



Comhairle Ceantair  
**Lár Uladh**  
**Mid Ulster**  
District Council

## Local Development Plan

### Renewable Energy

## **Local Development Plan – Renewable Energy**

**Purpose:** To provide members with further information on the topic of Renewable Energy and to discuss the options to protect our most sensitive landscapes and environmental assets from potential impacts of wind turbines and high structures and to also consider the options in relation to a separation distance between occupied property and wind turbines.

**Content:** The paper provides:

**(i) Consideration of the approach to an Area of Constraint on Wind Turbines and High Structures and how best to protect our most sensitive landscapes and environmental assets**

**(ii) Consideration of the options open to us in relation to a separation distance between occupied property and wind turbines.**

**Recommendation:** That members note the information contained within this paper and agree the recommendation in relation to separation distance and the favoured approach to be taken regarding protection of sensitive landscapes and an Area of Constraint on Wind Turbines and High Structures.

### **1.0 Introduction**

1.1 The purpose of this paper is to provide members with further consideration on the topic of Renewable Energy in the context of the new Local Development Plan. Members will recall that the approach to Renewable Energy was discussed at a Special Planning Committee Meeting on 28<sup>th</sup> November 2017. At that meeting it was agreed that further consideration would be given to the suggested separation distance between single turbines and occupied property. In considering this matter and wider renewable energy issues further attention has also been given to the use of an Area of Constraint on Wind Turbines and High Structures to protect our most sensitive landscapes and environmental assets. This paper will therefore consider the use of an Area of Constraint and the issue of separation distances.

### **2.0 Area of Constraint on Wind Turbines and High Structures**

2.1 Members will be aware that within our POP we have stated that the preferred approach to protect our most sensitive landscapes and environmental assets from the potential impacts of wind turbines and high structures was to introduce an Area of Constraint. The map at Appendix 1 outlines the general area within the AoC would apply. In considering this issue further, and having had the benefit of engagement with our neighbouring councils as part of the cross boundary forums, it is considered that the use of an AoC alone may not be

sufficient to provide the protection we wish to achieve in those area we consider to be most sensitive to the impacts of development. Instead the introduction of a Special Countryside Area (SCA) alongside an AoC may provide a sounder approach to achieve the desired protection.

- 2.2 The introduction of an SCA is anchored in regional planning policy within the Strategic Planning Policy Statement (SPPS). The SPPS states that some areas of the countryside exhibit exceptional landscapes, such as mountains, stretches of the coast or lough shores, and certain views or vistas wherein the quality of the landscape and unique amenity value is such that development should only be permitted in exceptional circumstances. We are told in the SPPS that where appropriate such areas should be designated an SCA. In Mid Ulster we are home to some of the most exceptional landscapes in the region including areas within our Sperrins AONB, close to our lough shores and in the southern part of our district around Slieve Beagh.
- 2.3 It is felt that the use of an AoC as the only means to protect these most sensitive landscapes may present a risk given that such an approach is not explicitly anchored in regional planning policy and it does not appear to be the approach likely to be taken by all of our neighbouring councils. Together these issues may pose difficulties in presenting a convincing argument to the PAC at the Independent Examination with the result being that our most sensitive landscapes do not secure the level of protection we desire.

#### **Option 1**

- 2.4 In order to reduce this risk we have the **option** to introduce an SCA in our most sensitive areas e.g. highest parts of the Sperrins including highest part of Slieve Gallion and Slieve Beagh with an AoC then being applied to the lower slopes of these areas and at the Clogher Valley. The SCA could be introduced in an area where there is little or no demand for development by either farmers or other forms of development. The area would be identified through establishing relevant criteria to focus on the uncultivated upper tops/upper slopes of these areas and utilising our orthophotography and making site visits to confirm the extent of the line. This option would mean that within the SCA no development would be permitted other than any stipulated exceptions for example to allow for the route ways or development of an electricity transmission line at allocated points. Permitted development rights would continue to exist in the SCA. Within the AoC the approach to development would be as set out in our Public Consultation Report (policy at appendix 5 of this paper) i.e. no structures above 15m.

#### **Option 2**

- 2.5 A further **option** is to withdraw the introduction of any spatial constraint area (SCA or AoC) and to use planning policy only as the means to determine each application. This is the current approach under Planning Policy Statement 18 and the SPP under which all renewable applications are currently being

determined. The most recent Northern Ireland Planning Statistics for the second quarter of 2017/2018 (released in December 2017) shows that the overall number of renewable energy applications received in Q2 was 7, the lowest second quarter figure since 2002/2003. The statics branch state that this represented a 61.1% decrease in received applications from the same period a year earlier. They note that the number of applications received during July to September peaked in 2011/2012 with 204. They also state that it is highly likely that the levels at this time were driven by the NI Executives targets for electricity consumption from renewable sources, with a target of 20% to be achieved by 2015, and 40% by 2020. They go on to note that this continuing sharp decline in recent years may be partly due to a reduction in government funding as well as a lack of capacity on the power grid to allow for new connections. There may therefore be some argument that the current policy context alongside the market demand is sufficient to control wind turbine development. This option would not give any specific or extra protection to our most sensitive landscapes beyond the wording of the SPPS which states that a cautious approach would apply in areas such as AONB's.

