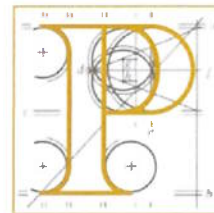


Our Case Number: ABP-318446-23



An
Bord
Pleanála

Declan McGrath
10 The Estuary
King's Channel
Co. Waterford
X91 T3P2

Date: 31 January 2024

Re: Proposed construction of Coumnagappul Wind Farm consisting of 10 no. turbines and associated infrastructure.

In the townlands of Coumnagappul, Carrigbrack, Knockavanniamountain, Barricreemountain Upper and Glennaneanemountain, Skeehans, Lagg, Co. Waterford. (www.coumnagappulwindfarmSID.ie)

Dear Sir / Madam,

An Bord Pleanála has received your recent submission in relation to the above mentioned proposed development and will take it into consideration in its determination of the matter. Please accept this letter as a receipt for the fee of €50 that you have paid.

The Board will revert to you in due course with regard to the matter.

Please be advised that copies of all submissions / observations received in relation to the application will be made available for public inspection at the offices of the local authority and at the offices of An Bord Pleanála when they have been processed by the Board.

More detailed information in relation to strategic infrastructure development can be viewed on the Board's website: www.pleanala.ie.

If you have any queries in the meantime, please contact the undersigned officer of the Board or email sids@pleanala.ie quoting the above mentioned An Bord Pleanála reference number in any correspondence with the Board.

Yours faithfully,

Niamh Hickey
Executive Officer
Direct Line: 01-8737145

PA04

Tell
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64 Sráid Maoilbhríde
Baile Átha Cliath 1
D01 V902

64 Marlborough Street
Dublin 1
D01 V902

10 The Estuary
King's Channel
Waterford
X91T3P2

24th January 2024.

An Bord Pleanála
64 Marlborough Street
Dublin 1
D01 V902

Bord Pleanála Case reference: PA93.318446

**In the townlands of Coumnagappul, Carrigbrack, Knockavanniamountain,
Barracreemountain Upper and Glennaneanemountain, Skeehans, Lagg, Co. Waterford.**

**PROPOSED CONSTRUCTION OF COUMNAGAPPUL WINDEARM CONSISTING OF
10 NO. TURBINES AND ASSOCIATED INFRASTRUCTURE.**

A chara

Notwithstanding the various International, National and Local Plans that are in place to promote renewable energy generation and use to achieve a low carbon economy and a legally binding target of net-zero greenhouse gas emissions by 2050 at the latest, in order to reduce our dependence on fossil fuels, I have concerns in relation to the renewable energy facility that is proposed for Coumnagappul in the Comeragh Mountains in County Waterford.

My reasons and considerations are attached, along with a cheque for €50.

Also included are:

- A3 colour copies of photographs, maps and diagrams included in my A4 submission
- A copy of *A Guide to the Comeragh Mountains*, published in 2018, which will give some additional information on this fine mountain range.

Is mise, le meas

Declan McGrath

DECLAN MCGRATH

AN BORD PLEANÁLA	
LDG-	<u>069446-24</u>
ABP-	_____
24 JAN 2024	
Fee: €	<u>50.00</u> Type: <u>CHA</u>
Time: <u>11.28am</u>	By: <u>hand</u>

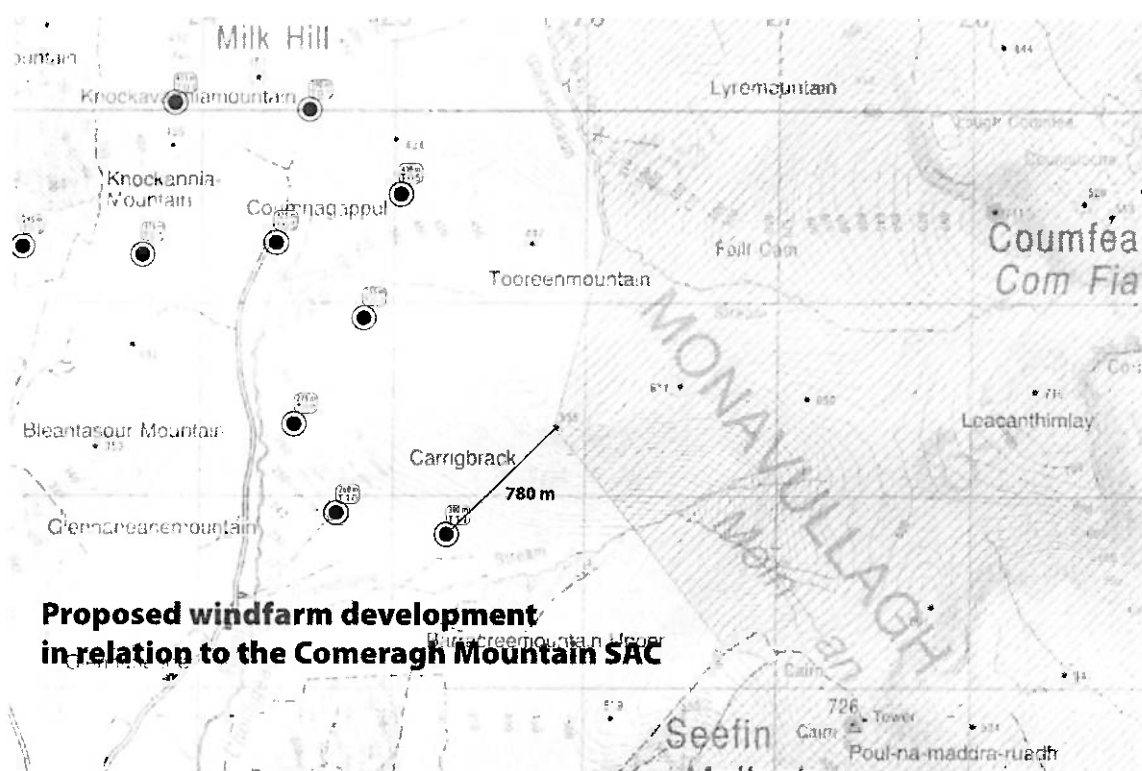
Proposed construction of Coumnagappul Windfarm consisting of 10 no. turbines and associated infrastructure

In the townlands of Coumnagappul, Carrigbrack, Knockavanniamountain, Barracreemountain Upper and Glennaneanmountain, Skeehans, Lagg, Co. Waterford

Bord Pleanála Case reference: PA93.318446

1. COMERAGH MOUNTAINS SPECIAL AREA OF CONSERVATION

There is no relevant or substantive mention of the Comeragh Mountains Special Area of Conservation (SAC), which is surprising, given the proximity of the SAC to the proposed development site. The closest distance is approximately 780 m between turbine T11 and the SAC boundary.



I have concerns that there is insufficient consideration of the potential impacts of proposed windfarm development on the integrity of the Comeragh Mountains SAC and accordingly it is not possible to fully assess the impact, either individually or in combination with other plans or developments, that this substantial and visually dominant development may have on the integrity of this nearby Natura 2000 site.

2. PEREGRINE FALCON & RAVEN

The site synopsis for the Comeragh Mountains SAC clearly states the presence of an Annex I bird species in the SAC:

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive Peregrine, a species listed on Annex I of the E.U. Birds Directive, breeds within the site, as does Raven. Hen Harrier, also listed on this Annex, is found on the site, as is Irish Hare, a Red Data Book species.

There is no assessment or consideration in the submitted EIAR as to whether the proposed development will impact on an Annex I species (Peregrine Falcon) within the SAC. No survey was undertaken to identify Peregrine Falcon breeding sites within the SAC, particularly those closest to the proposed development. This is surprising.

In Chapter 10 (Ornithology) the following statements is included (P10):

Special Protection Areas (SPAs) are designated under the Birds Directive. There are three SPAs within the potential Zone of Influence (Zol) of the Proposed Development. Based on the information provided in SNH 2016 on the core foraging ranges available for the SCIs listed in Table 3 of Appendix 10.1, connectivity between the SPA sites and the Proposed Development is unlikely. However, the maximum foraging range for the SCIs of Dungarvan Harbour SPA and Mid-Waterford Coast SPA overlaps the Site, namely golden plover and **peregrine**. Therefore, an Appropriate Assessment (AA) Screening Report and Natura Impact Statement (NIS) have been completed in order to appraise the likely significant effects of the proposed development either alone or in combination with other plans or projects on European Sites (SACs and SPAs)

It is further stated (P11) that the Peregrines that breed on the Mid-Waterford Coast SPA are inside the maximum foraging range for QI species, and a figure of up to 18 km is given. Peregrine as a key receptor is listed as having a very high sensitivity and it is further stated (P28) that:

Peregrines require tall cliff-faces or man-made structures which resemble these, for breeding. No such habitats or structures occur on study area.

It is also stated (P38) that:

evidence of collision fatality is low, with only two birds recorded in published reviews of windfarm fatalities. . . the proposed impact of collision risk will be Long-term and will have an Imperceptible Effect.

On P52 it is stated that:

disturbance arising from the development will be Not Significant to Slight due to low level of sightings within the site and evidence suggesting tolerance to noisy human activities

and justifies this by stating that *Peregrines are known to nest in urban areas often in cathedrals with loud ringing bells, as well as quarries where regular rock-breaking works are undertaken*, and it is further stated that there will be *no displacement from breeding sites due to none being recorded within the proposed site boundary*.

Peregrine Falcons are highly territorial in the breeding season and are focussed and aggressive, especially when they have young. They breed at high density within the Comeragh Mountains SAC, given the presence and attractiveness of superb breeding cliffs; they are usually present on those breeding cliffs throughout the year (they sometimes move to the lowlands in very harsh weather conditions, but usually only briefly).

