Submission to Wind Energy Development Strategy,

Appendix J of

Kilkenny Draft County Development Plan 2014-2020

SUMMARY

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Summary

It is proposed that:

- a) that lands of Freagh Hill, primarily in the townlands of Moanteenmore and Raheenroche are designated as a *Preferred* area in the Wind Energy Development Strategy, Map 1.
- b) that the proposed Protected View no. 23 is not designated as it runs through an actively managed commercial forest.
- c) that cycling and walking initiatives supported as part of a wind farm development at Freagh hill are formally recognised.

Three principal reasons are used by in the proposed Wind Energy Development Strategy in making a case to have the area identified as being *Unsuitable*. They are:

- The area belongs to the Brandon Hill Uplands in the LCA¹ and is categorised as being Sensitive.
- Freagh Hill is deemed to be a High prominence.
- Two tourist attractions are listed for the area; the South Leinster Way and the East Kilkenny Cycle Route. It is perceived that wind farm development is not compatible with these amenities.

These three assets appear to be regarded as the heritage attractions of the area. It is that is used to identify the area as Unsuitable for wind farm developments.

Why this assessment is flawed and the designation should be changed

- The Principal Landscape Character Areas were defined 10 years ago when there were no statutory targets for renewable energy production. There is now a requirement to generate 40% of our requirements from renewable resources by 2020. This is unlikely to be achieved in Co. Kilkenny unless areas with good wind resources are included.
- Freagh Hill is the lowest hill in the area. It is substantially screened by Croghan particularly when viewed from the east and southeast, Map 2.
- In recent years wind farms have become tourist attractions. For example, Kilbrannish Wind Farm near Bunclody is located beside the South Leinster Way, Map 3. Both serious and casual walkers regularly visit the wind farm.
- Visibility of a relatively modest wind farm on the southwestern slopes of Freagh Hill from a proposed Protected view (no. 23) on the South Leinster Way would be significantly compromised because it runs through an actively managed commercial conifer woodland.

¹ Landscape Character Area

Heritage attractions of the area

Heritage appears to refer to the landscape and visual amenity of the area which attract tourism, not simply cultural heritage or archaeological sites.

It has been shown that well regulated wind farms have become tourist attractions for casual and dedicated trail walkers. When established they add to the range of local amenities for walkers and cyclists and enhance local tourism.

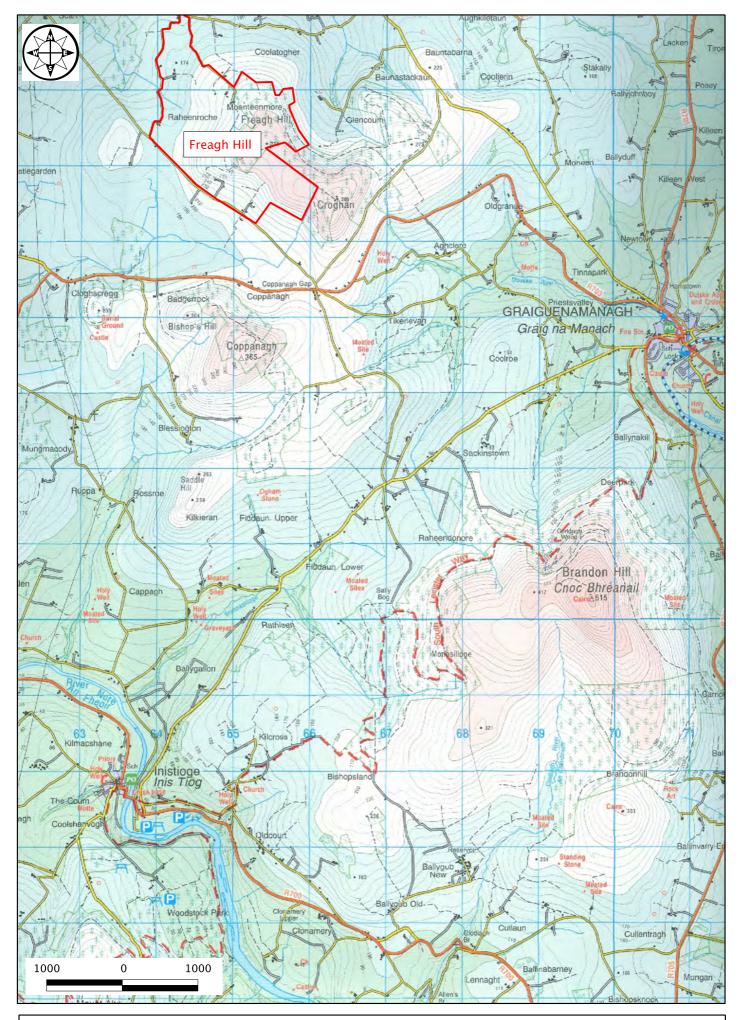
Heritage Proposal

If the lands at Freagh Hill are designated as a Preferred area, an opportunity would be created to add to the local tourist walking and cycling amenities. Walks would be developed within the wind farm site with the intention of linking these with the adjacent Coillte forest road network.

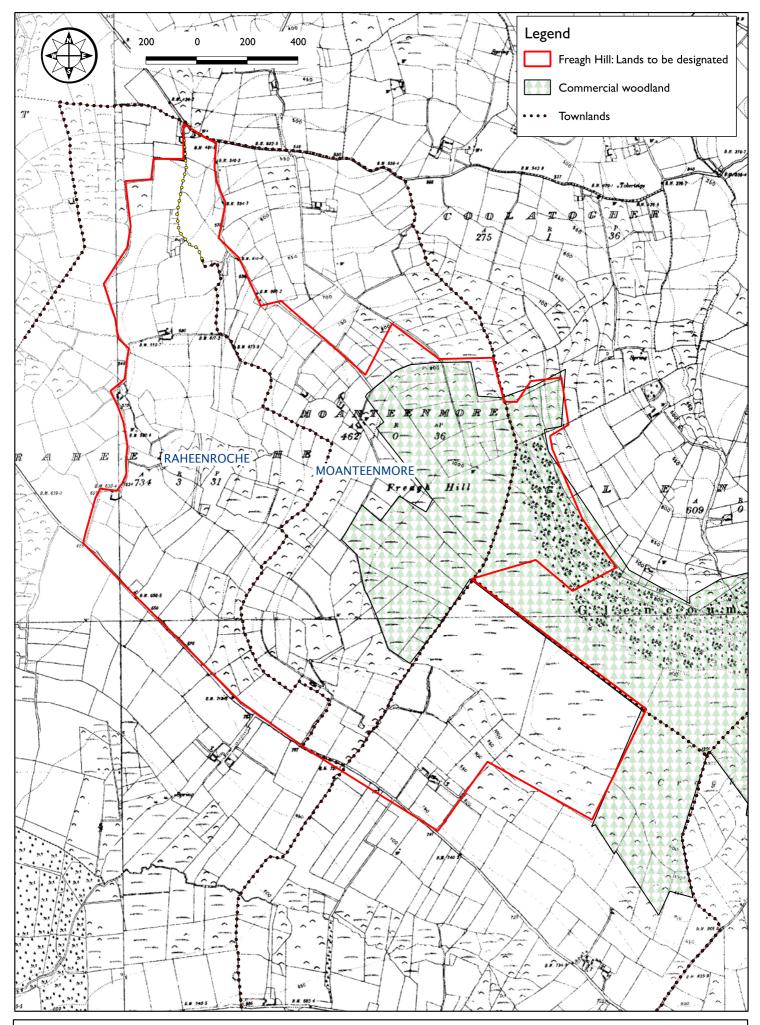
Suitable initiatives linking the site with walking and cycling activities from Graiguenamanagh would be supported. These would include supporting a link off the East Kilkenny Cycle Route at Graiguenamanagh.

