leane catchment', namely,

- a) the upgrading of farmyard facilities to provide for the adequate containment and management of manures generated during the winter housing period;
- b) improved management of farmyard facilities, particularly in relation to waste minimisation by better control of clean water;
- c) improved management of slurry spreading operations. (Kirk McClure Morton, 2003, p. 2)

The final report of the study further recommended reducing the risk of farmyard run-off and overflow by providing adequate slurry storage facilities. (Kirk McClure Morton, 2003, p. 2) These issues were to be dealt with through the adoption of a Byelaw under the Water Pollution Acts, however this solution had not been implemented at the time the study's final report was published in November 2003. Water quality has since become governed by a range of EU directives, which have been transposed into domestic law by the Oireachtas.

Additional measures were recommended to be implemented independent of the introduction of regulatory measures. These included farmyard surveys and promoting the uptake of REPS. (Kirk McClure Morton, 2003, p. 2) Nevertheless, agriculture remains the largest contributor of phosphorus to the Lough Leane catchment, and this form of landuse bears no relation to wind energy development proposals for the area.

Waste-Water Management

Waste-water management has been identified as a key contributor to phosphorus loading in the Lough Leane system. Historically, sewage outflows were shown to significantly affect phosphorus levels in Lough Leane during the 1960s. (Dalton, et al., 2013) More recently, investigations into the effect of septic tank systems within the catchment revealed ‘the typical existing system did not comply with existing guidelines’ (Kirk McClure Morton, 2003, p. 2).

It was noted by Kirk McClure Morton (2003) that input from septic tanks was most likely to be dispersed locally and was, therefore, unlikely to cause significant regional issues. However, septic tank effluent has, nevertheless, been highlighted as a significant contributor to total phosphorus loads in the catchment and must be acknowledged as such. This was specifically noted in *European Commission v Ireland (C-374/11, 2009)* to make up 12% of the total phosphorus load of the catchment.

Deficiencies in Ireland’s regulatory framework governing waste-water disposal was cited by the European Court of Justice in *European Commission v Ireland (C-374/11, 2009)* as a key contributor to water quality issues caused by nutrient enrichment in the Lough Leane Catchment. This has subsequently been addressed through the Water Services (Amendment) Act 2012, which, *inter alia*, introduced registration and inspection systems for domestic waste-water treatment systems to satisfy the States obligations under Articles 4 and 8 of the Waste Directive (75/442/EEC). (Dáil Éireann, 2015)

Forestry

The phosphorus export rates associated with forestry activities are equivalent to, or lower than, those associated with competing agricultural landuses, therefore, this trend will not have resulted in a significant nutrient load increase. (Kirk McClure Morton, 2003, p. 20)

The final report of the *Lough Leane Catchment Monitoring and Management System* study found that the export rate of phosphorus in the catchments with a high proportion of forestry activities, alongside other landuses such as sheep farming, were not excessive. Aerial fertilisation monitoring results also showed that the main study stream had adequate dilution to prevent elevated nutrient concentrations.

The report further highlights that the measures implemented during the lifetime of the study, owing mainly to the implementation of new forestry guidelines and the *Code of Best Forest Practice*, were sufficient to address the issues identified as in need of being addressed to mitigate any risk to water quality from forestry in the area. This demonstrates the potential for water quality risks to be managed through the adoption of responsible and sustainable approaches to land use in the Lough Leane catchment. It is also supported by the fact that felling within the context of commercial forestry has been ongoing in the Lough Lane catchment since 1997 without any resulting decline in water quality. Indeed, water quality improvements have been recorded in the catchment over this period, with Lough Leane having been categorized as having no water framework directive risk and maintaining ‘good’ status since 2007 (Catchments.ie, 2018).

Future Energy Ireland (FEI) reports water quality sampling over the full course of 2021 indicates nothing of concern with respect to phosphorus loading from its most recent felling activity in 2021. This sampling was undertaken in the Cummeenabuddoge Wind Farm site and along the Flesk River. This is consistent with the experience at wind farm sites located on forestry land in other areas of Ireland.

Existing Onshore Wind Developments in the Area

Existing onshore wind developments in the Lough Leane catchment have been constructed successfully on forested lands immediately to the south of the proposed Cummeenabuddoge Wind Farm site and continue to operate without incident (see Figure 2 below). There is, furthermore, no record of significant water quality impacts at these locations, downstream of same, or in Lough Leane from this wind development.

