

Coolagortboy,
Cappoquin,
Co. Waterford,
P51 X0E9

01/08/2023

The Secretary,
An Bord Pleanála
64 Marlborough St,
Rotunda, Dublin 1,
D01 V902

AN BORD PLEANÁLA	
LDG-	<u>065499-23</u>
ABP-	_____
02 AUG 2023	
Fee: €	<u>50-</u> Type: <u>ccyl</u>
Time: <u>13:50</u>	By: <u>Hend</u>

Re: Joint resident's objections against the proposed Dyrick Hill Wind Farm Development - (Case No. 317265)

We, the residents of Marlpit Farm, jointly express our unwavering opposition to the proposed development of the Dyrick Hill Wind Farm by EMPower, composed of 12 wind turbines with an overall ground tip height of 185 meters, together with the further planning proposal for an adjoining wind farm on Scart Mountain by FutureEnergy Ireland which will further increase the number of wind turbines by 16, to a total of 28 wind turbines, both in close proximity to our land, property and residential areas. Given that multiple proposed sites exist, there is an alarming likelihood that the developers will merge them into one colossal wind farm in the future if permission is granted. This report endeavours to comprehensively analyse the various concerns and implications associated with the construction and operation of the wind farm in the vicinity of our lands.

We urge An Bord Pleanála to carefully consider the following reasons as grounds for our appeal against this development:

Visual Intrusion

Wind farms have a significant visual impact on local communities, primarily due to the scale and number of wind turbines erected in previously unspoiled landscapes. These towering structures, often reaching hundreds of meters in height, disrupt the natural vistas and scenic views that residents and visitors have enjoyed for generations. The rotating blades and massive towers contrast with the serene backdrop, altering the landscape's visual appeal. A study by de Vries, et al., (2012) found that people perceived wind turbines as negative man-made structures and that closeness to turbines and landscape beauty influenced the perceived impact. For many residents, the intrusion of wind turbines can evoke feelings of industrialisation and urbanisation in once rural and picturesque areas. The presence of these structures can clash with the surrounding environment's natural beauty, leading to a sense of visual disharmony for those living nearby. As such, it comes as no surprise that the Waterford City and County Development Plan 2022-2028 has classified the area of the Knockmealdown Mountains, including Dyrick Hill, as an "exclusion" zone for wind energy development under the Wind Energy Strategy (please see Figure 1), and as a "most sensitive" area under the Landscape & Seascape Character Assessment (please see Figure 2) (Waterford City and County Council, 2022, pp. 85-86).

