

## **SG14 - Spatial Framework and Guidance for Wind Energy Development**

### Methodology for determination of Community Separation Zones

#### **Background**

Scottish Planning Policy 2014 recognises the need for significant protection around communities. SPP states that Local Authorities should set out “*an area not exceeding 2km around cities, towns and villages identified on the local development plan with an identified settlement envelope or edge. The extent of the area will be determined by the planning authority based on landform and other features which restrict views out from the settlement.*” The new SPP also requires Councils to indicate a minimum scale of onshore wind which the Spatial Framework will apply to. The Spatial Framework as set out in SG14 applies to all proposals of 50m and above meaning that proposals of 50m and over will be required to demonstrate that significant effects in the visual amenity of settlements can be adequately overcome by siting, design or other mitigation. Proposals for turbines of less than 50m to tip will be against relevant Development Management Guidance set out in Part 2 of this document.

The definition of buffer zones should be underpinned by a robust evidence base. The evidence base in this instance is the *Landscape Capacity Study for Wind Energy Development within the Falkirk Council Area* produced by Bayou BluEnvironment in August 2012. This has been supplemented by a desk-based analysis and field-work to undertake a basic visual assessment of the topography, landscape characteristics and visibility around settlement edges.

#### **Methodology**

The *Landscape Capacity Study for Wind Energy Development within the Falkirk Council Area* sets out the visual sensitivity to wind energy development for each Landscape Unit (Figure 4). Many of the settlement edges are adjacent to areas of medium to higher sensitivity aside from California and Shieldhill. The main urban settlement areas form 5 main groupings:

1. Falkirk
2. Larbert, Stenhousemuir, Skinflats and Torwood
3. Denny, Bonnybridge and Banknock
4. Polmont and Maddiston
5. Bo’ness, Muirhouses and Blackness

## 6. Grangemouth

In addition, a number of rural settlements were grouped as follows:

7. Shieldhill and California
8. Standburn and Avonbridge
9. Limerigg and Slamannan
10. Whitecross
11. Airth, Letham, Dunmore and South Alloa

A broad separation zone was applied to each settlement edge based on landscape and visual characteristics and topography of the surrounding landscape. Outward views were assessed, and open landscape with a higher number of scale indicator were given a larger separation zone, whereas more contained landscape with outward views restricted by topography and more permanent vegetation were given smaller separation zones. Features such as non-commercial forestry/tree belts were taken into account, along with their degree of permanency. The Landscape Capacity Study also contains other useful assessment such as important ridgelines, outward views and sensitive routes which influenced the formulation of a broad separation zone. These are as follows:

### **Settlement:** Falkirk

**Separation zone:** 2km from settlement edge as defined in the Local Development Plan

### **Relevant Landscape Character Unit(s)**

- 3(iii) Castlecary/Shieldhill Plateau Farmland (Medium/Higher visual sensitivity)
- 4(iv) Lower Carron/Bonny Water (Medium Sensitivity)
- 4(v) Falkirk/Grangemouth Urban Fringe (Medium Sensitivity)

### **Visual Characteristics**

*South Falkirk:* The first key sensitive edge is lies adjacent to the southern part of the Falkirk area, from Hallglen, Lionthorn, through to Camelon and Tamfourhil. This edge adjoins 3(iii) Castlecary/Shieldhill Plateau Farmland which is identified as Medium/Higher visual sensitivity. The Landscape Capacity Study advises that there is Low-Moderate capacity to accommodate wind energy development and that the larger wind turbine typology heights above 50m are unlikely to be acceptable.

The *Castlecary / Shieldhill Plateau Farmlands* LCU form an undulating, gently rising ridge of high ground when viewed from the urban edge to the north. The setting of the farmlands, which provide an important backdrop and transition between the sheltered, largely urbanised lowland river valley and the exposed moorland plateau, is a key landscape sensitivity. Turbines would be highly visible from the settlement edge, and outward views from all along within southern edge extend up to the ridge(s). Larger turbines of above 50m would be visually intrusive in terms of what is primarily a residential area. A mixture of commercial and native woodland would provide some containment and screening for smaller proposals below 50m. The Landscape Capacity Study shows sensitive routes and main views extending out from the settlement edge. As such, a 2km separation zone would be appropriate in order to minimise impact from the settlement edge.