### **Option 3**

- 2.6 The final **option** would be to continue to take the approach of an AoC only within the district, as set out in our POP. This approach comes with risks as explained above and without the support of regional policy may result in problems with making a successful argument at Independent Examination.
- 2.7 The view of officers is that option 1, the introduction of an SCA alongside an AoC, is the favoured option as these are areas that are undeveloped and wild due to the climate and exposure as a result of the elevated topography. Over time these are the exact areas likely to come under threat from wind development for the simple reason they offer greatest separation distance from dwellings and highest wind speeds. There is also the potential that these areas could come under threat from solar development or peat extraction on a commercial scale. The introduction of such development has the potential to impact significantly on such landscapes. It is also clear that the introduction of a house or modern farm building could also detract from these elevated areas. It is not envisaged that this policy would have any significant impact of the local community for the simple reason that they are largely uninhabited areas apart from sheep grazing and possibly abandoned quarries. The map at Appendix 1 illustrates the general location of an SCA alongside and AoC. Members advice and thoughts are welcomed on the way forward in relation to protecting our most sensitive landscapes from wind turbine and high structure development.

## **3.0 Separation Distances**

- 3.1 In gathering and considering the evidence to set out the preferred approach to renewable energy in the POP it was intended that the renewable energy policy

contained within the upcoming draft Plan Strategy would include a minimum distance to be applied and retained between proposed wind turbines (including single turbines) and occupied property. However, following a special planning committee meeting it was agreed that the issue would be considered further. There are numerous options for moving forward in this regard and each option has potential implications which it is felt should be considered by members before we proceed.

### **Current Situation and POP proposals**

- 3.2 There are currently no statutory separation distances between a wind turbine and occupied development anywhere in the UK. There are a number of different approaches in operation, some of which are adopted policy, some of which are advice notes and others which have no status. These differing approaches are laid out in the table in Appendix 2.
- 3.3 In Northern Ireland, the existing approach as laid out in both the SPPS and PPS 18 is that there will be a minimum separation distance of 10 times the rotor diameter between wind farm<sup>1</sup> development and occupied property, with a minimum distance of 500 metres. It should be noted that this refers to wind farm development and not to single wind turbines.
- 3.4 The POP proposed to implement a setback distance of 500 metres for **all** turbines of a height greater than 15 metres to the hub. The height of 15 metres to hub height was decided upon because it is the threshold for EIA development for screening for any likely significant effects, as laid out in part (j) (ii) of Schedule 2 of *The Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2017*.

### **Reasons for Setback Requirement**

- 3.5 Wind turbines can cause problems for nearby occupied development due to a number of different factors. These factors will all pose risks to the amenity and safety of the properties in question. Some of the risks are more damaging, viable and longer lasting than others and for this reason, each of the risk factors involved will require varying separation distances so that they are adequately mitigated against.

### **Noise**

- 3.6 Noise is always a key factor in the consideration of what is an acceptable separation distance in each development proposal involving wind turbines. Noise from wind turbines is caused by the movement of mechanical parts within the turbine as well as by the “swish” of the blades as they pass through the air. Established recommended best practice comes from the Assessment and Rating of Noise from Wind Farms (ESTU-R-97) which states that a separation distance of 350m – 400m is no longer considered adequate to provide sufficient protection to occupied property from unwanted noise from wind turbines.

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<sup>1</sup> Wind farm consists of more than 2 turbines according to the SPPS – SPPS – P.91

Research has shown that the “swish” noise made by the blades will usually disappear around 3 or 4 rotor blade lengths from the turbine whilst the “thump” or “whoomp” noise also associated with the cyclical nature of the blades in wind turbine development, can still be heard and cause annoyance at distances of around 1km and even up to 2km.

### **Health and Safety**

- 3.7 Health and Safety concerns arising from wind turbine development are obvious in that turbines can become unsafe and fall over, thus posing a danger to nearby properties. Similarly, rotor blades can become loose and can be “thrown” from a turbine and this is also an obvious threat to amenity and safety of nearby property. It is generally accepted that the separation distance required to mitigate against this type of impact is less than that needed for noise disturbance. The height of the turbine to the rotor tip, plus 10% is accepted as allowing adequate setback in this regard.

### **Shadow Flicker**

- 3.8 This occurs when rotating turbine blades periodically cast shadows over neighbouring properties through openings such as windows. It is normally only a short lived annoyance and is dependent upon other factors such as the position/height of the sun, wind speed, cloudiness, and the position of the turbine relative to the turbine. Shadow flicker will only be a concern within locations which are within 130 degrees either side of North relative to the turbine in question. It is generally accepted that a separation distance of 10 times rotor diameter is an acceptable setback to allow for mitigation against shadow flicker, where it is found to be a viable concern.

### **Visual Amenity / Dominance**

- 3.9 If turbines are inappropriately sited, designed or laid out, then they can have a dominating effect on nearby property. They can spoil views from a property and also spoil views of a property to the extent where the property can only be viewed in association with the turbine(s) in question and not in their own right. All of these things contribute to a reduced level of amenity of the nearby property and in the case of a dwelling, can seriously impact upon the quality of life of the inhabitants. The “Lavender Test” arose from an important planning appeal and stated that turbines can be considered to be unacceptably close to a dwelling when “the property concerned would come to be widely regarded as an unattractive and thus unsatisfactory (but not necessarily uninhabitable) place in which to live.”
- 3.10 A general consensus in various planning appeals in England, is that the distance considered acceptable in order to negate the effects of over dominance was between 400-900 metres although in one case it was found that a proposed turbine could have a dominating effect on property from a distance of 1km.

- 3.11 All of the above considerations present different levels of potential problems for occupied properties close to wind energy development and some of the issues will require a lesser setback distance than others. However, none of these issues will occur in isolation and all of the concerns listed above are potentially viable concerns for all wind turbines. Issues such as noise and dominance carry the requirement for largest setback distances and therefore the setback distance needed to negate such impacts must from the starting point for any minimum separation distance included in the draft Strategy.
- 3.12 Best practice guidance which accompanies the existing policy (PPS 18) makes specific reference and provides guidelines for dealing with the issues which have been mentioned in the preceding paragraphs such as noise, shadow flicker etc. However, there is no guidance issued for separation distances which will combat issues of visual amenity and over dominance in relation to occupied properties. It is this issue which we wish to address in policy. This issue of visual amenity / dominance has become more and more prevalent in the rulings of the PAC in recent cases including one in our own district in 2016) and so we feel that it is important that it is addressed in any new policy which we are bringing forward in the new Plan Strategy.