Advantages of Freagh Hill

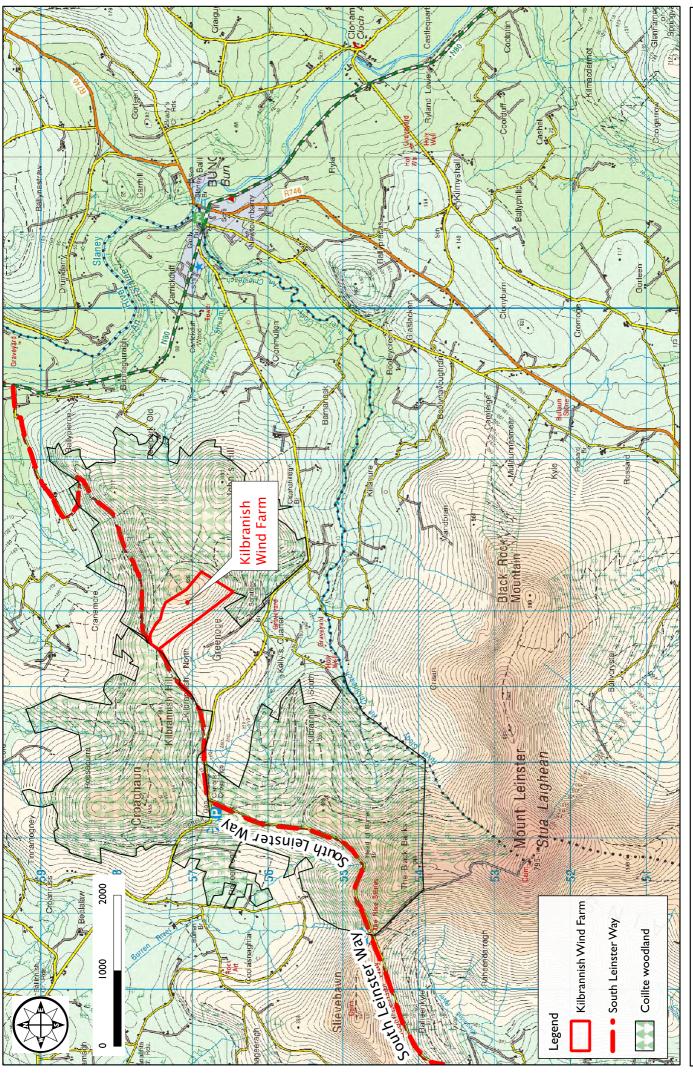
Constructing a relatively modest well regulated wind farm on Freagh Hill would utilise the County Kilkenny wind resource more efficiently than at any other location. Illustrations



Map I. The Brandon Hill Uplands, dominated by Brandon Hill with the lower hills including Coppenagh, Saddle Hill, Croghan and Freagh Hill. Freagh Hill is lower than Croghan and is partially screened by it when viewed from the South Leinster Way. It is proposed that Freagh Hill is designated as a Preferred area.



Map 2. Freagh Hill which is proposed to be designated as a Preferred area. The principal townlands are Moanteenmore and Raheenroche.



Map 3. The South Leinster Way runs beside the 4-turbine Kilbranish Wind Farm, Co. Carlow. Note the extensive Coillte woodland.

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1. Proposal

It is proposed -

- a) that lands of Freagh Hill, primarily in the townlands of Moanteenmore and Raheenroche which lie 6.5km northwest of Graiguenamanagh, are designated as a *Preferred* area in the Wind Energy Development Strategy. (These lands are indicated in Maps 1 and 2.)
- b) that the proposed Protected View no. 23 is not designated as it runs through an actively managed commercial forest where the visual amenity is substantially compromised.
- c) that cycling and walking initiatives supported as part of a wind farm development at Freagh hill are formally recognised as part of the east Kilkenny cycling and walking routes. (These are outlined in Section 5.)

2. Designation in Draft Wind Strategy

These lands, identified as Area 17, are currently categorised as *Unsuitable* in the designation document, Appendix J ppJ4-J8.

3. Reasons for designation

Three principal reasons are given for the proposed categorisation.

- LCA categorisation
- Ridge lines/peaks
- Tourism/heritage

3.1 LCA categorisation

The lands at Freagh Hill belong to the Brandon Hill Uplands Landscape Character Area¹. The primary reason for this designation appears to be its identification as being special and sensitive with a high amenity value. As a result it is proposed that the view northward from the Leinster Way on Brandon Hill is proposed as a Protected View.

Reference is not made to the existing Views to be Preserved and Protected which look *toward* the primary landscape feature - Brandon Hill - and *away* from Freagh

¹ This is an Area of High Amenity, the largest in the county extending to 25600ha. Freagh Hill is a tiny fraction of that area.

Hill. For example View 4 looks over Brandon Hill from the Inistioge-Graiguenamanagh road near Sackinstown.

3.2 Ridge lines/peaks

Croghan, which is not the subject of this proposal, is listed as being 328m and Freagh Hill 265m. Reference is not made to the the most important landscape feature, Brandon Hill, whose ridge line peaks at 515m.

3.3 Tourism/heritage

The principle tourism asset listed is the South Leinster Way which runs at the base of Brandon Hill. The East Kilkenny Cycling Route which runs from Bennettsbridge in a 65km loop is also listed.

No specific heritage attractions are mentioned.

3.4 Summary of reasons for categorising all of the Brandon Hill Uplands as 'Unsuitable'

Coppanagh, Croghan and Freagh Hills form a visual envelope with Brandon Hill. (Coppanagh is not part of Area 17.)

A proposed Protected view (no. 23) looks northward from the South Leinster Way on Brandon Hill.

Heritage attractions of the area render it unsuitable for wind farm development.

4. Why this assessment is flawed and the designation should be changed

4.1 LCA designation

The Principal Landscape Character Areas were defined in *Landscape Appraisal of County Kilkenny* in 2003. This was at a time when there were no statutory targets for renewable energy production.

Security of supply and a reducing reliance on imported energy were ideas still in their infancy.

Over the past 10 years National and European targets for the generation of renewable energy have been introduced primarily in an effort to halt the rise in carbon dioxide being emitted to the atmosphere which encourages climate change.

The targets have been increased regularly, currently there is an expectation that we will produce 40% of our energy needs from renewable resources by 2020².

This is a particularly challenging target for Co. Kilkenny.

To date the county has relied on designating the environs of the few existing wind farms and the lands adjacent to areas already designated in neighbouring counties. This approach does not appear to show a determination that Co. Kilkenny will play her part for the Public Good in matters of renewable energy production. For example in the South-East Region Co. Wexford has an installed capacity of 151.85MW while Cos. Kilkenny, Carlow and Waterford have a combined capacity of 17MW³. This equates to powering 50,000 Co. Wexford homes annually while Co. Kilkenny will manage in the region of 5,000 homes.

4.2 Ridge lines/peaks

It is stated that Coppanagh, Croghan and Freagh Hills form a visual envelope.

A visual envelope is the area seen from a single point, typically from a prominent location.

In this case Brandon Hill is the location and the visual envelope are the lands seen from a particular point on it. Specifically, a viewer looks northwest from the peak of Brandon Hill (515m) and sees Coppanagh and Croghan (Freagh Hill will be partially screened by the higher Croghan and some turbine rotors will be visible), Map 3.

All upland wind farms will be within the visual envelope of a higher peak, unless the wind farm is located on the highest peak. Kilbranish Wind Farm in Co. Carlow is one such example, it is illustrated in Map 4.

It is clear that this visual envelope argument cannot be used in deciding the suitability or otherwise of a particular landscape for wind farm development.

The argument that is used is as follows:

... "The heritage attractions of this area render it unsuitable for wind farm development".

In an area of relatively few cultural heritage sites this argument must be deemed inadequate as a stated reason to prohibit wind farm development. There are no sites on Freagh Hill, with a single intact site (a cairn) on Brandon Hill.

It is assumed therefore, that heritage is used a broad sense and includes the landscape amenity and general ambiance of the area.

² Wexford County Development Plan 2013-2019.

³ Wexford County Development Plan 2013-2019. This figure may have increased in recent months

4.3 Tourism/heritage

Wind farm development is given a negative rating under tourism and heritage, confirming the belief that such developments are not compatible with tourism and heritage. This belief was prevalent when wind farm developments were in their infancy, nowadays this view has changed radically. Wind farms have now become tourist attractions.

Two routes are listed as the relevant Tourism/heritage amenities. They are the South Leinster Way for long distance walkers and the East Kilkenny Cycling Route.

South Leinster Way

The South Leinster Way is a National Waymarked Trail, starting in Kildavin, Co Carlow and finishing in Carrick-on-Suir in Co. Tipperary - a distance of 104km.