*North Falkirk:* The second sensitive edge lies between the north/west of Camelon, extending to the small area of Green Belt between Bainsford and Carron, through to the area of Green Belt between Grangemouth and Falkirk. These edges adjoin 4(iv) Lower Carron/Bonny Water and 4(v) Falkirk/Grangemouth Urban Fringe which are both identified in the Landscape Capacity Study as being of Medium Visual Sensitivity. Between Falkirk and Larbert in LCU 4(iv), the Bayou BluEnvironment Study advises that there is Moderate capacity to accommodate wind energy development and but that typologies of over 50m are unlikely to be acceptable. Within LCU 4(v), the Landscape Capacity Study advises that typologies of over 20m are unlikely to be acceptable.

In terms of outward views from settlement edges, this is primarily across the narrow, flat section of land dividing Falkirk and Grangemouth, and Falkirk and Larbert. Larger turbines of above 50m would be visually intrusive as viewed from settlements. Both of these LCU's have a variety of land uses including mixed industrial areas and major communication routes, many of which are close to residential areas. Both these LCU's are flat, with the Carron Valley between Falkirk and Larbert, and agricultural fields mixed with industrial uses between Falkirk and Grangemouth. Larger typologies of turbine in this location are likely to have an impact in terms visual effect from settlement edges, as well as potential impacts in terms of noise and shadow flicker. Both of these LCU's also lie within the Green Belt.

### **Justification for Proposed Separation Zone**

Due to the narrow separation distance between settlement edges and the flat topography, together with the existing industrial uses, This area should be included within a broad 2km separation zone. This will ensure that the visual amenity of settlement areas is protected. Turbines of less than 50m to tip will be considered against Development Management guidance in Part 2 of the SG.

**Settlement:** Larbert, Stenhousemuir, Skinflats and Torwood

**Separation Zone:** 2km from settlement edge as defined in the Local Development Plan

**Relevant Landscape Character Unit(s)**

2(ii) Touch Hills Fringe (medium-higher sensitivity)

3(iii) Castlecary/Shieldhill Plateau Farmland (Medium/Higher visual sensitivity)

4(iv) Lower Carron/Bonny Water (Medium Sensitivity)

4(v) Falkirk/Grangemouth Urban Fringe (Medium Sensitivity)

6(iii) Skinflats (Medium Sensitivity)

**Visual Characteristics**

*Larbert/Stenhousemuir Southern/western Fringe:* The southern fringe of the Larbert and Stenhousemuir conurbation lies within an area of Green Belt between Falkirk and Larbert/Stenhousemuir. As with Falkirk, these edges adjoin 4(iv) Lower Carron/Bonny Water and 4(v) Falkirk/Grangemouth Urban Fringe which are both identified in the Landscape Capacity Study as being of Medium Visual Sensitivity. Between Falkirk and Larbert in LCU 4(iv), the Landscape Capacity Study advises that there is Moderate capacity to accommodate wind energy development and but that typologies of over 50m are unlikely to be acceptable. Within LCU 4(v), the Landscape Capacity Study advises that typologies of over 20m are unlikely to be acceptable.

Both of these LCU's have a variety of land uses including mixed industrial areas and major communication routes, many of which are close to residential areas. Both these LCU's are flat, with the Carron Valley between Falkirk and Larbert. This settlement edge has a variety of land uses including mixed industrial areas and major communication routes, many of which are close to residential areas. In terms of outward views, there are views over the Carron Valley to Tamfourhill from the south of Larbert, and over to the west, views continue across the Carron Valley, but with some small areas of woodland, particularly around Larbert House. This area between Falkirk and Larbert/Stenhousemuir is largely flat, and larger turbines could create significant issues in terms of visual amenity, noise and shadow flicker.