Water quality management and SUDs drainage are standard elements of wind farm construction and can be thoroughly addressed in wind farm design. All potential impacts are assessed, mitigated against, and documented in planning applications for determination by the planning authority.

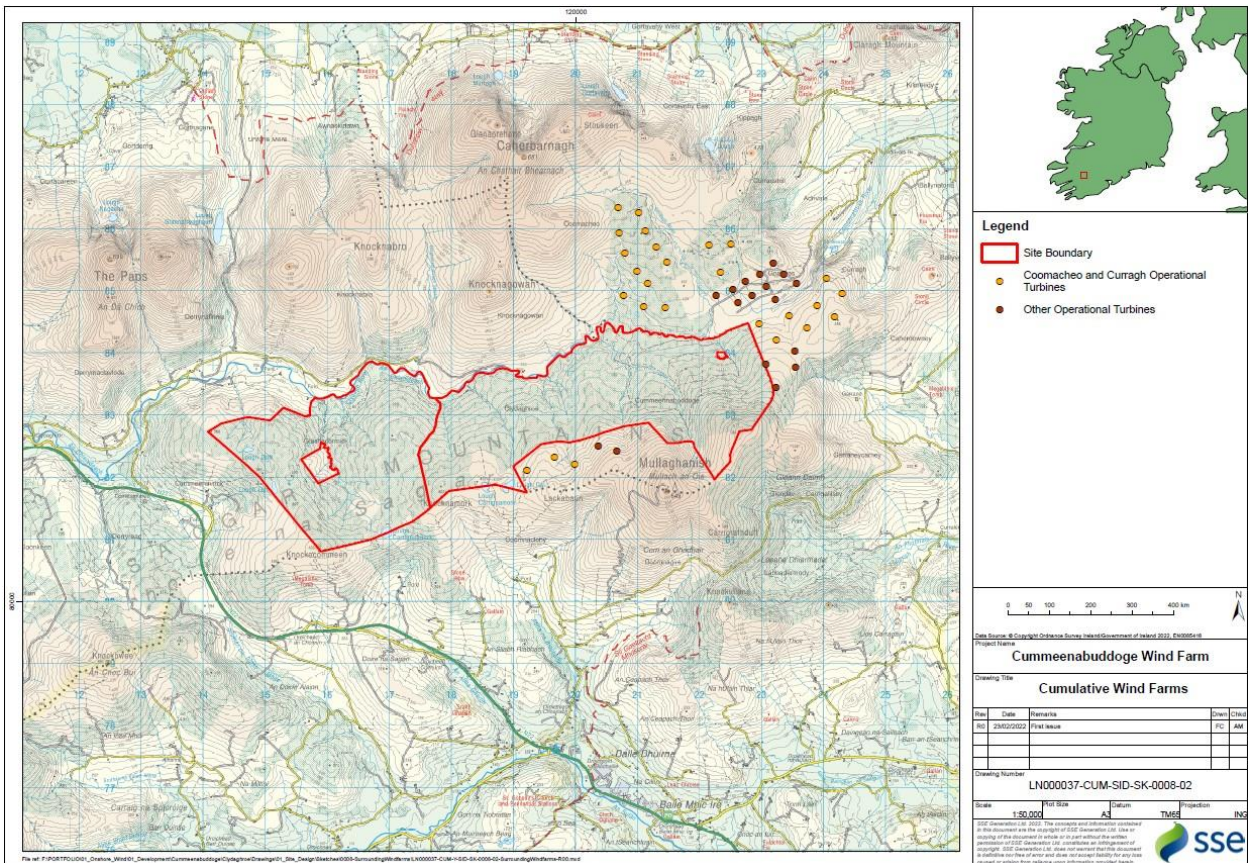


Figure 2. Cummeenabuddoge Wind Farm site boundary and adjacent operational wind developments

The Clydagh Valley

A detailed technical case study was undertaken in the Clydagh Valley by Kirk McClure Morton (2003) as part of the wider study of the catchment as a whole. Phosphorus levels were monitored at regular intervals, providing valuable data on the loadings in particular parts of the main Lough Leane catchment and its subcatchments.

It was found that,

Within the subcatchments of the Flesk, export rates varied with the landuse and management practice. The lowest rates were recorded in the Loo, Finow/Owgarraff and Clydagh subcatchments. Average rates were measured in the Lower Flesk subcatchment. The highest rates were recorded in the Woodford, Quagmire/Beheenagh/Owneyskeagh subcatchments where dairy and dry stock farming enterprises are the primary activity.