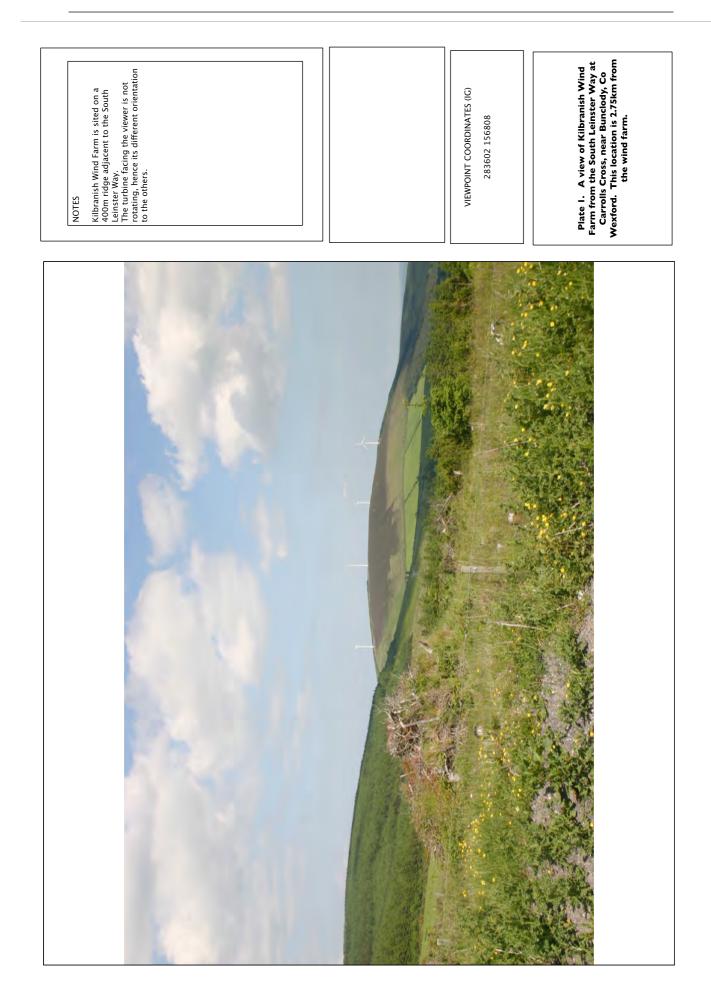
Shortly after the start at Kildavin the Trail leads up to Kilbrannish Hill through Coillte woodland and passes beside the four-turbine Kilbrannish Wind Farm. From its early development this wind farm has fascinated both casual and serious walkers, many of whom now include it in their regular walks. It has proved such an attraction that Carlow Co. Council and Coillte have developed a spur to the wind farm and South Leinster Way from the public road.

The inevitable, high visibility of Kilbrannish wind farm is illustrated in Plate 1, overleaf. This is in marked contrast to the limited visibility of a potential 6-turbine wind farm on the southwest slopes of Freagh Hill from the South Leinster Way on Brandon Hill, this is addressed in detail in Appendix 1.

It should be noted that Kilbrannish wind farm lies within a visual envelope featuring Mount Leinster, Map 3, and explodes the myth that wind turbines and designated trails make poor bedfellows.

The same kind of enthusiasm has been shown by walkers using Castledockrell Wind Farm near Enniscorthy in Co. Wexford; it is seen as a safe, traffic-free walk. This has been made possible by the wind farm developers who organised easy access for walkers. This is a feature of both locally and State-owned wind farms, corporate wind farms tend to confine access to designated individuals. A wind farm on the slopes of Freagh Hill would fall into the former category.

The South Leinster Way traverses County Kilkenny from Graiguenamanagh in the east to the county boundary near Carrick-on Suir in the west. Shortly after Graiguenamanagh it enters Gorlough Wood, now part of an extensive Coillte woodland, and encircles the lower slopes of Brandon Hill. This Coillte property and is actively managed as a mixed conifer woodland. Here the Walk is effectively a series of forest roads in varying states of repair. It is inevitable that visibility out of the woodland from these roads is severely compromised, see Appendix 1. (This reduces the heritage amenity of the area).



The proposal to designate the central section of the South Leinster Way on Brandon Hill a protected view is not consistent with the reality on the ground. It is reasonable to expect that the visual amenity from a Protected view would be secure, predictable and total. This is not possible when such a view coincides with an extensive, actively managed commercial woodland.

Safety issues will always be a feature of actively managed commercial forests.

East Kilkenny Cycling Route

The East Kilkenny Cycling Route starts in Bennettsbridge, runs northeast through Gowran and Goresbridge, continues south to Graiguenamanagh and St. Mullins, returning to Bennettsbridge via Thomastown.

Two views are mentioned in relation to this Route, View 8⁴ and the proposed Protected view, no. 23, an from the South Leinster Way from Brandon Hill.

View 8 looks eastward over the Nore Valley from the Thomastown to Inistioge road (R700).

An assessment of the potential visibility of a potential 6-turbine wind farm on the southwest slopes of Freagh Hill from this road shows that no turbines will be visible, Map 5. This assessment was undertaken by preparing a Zone of Theoretical Visibility map (ZTV) based on nacelle visibility. (Turbine dimensions were a 78m hub with 82m rotor diameter. These were used because the this turbine would extract the maximum energy from the local wind resource).

The proposed View 23 can have no bearing on the Cycle Route. The closest the Cycle Route runs to Brandon Hill is the Graiguenamanagh - New Ross road.

4.3.1 Heritage attractions

These could be summarised to mean a combination of landscape amenity, tourist attractiveness and general ambiance.

The concern here appears to centre on the fear that the landscape amenity, particularly from the lower slopes of Brandon Hill from the South Leinster Way, would be significantly compromised by a wind farm development at Croghan and Freagh Hills. As mentioned earlier Freagh Hill is screened by Croghan from the east and southeast and wind farm visibility from the South Leinster Way would be severely compromised, see Appendix 1.

There is no proposal to alter the proposed designation of Croghan (although it is already compromised by the installation of several radio masts).

⁴ from Views to be preserved and protected, Appendix H, KCDP 2014-2020

There also seems to be a fear that a wind farm development will damage the local tourist industry. As demonstrated earlier this fear is unfounded. Well regulated wind farms tend to enhance the local tourist industry.

On a regional level there is no evidence to suggest that well regulated wind farm developments have a significant negative impact on the tourist industry.

4.4 Summary of why this assessment is flawed and the designation should be changed

Visual envelope

It has been demonstrated that upland wind farm developments will invariably lie within the visual envelope of a higher hill.

Protected view

Any proposed view northward from the South Leinster Way on Brandon Hill will be severely compromised by the woodland through which the Trail passes.

Heritage

The local landscape amenity and tourist industry are intertwined. It has been demonstrated that a wind farm development on Freagh Hill would not result in significant negative visual impacts to the area.

Bearing this in mind it is difficult to justify designating this area (Freagh Hill) as being unsuitable for wind farm developments based on local heritage attractions. This is not consistent with the degree of interest in wind farms from tourists seeking activity holidays in this and other areas.

5 Proposal

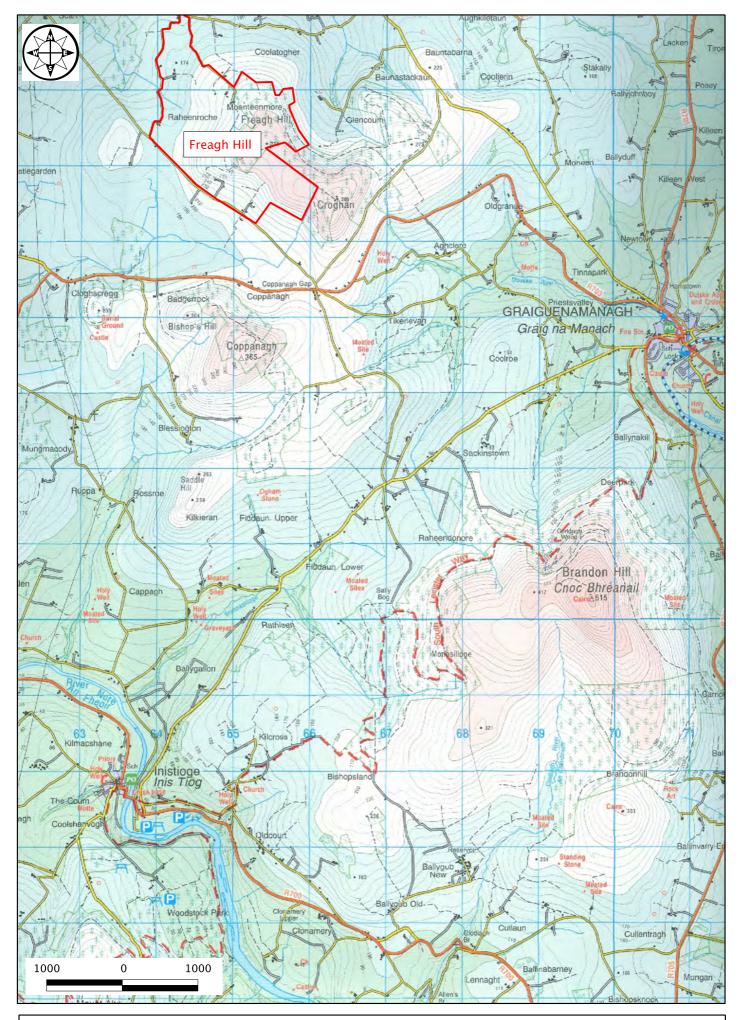
The lands under discussion would support a relatively modest but highly efficient wind farm. If they designated as a *Preferred* area an opportunity would be created to add to the local tourist walking and cycling amenities.