*Larbert/Stenhousemuir Northern Fringe (incl Torwood):* The north-west of the fringe adjoins LCU 2(ii) Touch Hills Fringe which is identified as being of medium-higher sensitivity. The Study states that turbines of over 50m are unlikely to be acceptable. Key landscape characteristics sensitive to wind energy development are the generally small, enclosed nature of the hill fringes. They feature in views from an extensive area, providing a distinctive raised fringe to the north of the Falkirk Council area, with hills

beyond. There are a number of scale indicators, so larger turbines, when viewed from the settlement edge could appear visually dominant.

In terms of LCU 4(iv) Lower Carron/Bonny Water and a small part of 4(v) Falkirk/Grangemouth Urban Fringe and 6(iii) Skinflats to the north of Larbert and Stenhousemuir, this area is largely enclosed by the M9/M876 motorway. This area is largely flat, but with an area of raised ground beyond a ridgeline north of Stenhousemuir which lies above the floodplain carselands representing an area of 'raised beach' landscape characterised by its relatively level, raised . There are extensive outward views from along this settlement edge, extending to between 1-2km in parts. The outward views are also highlighted in the Landscape Capacity Study.

Skinflats village: Skinflats is low lying at only 4-8m AOD. In terms of views from the settlement edge, the Ochils form a prominent backdrop, and there are close views of existing power lines and pylons which appear as incongruous vertical features into this characteristically flat landscape. There is extensive visibility from the settlement edges across the Carse. Turbines could create visual confusion with the dominant foci of pylons, and would accentuate the visual impact. Even smaller turbines could appear out of scale with the wide open landscape, where fields are large and skies are huge.

Torwood Village: Torwood Village is largely enclosed by commercial woodland to the west, which restricts outward views. There are more extensive outward views extending in parts over the Carse. These outward views are highlighted in the LCS.

### **Justification for Proposed Separation Zone**

Due to the narrow separation distance between settlement edges and the flat topography to the south, and the open, flat landscape to the north and east around Skinflats, This area should be included within a broad 2km separation zone in order to safeguard against visual impact. Turbines of less than 50m to tip will be considered against Development Management guidance in Part 2 of the SG.

**Settlement:** Denny, Bonnybridge and Banknock

**Separation Zone:** 2km from settlement edge as defined in the Local Development Plan

### **Relevant Landscape Character Unit(s)**

2(i)Denny Hills Fringe (Higher Sensitivity)

2(ii) Touch Hills Fringe (medium-higher sensitivity)

- 3(iii) Castlecary/Shieldhill Plateau Farmland (Medium-Higher visual sensitivity)
- 4(ii) Carron Glen (Medium-Higher visual sensitivity)
- 4(iii) Bonny Water (Medium visual sensitivity)
- 4(iv) Lower Carron/Bonny Water (Medium visual sensitivity)

### **Visual Characteristics**

*Denny west, Dennyloanhead, Longcroft and Banknock North:* The majority of this settlement edges lies adjacent to 2(i) Denny Hills Fringe which is identified in the Landscape Capacity Study as being of higher sensitivity. The remainder of this edge at Carron Valley and north Denny lies adjacent to 4(ii) Carron Glen and 2(ii) Touch Hills Fringe which is of Medium-Higher visual sensitivity. The Landscape Capacity Study advises that turbines of over 50m are unlikely to be acceptable, and that turbines of over 20m are unlikely to be acceptable in the Carron Valley.