#### **4.0 Separation Distances Options for Plan Strategy**

##### OPTION 1; POP APPROACH

- 4.1 This option would see us implement the approach which was suggested in the POP. **This approach requires a minimum separation distance of not less than 500m (or 10 times rotor diameter, if this is greater than 500m) where the turbine in question is of a height which exceeds 15 metres to the hub.** The 15 metres height requirement is not an arbitrary figure but rather has been chosen because it is the threshold included in the 2017 EIA legislation whereby a wind turbine becomes EIA development.
- 4.2 The map contained in Appendix 3 shows the amount of land which would be excluded from development if a 500m buffer was drawn around each address point in Mid Ulster. The amount of land excluded from development is considerable and a large proportion of that which is not excluded, is likely to be located within the proposed Area of Constraint on High Structures. Considering that the average turbine height in Mid Ulster is approximately 50 metres (see Appendix 3), then this approach would have obvious and severe implications for the ability to build new turbines in Mid Ulster. Mid Ulster possesses a significant wind resource unlike urban districts such as Belfast and Lisburn & Castlereagh account for a very small proportion of renewable capacity and generation (1%)<sup>2</sup>. In general, the majority of capacity and generation is located in rural areas, such as Mid Ulster. By implementing this approach, it could be argued that we are significantly reducing our ability to contribute to regional

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<sup>2</sup> Department for Economy, Energy in Northern Ireland, 2016, p. 60

targets relating to renewable energy generation. The renewable energy targets for the previous programme for government 2011-2015 have been met. The Executive's 2010 Strategic Energy Framework stated that by 2020, **40%** of all energy generated in Northern Ireland should be taken from renewable sources. Most recent figures show that the relevant figure is **27.1%**<sup>3</sup> so while progress towards the target has been made, more is needed and we must continue to facilitate renewable energy development in a sustainable manner.

- 4.3 Having said this, the negative impact of this option on the ability to meet renewable energy targets is not, in itself, a reason to dismiss it out of hand. The Milton Keynes supplementary planning document whilst being quashed (see table in Appendix 2) showed that a negative impact on the ability to meet national renewable energy targets was not sufficient grounds to oppose the idea of separation distances. The SPD was ultimately quashed but the argument that it would hinder the meeting of the national targets was not considered as a valid objection and it was not quashed for that reason
- 4.4 There is also an argument that this approach could be considered contrary to the Plan Objectives, one of which states that we will “encourage energy efficiencies and promote the use of renewable energy.”<sup>4</sup> If the argument can be successfully made that this option is contrary to that objective because it would effectively prohibit turbines above the average height from being built across the vast majority of the District, then it could be used to question the soundness of the draft Strategy, in that the Strategy could be claimed to be at odds with its own objectives.

#### OPTION 2; SLIDING SCALE

- 4.5 This option would see **a minimum separation distance between wind turbines and occupied property being designated according to the size of the turbine**. The table below is an example of distances proposed in the *Wind Turbines (Minimum Distance from Residential Premises) Bill* which failed to progress from the House of Lords in June 2011.;
- From 25m height, not exceeding 50m – 1000m separation distance
  - From 50m height, not exceeding 100m – 1500m separation distance
  - From 100m height, not exceeding 150m – 2000m separation distance
  - Greater than 150m – 3000m separation distance.
- 4.6 A similar bill was brought forward in the Republic of Ireland where the separation distances were slightly smaller but was rejected by the Oireachtas due to the potential to severely hinder the ability to meet EU renewable energy and climate change commitments.

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<sup>3</sup> Department for the Economy, Electricity Consumption and Renewable Generation in Northern Ireland; Year Ending March 2017, 15<sup>th</sup> June 2017

<sup>4</sup> POP, p. 15



- 4.7 A major problem with this approach is that it is potentially very difficult to justify the different separation distances for the different heights of turbines. There have been two attempts to introduce a “sliding scale” approach in the UK and neither have materialised into adopted policy. The attempt made by Wiltshire Council to introduce a “sliding scale” was removed from the Plan by a Planning Inspector because it was their opinion that the distances were unjustified in light of the evidence provided.
- 4.8 Another drawback with the sliding scale approach is that it would introduce a very conservative approach to larger turbines. As is evident in Appendix 3, the average height of turbines is increasing and by adopting this approach, it could be argued that we are planning to be more restrictive on larger turbines, which the industry may well be more and more characterised by in the future.

#### OPTION 3: POLICY APPROACH – SETBACK DISTANCE IN AMPLIFICATION

- 4.9 This option would involve **no minimum setback distance in policy** but instead seeking to control the potential for negative impact of wind turbines on occupied properties by **a range of criteria set out within policy**. The criteria would specifically address the issue of dominance, along with other issues such as noise, shadow flicker, ice throw etc. However, there would be no minimum setback distance included in policy wording.
- 4.10 A separation distance would be suggested in the amplification part of the policy and this would be used as guidance for case officers when assessing applications. It would indicate what the threshold is in terms of unacceptable impacts of wind turbines with regard to dominance. The separation distance chosen would be “*10 times rotor diameter or 10 times the height to hub, whichever is the greater.*” (A sketch representation of this is provided at Appendix 5). There would also be a degree of flexibility built into the amplification which would allow us to look favourably on wind turbines within this distance, providing there were site specific circumstances which would mean that a turbine could be approved inside this distance without resulting in harm being caused to nearby properties.
- 4.11 This is the approach currently adopted in the SPPS, where there are no minimum setback distances promoted other than those for wind farm development. Such an option would only be a temporary approach until the SPPS is reviewed and in the event that a minimum setback distance for individual turbines was set within the SPPS then this would be adopted by the Council in the Strategy. The separation distances contained within the SPPS regarding wind farms would be included in the policy wording.