Walks would be developed within the wind farm site with the intention of linking these with the adjacent Coillte forest road network. Discussions with Coillte would be undertaken to further this proposal. Suitable initiatives linking the site with walking and cycling activities from Graiguenamanagh would be supported. This would include supporting a link off the East Kilkenny Cycle Route at Graiguenamanagh.

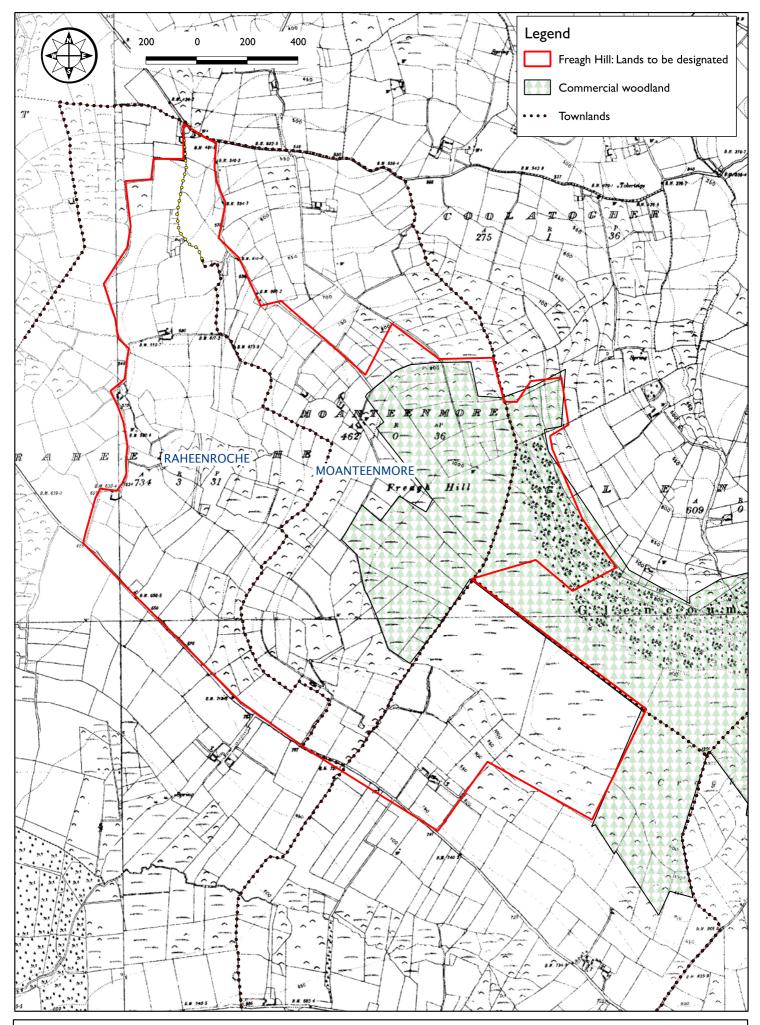
These proposals would enhance the local tourist industry.

6. Advantages of designating Freagh Hill as a Preferred area.

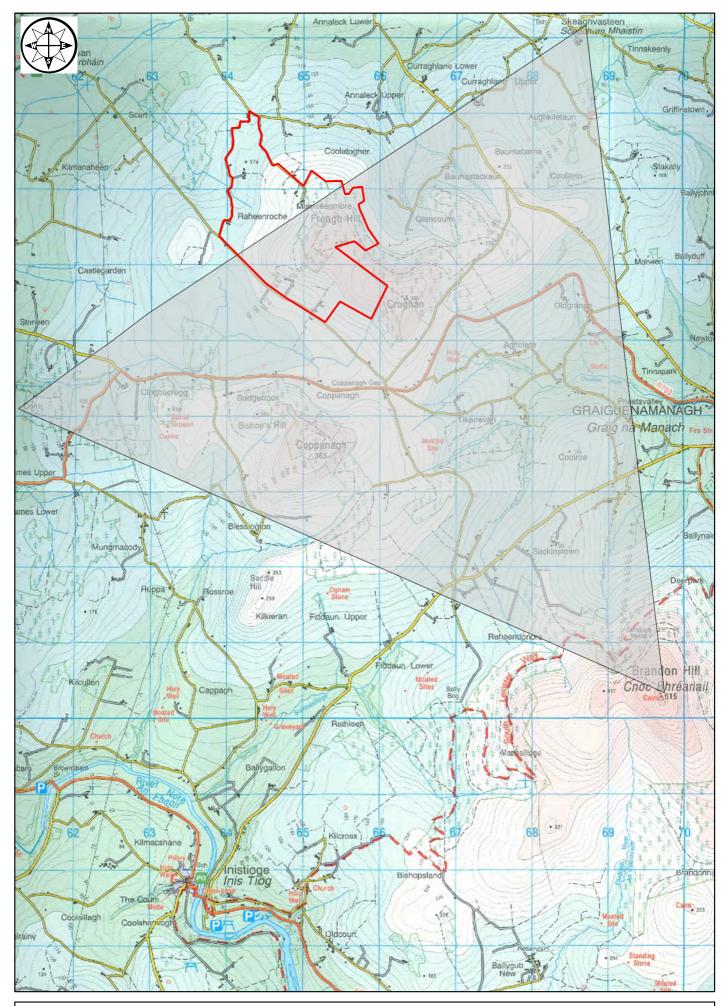
Constructing a relatively modest, well regulated wind farm on Freagh Hill would utilise the County Kilkenny wind resource more efficiently than at any other location. Excellent wind speeds and highly efficient, site specific turbines would be key to this efficiency. Illustrations



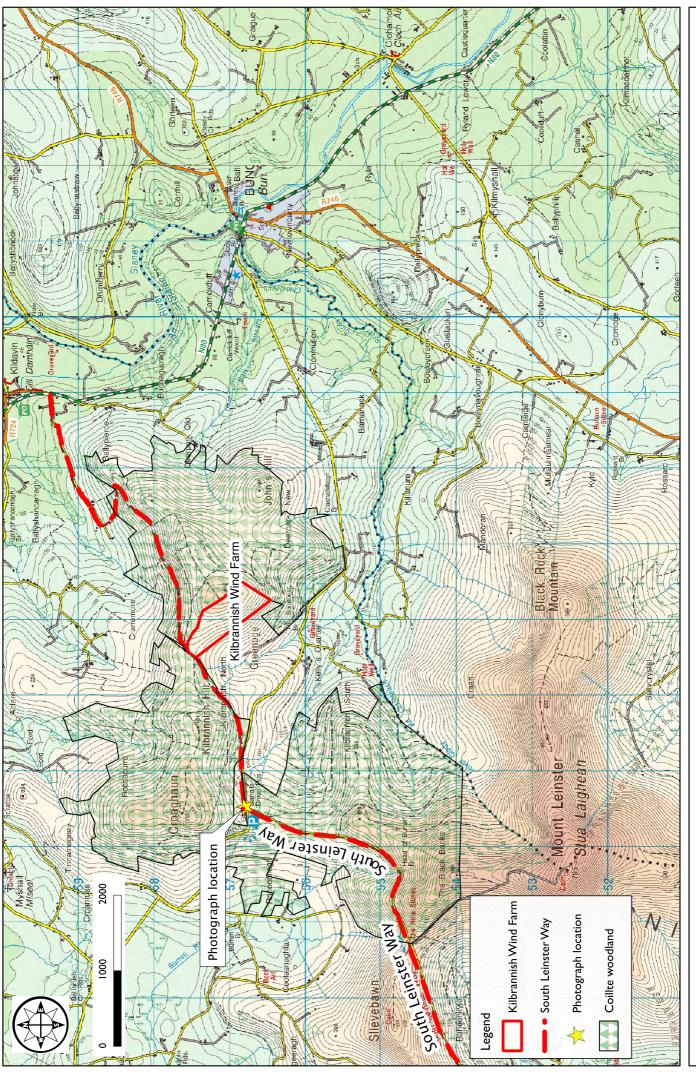
Map I. The Brandon Hill Uplands, dominated by Brandon Hill with the lower hills including Coppenagh, Saddle Hill, Croghan and Freagh Hill. Freagh Hill is lower than Croghan and is partially screened by it when viewed from the South Leinster Way. It is proposed that Freagh Hill is designated as a Preferred area.