Much like the rest of the catchment, any inflow of high levels of phosphorus in the Clydagh Valley subcatchment is either linked to anthropogenic activities such as agriculture or surges resulting from heavy rainfall events (Kirk McClure Morton, 2003).

The only additional observed risk to water quality in this area was from a landslide that occurred during the the study, which caused a surge in phosphorus loading in the catchment, particularly on the days immediately following the event. This increased load was found to have substantially cleared the system within approximately two weeks, however, the report's authors nevertheless advised that,

Given the potential of landslide to deliver a significant quantity of TP¹ load to the lake (along with the associated risk of siltation in rivers) it is imperative that all catchment activities incorporate measures to reduce the risk of landslides. (Kirk McClure Morton, 2003, p. 28)

It is vital that this warning is heeded and measures to reduce the risk of landslides are incorporated into all catchment activities as a preventative measure. However, there is a paucity of evidence linking wind development to any increased or unmanageable risk of landslide in this area. Indeed, the existing wind developments have not been shown to result in an increased risk or actual occurrence of landslides leading to surges in phosphorus loading within the catchment. It would, therefore, seem disproportionate to rely on this risk as a rationale for banning further wind development in this area.

¹ Total phosphorus

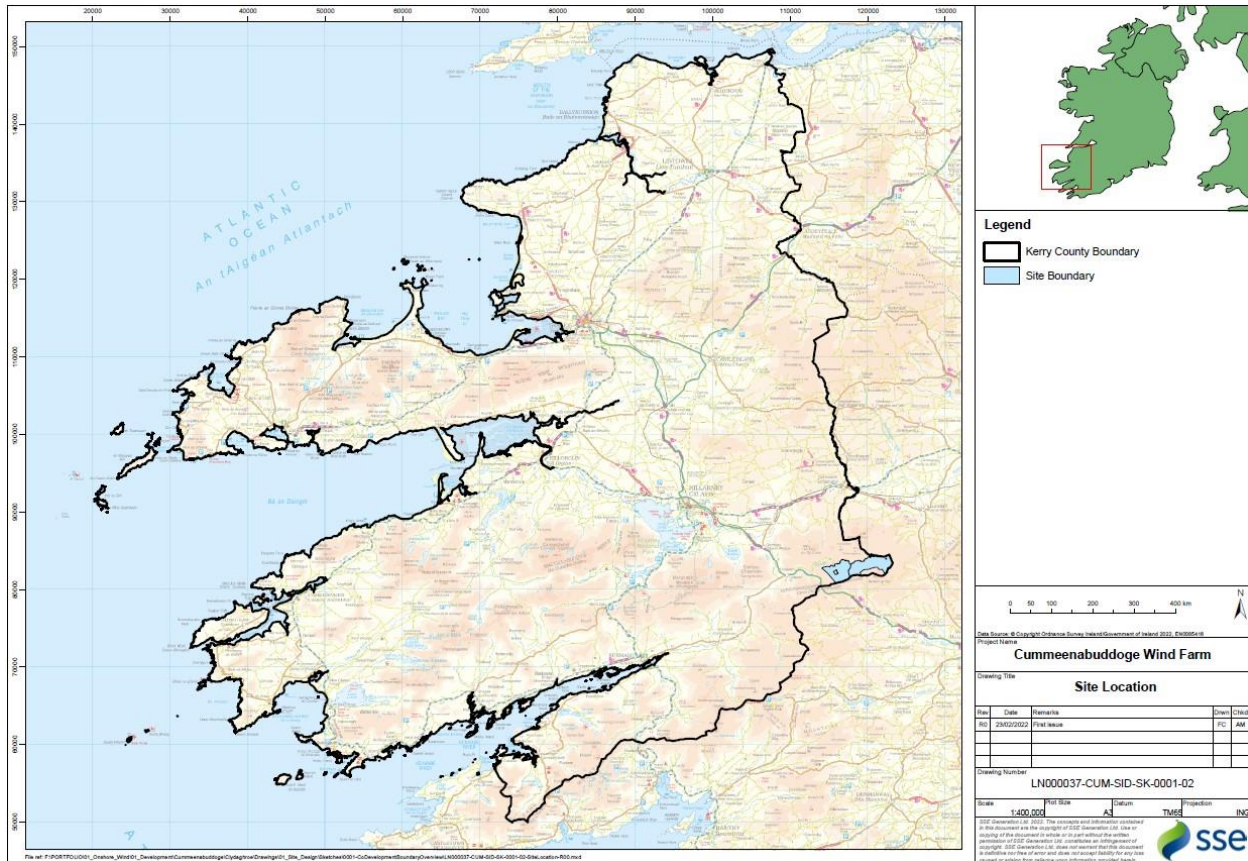


Figure 3. Proposed Cummeenabuddoge Wind Farm

Cummeenabuddoge Wind Farm

SSE and FEI have jointly developed a proposal for Cummeenabuddoge Wind Farm on the Clydaghroe site set out in Figure 3 above. The site is in an upland region on the eastern side of the Derrynasaggart Mountains, adjacent to the Kerry/Cork County boundary, and falls within the Lough Leane catchment.

The site is served by existing grid infrastructure along with adjacent grid network/substations, a proven turbine delivery access and adjoining, successfully constructed, and operating, wind farm developments at Coomacheo and Curragh. Wherever possible, existing infrastructure and resources would be used as part of the development process, which could further reduce the risk of phosphorus generation as part of the construction phase of any future wind development.

The site is also located within an existing commercially managed forest plantation with a proven track record of compliance with water quality management standards and guidelines, and ongoing planting and harvesting of timber. It has a low population, few neighbouring houses, is visually screened and outside of Natura 2000 designations. In short, it is ideally served and placed for wind farm development.

The evidence that exists with respect to the impact of wind development and forestry on water quality in this area supports the assertion that the development of the Cummeenabuddoge Wind Farm poses no significant risk of increasing phosphorus loading in the Lough Leane catchment. Furthermore, the site

continues to be used for commercial forestry, which has been shown to produce manageable levels of phosphorus (Kirk McClure Morton, 2003).