I studied Peregrines intensively in the Comeragh Mountains in the period 1981–2001 and I have visited many of the Comeragh sites annually but less regularly or intensively since. I know all the breeding cliffs and I know a good many of the ledges in those cliffs where the birds lay their eggs and where they raise their young. Comeragh Peregrines are largely undisturbed on the high and lofty cliffs of the Comeragh coums and are constrained in their breeding success only by adverse weather conditions at critical times. They forage widely over moorland and farmland that surrounds the Comeraghs, especially in the breeding season if they are raising up to four young, which entails frequent foraging trips. I have seen Peregrine Falcons in all of the Comeragh valleys in the breeding season, but probably not as often as they occur as they are very strong fliers and difficult to spot when flying in mountain areas. When I was watching active nests, sometimes for hours on end, I regularly saw adult birds arriving from every direction and was frequently surprised how birds would just appear on cliffs or at the nest site having arrived unseen.

**The status and productivity of the peregrine falcon
Falco peregrinus L. in south-east Ireland 1981-2001**

DECLAN MCGRATH

Waterford Institute of Technology, Cork Road, Waterford

The status and breeding performance of the peregrine falcon at natural cliffs (inland and coastal) in south-east Ireland between 1981 and 2001 is presented. Coastal breeding numbers increased slightly in the early years of the study but then declined, probably because of disturbance.

Irish Birds 3: 377–386 (1987)

***The Peregrine Falcon in south-east
Ireland, 1981-1986***

D. McGrath
25 Morley Terrace,
Waterford



The breeding population of the Peregrine Falcon in south-east Ireland increased in the period 1981-1986 and had recovered to pre-1940 levels by 1985. Over 42% of the territory holding pairs successfully fledged young, mean brood size at fledging was 2.17 and the mean number of young fledged per territory holding pair was 0.91. Bad weather, disturbance and the continuing effects of organochlorine insecticides probably contributed to the poor breeding performance. Breeding territories were occupied all year round.

I am surprised therefore that there were only eight sightings of Peregrines during survey work associated with the Coumnagappul windfarm development but, equally, such a small number of sightings is perhaps linked to the difficulty of seeing fast-flying raptors in mountain areas that are often clouded in mist and low cloud. However, regardless of the number of sightings, I am very surprised that there was no attempt to survey Peregrine breeding sites in the Comeragh Mountains within the stated foraging range of the species: 18 km (note all of the Peregrine breeding sites in the Comeraghs are within that distance) or even those breeding sites that are closest to the proposed Coumnagappul windfarm development, which may have allowed an assessment of whether the development would have any adverse impact on this Annex I species.

It is stated that NPWS were contacted in respect of rare and/or protected species within the study area, and they replied that three unoccupied peregrine breeding sites that were known breeding sites in 2002 were recorded in National Peregrine Falcon Survey in 2017, but they could not confirm whether any of the records they provided pertained to the study area. It could be inferred from this limited information that is lacking in detail that Peregrine Falcons either are absent or rarely occur in the area and therefore there is nothing to either investigate or assess. This is very definitely not the case.

There is no mention at all of Ravens in the Ornithology Chapter, which I find particularly surprising. Ravens are larger than Peregrines and noisy, and their large size, black colour and their relatively slow flight (compared to Peregrine Falcon) means that they are not easily missed. They breed on cliffs in all of the Comeragh coums and they often breed in mature conifer forests; they also forage widely throughout the range. Their main food is sheep carrion

that is found all over the Comeraghs, from the lowlands to the high tops and even on the cliffs. I would have expected numerous sightings of this large corvid in the Coumnagappul area but none are listed. Ravens are territorial in the breeding season and are early nesters. Once the breeding season is over, large flocks gather and forage in the valleys and over the slopes. Exceptionally, I have seen up to 70 birds in such flocks (in the Nire Valley), but smaller flocks are more regularly seen. There is no assessment within the EAIR as to whether the development will have any adverse impacts on Ravens, either in the breeding season or at other times. The main risk to Ravens would be collision with the turbines but there is no assessment of this risk, which isn't surprising since the bird is not even mentioned.

I usually don't reveal locations of nesting sites of Annex I species and I have no intention of revealing this information publicly, as would be the case if I were to include a map of Comeragh nesting locations with this submission. However, I am prepared to provide a map of the nesting locations of both Peregrine Falcon (the Annex I species) and Raven in the Comeragh Mountains to An Bord Pleanála on a **STRICTLY CONFIDENTIAL** basis and for use only by An Bord Pleanála, so that the Bord can undertake an assessment of the potential adverse effects of the proposed windfarm development on both species.

I have concerns that there is insufficient consideration of the potential impacts of the proposed windfarm development on an Annex I species (Peregrine Falcon) that occurs in the Comeragh Mountains SAC and hence it is not possible to fully assess the impact of the development, either individually or in combination with other plans or developments, that it may have on this Annex I species and others that occur there, and on biodiversity in general.

3. BUZZARD

On a visit to the Coumnagappul area in September 2019, a family party of three Buzzards (a female and two young of the year) flew southeast from the Knockanniamountain direction and ambled across the valley in a leisurely manner at varying heights. I watched them for 30 minutes or so, the time they were in view in the valley. They circled around the wind mast and thereabouts on a few occasions before ascending slowly up onto the ridge and eventually they flew out of sight towards Coum Tay. These three birds came through a site in which it is proposed to erect 10 substantial turbines and they flew through the sweep area of the blades.

There is no doubt in my mind that those three buzzards would have been at risk of collision with the turbine blades as they flew across the Coumnagappul valley at turbine height unless they exhibited avoidance behaviour at the sight of turbines in their path and this would be less certain in the case of the juvenile birds.

The EAIR indicates that Buzzards were recorded on various surveys and states that breeding is likely nearby. In respect of collision risk, the EAIR (table 10-7) states that 27 buzzards were recorded in a review of 24 windfarms up to 2004, which it states, is low in relation to the estimated European population of up to one million pairs. The year 2004 is 20 years ago and twenty years ago I never encountered Buzzard in my regular and frequent visits to the Comeraghs. Now, anytime I visit the Comeraghs, I see Buzzards from the lowland areas to the high tops. Buzzard is now a common bird in Waterford (and in Ireland) and there must surely be many more Buzzard collision records throughout its range since 2004, given the large increase in their population since then, and the significant increase in the number of windfarms now present throughout their breeding range.

Table 10-7 in respect of potential collision risk to target species states the following for Buzzard (under significance without mitigation):

Sensitivity: Low.

Magnitude: Negligible – based on predicted 0.052 collisions per year which is equal to 0.0003% of an extremely conservative/out-dated (due to a lack of a more recent figure to work with) national population estimate of 1,500 birds

Overall significance: Very Low. (Criteria: Percival, 2003).

The proposed impact of collision risk will be a Long-term Imperceptible Effect

I suggest that this assessment is very conservative. Accordingly, I would categorise the sensitivity as being Medium to High, the magnitude as Potentially Serious, and the overall significance as Medium to High given the massive expansion of the Buzzard population in Ireland since the data that underpin the EIAR conclusions are 20 years old.

Given my experience of Buzzards on that day in September 2019, I also have grave concerns for Peregrine Falcon and Raven and other vulnerable birds that fly through and forage in this remote valley if the proposed windfarm is developed.

4. EAGLE SPECIES

Eagles bred in the Comeragh Mountains in the 1800s, though there is some dispute as to whether the species was Golden Eagle or White-tailed Eagle. Golden Eagles were re-introduced to Glenveagh National Park in Donegal in 2001 and wandering birds from this project have been observed in upland areas throughout Ireland. White-tailed Eagles were re-introduced to Kerry from 2007 onwards. They have since spread and are now breeding in Kerry, Clare, Cork and Galway. Records for the Comeraghs are few, which is unsurprising given the paucity of observers, but there are records of individuals flying through the range in 2015 and again in 2016 (they were probably White-tailed Eagle). I would never have imagined in the early 2000s that Buzzards would be as widespread and as common as they are now in Ireland and in Waterford and that they are frequently seen in and around the Comeragh Mountains, including on the plateau and around Coumnagappul. Hence, while it might be conjecture, it is not unreasonable to suggest that in 40 years' time (the life span of the proposed turbines) one or other of the two eagle species currently breeding in Ireland will be breeding in the Comeragh Mountains. The most likely coums where they might breed are Coumshingaun (7 km from the proposed windfarm site) or Coum Éag (4.8 km to the southeast of the site), as they almost certainly bred in those coums in the 1800s before they were exterminated. Both these coums, especially Coum Éag, would be within the ZoI of the proposed turbine locations, as eagles forage widely and they would almost certainly feed on sheep carcasses that occur in the Comeraghs throughout the year. Even if eagles never again breed in the Comeraghs, immature eagles and immature birds of other species such as Red Kite will increasingly occur as their breeding population expands in Ireland; immature birds wander widely in their early years, and they are drawn to upland areas because of the availability of carrion and general lack of disturbance. They will be increasingly at risk of collision, particularly in a remote area like Coumnagappul where 10 turbines are proposed under the current application (and where eventually up to 75 turbines may be constructed).

It should be noted that eagles have a high sensitivity to windfarm developments and there have been high levels of mortality due to collision with turbine blades as they show weak responses to avoiding turbine blades. As recently as December 2023 a court of appeal in Nîmes, France, ordered the dismantling of an operational windfarm due to the threat it posed to local ecology. A study had found that the windfarm had led to the deaths of more than 1,000 birds and bats

including a Golden Eagle. An earlier judgement also pointed out that the impact assessment submitted in 2013 during the development process for the windfarm was “insufficient”, which resulted in its construction in an area where golden eagles were nesting.

While it is not reasonable to reject a proposed windfarm development on the basis of the possible nesting of a vulnerable species (either eagle species) that may occur at some unknown date in the future, nevertheless, in the case of Peregrine Falcon, Kestrel, Buzzard and Raven and maybe even Hen Harrier, there is a clear and substantive risk that these species are at risk of collision with any one of the $10 \times 3 = 30$ turbine blades that are proposed for this location, and the EAIR is not reassuring in respect of the collision risk, given the out-of-date data on which it is based. Also, the size, scale and sweep of the turbines that are proposed at Coumnagappul are significantly greater than those used in earlier studies of impacts of turbines on birds.