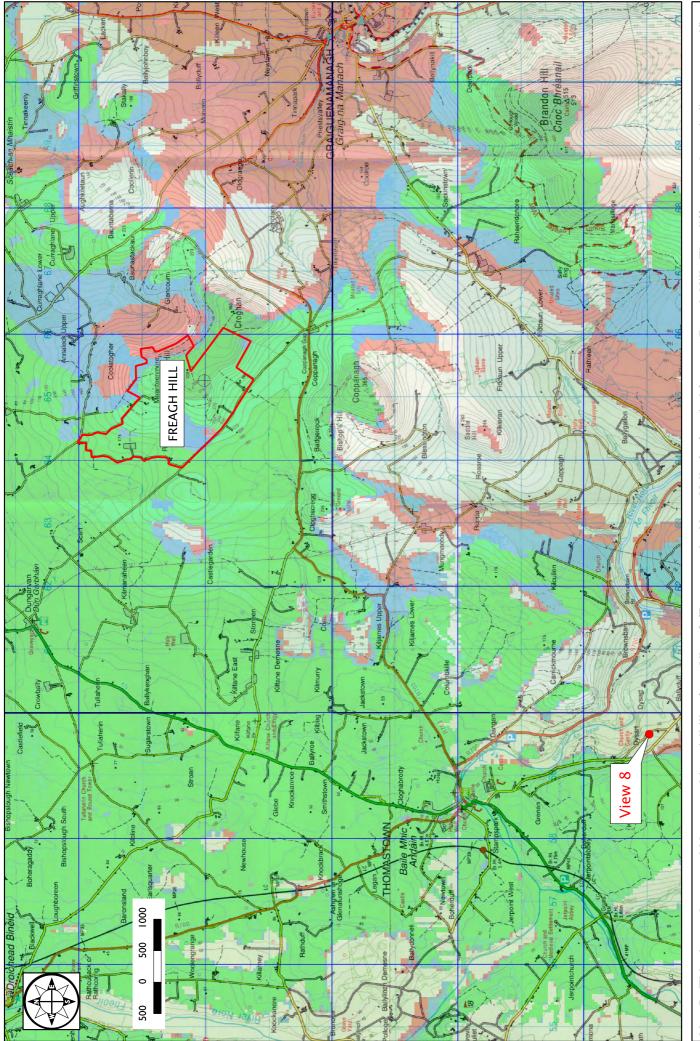
Map 2. Freagh Hill which is proposed to be designated as a Preferred area. The principal townlands are Moanteenmore and Raheenroche.



Map 3. This shows the visual envelope from a specific location on Brandon Hill with the other local hills (the field of view in ca. 60 degrees). It is inevitable that all upland wind farms will be part of a visual envelope from a higher neighbouring peak. Note the partial screening afforded to Freagh Hill from the higher Croghan. Freagh Hill is 8km from Brandon Hill peak



Map 4. The South Leinster Way runs beside the 4-turbine Kilbranish Wind Farm, Co. Carlow. Note the extensive Coillte woodland.



number of turbines would be visible, assuming there is no screening from vegetation and buildings. In practice, vegetation creates significant screening. An absense of Map 5. This shows there would be no turbine visibility from View 8 (East over the Nore Valley) of a wind farm on Freagh Hill. The different colours indicate a specific colour, as from View 8, indicates there will be visibility from that location.

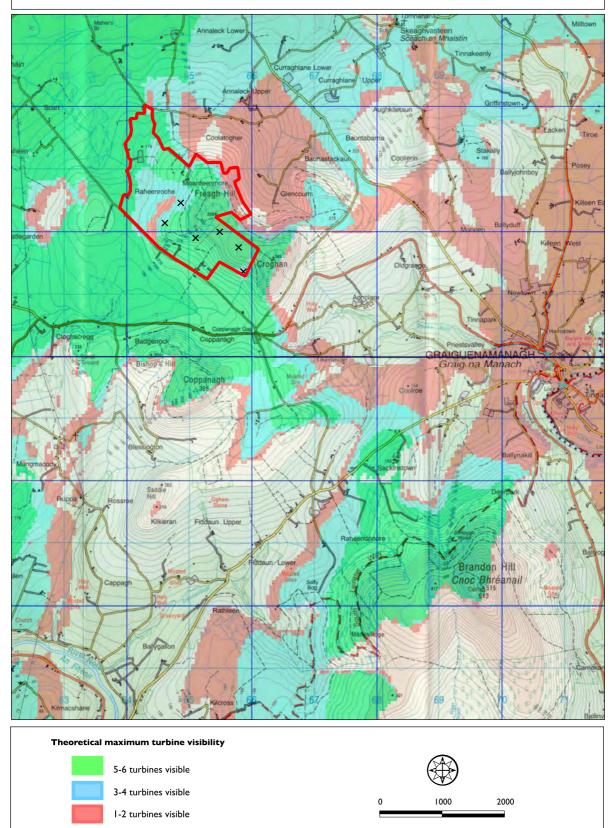
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APPENDIX I

MAP I. Theoretical visibility of a 6-turbine wind farm on the eastern flanks of Freagh Hill. The actual visibility will be far less due to screening from vegetation (typically hedgerows) and buildings. A series of photomontages prepared from locations on the South Leinster Way show the current visibility from those locations, see Map 2 and Plates I-7. This visibility will change as the various compartments of the Coillte forest are felled, replanted, thinned and felled again over a 40 year cycle.



Assessment of the visual impact of a 6-turbine wind farm on the southwestern slopes of Freagh Hill from the South Leinster Trail, proposed Protected View 23

It is proposed in Appendix H, County Development Plan 2014-2020, that the central section of the South Leinster Way on Brandon Hill be designated a Protected View (no. 23). Because this trail runs through extensive, actively managed conifer woodlands the value of its visual amenity is unavoidably compromised.

In order to demonstrate this a visual assessment of the central section, covering more than 5km, was undertaken in August 2013.

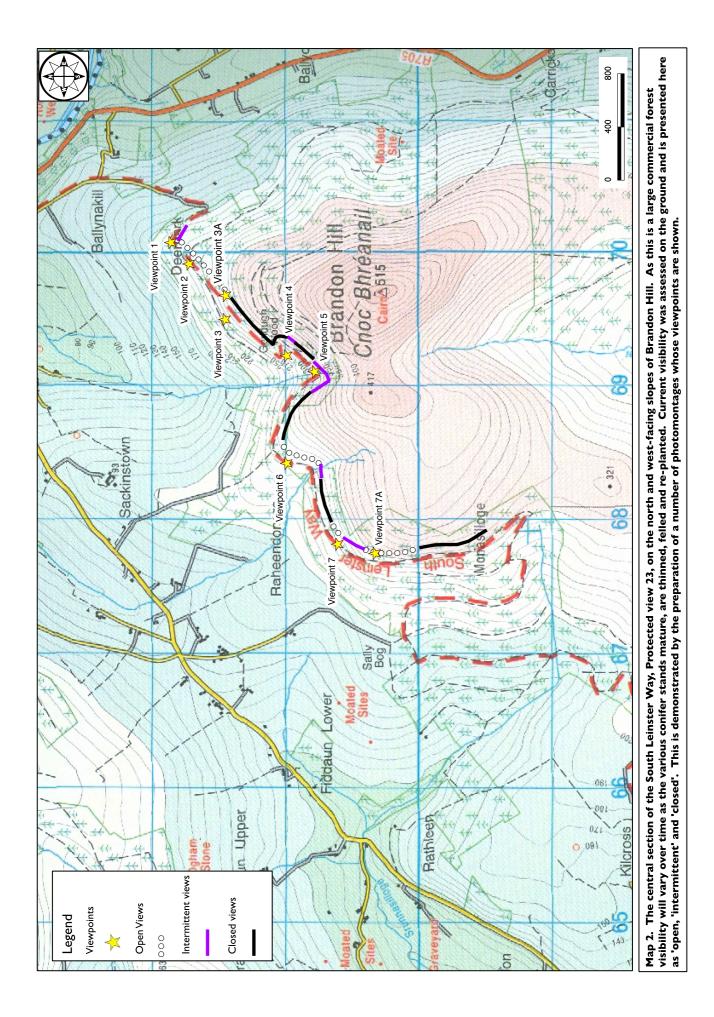
The results of this assessment are presented primarily in graphical form including a number of maps and photographs and photomontages.

The assessment pre-supposed the development of a 6-turbine wind farm on the southwestern slopes of Freagh Hill. The turbine dimensions used were a 78m tower and 82m rotor diameter¹. A Zone of Theoretical Visibility (ZTV) map was prepared to indicate the maximum visibility, without reference to intervening vegetation or buildings. In this instance, vegetation is highly important. The map was based on nacelle visibility.

The Zone of Theoretical Visibility map, Map 1 opposite, suggests substantial visibility over the 5km stretch from the entrance. No allowance is made for the woodland.

Actual visibility can only be gauged on the ground. Fieldwork was undertaken, the results are presented overleaf.

¹ While other, smaller, turbines could have been used this model was chosen because it would be particularly efficient and suitable for this location.