As a leader in the field of forestry management, Coillte (who operate this site) are fully compliant with all applicable environmental and water quality standards. Responsible and sustainable forestry practices are used to ensure the safety of the site. This is demonstrated in the lack of significant outflows of phosphorus during its time in operation as reported by FEI.

In the absence of significant contributors to the phosphoric load of the land parcel in question, the risk of 'generating sediment' that is sufficiently rich in phosphorus to pose a risk to water quality in the Lough Leane catchment is low. It is, therefore, SSE's contention that the final report of the *Lough Leane Catchment Monitoring & Management System* (Kirk McClure Morton, 2003) does not contain sufficient evidence to support a ban on wind development in the Lough Leane Catchment.

This form of development does not add phosphorus to the land in a comparable way to agriculture and waste-water management, and it does not encourage demographic or landuse changes likely to bring with them increased levels of phosphorus. Neither will it cause a departure from the sustainable practices used to manage water quality within the context of commercial forestry as it does not substantially disrupt planting, maintenance, and felling regimes.

It is, therefore, essential that Kerry County Council revisit the validity of the assumptions made in the RES 2012 which deemed the entire Lough Leane catchment as unsuitable for wind development. This is particularly the case given the urgent need to realise the full capability of all potential sources of renewable energy in our bid to transition to 80% renewable energy by 2030.

SSE Recommendation:

- Remove the categorisation of 'Unsuitable for Wind Development' from the Cummeenabuddoge Wind Farm site and designate it either as 'Open to Consideration' or 'Acceptable in Principle' for wind development.
- Remove the categorisation of 'Unsuitable for Wind Development' from the Lough Leane catchment within the context of the Wind Zoning Methodology to ensure this is not in itself a barrier to wind development in the area. Instead, allow for case-by-case decision-making based on rigorous site-specific assessments of specific sites.
- Work with stakeholders such as SSE in assessing the merits of wind development in this part of the county to ensure the most recent evidence is gathered and assessed.

4. Impact of setback distances on areas 'Open to Consideration' for wind development

Although 59 Km² of Kerry County Council's functional area has been designated as 'Open to Consideration' for wind development, the true level of land made available is, in fact, zero. As illustrated in Figure 4 below, when the setback distance of 500m required by the Draft Wind Energy Development Guidelines is overlaid on Map 12.4, all areas deemed 'Open to Consideration' are shown as incompatible with national guidelines.

The result is that no new wind development projects could be permitted during the lifetime of the next CDP should it be adopted in its current form. This is extremely concerning given the increased target of 80% set

out in the Climate Plan 2021 for transition to renewable energy by 2030 and Kerry's significant potential in continuing to contribute to Ireland's renewable energy targets.