Figure 1: Wind Energy Strategy

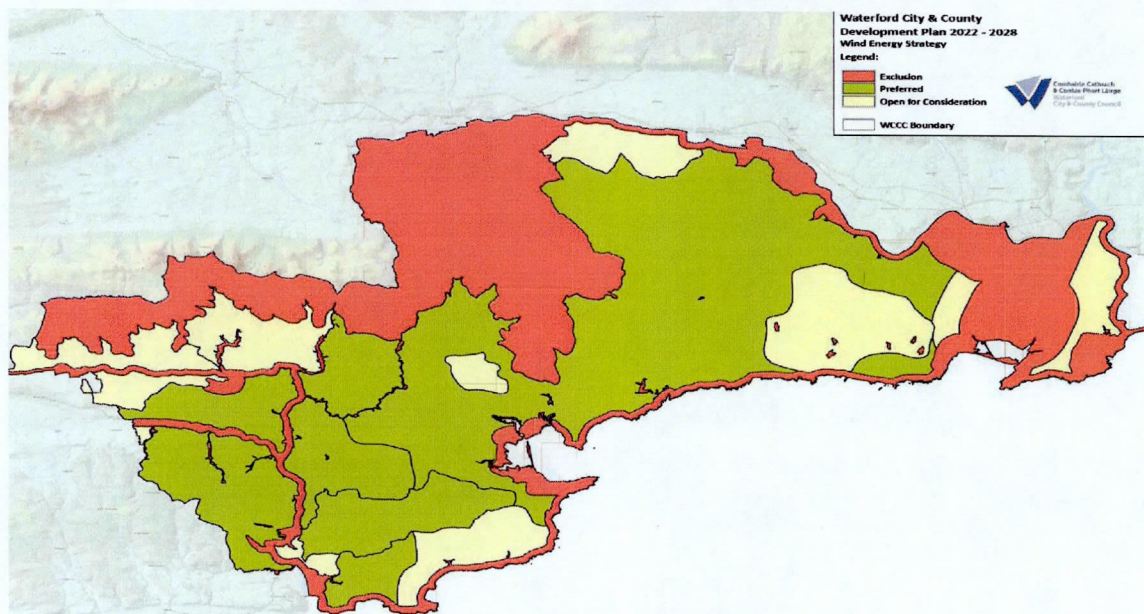
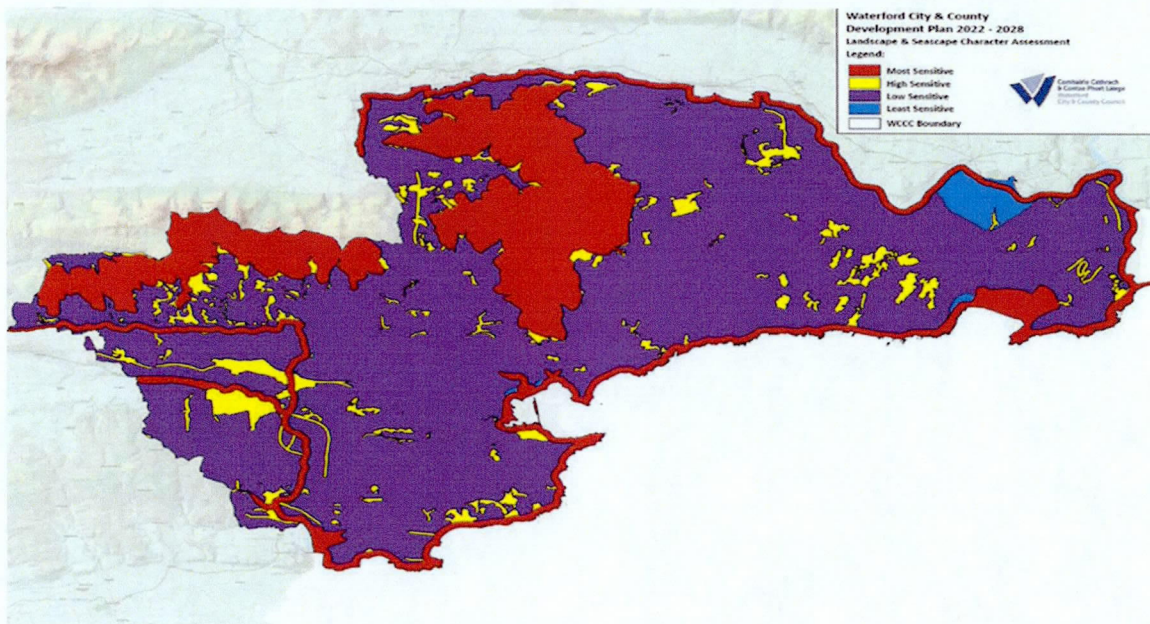


Figure 2: Landscape & Seascape Character Assessment



Landscape Alteration

Wind farms require extensive land areas to accommodate the spacing between turbines, access roads, and necessary infrastructure. The installation and construction process can result in significant landscape alterations and, in most cases, habitat destruction. Once undisturbed, ecosystems will be fragmented and disrupted, affecting local flora and fauna. Habitat loss and fragmentation caused by wind energy development have been mentioned as potential impacts in a study by (Jones, et al., 2015) published by the Oxford University Press on behalf of the American Institute of Biological Sciences. The study found that in Europe, the loss of habitat and fragmentation resulting from wind energy facilities is considered a significant impact on bird populations compared to collision-related fatalities (Jones, et al., 2015, p. 295). Land levelling and constructing access roads can lead to soil erosion and disturbance of sensitive habitats. Additionally, installing wind turbine foundations can require removing vegetation, leading to biodiversity loss and wildlife displacement.