Actual visibility from the South Leinster Way

The central section of the South Leinster Way which is proposed Protected View no. 23, was walked and mapped to define current visibility. Three visibility categories were identified as follows:

- Open views
- Intermittent views
- Closed views

Open views provided significant and largely uninterrupted vistas.

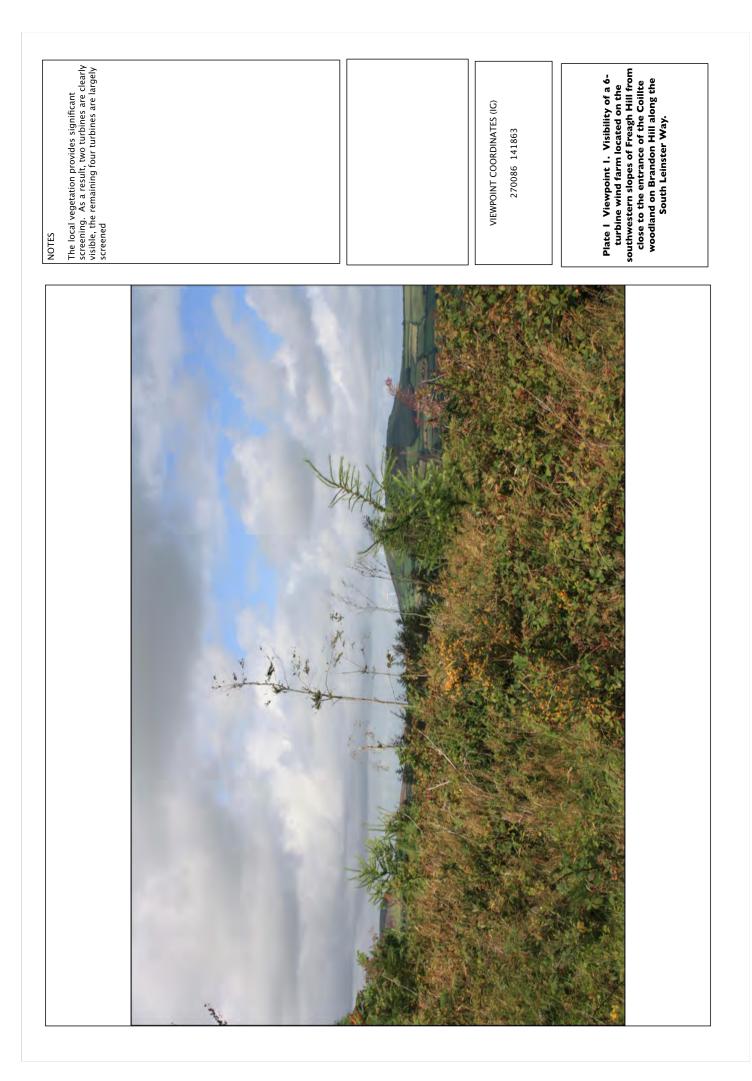
Intermittent views were more varied in that they provided views varying from being largely open to being substantially screened

Closed views provided no visibility other than the forest on either side and the forest road ahead.

The proportion of *open, intermittent* and *closed* views will vary through time as the various conifer crops are planted, thinned, mature and finally clear-felled before be re-planted. Currently, approximately 45% of the views are *closed*, 40% are *open* and the remaining 15% are *intermittent*. While these figures will change over time the overall level of available views will remain similar.

The degree of visibility afforded in the three categories is well illustrated in a number of photomontages prepared over the route. The viewpoints are shown in Map 2. opposite.

The photomontages are presented over the following several pages.



Viewpoint 1

Viewpoint 1 is located close to the entrance to the woodland. Although the forest road is quite open some screening is afforded by straggling trees left behind after clear-felling.

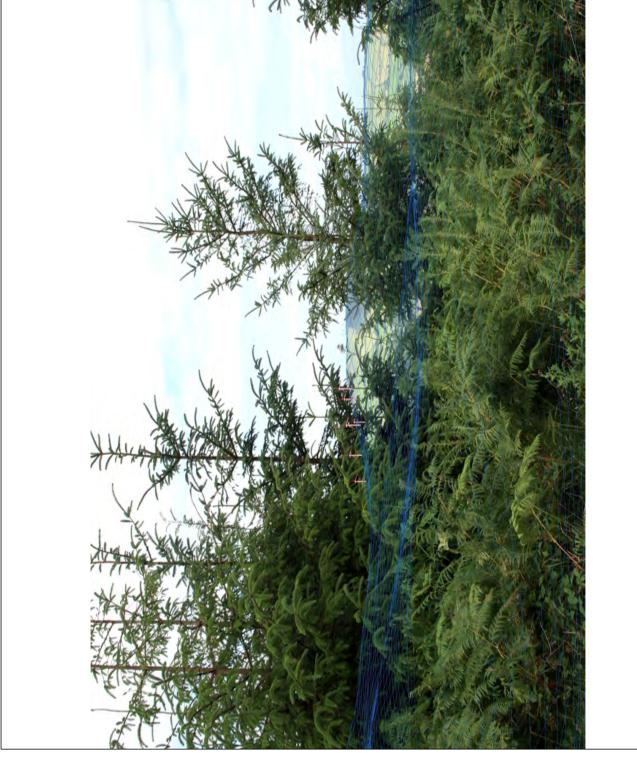
This is a good example of how quite limited vegetation can break up, without screening, a significant feature.



Viewpoint 2

Viewpoint 2 is just a short distance uphill. It benefits not at all from clear-felled remnants. As a result there are open views to the proposed wind farm which reveal four of the six turbines.





Viewpoint 3

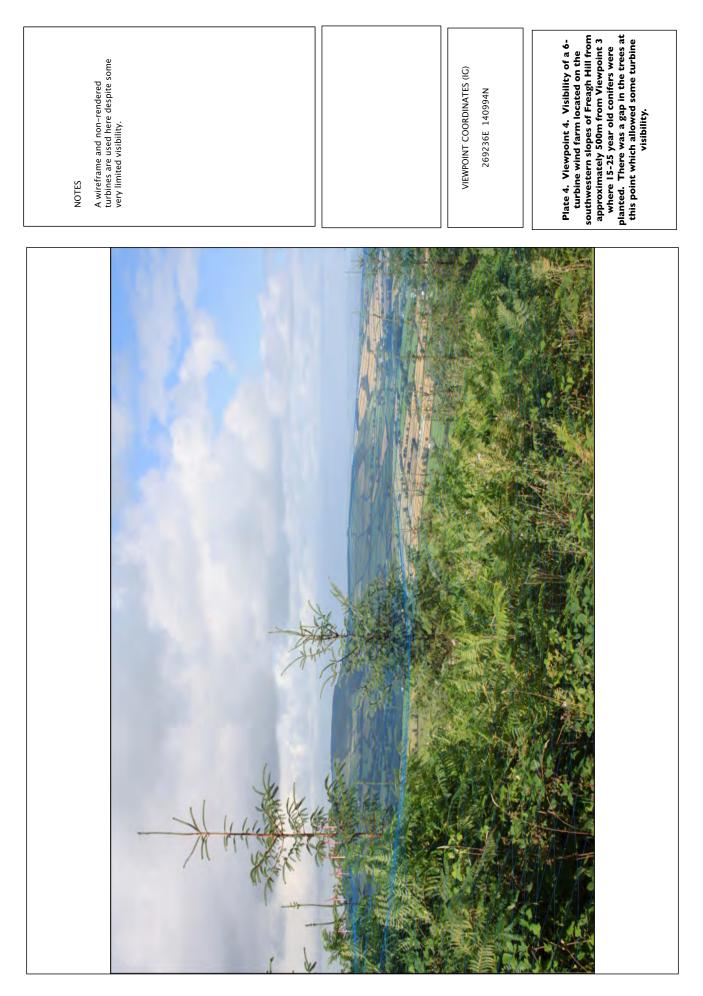
Viewpoint 3 marks the start of a stretch of well established spruce, 15-25 years old. Even at the beginning they provide substantial screening. In this case turbine visibility was so poor that they are presented as a wireframe (not rendered).