SSE Recommendation:

- Revisit and adjust the Wind Zoning methodology used to identify potential areas for wind development as part of the CDP, taking account of the impact setback distances have on the availability of land for wind development.

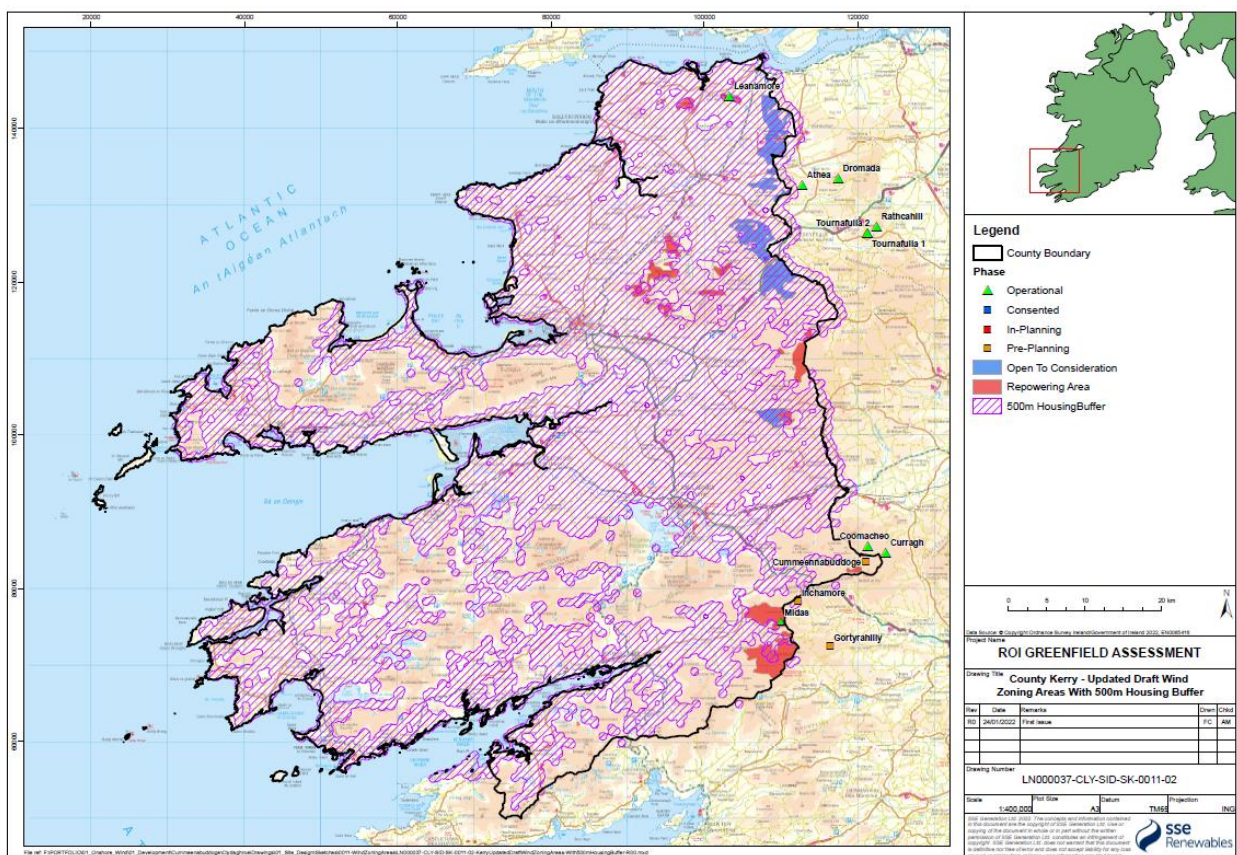


Figure 4. Draft Kerry CDP Map 12.4 with 500m Housing Buffer Applied

Battery Storage for Renewable Energy

Objective 12.30: Facilitate the sustainable development of Battery Storage systems in appropriate locations at or adjacent to existing energy infrastructure, subject to requirements and considerations in relation to: residential amenity, landscape; cultural heritage; Natura 2000 sites and the Habitats & Birds Directive; the objectives of the Water Framework Directive; Flood Directive; electricity infrastructure; and health & safety.

SSE welcomes Objective 12.30 to facilitate sustainable development of Battery Energy Storage Systems (BESS) in appropriate locations. These systems can help ensure system stability if there is disruption to power system generation or demand. As we manage the transition to renewable energy generation, this technology will be essential to ensuring continued security of supply. Hybrid sites are one way to accommodate this technology.