I contend that the EAIR is similarly “insufficient” as it does not assess the likely impact that the proposed development might have on breeding birds, including Raven and Peregrine Falcon, who breed close to the proposed development site, since the nesting of either species was not checked during the survey period.

5. COLLISION RISK MODEL (CRM)

An Avian Collision Risk Assessment Report is included in Appendix 10-2 of the documents lodged with the application for the proposed windfarm development at Coumnagappul. The CRM acknowledges that *collision with the turbine rotors of onshore windfarms is a potential source of avian mortality*, and the report includes flight data recorded from three vantage locations and presents information on bird biometrics and the probability of collision of each species. The mean number of predicted collisions per 40 years are presented in Table 11 and for most of the species listed in the table, apart from Golden Plover and Kestrel, the risk of collision is stated to be low. However, it is further stated in the Conclusion:

in view of the assumptions and limitations associated with collision risk modelling, the final predicted collision rates should only be considered indicative and never definitive and used solely as a comparative tool rather than an accurate indicator of mortality risk. Consequently, it is perhaps wisest to interpret the results of CRM analyses as being only an indication of the order of magnitude of predicted collision risk.

In other words, there is a wide margin of error in the calculations, and the actual number of bird collisions could be far higher than the CRM predicts. It should also be noted that Coumnagappul, where the windfarm is proposed, is an upland area and the turbines will be erected at elevations between 260–435 m, resulting in obstacles that will be 445–620 m above sea level. The area is frequently covered in low cloud, fog, mist, ice, snow (occasionally) and is often lashed by heavy rain. Even if birds that occur in the area or birds that pass through on migration or to feed/forage elsewhere avoid the turbines (and that isn't proved in the case of some of the larger species), their ability to do so in low visibility events (fog, low cloud etc), will be very much reduced and the likelihood of collisions will be greatly increased. The CRM does not consider this issue and nor could it since it is based on actual visible sightings of birds passing through the area. Hence the EIAR is deficient in that it does not consider the likely bird impacts with the turbines during low visibility events that are frequent in this upland area. Moreover, it is not known to what extent bird species pass through the site at night, either on migration in Spring and Autumn, or when moving between wetland areas in winter. Any flocks moving through this upland site at night would be at risk of colliding with the turbines, given the elevations at which they will be constructed. For some of the larger bird species that use the site (Raven, Buzzard and Peregrine, for example), even small rates of kill per turbine could potentially produce excessive mortality overall, given the unreliability of the CRM, and this could have population impacts for those species with low reproductive rates. Mortality could also be increased if birds avoided or were displaced from the Coumnagappul area due to the presence of the windfarm, if constructed. Birds have been seen to fly around turbines or entire windfarms before they get back on track. For some species this will increase their survival chances, but it does involve increased energy expenditure which could be costly, especially in winter in harsh conditions.

The turbines will have to be lit to satisfy the Irish Aviation Authority (IAA). The EIAR states (P34):

studies have shown that **red** lighting is more attractive to birds, and that steady burning lights are more attractive than flashing ones, while structures with no lighting were the least attractive . . . The directional intensity of lighting is also a factor in reducing the attraction of birds. As such, specification of aviation obstruction lighting to minimise effects on birds is included under operational mitigation measures.

And on P68 of the EIAR, it is stated that:

certain turbines will be illuminated with medium intensity fixed **red** obstacle lights of 2000 candelas where required by the IAA.

In adverse weather conditions, which frequently occur in the area, migrating birds, and particularly those that migrate at night, will be drawn to the fixed red lights on the turbines (which the EIAR states are more attractive to birds) when they will then be at increased risk of collision with the turbine blades.

6. RAPTORS IN GENERAL

The EIAR/NIS accompanying the proposed development lists several raptor species that use the site (Sparrowhawk, Merlin, Kestrel, Hen Harrier and Peregrine Falcon) to which can be added eagle species and Red Kite that have been seen in the area in recent years. Some of these species breed nearby and use the open slopes around Coumnagappul for foraging. Hen Harrier and Kestrel, which I have seen in the area on a number of occasions, are more obvious, and probably more likely to be easily seen than Sparrowhawk and Merlin. Some of these species are on the latest list of Birds of Conservation Concern in Ireland (Kestrel [Red]; Merlin and Hen Harrier [Orange]), and any risk to their conservation status is unwelcome.

Clearly the valley at Coumnagappul is of some importance for hunting/foraging by a range of raptor species. It is also clear that the development will have adverse impacts on one or other or all of these species, either through displacement, avoidance or mortality due to the presence of 10 turbines and the increased risk of collision with 30 rotating turbine blades, notwithstanding the conclusions of the CRM.

There is nothing of similar scale, massing or size anywhere in the Comeragh Mountains and the proposed windfarm, if constructed, will be a serious obstacle in the area, which, up-to-now, has been clear of such constructions. Given the widespread use of the area by raptors in particular, it is also likely that the area will continue to attract new individuals of several species, which increases the risk of recurring mortality around the site, now and into the future. These turbines are clearly massive structures and their size, massing and scale at the proposed development site will almost certainly pose a significant risk of collision and

mortality to several species including at least three Annex I species (Peregrine, Merlin & Hen Harrier) and potentially, in time, to other Annex I species (Golden & White-tailed Eagle).

It has not been established beyond any reasonable doubt by the conclusions of the EIAR/NIS that the Annex I species and Birds of Conservation Concern (including Red-listed species) will not be adversely affected by the proposed 10-turbine development at Coumnagappul.

7. DIPPER

Dipper is not mentioned at all in Chapter 10 (Ornithology) of the main EIAR and is mentioned only once in Appendix 10-1 in Table 1, which is a desktop review of the Breeding Bird Atlas (2007–2011) status of species previously recorded in the 10 km hectads S20 and S21 and the status for Waterford County 2006–13. Section 2.2 (Identification of Target Species) of Appendix 10-1 (Ornithology Report) states:

It is important to note that the absence of records for any bird species should not be treated as evidence that the species is not present (as due to the remote nature of the site there can be a paucity of desk-top data available)

Despite this comment, I am surprised that there is no mention of Dipper, as the species occur in the ZoI of the proposed windfarm. A pair nests annually at Scart Bridge or in the bridge beside it (at Aughclashanierin). I also have records of them high up in the Coumnagappul valley on the River Colligan and in the Coumduane Stream, and they surely also occur along the Colligan beside the enclosed farmland between the unenclosed upland areas of the valley and down as far as Scart Bridge, which is less easy to check or to monitor.

Dipper is almost exclusively riverine, and the bird spends most of its life in and around water and it is usually found nowhere else. It is almost entirely dependent on water and, although it is often considered to be an upland bird, in suitable streams it may breed close to sea level. Aquatic invertebrates form the bulk of its diet, which it acquires by feeding underwater in clear, unpolluted rivers and streams. River pollution and sedimentation are two factors that can impact on its breeding biology, and, if severe, may lead to local extinction.

The imposition of a 10-turbine windfarm in a remote upland area, with all the associated infrastructure, has the potential to alter the hydrology and rates of sedimentation of upland streams close to and further downstream of the development. While Chapter 12 (Hydrology & Water Quality) discusses the release of construction or cementitious materials, suspended solids, waste water sanitation contaminants, hydrocarbons and other aspects during the construction, operational and decommissioning phases of the proposed development and outlines mitigation measures during these phases, no measures are listed that specifically protect Dipper from adverse impacts on local watercourses where this birds lives and breed, particularly since the species was not, apparently, located during bird surveys.

The windfarm development will involve extensive excavation and drainage works to accommodate the hard standing areas and other infrastructure associated with the turbines. It is almost certain that the hard structures associated with the proposed development will result in significant changes in surface water flows and drainage patterns, which will be enhanced during high rainfall events and considerably reduced during dry spells and droughts, events that are predicted to increase in frequency and extent arising from climate change and changing weather patterns. Hence, rainfall will be removed from the area in significantly greater volumes and the removal of such large volumes of water in much shorter time intervals could potentially have adverse consequences locally. The EIAR states (P9) that:

the wind turbine foundations at Coumnagappul will be standard shallow reinforced concrete base pad foundations. The turbine foundations will be circular in shape and will be 25 m in diameter and 4 m in depth.

though on P28 it states:

based on information derived from the preliminary site investigation and consideration of wind turbine manufacturer specifications, it is expected that wind turbine foundations shall be reinforced concrete gravity foundations with depths of 3 m and diameters of approx. 22 m.

Serious construction works will be required at each turbine location that are at varying elevations in the valley and over time it is possible that the turbine foundations could be undermined by either inadequate or poorly designed drainage channels or by unforeseen impacts arising from predicted heavy rainfall events. In the event that this happens, further stabilisation works would be required to solve the problem. There is the likelihood too of

significant erosion along drainage channels during heavy rainfall episodes and, conversely, given the rapid rate at which rainfall will be removed from the area, it is also possible that the area will dry out to a much greater degree than at present. Notwithstanding the mitigation methods that are proposed, upland areas are harsh environments. Steep ground in upland areas such as Coumnagappul have evolved effective drainage patterns over long periods of time and, when those drainage patterns are interfered with, the consequences are often unpredictable. While the EIAR found that shallow peat depths were recorded on site and the findings of the peat assessment showed that the site has a low risk of peat failure, nevertheless, given the sloping nature of the valley sides and the large amount of peat in the area, any gradual erosion due to poor drainage or drying out could result in significant sedimentation in local watercourses.

These events could potentially be catastrophic for Dippers and other aquatic life along the Colligan close to and downstream of the proposed development. Since there is no baseline survey of the Dipper in these areas, there is no way of knowing, if the development proceeds, whether Dipper will be adversely impacted, and if so if their breeding numbers will suffer.