- 4.12 It is also similar to the approach taken by Allerdale Council, who are the only local authority in England to have adopted policy containing a separation distance, albeit one with a degree of flexibility.
- 4.13 One problem with this approach would be the lack of clarity that it would give to both planning officers and developers. The introduction of a minimum setback distance, stated clearly within the policy wording, would provide a definite, measurable primary indicator as to the likelihood of a wind turbine proposal being considered as acceptable. This approach, while still using the amplification to provide guidance on what separation distance is considered to be appropriate, still leaves room for interpretation as to whether or not a proposal can be accommodated without the need to adhere to the separation distances.

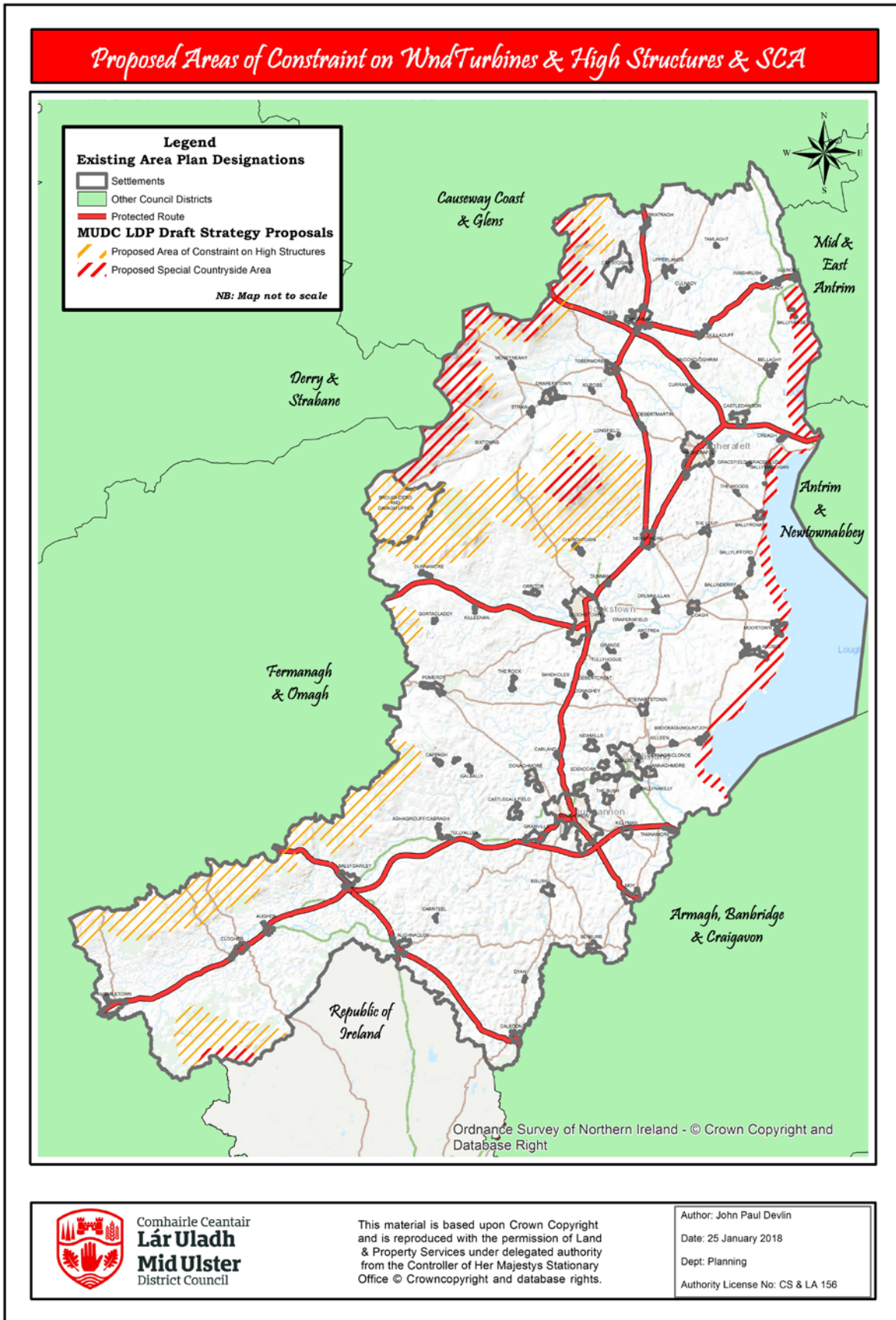
## **5.0 Preferred Option to Separation Distance**

- 5.1 Taking account of all of the above, it is considered that **Option 3** is the preferred option. It is felt that the POP approach, as mapped out in Appendix 3 would place too great a burden on the district's ability to accommodate new wind energy development. This would have the potential to cause problems in meeting the regional energy targets and would also run the risk of making the plan unsound in that it brings into play, the argument that the Plan is contrary to its own objectives. Option 3 is similar to the approach which has been adopted by Allerdale Council.
- 5.2 Similar to Allerdale, the setback distance is not in policy wording but instead is included in the explanatory amplification. We recognise that in some cases it may be appropriate to vary this threshold as a consequence of site specific circumstances such as orientation of views, land cover, or topography and where it can be demonstrated through evidence that there will not be any unacceptable impacts on residential amenity. Variation of the threshold will also be acceptable where local residents are supportive of the proposal. This will be a key feature of the policy because it is important that turbine development will still be facilitated within the district in order to promote sustainability and to enable us to contribute to the regional renewable energy targets.
- 5.3 This flexibility was a key feature of the first adopted policy in England to include minimum setback distances with the Inspector in that case considering that while the initial separation distance provided a benchmark, it also allowed for individual circumstances to vary the distance where it was justified.