Skyline Dominance

The construction of tall wind turbines can dominate the local skyline, especially in rural or low-rise areas where there are no tall buildings to balance their presence. Especially in the case of the Dyrick Hill wind farm, as mentioned earlier, the proposed site will encompass 12 wind turbines with an overall ground tip height of 185 meters; in comparison, the tallest building in Ireland, the Spire in Dublin, stands at 120 meters and the surrounding trees reach a height of 20-30 meters, making the proposed wind turbines 6 to 9 times taller than the encompassing forest. As a result, the landscape's sense of scale and coherence can be disrupted, altering the overall visual character of the surroundings. A survey of the visual effects of wind farms was undertaken in South Australia, concluding that wind farms should avoid areas of higher perceived scenic quality given that wind farms generally had a negative effect on landscapes of higher scenic quality (Lothian, 2008, p. 196).

Nighttime Light Pollution

Wind farms incorporate lights on the turbines and infrastructure for safety purposes. These lights create light pollution during nighttime, especially in countryside regions with low light levels. The artificial illumination can disturb the natural darkness of rural environments, affecting the quality of the night sky and impacting nocturnal wildlife. Light pollution has negative impacts on biodiversity. It disrupts the natural habits of various animals, including insects, amphibians, fish, birds, and bats, affecting their reproduction and migration patterns (Hölker, et al., 2010).

Negative Impact of Wind Noise Pollution on Human Health

The proliferation of wind turbines has raised concerns about noise pollution and its adverse effects on human health for families living in close proximity to these structures. Numerous studies have highlighted the detrimental impact of wind turbine noise on human well-being. The noise emitted by wind turbines can lead to numerous health issues, affecting both the physical and mental aspects of life. The negative health consequences associated with wind turbines are attributed to various factors, including noise, infrasound, dirty electricity, ground current, and shadow flicker. Among these, noise stands out as a major concern. Research has shown that individuals residing near wind turbines can experience a range of problems, including decreased quality of life, stress, sleep disturbance, headaches, anxiety, depression, and cognitive issues. Furthermore, the noise annoyance caused by the constant rotation of the blades can be distressing and disrupt sleep patterns, leading to sleep deprivation and fatigue (Jeffery, et al., 2013).

One essential aspect to consider is the proximity of residences to wind turbines. Evidence shows that the health impact is more pronounced for those living closer to the turbines. The World Health Organization's (WHO) definition of health encompasses not just physical well-being but also mental and social aspects.¹ Noise pollution from wind turbines can impact all these dimensions of health, leading to a decrease in overall well-being for affected individuals. Furthermore, studies have reported a clear correlation between noise exposure and dizziness, nausea, the sensation of ear pressure, tinnitus,

¹ <https://www.who.int/about/governance/constitution>

hearing loss, sleeping disorders, headache and other symptoms, collectively known as the Wind Turbine Syndrome (Schmidt & Klokke, 2014).

Wind Turbine Syndrome

The term Wind Turbine Syndrome was coined by Dr Nina Pierpont, an American paediatrician, in 2009. She published a book titled *Wind Turbine Syndrome: A Report on a Natural Experiment*, in which she discussed her observations and claimed that living near wind turbines could cause a range of health problems, such as headaches, sleep disturbances, dizziness, and other symptoms. Since then, in 2021, a French court, in the first judgment of its kind in France and the European Union (EU), has recognised the Wind Turbine Syndrome as an actual illness and awarded compensation to a Belgian couple who suffered health harm by living near a windfarm (Willsher, 2021). While evidence suggests that infrasound can have physiological effects on the ear, its precise implications require further comprehensive research for a thorough understanding. Nonetheless, a substantial body of research published by the Cambridge University Press contends that these symptoms predominantly arise from the stress induced by unwelcome noise exposure. As such, acknowledging the potential impact of infrasound on the human ear is essential (Farbound, et al., 2013). Stress management and addressing noise-related concerns may be critical aspects in evaluating and managing the well-being of individuals residing in proximity to wind farms.