It is clear that a number of ornithological issues have not been satisfactorily addressed in any of the documents associated with the proposed windfarm development at Coumnagappul and hence it is not possible to fully assess the impact that the development may have on several bird species that occur in the general area and in the nearby Comeragh Mountains SAC, a Natura 2000 site. Moreover, a number of Annex I bird species and Birds of Conservation Concern (including species that are Red-listed) occur within the ZoI of the proposed development and it hasn't been fully established that the windfarm development at Coumnagappul will not have an adverse impact on these species, and nor has it been established that there will not be a net loss of biodiversity arising from the proposed development if it proceeds.

8. PRECEDENT

An unwelcome precedent will be set if this development is allowed to proceed at this location, given that there are grid applications for turbines at Barracree (14), Carrickbrack (16), Coumnagappul (24) and Milk Hill (20), according to Appendix 3 of Appendix 7 (Renewable

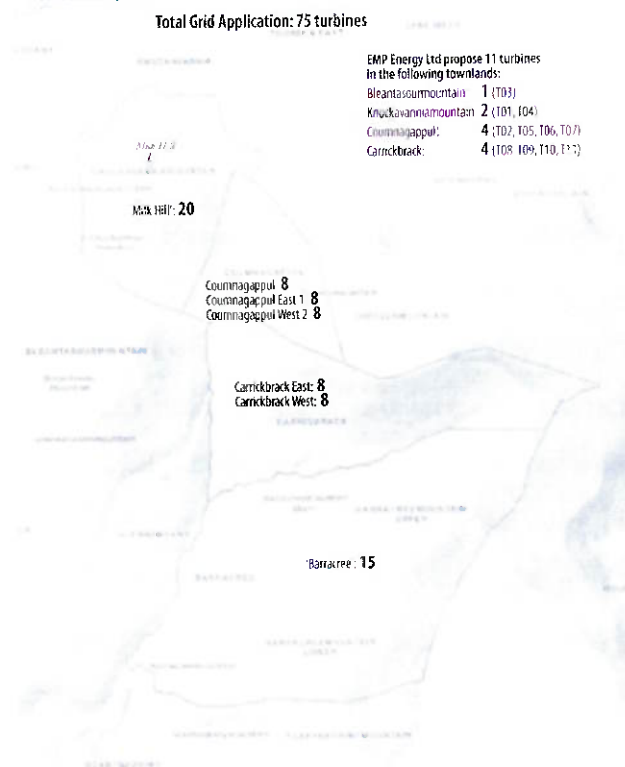
Energy Strategy) of the Waterford Development Plan 2022–2028. (Note that a grid offer does not infer a grant of planning permission).

Current Wind Farm Grid Applications			
Townland	Turbines	Electricity Production (GWh)	Annual Electricity Production (MWh, 75%)
Ballydurn 1	4	10	21.33
Ballydurn 2	2	4	8.53
Barracree	14	35	74.65
Carrigbrack East 1	8	20	42.66
Carrigbrack West 1	8	20	42.66
Coumnaagappul	8	20	42.66
Coumnaagappul East 1	8	20	42.66
Coumnaagappul West 2	8	20	42.66
Knockanore 1	24	60	127.97
Moanbrack	3	8	17.06
Milk Hill 1	20	50	106.64
Fahafeelagh	2	4	8.53
Lisnageragh / Garranturton Brenan	28	70	149.30
Ballylangdon	9	23.1	49.27
Knocknalougha	4	10	21.33
Russellstown 1	10	24	51.19
Total	150	398.1	849.09

Appendix 3 of the RENEWABLE ENERGY STRATEGY FOR WATERFORD CITY & COUNTY 2016-2030 gives following grid applications for wind farm developments in and around Coumnaagappul

Note:

1. Milk Hill isn't a townland but a feature in the townland called Knockavanniamountain
2. Barracree comprises the three townlands named on the map below



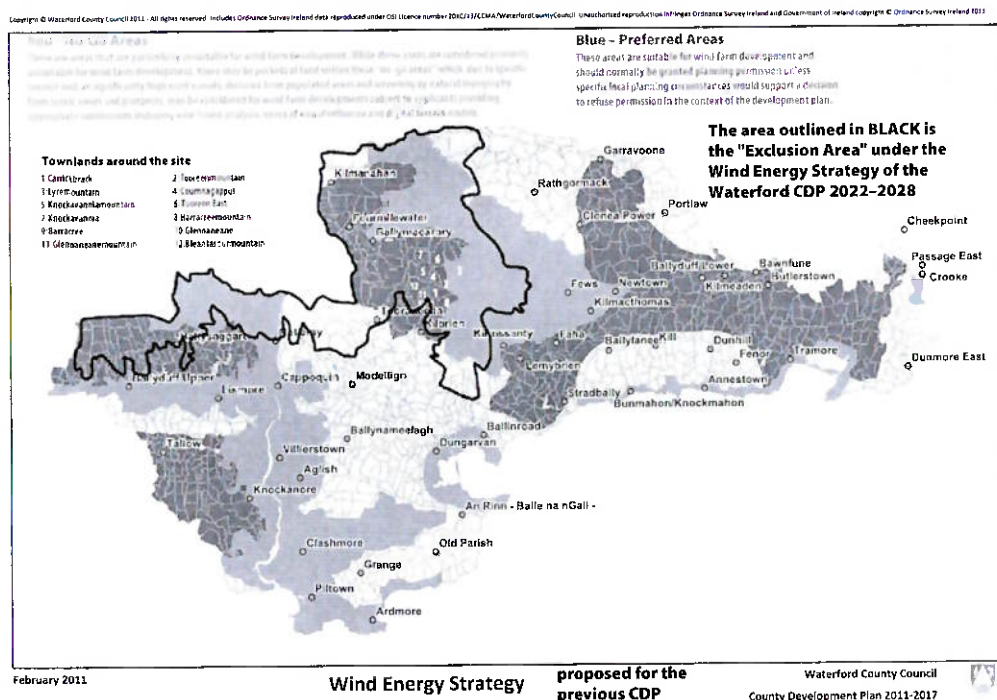
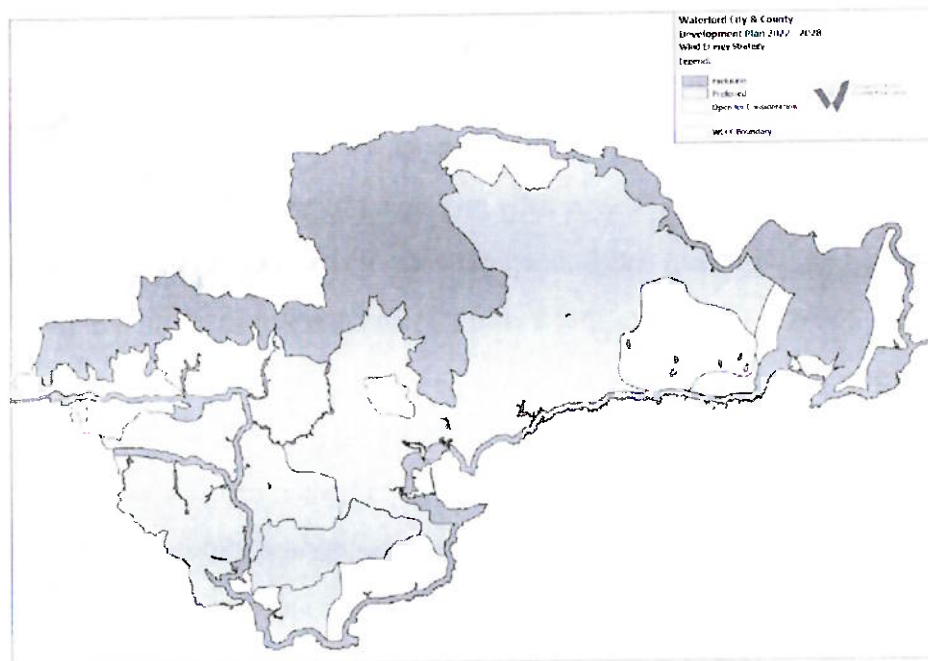
9. WATERFORD DEVELOPMENT PLAN: WIND ENERGY MAP & EXCLUSION AREAS

The windfarm proposed for Coumnaagappul has to be considered under the provisions of the Waterford City & County Development Plan, 2022–2028 and Appendix 7 of the Renewable Energy Strategy for Waterford City & County 2016–2030. The map on P90 in Appendix 7

(see below) delineates the county into three distinct areas in respect of wind energy developments: Exclusion, Preferred and Open for Consideration. This map updates and refines the wind energy strategy map included in the previous Waterford County Development Plan, 2011–2017 (also included below), under which the current proposal for a windfarm development at Coumnagappul was initially prepared, probably on the basis that the site was then a Preferred Area for wind energy developments. The windfarm development as proposed under the new Plan for Coumnagappul is clearly in an Exclusion Area for windfarm developments.

It appears that in preparing the new City and County Development Plan 2022–2028 the previous four categories of suitability for windfarm development (Strategic Areas, Preferred Areas, Areas Open to Consideration & No-Go Areas) were amended and consolidated into three classifications (Preferred Areas, Areas Open to Consideration & No-Go Areas) and identified as such on the revised wind energy designations map. Those areas were identified by way of overlaying a series of maps and data, including:

- The Landscape and Seascape Character Assessment.
- The Natura 2000 network.
- Urbanised areas.
- Waterford Regional Airport Masterplan (Appendix 12 of the Development Plan).
- Wind energy mapping of adjacent local authorities.
- Major road infrastructure.
- The Transmission grid.