		VIEWPOINT COORDINATES (IC) 268214 140973	Plate 3A. This location marks the start of the closed visibility shortly before Viewpoint 3. These 15-25year old spruce rapidly screen the local vistas well in advance of maturity.
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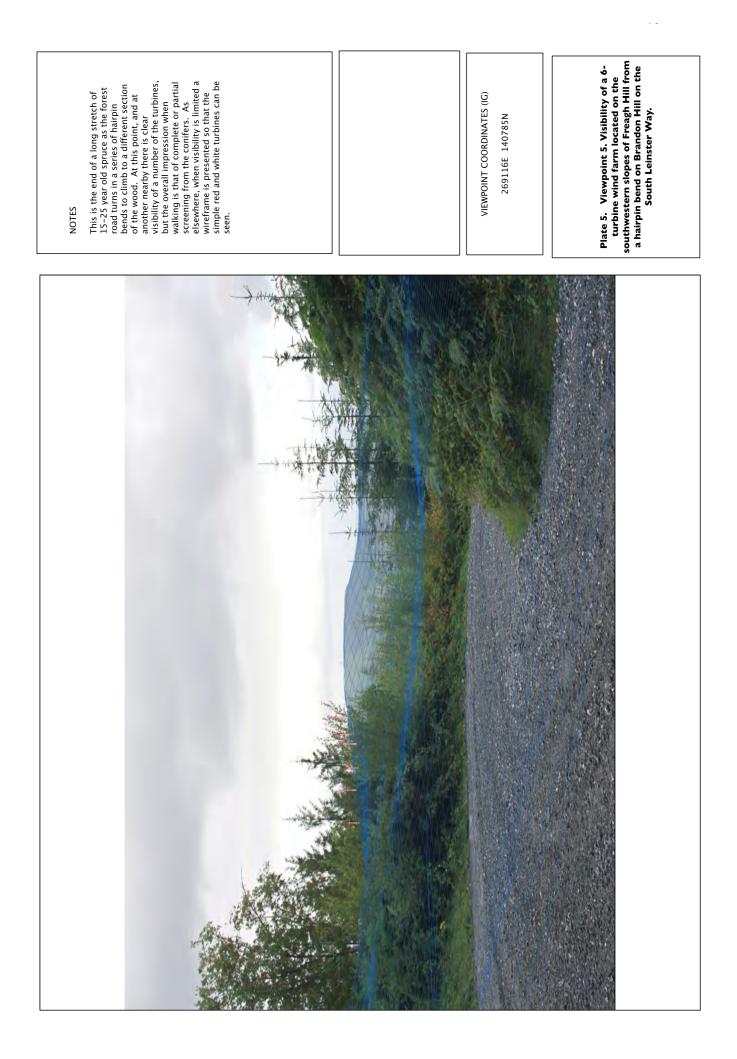
Viewpoint 3A

Viewpoint 3A is a short distance before Viewpoint 3. It shows young trees ca 15 years old which will provide intermittent visibility here and there but will rapidly screen all views out of the woodland.

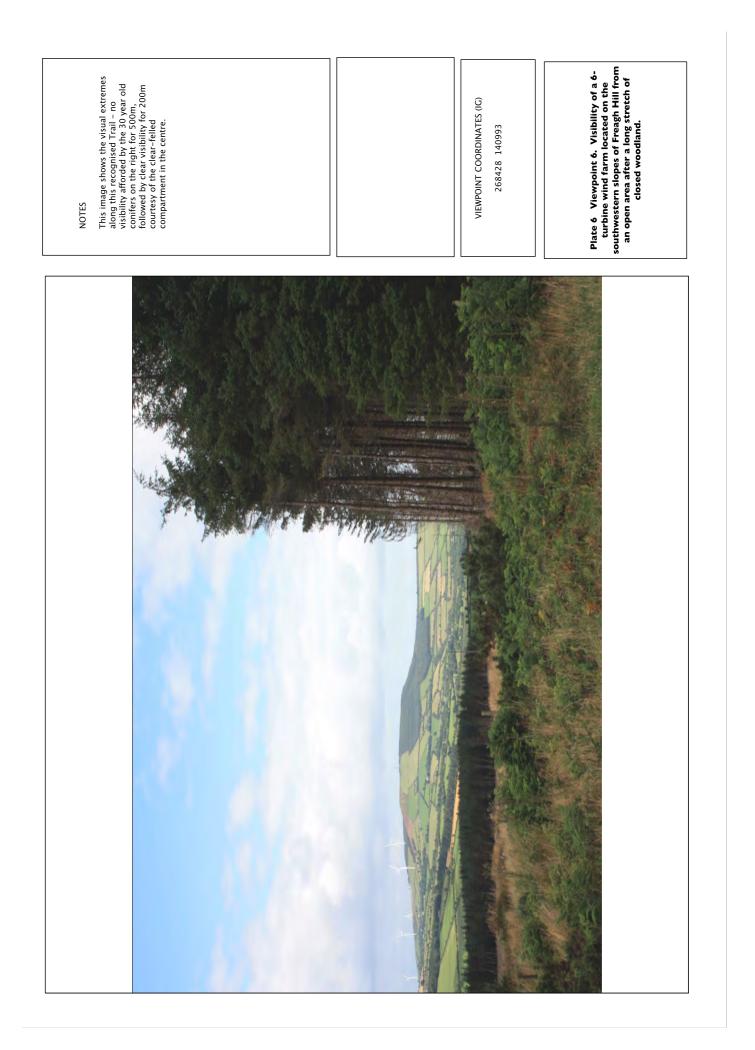


Viewpoint 4 is from a short break in the established spruce stand. The results are similar to those at the start of the stand. A wireframe is also used here.

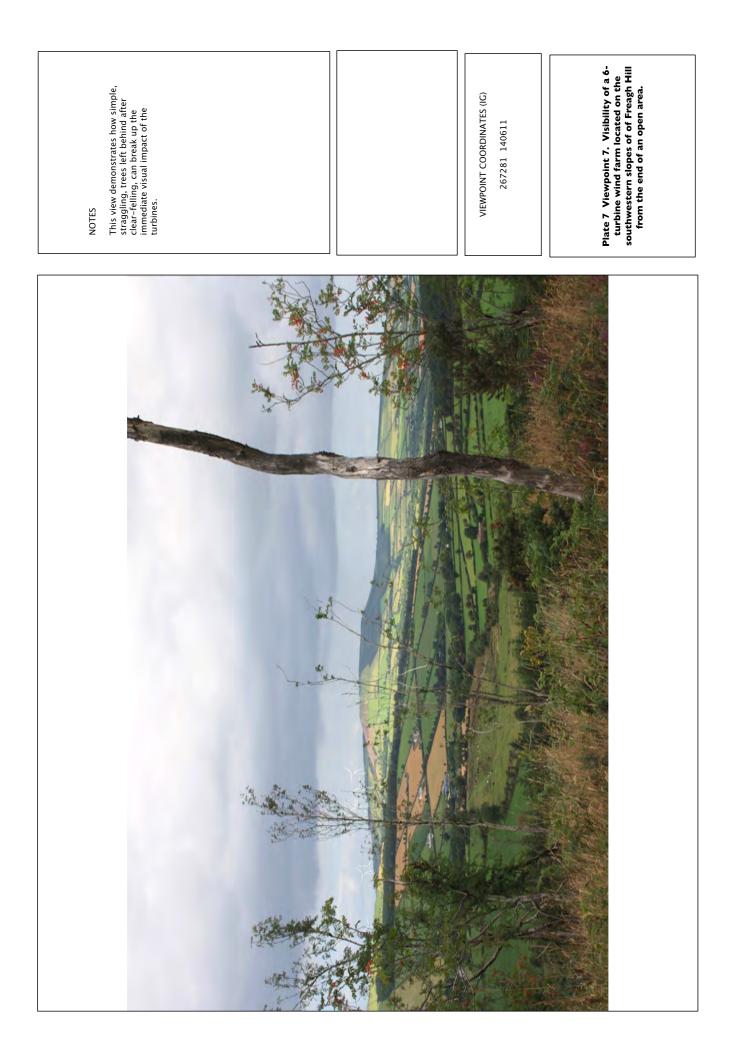
The stretch between Viewpoints 3 and 4 provide no visibility due to the total screening from the 15-25 year old spruce.