Perception of Corporate Interests

Sean Gerard McCann, born in July 1966, is an Irish national residing in Northern Ireland. He holds the position of Director in Dyrick Hill Wind Farm Ltd, the company proposing the development of the Dyrick Hill Wind Farm near Coolagortboy in Cappoquin, Co. Waterford. It has come to light that Sean McCann has been involved in multiple corporate activities, particularly in offshore companies, as revealed in the Paradise Papers leak in 2017.² The Paradise Papers comprise approximately 13.4 million leaked files and 1.4 terabytes of data obtained from offshore service providers and company registries. Among the leaked documents, Sean McCann's name is listed as a director of Lagan Holdings Limited since 26 April 2005. Lagan Holdings Limited is registered in Barbados, an offshore jurisdiction commonly used for financial purposes. The leaked documents raise concerns and questions about the transparency and legitimacy of the Dyrick Hill Wind Farm project, given McCann's involvement in this offshore company. The Paradise Papers leak also raises potential concerns about financial practices and compliance with regulations, as offshore investments have been historically associated with tax avoidance, money laundering, and concealing illegally acquired funds. In addition to his involvement in offshore companies, Sean McCann is the sole shareholder of Emerging Markets Power (NI) Ltd, which retains 70% of the shares of Emerging Markets Power (Holdings) Ltd. The latter is a 25% shareholder of EMP Energy Ltd, the sole shareholder of Dyrick Hill Wind Farm Ltd.

Furthermore, it is also a concern that since Dyrick Hill Wind Farm Ltd possesses no real assets (only €100 in total share capital), it is not in a position to give reassurance to the residents and landowners concerned that in the event of a catastrophe, however, caused, it would be in a financial position to accept responsibility for any consequences. We are of the opinion that should An Bord Pleanála decide, against the wishes of us local residents and also the Waterford City and County Council, to allow this application to proceed, then an insurance-backed guarantee in the sum of multiple millions of euro should be made a condition of this to make sure that the land is returned to its previous condition and any damage is correctly repaired.

Honeyberry Plantation

The proposed development of the Dyrick Hill Wind Farm will significantly negatively impact our planned honeyberry plantation, which will be a vital part of our planned agricultural activities. Honeyberry (*Lonicera caerulea*), also known as blue honeysuckle, is a fruit-bearing shrub highly sensitive to environmental changes. The wind turbines' presence and associated infrastructure can disrupt the area's microclimate, adversely affecting the honeyberry plants' growth and productivity. The

² <https://offshoreleaks.icij.org/nodes/110102928>

wind turbines can create a turbulent airflow pattern, altering temperature and humidity levels within the plantation. Such fluctuations in the microclimate can cause stress to the honeyberry plants, affecting their flowering, pollination, and fruit development processes. Prolonged exposure to strong winds may also lead to physical damage to the plants, such as broken branches and fruit loss.

Furthermore, the construction phase of the wind farm may involve significant ground disturbance and soil compaction, which can further disrupt the honeyberry plantation's root systems. The construction equipment and infrastructure installation may inadvertently cause damage to the plants, resulting in reduced yields and compromised plant health. The honeyberry plantation requires a stable and nurturing environment to thrive and produce a high-quality crop. The potential disruptions caused by the wind farms will pose serious economic losses for our agricultural activities. As the wind turbines are proposed to be located in close proximity to our honeyberry plantation, the negative impact on our agricultural livelihood is a major concern and a strong reason to oppose the development.