## **6.0 Conclusion and Recommendation**

- 6.1 Members are requested to note the contents of this paper and note that option 1 at section 2 is the favoured option to protect our most sensitive landscapes from the potential impacts of wind turbines and high structures.
- 6.2 Members are also requested to note the options regarding separation distance and to agree that the draft Plan Strategy should take forward option 3 as the approach to separation distances.

**APPENDIX 1 – POP Suggested Location of SCA and Area of Constraint on Wind Turbines and High Structures**



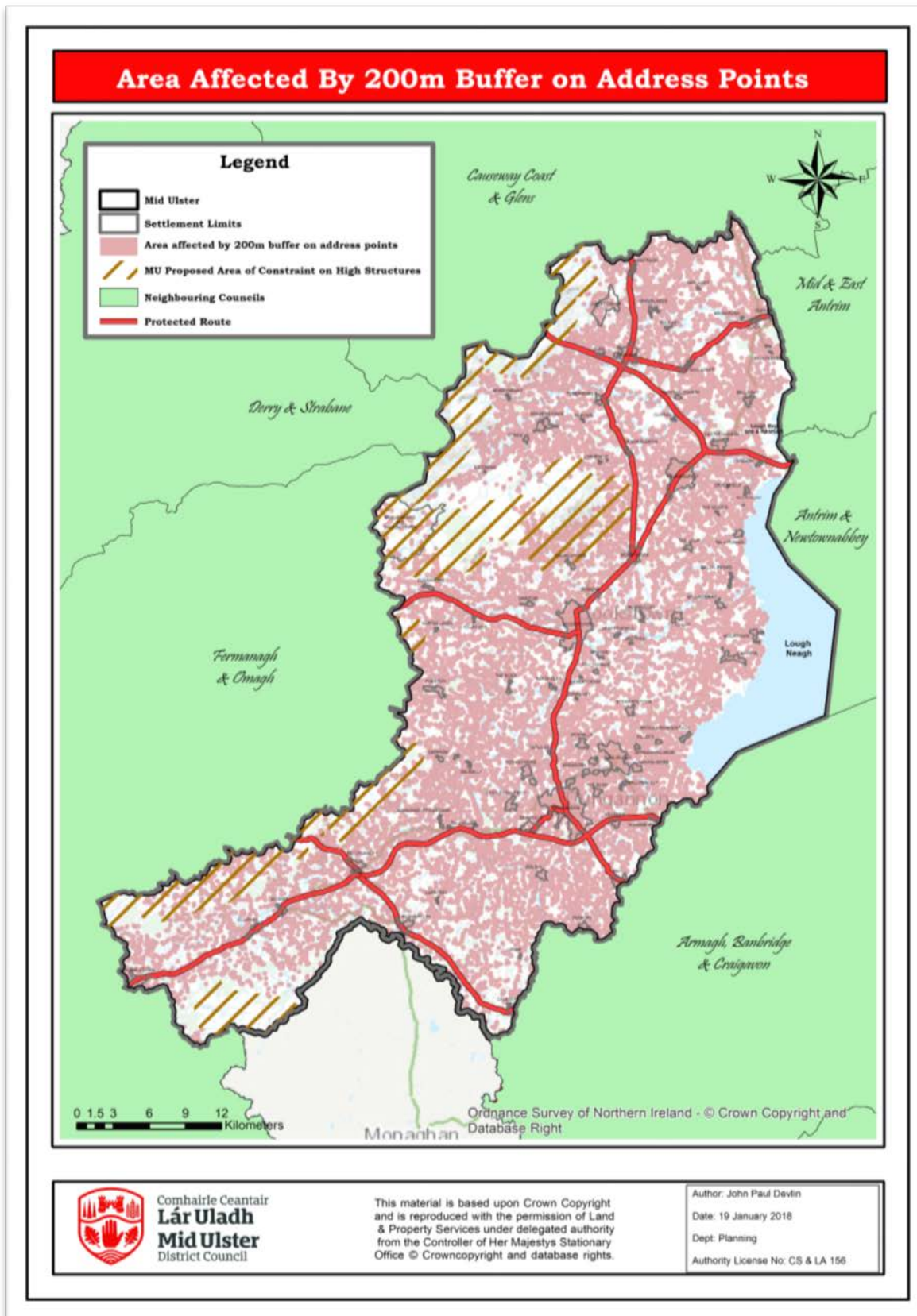
## **APPENDIX 2 - Existing Policy Approaches to Separation Distances**

LOCATION	DISTANCE PROPOSED	DETAILS	STATUS
National Policy Approaches			
Welsh Assembly	500m	Tech. Advice Note 8: sets out a minimum separation distance between turbines and residential property. Advises flexibility to avoid an over conservative approach	<b>National Policy Advice Note</b>
Northern Ireland	10 times rotor diameter but not less than 500m	The approach is laid out in PPS 18 as well as in the recently adopted SPPS. It only applies to wind farms (more than two turbines).	<b>Adopted policy in the form of PPS 18. Also adopted regional policy (SPPS)</b>
Scottish Planning Policy Statement (SPP)	2KM	This refers to strategic search areas for wind farms and relates to settlements not to individual dwelling and is based on visual impact.	<b>National Planning Policy</b>
Republic of Ireland	500m	Guidelines state that noise is unlikely to be a significant problem where the distance from the nearest turbine to any noise sensitive property is more than 500m	<b>National Planning Guidelines</b>
Local Authority Approaches			
Cherwell District Council, Oxfordshire	800m	Informal planning guidance recommends separation distances between turbines as settlements / dwellings, based on amenity and other issues such as	<b>Adopted "without status."</b>