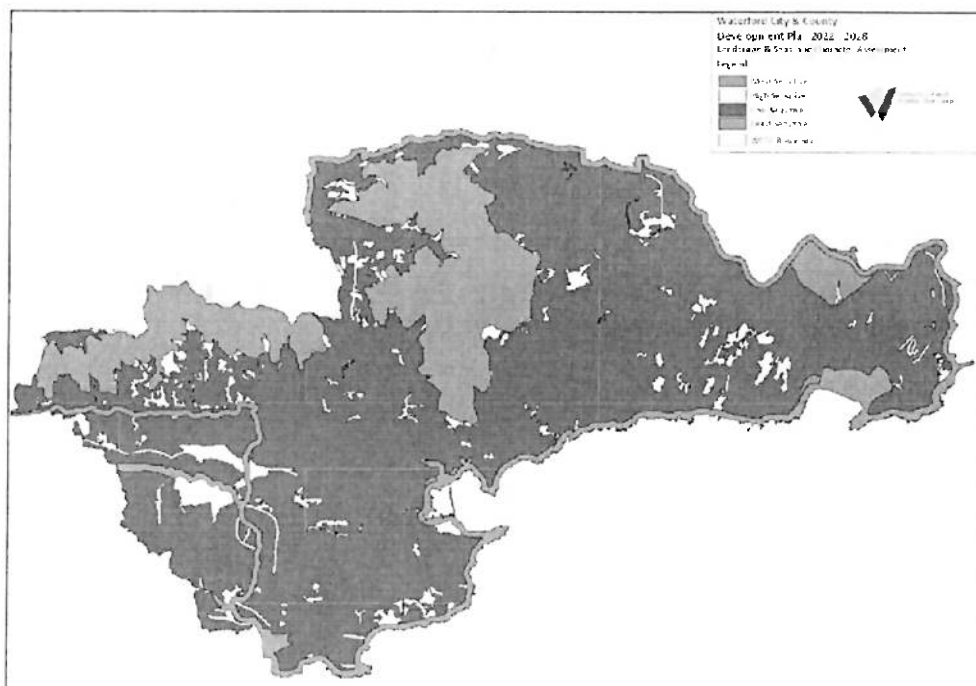
Accordingly, the upland areas to the west of the Comeragh Mountains is classed as an **Exclusion** (or No-Go) **Area** for windfarm developments. Hence, the windfarm development proposed for Coumshingaun, if allowed, will be in contravention of the current Development Plan.

10. THE LANDSCAPE AND SEASCAPE CHARACTER ASSESSMENT

Map A8.3 on Page 8 in Appendix 8 (The Landscape and Seascape Character Assessment) of the Waterford City & County Development Plan, 2022–2028, shows the Landscape Sensitivity categories in Waterford (see below).

The area where the Coumnagappul windfarm is proposed is almost certainly in the **Most Sensitive Area** of the Landscape Character Assessment. Section 4.1(a) defines Most Sensitive Areas:

Landscape Character Areas and features designated as Most Sensitive represent the principal features which create and sustain the character and distinctiveness of the surrounding landscape. To be considered for permission, development in or in the environs of these areas must be shown not to impinge in any significant way upon its character, integrity or uniformity when viewed from the surroundings. Particular attention should be given to the preservation of the character and distinctiveness of these areas as viewed from scenic routes and the environs of archaeological and historic sites.



The construction of a 10-turbine windfarm of the scale, size and massing as proposed for Coumnagappul will impinge in a highly significant way on the character, integrity and uniformity of the valley when viewed from anywhere in the surrounding areas and the character and distinctiveness of the site when viewed from nearby scenic routes will be highly compromised. It will be an incongruous development that will also compromise the integrity

and context of the internationally important archaeological complex in the Araglin Valley to the southeast of the site and the historic archaeological sites at Tooreen to the north.

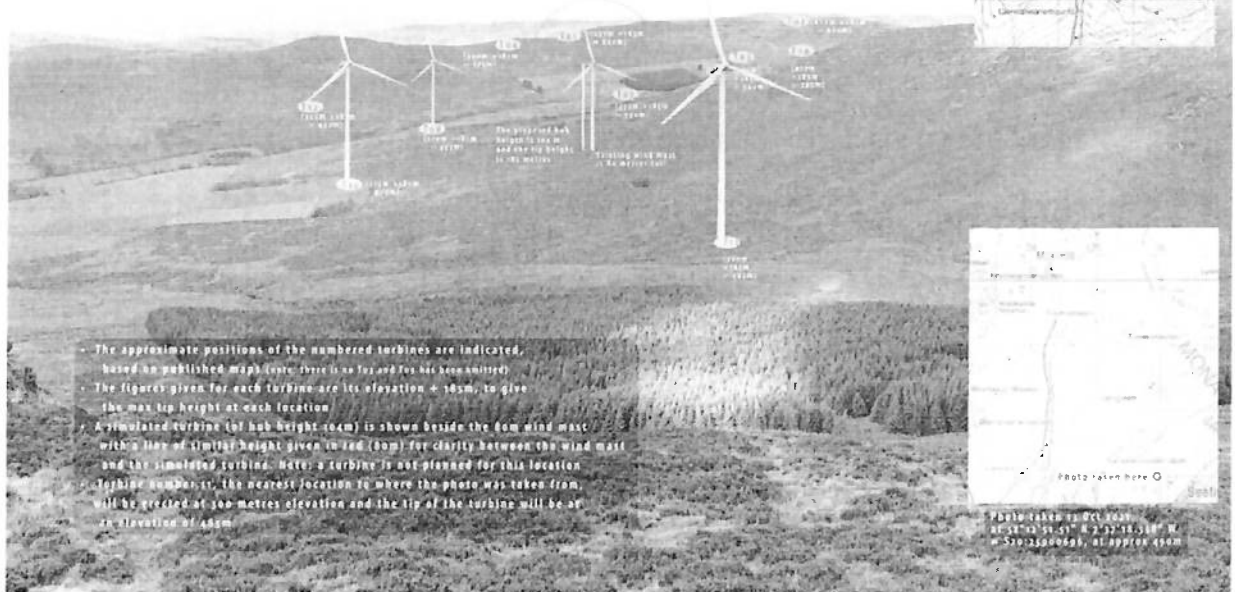
The proposed development will have a highly significant visual impact on this most sensitive landscape when viewed from nearby or afar. The scale and particularly the height of the turbines are such that the development will be highly visible and will dominate the landscape from every viewpoint, given the elevated nature of the site where the turbines will be erected (260–435 m). The elevated position of the site and the height of the turbines (185 m) will result in an overall landscape element that will be up to 620 m in elevation and the windfarm will be spectacularly obvious, particularly from the west (the windfarm will be screened from view to the east by the Comeragh Mountains SAC, which is 715 m in elevation near the site).

I have looked at the photomontages accompanying the planning documents and, by and large, these show very distant views of the development and convey an inadequate sense of the visual landscape impact that this windfarm will have on this elevated upland area at the site. The turbines proposed for the site are extremely large and dominating and would be a very dominant feature wherever they are placed. The attached photograph of Coumnagappul (see below and also in the A3 photo) is a much nearer schematic view of what three similar turbines will look like when constructed (*note*: 1. the rotor diameters depicted on these turbines are less than those proposed for the site; 2. The 4th turbine, shown close to the existing wind mast is for scaling purposes only and a turbine will not be erected at this location). Clearly the highly scenic landscape and the visual qualities of this remote valley will be compromised and irreparably damaged if the windfarm development is permitted.

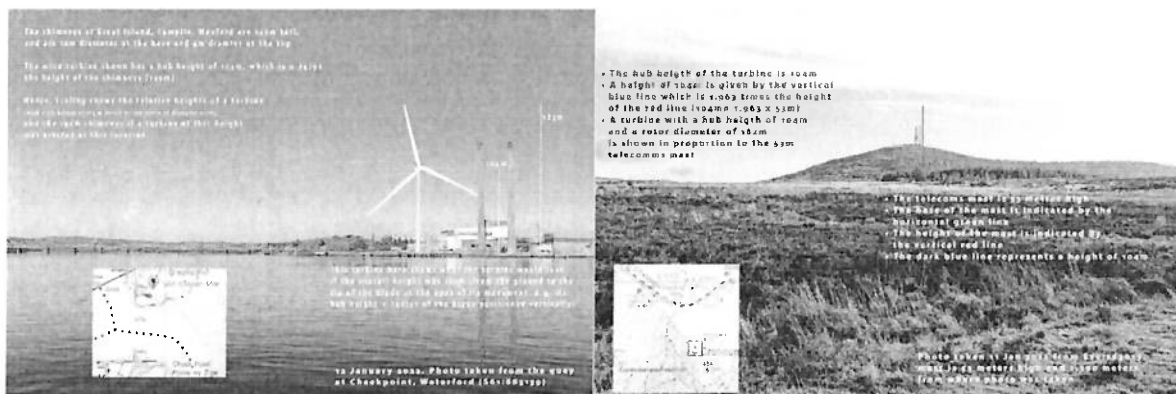
Coumnaagappul Wind Farm

The hub height is 100m, rotor length (radius) is 50m, therefore the rotor will be approx 100m above the turbine base at its lowest point of revolution.

Note that only three turbines are shown and that the rotor lengths of the turbines shown are less than what is proposed. The actual blade sweep is given by the red circle of the turbine shown beside the wind mast.



I also superimposed single masts of the size, height and with the same rotor sweep of those proposed for Coumnaagappul at two other prominent locations (Crohaun, Co Waterford and Great Island, Co Wexford). The photographs below (and A3 copies attached) clearly show how imposing these structures are and how the local visual landscape at whatever altitude level would be severely impacted and compromised by their presence.



Moreover, the siting, height and scale of the windfarm development proposed at Coumnaagappul cannot be mitigated and it is not possible to mitigate the adverse visual impacts of the turbines on this most sensitive and distinctive landscape. It will be highly

obtrusive on this scenic upland area and surroundings and none of the mitigation measures proposed in the EIAR or in Appendix 9.1 (Biodiversity Enhancement Management Plan) such as bat boxes, nest boxes, bee banks, log piles/refugia/hibernacula, treeline enhancement, new meadow grassland, heath grazing management or watercourse crossing enhancement will mitigate the significant landscape and visual damage that will result if this windfarm is developed in this remote and highly scenic valley. The landscape character of the surroundings, both near and far, will be completely and irrevocably altered, destroyed even, and it isn't possible to describe in whatever words are chosen the magnitude of the serious and adverse landscape impacts that will arise as a result of this windfarm development.