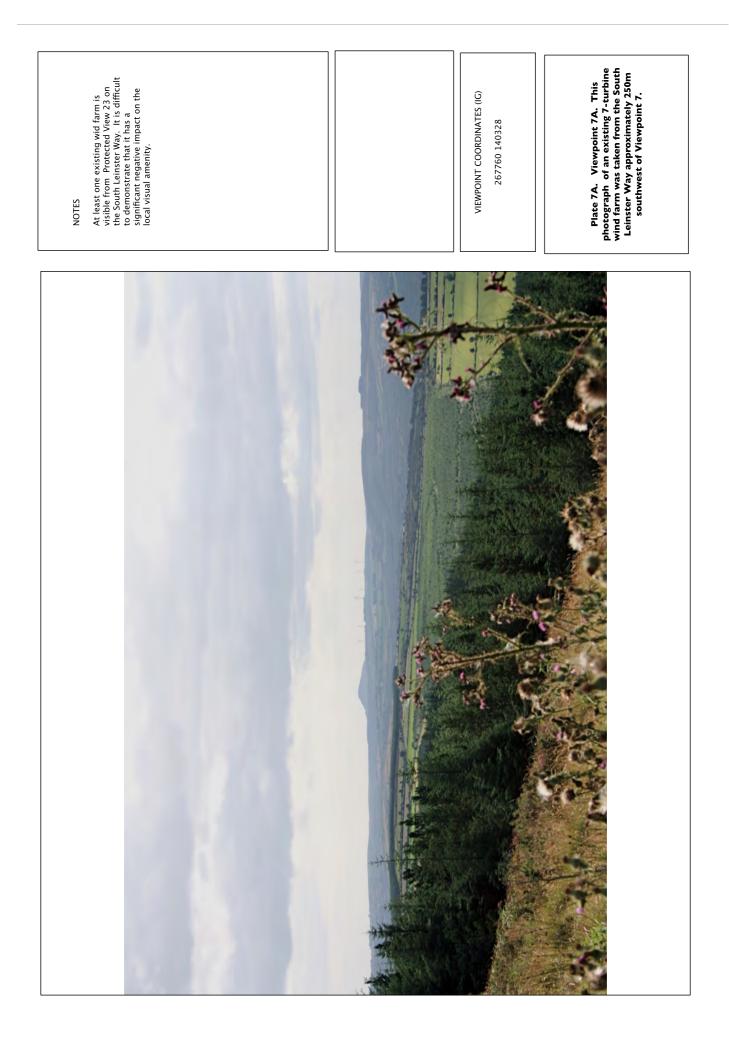
This is located at a natural break in the trail as a number of hairpin bends add a change in direction and a steep climb. The resulting visibility is similar to that seen at the two earlier viewpoints and a wireframe presentation is used.



Finally an open area is reached giving substantial views. Five of the turbines are clearly visible while the rotors of the remaining turbine are visible.

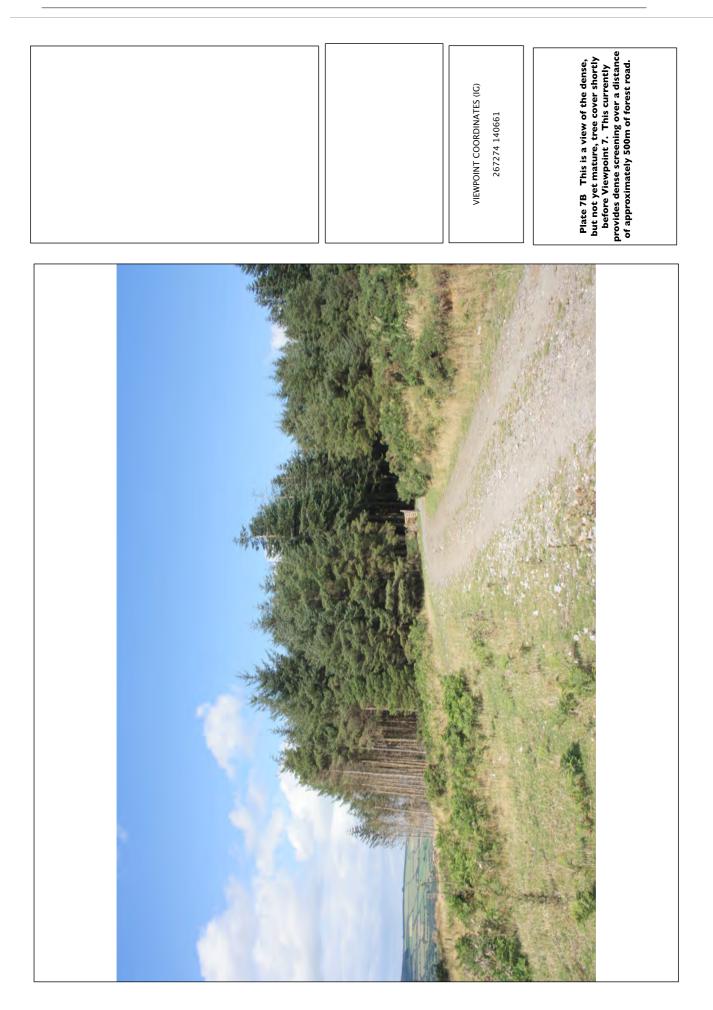


Viewpoint 7 is located towards the end of a relatively short open stretch where, as seen from Viewpoint 1, the straggling remnants left behind after clear-felling, breaks the full impact of the turbines without screening them.



Viewpoint 7A

Viewpoint 7 is unique. It is taken looking southwest, away from Freagh Hill, and shows an existing 7-turbine wind farm approximately 12km distant.



Viewpoint 7B

Viewpoint 7B looks back towards a stand of fir, still to be thinned, with many years left before harvesting if a mature crop is to be realised. This is one of many examples which provide total screening with no views out of the woodland.

Summary

Proposing a Protected view from within an actively managed commercial woodland appears difficult to justify. The visual amenity will always be compromised as the woodland grows through its 40 year cycle of planting, thinning, felling and re-planting.

At certain stages safety issues will arise as trees are thinned and later felled. This is not a suitable environment for walkers wishing to sample the visual amenity of a Protected view.

The South Leinster Way is a nationally designated walk. It provides a free walking space for all walkers, no more. That is precisely what walkers require, a space in which to walk.

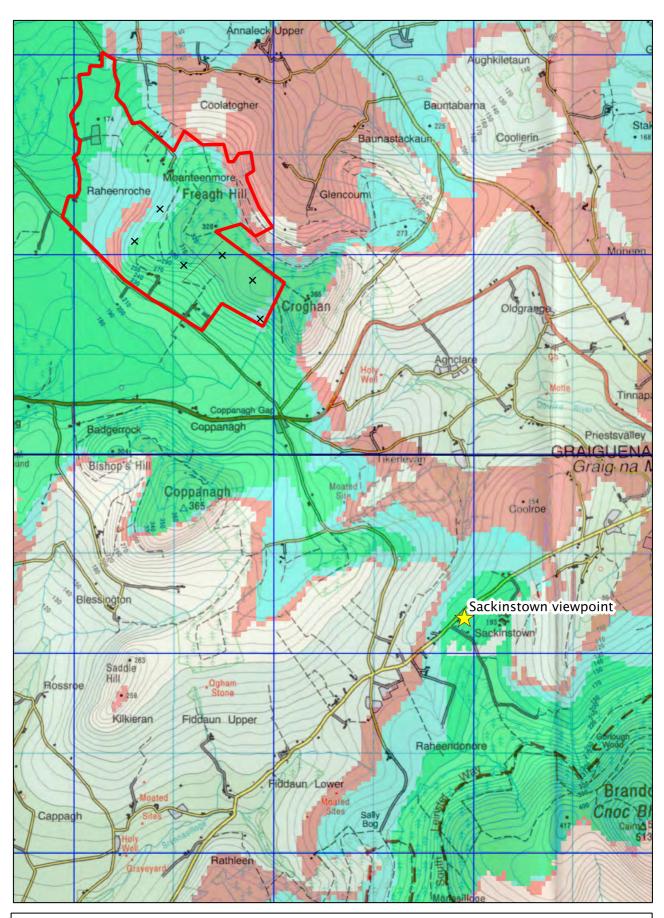
Splendid views are, in the main, sought by drivers.

If there is an inclination to propose a Protected view to ensure the exclusion of wind energy developments, this no longer applies to proposed Protected view 23 as evidenced by Plate 7A. An existing 7-turbine wind farm readily visible from the trail.

The belief that the outdoor amenity is negatively impacted by well regulated wind farm developments is no longer true as evidenced by Kilbrannish wind farm near Bunclody which was addressed earlier. Plate 8 shows Kilbrannish wind farm, which has become a tourist attraction, as viewed from the same trail, the South Leinster Way, at the start of its journey across the Blackstairs before reaching Borris and on to Graiguenamanagh.

APPENDIX II

Sackinstown



Map I. Zone of Theoretical Visibility map (ZTV) showing the photomontage viewpoint. Most of the Graiguenamanagh-Inistioge road has no turbine visibility (areas without colour). Where visibility is possible, high roadside hedgerows provide a complete screen.

Sackinstown which is overlooked by the South Leinster Way lies 5km southeast of Freagh Hill.

Reference to the Zone of Theoretical Visibility map already prepared indicates that Sackinstown is the only location on the Graiguenamanagh-Inistioge road from where some visibility may be possible. In practice visibility is largely limited to a number field entrance openings off the road over a stretch of approximately 500m. Roadside hedgerows in the area are generally high and substantial and generally provide complete screening.

A photomontage was prepared from a field entrance, it is presented overleaf.

It shows that four of the six turbines are partly visible.