		noise, shadow flicker and safety.	
LOCATION	DISTANCE PROPOSED	DETAILS	STATUS
Local Authority Approaches			
Lincolnshire County Council	700m (2km if there are noise issues).	Wind Energy Position Statement; This is a set of guidelines that the County Council prepared and hoped local planning authorities would take into account in decision making. In reality they carry very little weight.	<b>No Status</b>
Milton Keynes Council	Sliding Scale approximately 10 times the height	Supplementary Planning Guidance based on noise / safety	<b>Quashed - no status</b>
Aberdeenshire Council	Specified minimum distances for specific turbine models, ranging from 125 metres to 630 metres	Planning Guidance note on noise. The Councils Environmental Health section has calculated a range of minimum separation distances that will be required for a number of specified turbine models to limit noise to an acceptable level.	<b>Planning Guidance Note</b>
Wiltshire Council	Sliding Scale up to 3km	The Wiltshire Core Strategy submission document proposed a range of minimum distances that would be applied and set out the intention to prepare additional guidance on the matter. The Inspector considered the distances were unjustified in light of the evidence provided and considered they would unduly restrict the scope for larger turbines.	<b>Text removed from the Plan as it was considered unjustified</b>

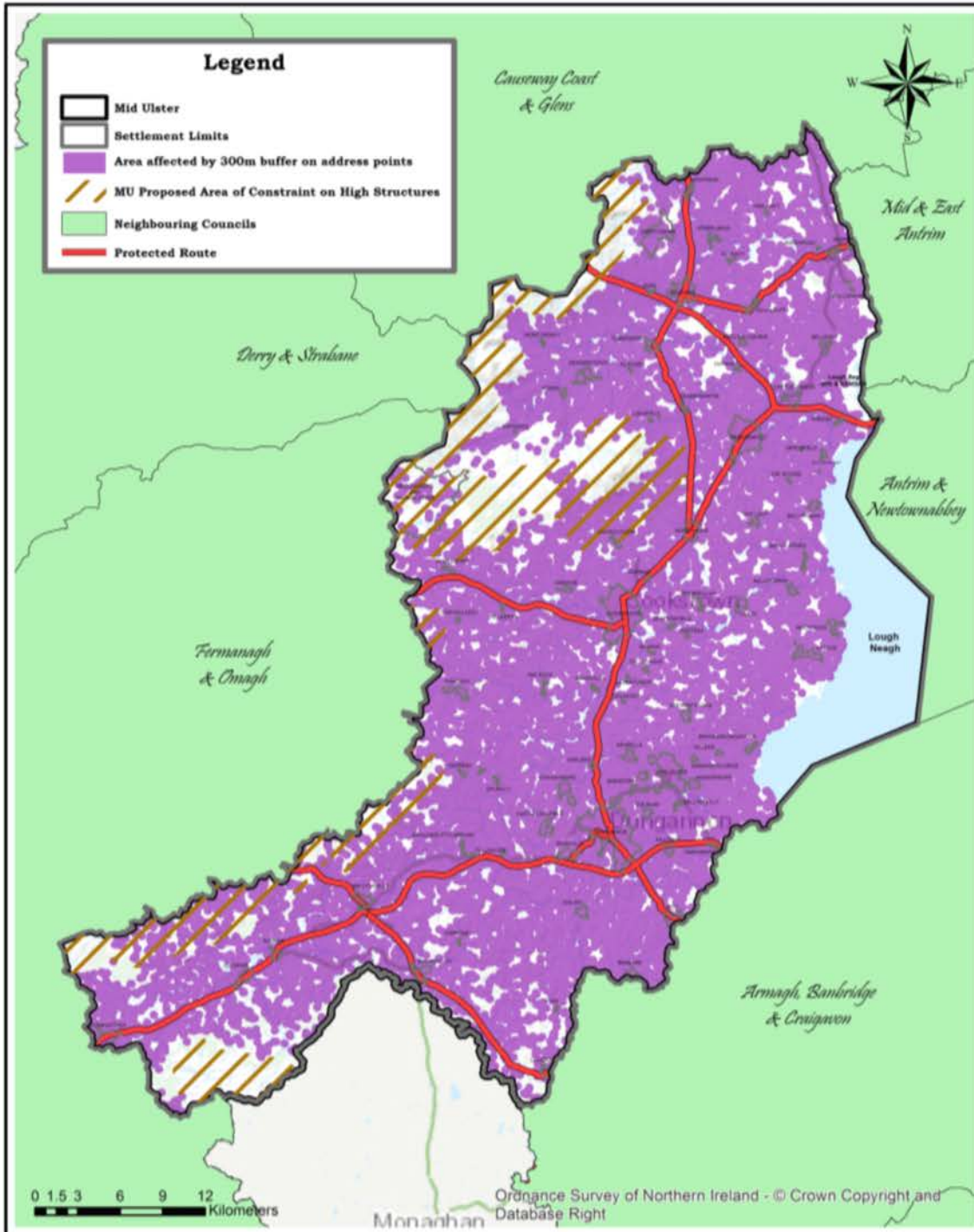
LOCATION	DISTANCE PROPOSED	DETAILS	STATUS
Local Authority Approaches			
Allerdale Borough Council, Cumbria	800m	The supporting text of policy S19 in Allerdale's Local Plan expects a minimum separation distance of 800m between wind turbines of a height over 25 metres and occupied properties. It allows for some flexibility where site specific characteristics make it appropriate to vary the threshold.	<b>Adopted July 2014</b>
Eden Borough Council	800m	Amplification on Policy ENV 6 will require a minimum separation distance of 800 metres between wind turbines of 25 metres to blade height and residential properties. In some cases, due to site specific circumstances, it may be appropriate to vary this threshold.	<b>Draft submission stage</b>