Other infrastructure associated with the development, including internal access tracks and roads, hard standings, a permanent meteorological mast, an onsite substation, borrow pits, lighting, internal electrical and communications cabling, a temporary construction compound, control buildings, drainage infrastructure and all works related to the construction of the windfarm as well as measures designed to protect and enhance existing habitats and a connection to the electricity grid will compound the adverse visual impact of the turbines.

There will also be increased usage of the area for monitoring and maintenance purposes, and casual visiting will also increase because of the improved access, leading to avoidance of the area by sensitive bird species and possibly their displacement. It is likely therefore that the sum of disturbances from maintenance and operational work and increased leisure activities arising from a new road system in this undisturbed area will almost certainly reduce habitat quality and combined with possible mortality from collisions with turbine blades, will have negative impacts on birds that use the area. Raptor species are among the most difficult groups of birds with which to demonstrate these effects given low sample sizes and the low breeding densities at which they occur and the difficulty of monitoring such sensitive species in remote upland areas where conditions are often challenging.

11. ARCHAEOLOGY

I am not an archaeologist and hence I cannot speak authoritatively on the archaeological monuments of the area and the likely impacts on these monuments of the proposed windfarm development.

The conclusions presented on P51 in Chapter 15 (Archaeology, Architectural and Cultural Heritage states:

There are a number of archaeological monuments around three km to the north of the site at Tooreen, which are mentioned in the EIAR (these monuments have been compromised by forestry operations, though they are, nevertheless, important for their siting and extent). There is an internationally important archaeological complex 3–4 km to the south of the site in the remote and relatively undisturbed Araglin Valley, which has a number of significant archaeological features. This site is not mentioned at all in the EIAR.

I have wondered through both these areas on occasion, and particularly those in the Araglin Valley and, while they will not be directly impacted by the proposed windfarm at Coumnagappul, I cannot help but think that their landscape context will be severely diminished by the 10 prominent turbines proposed for Coumnagappul.

CONCLUSION

It is difficult to see how this windfarm development conforms to proper planning and sustainable development in such a sensitive and vulnerable landscape, notwithstanding the climate emergency now facing humanity and the need for the widespread deployment of renewable energy developments.

The Habitats Directive requires that planning decisions must ensure that there are no adverse effects on the integrity of European, or Natura sites, for a project or plan to be consented to under Article 6(3) of the Habitats Directive. It hasn't been established conclusively that the proposed windfarm at Coumnagappul will not adversely affect Annex I species and other Species of Conservation Concern that occur at the site and in the adjacent Comeragh Mountains SAC, a site of European Importance. Furthermore, court judgments (of both the European Court of Justice and the Irish courts) have set out that appropriate assessments should *include complete, precise and definitive findings and conclusions that are capable of removing all scientific doubt as to the effects of the proposed development on ... [sites] concerned*. It has not been established that the findings and conclusions of the EIAR/NIS included in the application for the proposed windfarm at Coumnagappul removes all scientific doubt that there will not be any adverse effects on Annex I species and other Species of Conservation Concern that occur at the site and in the adjoining Comeragh Mountains SAC, a Natura 2000 site.

Moreover, the development is proposed in an upland area designated as Most Sensitive in the Landscape Character Assessment of the current County Development Plan and will materially conflict with Landscape Policy L 03 which clearly states:

There will be a presumption against developments which are located on elevated and exposed sites and where the landscape cannot accommodate such development with reasonable and appropriate mitigation

Accordingly, I urge An Bord Pleanála to **REFUSE** permission for the proposed windfarm at Coumnagappul.

Cumnagappul Wind Farm

Note: only three turbines are shown and that the rotor lengths of the turbines shown are less than what is proposed. The actual blade sweep is given by the red circle of the turbine shown beside the wind mast.

The hub height = 104m
rotor length (radius) = 81m
therefore, the rotor will be approx. 23m above the turbine base at its lowest point of revolution