The landscape is generally small-scale/enclosed hill fringe. The hill fringes feature in views from an extensive area, providing a distinctive raised fringe to the north of the Falkirk Council area, with hills beyond. Turbines would be highly visible and could contrast with and be out of proportion when seen within views of the existing turbines in the Stirling Council area. In terms of the settlement edge of Denny, there is some screening in the form of trees between the settlement and the M80 motorway, but views to the hills open up in higher ground. There is less screening from trees and vegetation between Longcroft, Haggs and Banknock and the Hill Fringes and visual impact of large turbines within 2km of the settlement edge is likely to be significant. The settlement limit protrudes into the hill fringes westwards, into Carron Glen, which forms an important network of recreation/walking routes, adjacent to the defined settlement. These communities have experienced significant cumulative visual impact as a result of turbine developments in neighbouring authorities and is considered that visual impact from new, larger turbines would be significant.

*Denny/Bonnybridge North and East:* This settlement edge largely adjoins 4(iii) Bonny Water and 4(iv) Lower Carron/Bonny Water which is of Medium visual sensitivity. A small part of 2(ii) Touch Hills Fringe (medium-higher sensitivity) lies to the north of Denny. For both these LCU's, the Landscape Capacity Study states that turbines of over 50m are unlikely to be acceptable.

There is a mix of farmland and urban/industrial uses on the urban fringe. Urban and industrial influences have less of an impact on the character of the River Carron valley east of Denny where mixed farming, woodland and tree belts provide an attractive, more intimate valley landscape with confined views northwards into the wooded hill fringes. In terms of outward views north of

Bonnybridge, these extend across the motorway, over to Head of Muir Wood. East of Bonnybridge, visibility extends across the Golf course, but is punctuated with tree cover. There are outward views from Denny east extending to 1-2km in parts, punctuated with some tree cover and commercial forestry. There are a number of scale indicators including trees and pylons which may accentuate the visual impact of turbines from the settlement edge. It may well be possible to accommodate smaller turbines (below 50m) sensitively within the landscape, but larger ones are likely to have significant visual impact on the settlements.

Between Bonnybridge and Larbert, the landscape is flatter, within the Bonny Water/Carron Valley, and the area is crossed by a number of pylons. Together with the tree cover this will act as a scale indicator, and larger turbines are likely to be visually obtrusive from the edge of the settlements.

### **Justification for Proposed Separation Zone**

This is a smaller scale landscape to the west and east, with extensive visibility around many parts of the settlement edge. There are numerous scale indicators which would exacerbate the impact of larger turbines. These settlement edges have also experienced cumulative visual impact arising from wind energy developments to the west in a neighbouring authority. It is therefore considered appropriate that this area should be included within a broad 2km separation zone. A 2km separation zone should also encompass the settlement boundary of Cumbernauld in North Lanarkshire. Turbines of less than 50m to tip will be considered against Development Management guidance in Part 2 of the SG.

**Settlement:** Laurieston, Polmont and Maddiston

**Separation Zone:** 2km from settlement edge as defined in the Local Development Plan

### **Relevant Landscape Character Unit(s)**

- 3(i) Slamannan Plateau (Medium Visual Sensitivity)
- 3(iii) Castlecary/Shieldhill Plateau Farmland (Medium-Higher visual sensitivity)
- 4(i) Avon Valley (Medium Visual Sensitivity)
- 4(v) Falkirk/Grangemouth Urban Fringe (Medium Visual Sensitivity)
- 5(i) Manuel Farmlands (Medium-Higher visual sensitivity)

### **Visual Characteristics**

*Laurieston/Polmont northern edge:* These edges adjoin 4(v) Falkirk/Grangemouth Urban Fringe which is identified in the Landscape Capacity Study as being of Medium Visual Sensitivity. Within LCU 4(v), the Landscape Capacity Study advises that typologies of over 20m are unlikely to be acceptable.