Native Irish Bees

Our property is also home to native Irish bee hives, which are crucial pollinators not only for our planned honeyberry plantation but also for the local ecosystem. These bees play a vital role in maintaining biodiversity and ensuring the reproduction of various plant species, including wildflowers and agricultural crops. The presence of wind turbines will disrupt the foraging behaviour and habitat of native bees, leading to declines in their population and pollination services. The noise generated by wind turbines will interfere with the acoustic communication between bees, hindering their ability to communicate location and resource availability within the colony. Additionally, the turbulence created by the spinning blades can cause air disturbances, making it difficult for bees to navigate efficiently between flowers and their nests.

Furthermore, the construction activities associated with the wind farm will result in habitat loss, fragmentation, and increased human and machinery presence, which will disturb nesting sites and the nesting behaviour of native Irish bees. These disruptions can have cascading effects on local ecosystems, affecting plant reproduction, wildlife habitats, and overall ecosystem health. These bees are essential contributors to our agricultural activities, ensuring the successful pollination of our honeyberry plants and other crops. Their decline or disturbance can directly impact the productivity of our agricultural endeavours and result in reduced crop yields.

Stags

The proposed development of the Dyrick Hill Wind Farm also raises concerns about its potential impact on local wildlife. These animals play critical roles in the local ecosystem and are protected under various conservation regulations. The wind farm's construction and operation could threaten their habitats, foraging and breeding grounds. Stags, or male deer, are an iconic and majestic species that inhabit Dyrick Hill, Scart Mountain and the surrounding areas. The presence of the wind farm and its associated infrastructure will disrupt the natural habitat of stags and lead to habitat fragmentation. Stags rely on large areas of undisturbed land for foraging, breeding, and shelter. The construction activities, felling of large areas of forestry, noise, and human and machine presence associated with the wind farm can cause disturbance to the stags, potentially driving them away from their traditional territories. The movement of stags will be restricted due to the wind turbines' presence and associated fencing and access roads. The cutting down of this massive forest to accommodate the wind turbines will severely disrupt the natural breeding and foraging area for the stags, especially since Dyrick Hill Wind Farm Ltd has not applied for a felling license, and there are no guarantees that the exact same amount of trees that were felled will be replanted in the surrounding area of the proposed wind farms.

This will lead to difficulties in finding suitable foraging grounds and safe areas for mating and rearing offspring. The fragmentation of their habitat can isolate stag populations, reducing gene flow and genetic diversity, which can have long-term consequences for the viability of the local stag population.

Hen Harriers

Hen harriers (*Circus cyaneus*) are a protected bird of prey species,³ that are known to nest and forage in the area surrounding Dyrrick Hill. These birds are susceptible to disturbances during their breeding and nesting seasons. The construction and operation of the wind farm will cause direct and indirect impacts on hen harriers and their habitats. The presence of tall wind turbines can pose a collision risk for hen harriers, especially during low-light conditions or adverse weather. Birds of prey are known to be vulnerable to collisions with large structures like wind turbines, and such collisions can result in fatalities or injuries to these protected species. Additionally, the disturbance caused by the construction activities and ongoing operation of the wind farm can lead to habitat loss and displacement of hen harriers. The noise and human activity can deter the birds from nesting and foraging in their traditional territories, disrupting their breeding success and overall population dynamics. The impact on hen harriers can have broader implications for the local ecosystem, as they play a crucial role in controlling populations of small mammals and birds, helping to maintain the balance of prey species.

Impact on Property Values

The construction of wind farms near residential properties can lead to greatly decreased property values due to perceived visual and noise nuisances. As landowners in close proximity to the proposed site, we are concerned about the potential devaluation of our properties and land, which could have significant financial consequences for our families.