**APPENDIX 3 - Maps of Mid Ulster with 200m to 500m Buffer Zones around all occupied properties**





## Area Affected By 300m Buffer on Address Points



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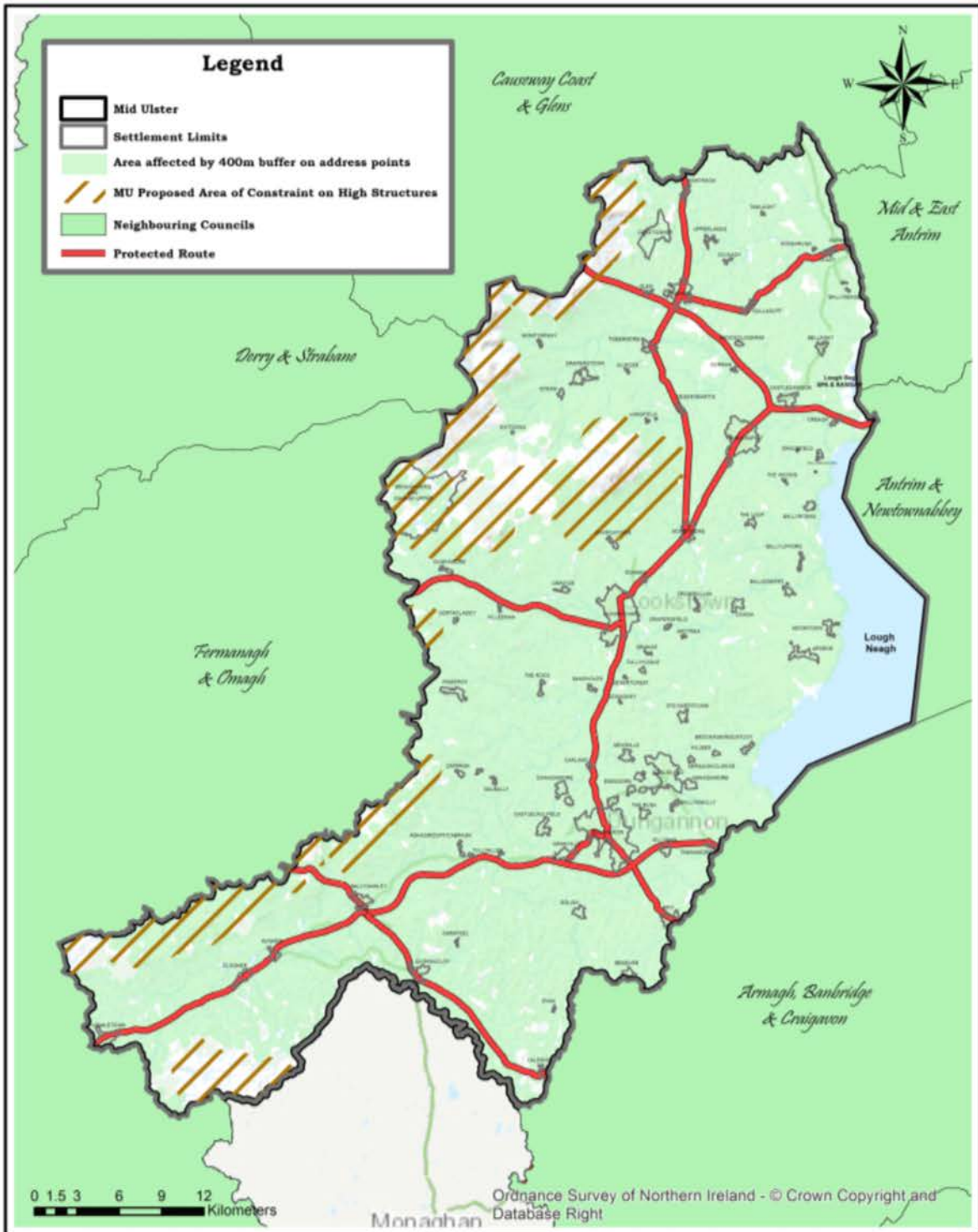
Author: John Paul Devlin

Date: 19 January 2018

Dept: Planning

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## Area Affected By 400m Buffer on Address Points



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## Area Affected By 500m Buffer on Address Points



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**APPENDIX 4 - Average Turbine Heights in Mid Ulster (taken from planning approvals granted)**