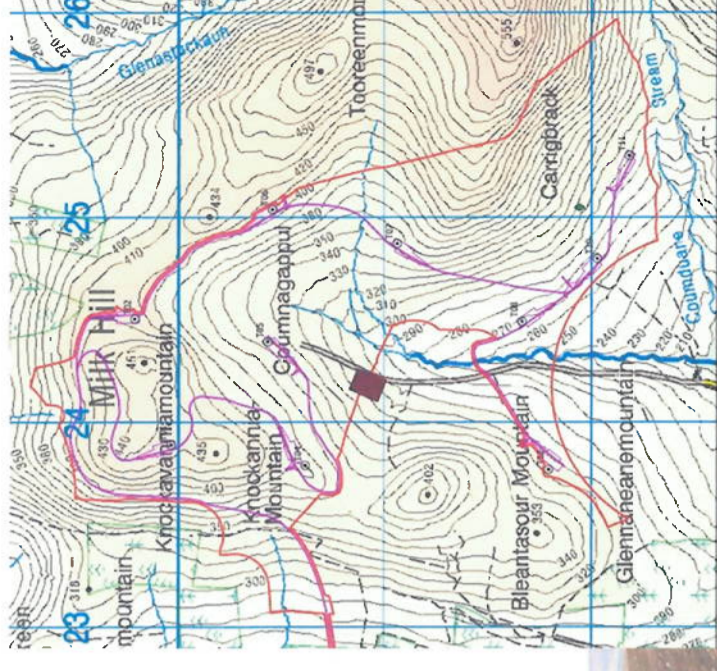
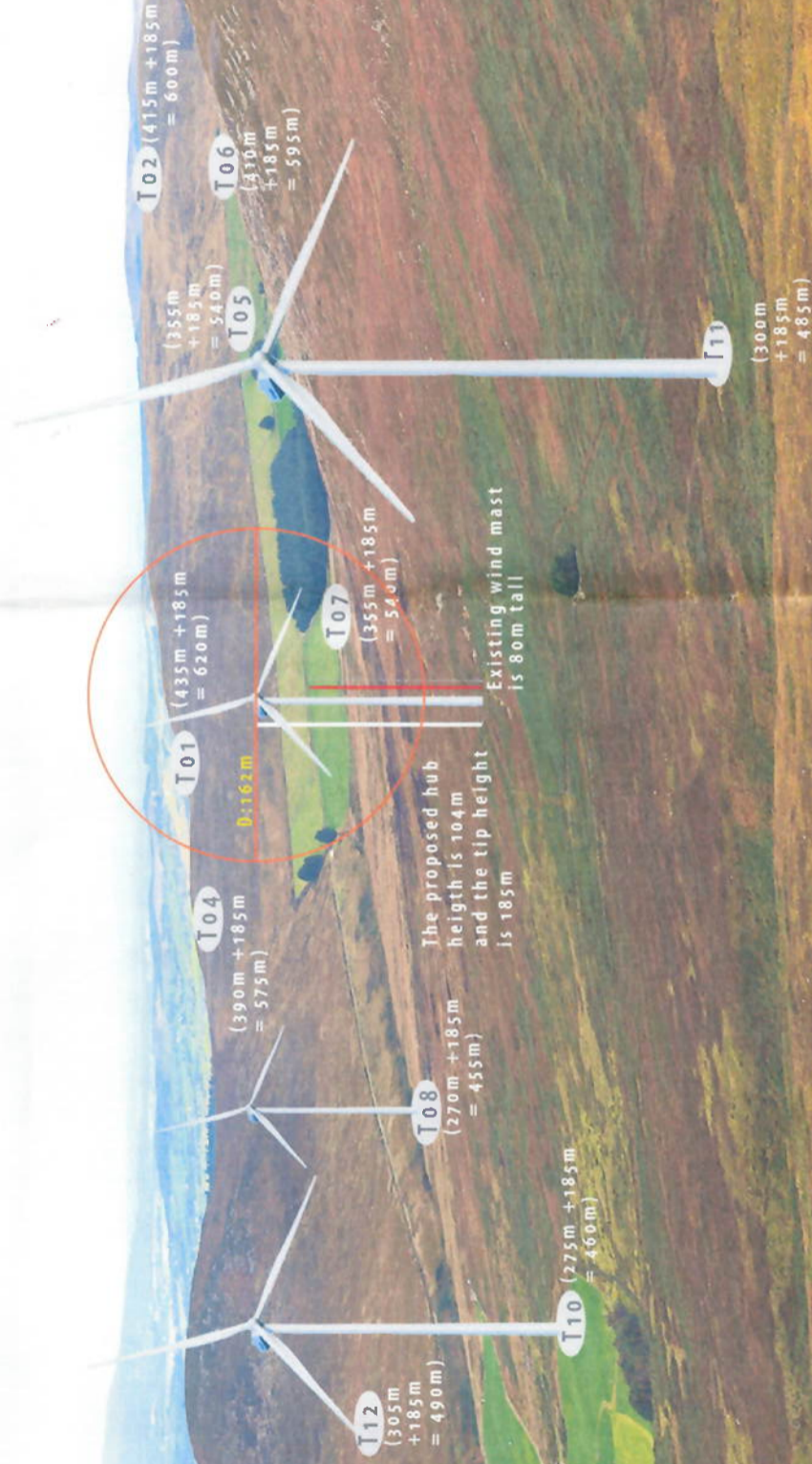
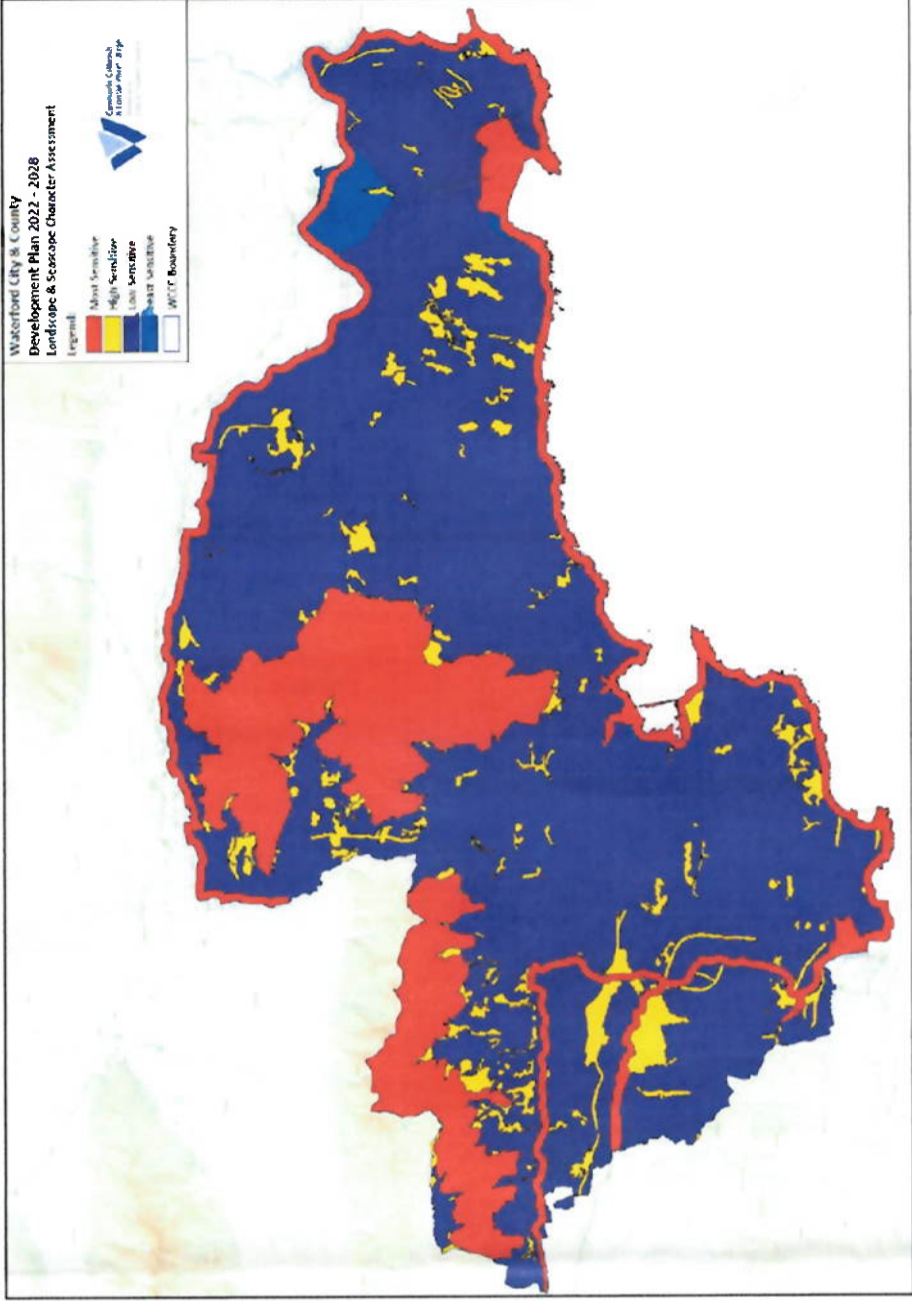
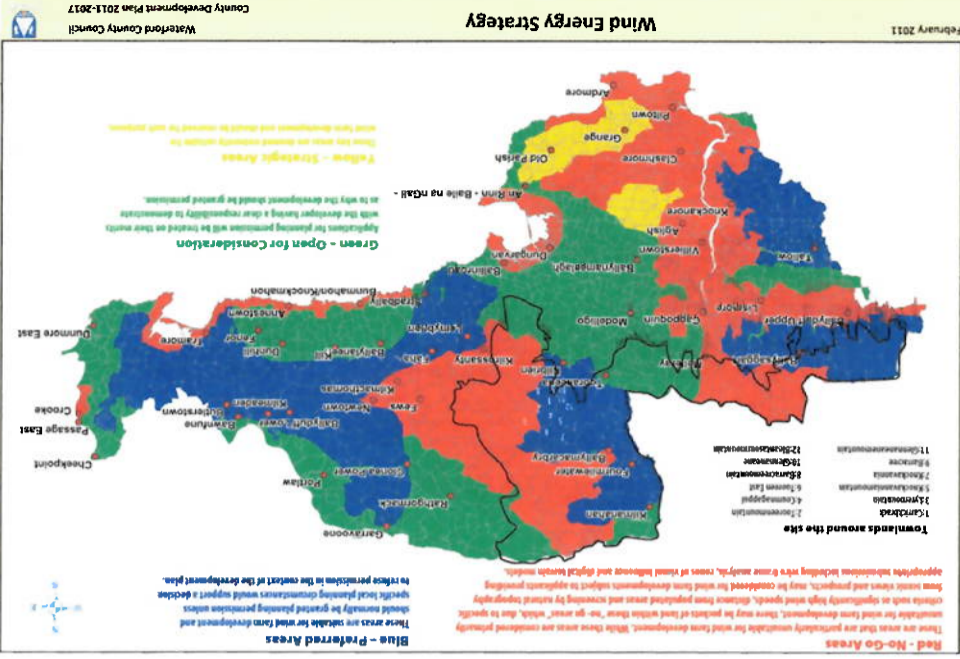
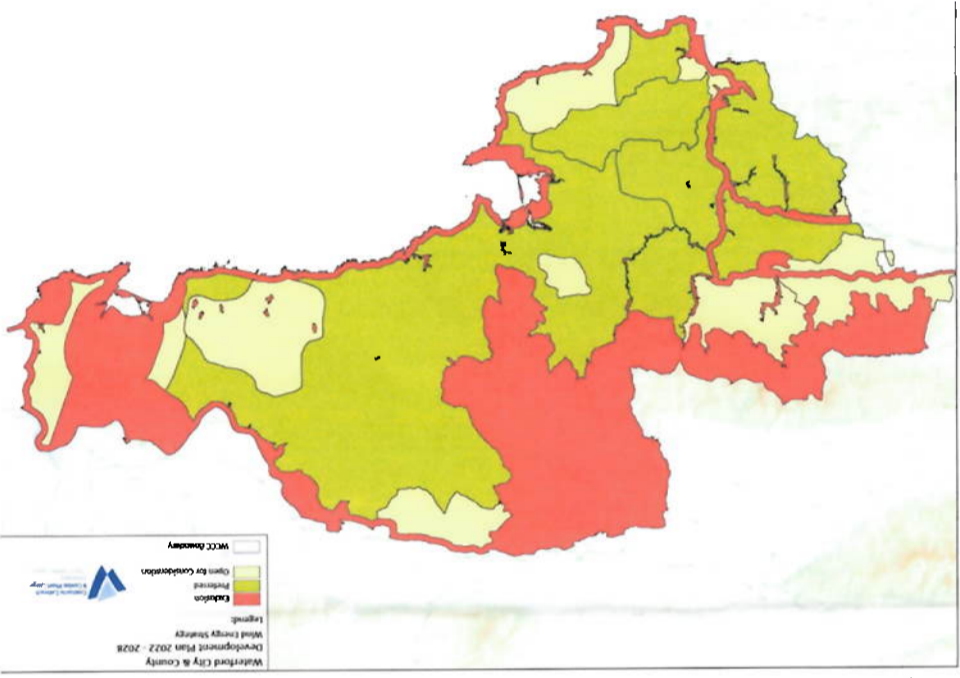
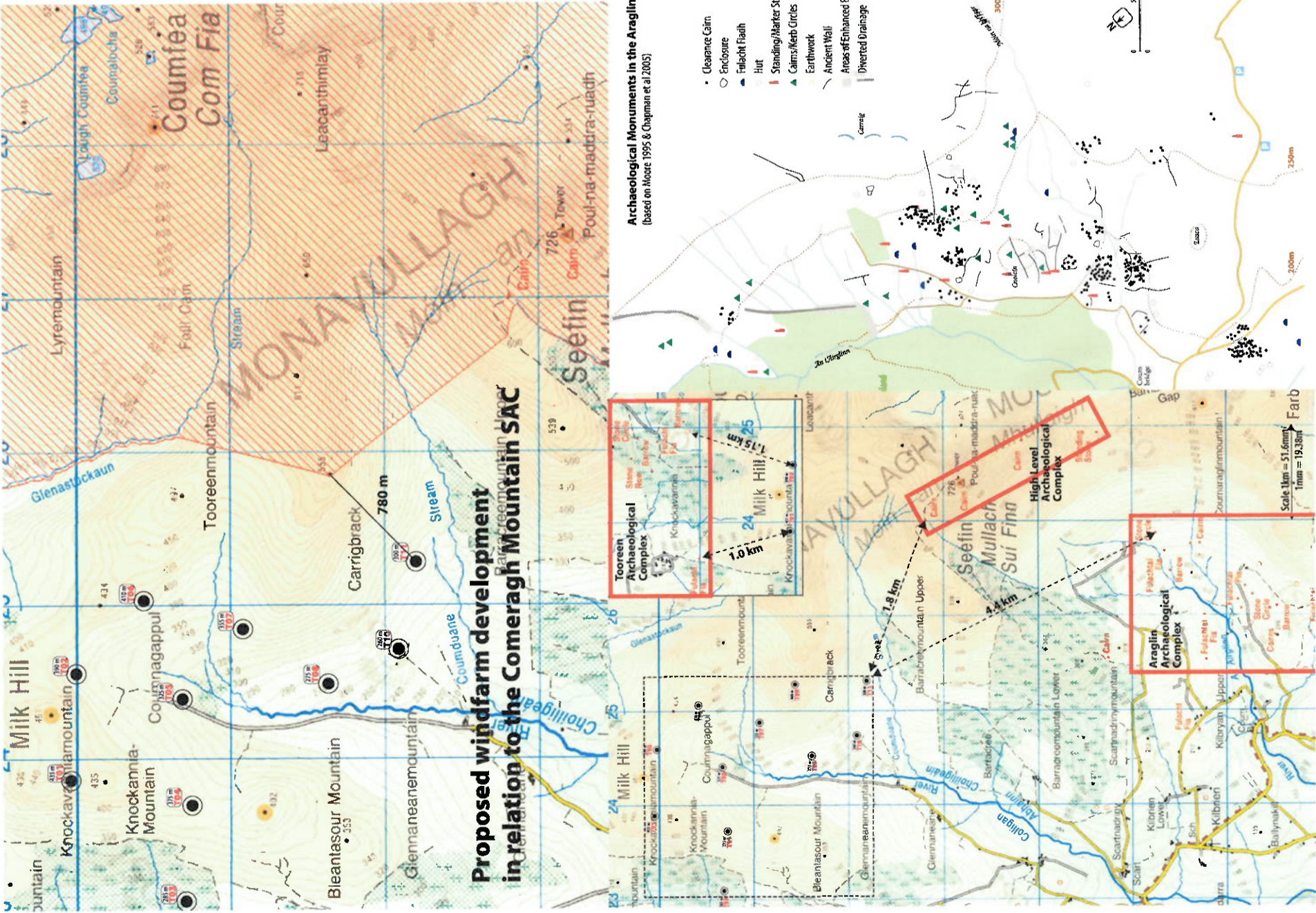
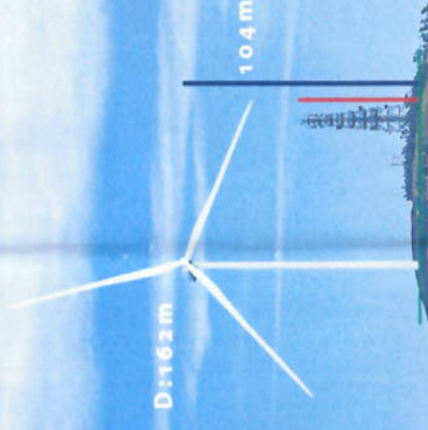