A recent study on the influence of onshore wind turbines on land values by von Detten, et al. (2023, p. 63) at the HAWK University of Applied Sciences and Arts, the Max Planck Institute for Dynamics and Self-Organization and the University of Göttingen, conducted in Northern Germany within three coastal districts in the state of Schleswig-Holstein with a total of 1,382 land zones and a high density of wind turbines confirms that a strong connection between wind turbines and the loss of land values has been determined at 7.33% on the standard land value (von Detten, et al., 2023, p. 76). Similarly, another study conducted in Germany at Aachen University by Sunak & Madlener (2016, p. 90) concluded that properties with an extreme to medium view of wind farms showed up to a 14% decrease in value. Another study by Gibbons (2015, p. 193) at the London School of Economics showed that wind farms reduce house prices in postcodes where turbines are visible in England and Wales on average at a rate of 6% even within a 2 km radius from wind turbines. One more joint study conducted by the Amsterdam Business School and the Amsterdam School of Real Estate revealed that areas within a much longer 2 km distance from a wind turbine show, on average, a 6.6% depreciation of house prices when compared to areas without wind turbines (Dröes & Koster, 2016, p. 127). Finally, the New York-based Clarkson University used data on 11,331 property transactions over nine years in Northern New York to explore the effects of new wind facilities on property values (Heintzelman & Tuttle, 2011, p. 2). The results revealed that in two counties, Clinton County and Franklin County, where the wind turbines were installed, the declines in value were up to 14.49% for the former and up to 15.81% for the latter within a 0.5-mile distance. However, in Franklin County, there were also declines of up to 35% (Heintzelman & Tuttle, 2011, p. 22).

The impact of wind farms on property values was investigated through five separate studies, each providing valuable insights into the potential decrease in property values due to the presence of wind turbines. The total sum of these percentages was 64.23% (7.33 + 14 + 6 + 6.6 + 14.49 + 15.81 = 64.23%).⁴ To find the average, we divided this sum by the number of studies, which is 5. The resulting calculation is approximately 10.705%. This average percentage represents the potential decrease in property values near wind farms based on the meta-analysis of these studies.

The formula used to calculate the average or mean percentage decrease in property values is as follows:

$$(\text{Percentage Values}) / (\text{Number of Figures}) = \text{Average Percentage}^5$$

³ www.irishhenharriersurvey.com

⁴ Percentage Values: The sum of the individual percentage values from each study.

Number of Figures: The total number of figures (percentages) included in the analysis that were included in the analysis.

$$64.23 / 6 = 10.705\%$$

The research and studies cited in this analysis consistently demonstrate a negative impact on property values in areas near wind farms, revealing the potential consequences of constructing wind turbines close to residential properties. The findings underscore the importance of considering the perceived visual and noise nuisances associated with wind farms, as they can significantly decrease property values for landowners and residents alike.

It is evident that the average percentage decrease in property values, approximately of 10.705%, highlights a substantial economic concern for those living in the vicinity of wind farms. Moreover, the cumulative effect of these studies suggests that the presence of wind turbines can lead to a considerable depreciation in property worth, impacting the financial well-being of property owners. Nonetheless, beyond the mere numerical devaluation, there arises a pressing concern that extends beyond just the decrease in prices. The adverse effects of wind turbines can make properties in close proximity to them increasingly undesirable to potential buyers. The resulting reluctance of buyers to invest in such properties due to perceived nuisances and visual impacts could render these homes almost worthless in practical terms. We are familiar with two close neighbours in Coolagortboy who have had potential buyers pull out completely in the last few months because of the possibility of the construction of two wind farms in the vicinity. This realisation calls for thoughtful urban planning and consideration of residential areas to maintain a harmonious balance between sustainable energy initiatives and property values.

Conclusion

In conclusion, we, the residents of Coolagortboy, reiterate our unwavering opposition to the proposed development of the Dyrick Hill Wind Farm. Our appeal is based on the comprehensive analysis of various concerns and implications associated with the construction and operation of the wind farm in close proximity to our lands and residential areas. In light of these concerns and potential impacts, we urge An Bord Pleanála to carefully consider the adverse effects of the proposed Dyrick Hill Wind Farm. Preserving the harmony between sustainable energy initiatives and the well-being of residents, property values, landscape, agriculture, and wildlife is essential for a sustainable and thriving community. We implore decision-makers to prioritise the long-term welfare of the residents and the natural environment over short-term gains. Together, we can find solutions that balance renewable energy goals and preserve our community's quality of life and ecological integrity.