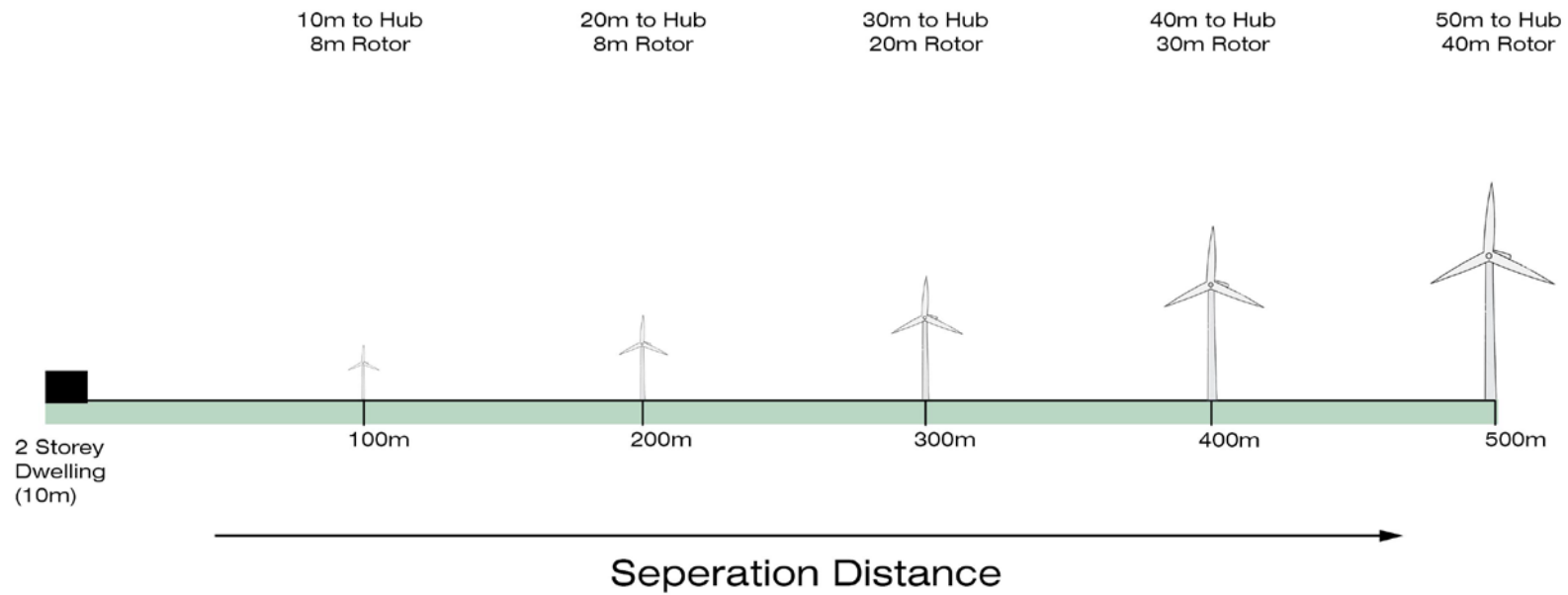
YEAR	NO OF APPLICAITONS	AVERAGE HUB HEIGHT (metres)	AVERAGE TIP HEIGHT (metres)
2017	3	50	74.2
2016	8	44	62.4
2015	40	40.1	58.95
2014	65	38.25	56



**APPENDIX 5 – Indicative Sketches Showing Impact of Proposed Separation Distances (scale – 1:2,000)**



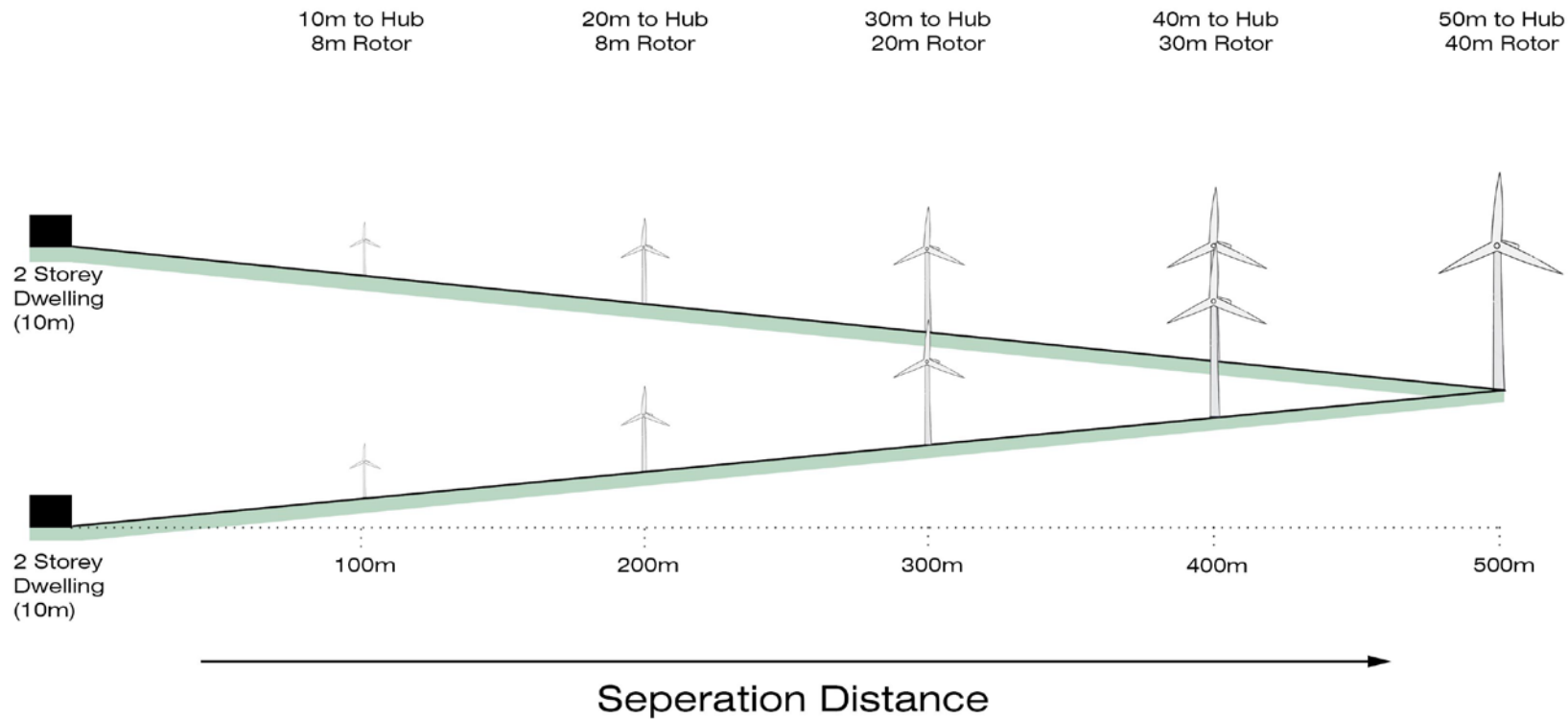
# Impact of Turbines on a 2 Storey Dwelling



# Impact of Turbines on a 2 Storey Dwelling Approx 10% Gradient



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Scale 1:2,000