Hybrid sites involve co-locating renewables technologies, such as placing wind and solar with battery storage or hydrogen generation, each of which are technologies that will become increasingly important for managing variability on the renewables-led grid. Storage of this type can take in electricity from the grid when there is a surplus of generation to demand, discharging it back out when there is a shortfall in generation. Without this type of technology our reliance on fossil fuel generators is likely to be higher for longer.

Ultimately, the technical need outlined by EirGrid, and the commercial incentives offered by the market will dictate the technologies developers consider deploying alongside their renewable energy developments. However, it is important that developers can respond to such market signals and that strategic planning policy does not unduly disincentivise co-location.

To ensure this, planning policy should clarify that co-locating renewables developments that include certain other types of low carbon supporting infrastructure (to be defined) should be considered as single renewables developments. SSE would favour a planning approach that includes a presumption in favour of proposals to co-locate renewables developments and infrastructure.

Such an approach would help to ensure a streamlined planning application process. This would benefit the local authority, developers, other interests, the public, and consumers alike in streamlining applications, speeding up the ability to bring more clean energy onstream, and ensure mixed and varied land use is promoted.

Health and Safety – The SSE Experience

SSE has much experience of building and maintaining complex low carbon infrastructures of this sort and safety is a core value which we take very seriously. Our focus is, first, on prevention. To this end, we have invested in a 'reduced risk by design' approach to developing this technology, which ensures the battery is designed from the outset in a manner that minimises any potential safety risk.

Our energy storage facilities subscribe to a range of safety standards. They are remotely monitored 24 hours a day and inspected routinely to allow operations to be automatically restricted, should that be needed. Temperature is also monitored constantly, and containers are fitted with a heat trigger to switch them off if temperatures unexpectedly rise. Our requirements to our supply chain also include 100% factory acceptance testing and certification on the batteries to minimise any risk of manufacturing fault.

We have developed a detailed mitigation strategy for use in the unlikely event that a fire occurs. This uses a 'multi layers' approach to identify and arrest fire before it breaks out and to extinguish it if prevention fails. These systems are designed to be fast acting to ensure there is no need for manual intervention. They are also self-monitoring; should the system become unhealthy or fail, it would send alarms to our control centre and restrict / stop the system from operating.

In addition, our battery storage systems have an aerosol system to smother and stop any fire without the use of water. The containers themselves can be self-bunded by design, thus removing any broader negative impact of the mitigation actions. Each container is a 'closed loop system' and designed to be simply removed and replaced should an incident arise. This allows the plant to continue providing its valuable contribution to the local energy network.

Finally, our design ensures that any potential fire remains limited to a single container, and we leave space between containers so that fire can't propagate. Due to all the above, fumes resulting from a potential fire would be very limited and restricted by volume to levels that would be dispersed quickly even with very low winds.

SSE Recommendations:

- Facilitate co-location of renewables developments with other low carbon technologies and supporting infrastructure, with weighting in favour of such developments in-line with standalone renewables developments.
- Take note of the extensive risk mitigation strategies employed by battery storage operators when assessing planning applications for their development.

Conclusion

SSE is supportive of the local authority's stated commitment to addressing the climate crisis through a range of measures, including the facilitation of renewables energy development in a range of fields. This is welcome as our national targets can only be met through the concerted efforts of every community, village, town, county, and region. It is, however, concerning to see such strict limitations being proposed for wind energy development in a county with such an exemplary record as a leader in this field.

While a significant portion of the state's progress towards its goal of transitioning to 80% renewable energy by 2030 has been achieved within Kerry alone, it is vital that we do not take a backwards step by limiting the scope of lifespan extension for those wind developments currently operating within the county. Similarly, it is vital that an open, solutions-focus is maintained when considering the possibility of small additions to the existing infrastructure through new development. There is no doubt that the availability of suitable land in Kerry for new commercial wind development is limited by the county's past achievements in this area and the richness of its landscape. However, it is imperative that those few parcels that do still exist are at least considered on their individual merits.

SSE, therefore, urges Kerry County Council to revisit its application of the Wind Zoning Methodology with a view to identifying any potential areas for wind development, taking account of the national guidelines. We are particularly keen to see the Cummeenabuddoge Wind Farm we have proposed for development at Clydaghroe opened back up for consideration for this form of development. We would be happy to meet with the Council to discuss any aspect of this submission and wish Councillors and Council Staff all the very best in completing the processes of adopting a new County Development Plan.

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