References

- de Vries, S., de Groot, M. & Boers, J., 2012. Eyesores in sight: Quantifying the impact of man-made elements on the scenic beauty of Dutch landscapes. *Landscape and Urban Planning*, 105(1-2).
- Dröes, M. I. & Koster, H. R., 2016. Renewable energy and negative externalities: The effect of wind turbines on house prices. *Journal of Urban Economics*, Volume 96, pp. 121-141.
- Farbound, A., Crunkhorn, R. & Trinidad, A., 2013. 'Wind turbine syndrome': fact or fiction?. *The Journal of Laryngology & Otology*, 127(3), pp. 222-226.
- Gibbons, S., 2015. Gone with the wind: Valuing the visual impacts of wind turbines through house prices. *Journal of Environmental Economics and Management*, Volume 72, pp. 177-196.
- Heintzelman, M. D. & Tuttle, C. M., 2011. Values in the Wind: A Hedonic Analysis of Wind Power Facilities. *Land Economics*, pp. 1-41.
- Hölker, F., Wolter, C. & Perkin, E. K., 2010. Light Pollution as a Biodiversity Threat. *Trends in Ecology & Evolution*, 25(12), pp. 681-682.
- Jeffery, R. D., Krogh, C. & Horner, B., 2013. Adverse health effects of industrial wind turbines. *Can Fam Physician*, 59(5).
- Jones, N. F., Pejchar, L. & Kiesecker, J. M., 2015. The Energy Footprint: How Oil, Natural Gas, and Wind Energy Affect Land for Biodiversity and the Flow of Ecosystem Services. *BioScience*, Volume 65, pp. 290-301.
- Lothian, A., 2008. Scenic Perceptions of the Visual Effects of Wind Farms on South Australian Landscapes. *Geographical Research*, 46(2), pp. 196-207.
- Schmidt, J. H. & Klokke, M., 2014. Health Effects Related to Wind Turbine Noise Exposure: A Systematic Review. *PLoS ONE*, 9(12), pp. 1-28.
- Sunak, Y. & Madlener, R., 2016. The impact of wind farm visibility on property values: A spatial difference-in-differences analysis. *Energy Economics*, Volume 66, pp. 79-91.
- von Detten, J., Seebaß, J. V., Schlüter, J. C. & Hackelberg, F., 2023. Influence of onshore wind turbines on land values. *Zeitschrift für Immobilienökonomie*, Volume 9, pp. 63-80.
- Waterford City and County Council, 2022. Appendix 7 Renewable Energy Strategy 2016-2030. In: *Waterford City and County Development Plan 2022-2028*. s.l.:s.n.
- Willsher, K., 2021. *French couple who said windfarm affected health win legal fight*. [Online] Available at: <https://www.theguardian.com/world/2021/nov/08/french-couple-wins-legal-fight-wind-turbine-syndrome-windfarm-health> [Accessed July 2023].

Signature Page: Appeal against the proposed development of Dyrick Hill Wind Farm

Declaration: We, the undersigned residents of Coolagortboy, jointly express our unwavering opposition to the proposed development of the Dyrick Hill Wind Farm. We believe that the construction and operation of the wind farm will have significant negative impacts on property values, visual and landscape aspects, noise levels, and wildlife, as outlined in our detailed report and analysis.

By signing below, we collectively urge An Bord Pleanála to carefully consider the adverse effects and concerns raised in our appeal and prioritise the well-being of residents, the local environment, and the ecological balance over short-term gains.

Date: 01/08/2023

Mandeep Dhillon

Mandeep Dhillon

[Resident Name]

[Signature]

Ben Seaman

Ben Seaman

[Resident Name]

[Signature]

Jacqueline Spencer

Jacqueline Spencer

[Resident Name]

[Signature]

Vincent Curtis

Vincent Curtis

[Resident Name]

[Signature]

Benjamin Dean

Benjamin Dean

[Resident Name]

[Signature]