Photo taken 13 Oct 2021
at 52°12'51.51" N 7°37'18.558" W
= S20:25900696, at approx 490m

- The approximate positions of the numbered turbines are indicated, based on published maps (note: there is no T03 and T09 has been omitted)
- The figures given for each turbine are its elevation + 185m, to give the max tip height at each location
- A simulated turbine (of hub height 104m) is shown beside the 80m wind mast with a line of similar height given in red (80m) for clarity between the wind mast and the simulated turbine. Note: a turbine is not planned for this location
- Turbine number 11, the nearest location to where the photo was taken from, will be erected at 300m elevation and the tip of the turbine will be at an elevation of 485m



- The hub height of the turbine is 104m
- A height of 104m is given by the vertical dark blue line which is 1.963 times the height of the red line ($104\text{m} = 1.963 \times 53\text{m}$)
- A turbine with a hub height of 104m and a rotor diameter of 162m is shown in proportion to the 53m telecoms mast



- The telecoms mast at Crohaun is 53m high
- The base of the mast is indicated by the horizontal green line
- The height of the mast is indicated by the vertical red line
- The dark blue line represents a height of 104m

Photo taken 11 Jan 2022 from S20:263019, The telecoms mast is 53m high and 1,390m from where photo was taken



The chimneys at Great Island, Campile, Wexford are 140m tall, 10m diameter at the base and 4m diameter at the top

The wind turbine shown has a hub height of 104m, which is 0.7429 times the height of the chimneys (140m). Rotor radius is 81m

Hence, scaling shows the relative heights of a turbine with a tip height of 185m and the 140m high chimneys if a turbine of this height was erected here.

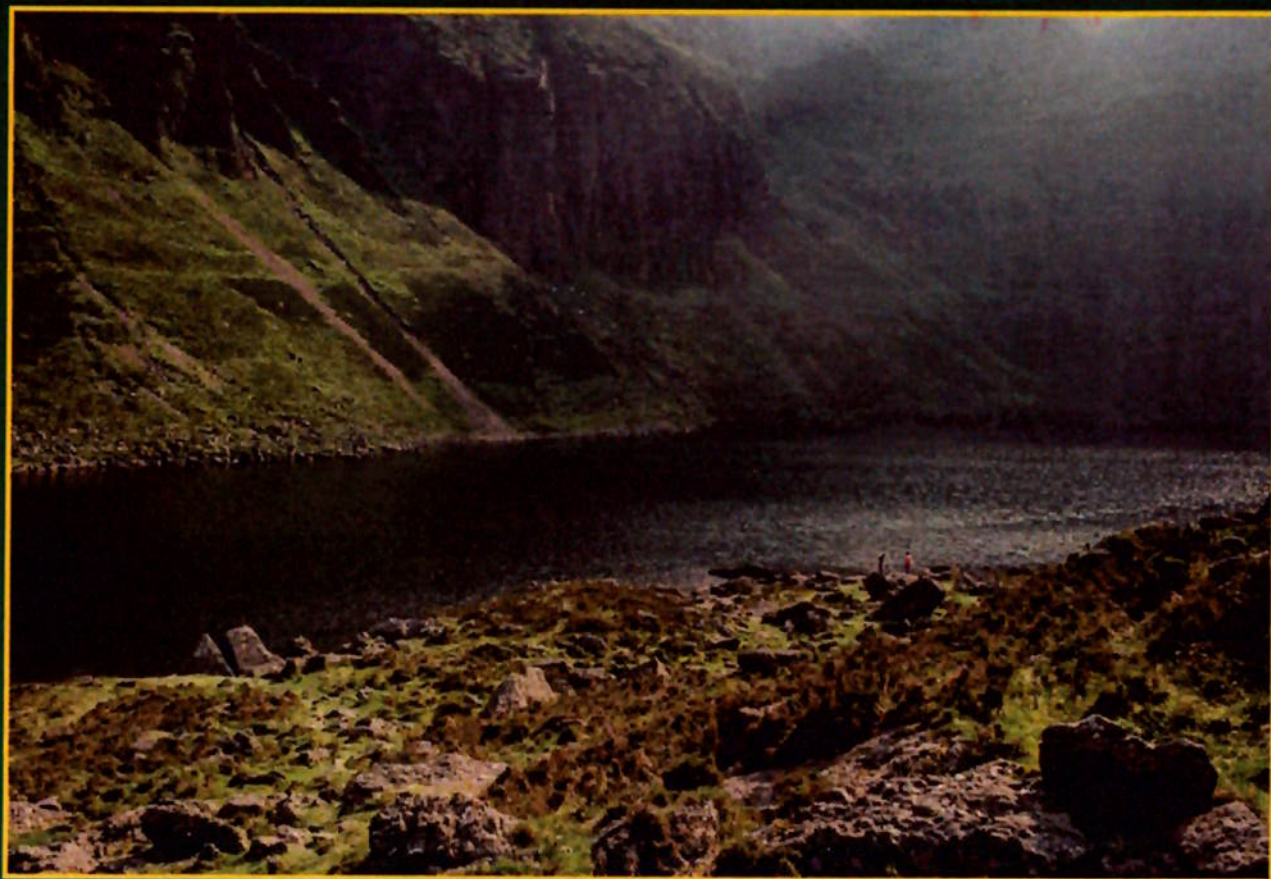


12 January 2022. Photo taken from the quay at Cheekpoint, Waterford (S61:685139)

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Declan McGrath



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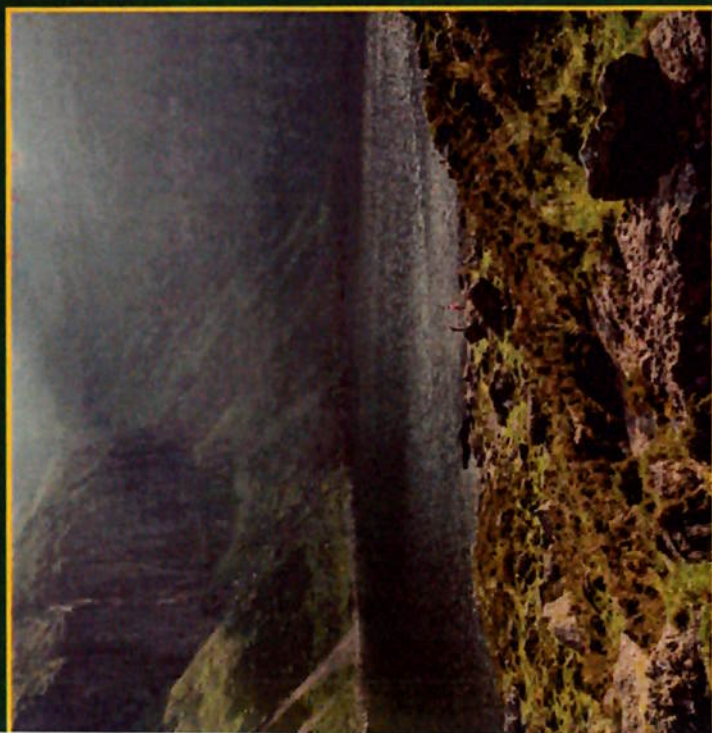
The Comeragh Mountains

Declan McGrath

A Guide to...

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an attractive mountain range in central Waterford, in the southeastern corner of mountain scenery, precipitous cliffs and contorted ridges alongside rolling range is surrounded by the rich agricultural land of the country.

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Welcome to the third edition of *A Guide to the Comeragh Mountains*, which will be informative to read.

Previous editions of the book, 1995 and 2008, are long out of date. This latest edition is better than the two previous ones, is packed with facts and which should give all those who enjoy looking at the Comeraghs, a better view of the majestic landscape in our doorstep.

Illustrated with many photographs which convey a sense of the range, much more than words alone can describe.

A better way to appreciate the range is to go out into it. After reading this book, you, your family and friends, visit and enjoy the Comeragh mountain range, and all its

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The

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Their support is greatly appreciated.

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