There are a variety of land uses including mixed industrial areas and major communication routes within this area, many of which are close to residential areas. The area lies within the Green Belt, and historically has been a pressured area for growth. Falkirk/Grangemouth Urban Fringe is flat aside from higher ground at Polmonthill and Old Polmont, with agricultural fields mixed with industrial uses between Falkirk and Grangemouth. There are extensive views across the Carse from Laurieston north extending to over 10km. Views from the northern settlement edge of Polmont are restricted by screening to the motorway, but higher ground in Polmont has extensive visibility across the Carse. Larger typologies of turbine in this location are likely to have an impact in terms visual effect from settlement edges, as well as potential impacts in terms of noise and shadow flicker.

*Maddiston, Wallacestone and Overton south:* These settlement edges adjoin 3(iii) Castlecary/Shieldhill Plateau Farmland (Medium-Higher visual sensitivity) and 3(i) Slamannan Plateau (Medium Visual Sensitivity). The Landscape Capacity Study does not preclude turbines of above 50m within the wider Slamannan Plateau to the south of Maddiston, but the Castlecary/Shieldhill Plateau is more sensitive and the Study does advise that turbines of above 50m would be inappropriate. There is very gradual transition between these LCU's when viewed from the settlement edge, and the land to the south of Overton and Reddingmuirhead forms an important ridge up towards Shieldhill. The land south of Maddiston also rises up towards a prominent ridge (around the Gold Club) meaning that larger turbines may have a significant visual impact on the settlement of Maddiston. The outward views from the settlement edge are highlighted in the Landscape Capacity Study. The outward views extend up to 1-2km in part, and are punctuated by tree belts/forestry. There are also a number of interlocking ridges, which would not screen views from the settlement edge to larger turbines

*Polmont and Maddiston East:* This settlement edge largely adjoins 5(i) Manuel Farmlands which is of Medium-Higher visual sensitivity. The Landscape Capacity Study advises that turbines of over 50m are unlikely to be acceptable. The *Manuel Farmlands* is a small-medium scale, smoothly rolling landscape, with a variety of land uses, some a legacy of previous minerals working, with surrounding farmland and isolated estate houses with policy woodlands. Together with the new housing sites at Whitecross and Maddiston East, which are designated as a Strategic Growth Areas in the LDP, there is little scope for development of larger turbines without impacting on residential amenity from within the urban limit.

In terms of views out from the settlement limit, these extend on to undulating ground, with a number of important ridges. Larger turbines above 50m are likely to extend above minor undulations in land form, tree belts, woodland and field boundaries and be visually obtrusive to the eastern fringes of Polmont and Maddiston, particularly from the new housing allocations at Maddiston East. Visibility from areas of higher ground within the settlements can extend 1-2km from the settlement edge.

### **Justification for Proposed Separation Zones**

It is considered that there would be a high level of visual impact on the settlement edge from larger wind turbines of over 50m. The landscape is small/medium scale, and a mixture of rolling farmland, together with some industrial uses in the countryside. There are a number of ridges, which face on to settlements such as Wallacestone and Maddiston which would exacerbate community impacts. This area should therefore be included within a broad 2km separation zone. Turbines of less than 50m to tip will be considered against Development Management guidance in Part 2 of the SG.

**Settlement:** Bo'ness, Muirhouses and Blackness

**Separation Zone:** 2km from settlement edge as defined in the Local Development Plan

### **Relevant Landscape Character Unit(s)**

- 6 (i) Bo'ness Coastal Hills (Higher Visual Sensitivity)
- 6(ii) Grangemouth/Kinneil Flats (Lower-Medium Visual Sensitivity)

### **Visual Characteristics**

Bo'ness southern/eastern edge: This settlement edge adjoins 6 (i) Bo'ness Coastal Hills which the Landscape Capacity Study highlights as being of higher visual sensitivity. The study states that larger wind turbine typology heights above 50m are unlikely to be acceptable, with potentially significant effects on key visual criteria in particular. The LCU comprises a series of east-west aligned rolling coastal hills extending from the edge of Grangemouth, around Bo'ness to Blackness, approximately between 100-150m AOD with a general down slope to the north to Bo'ness and to the south to the River Avon. The views from the southern edge up towards the ridgeline are particularly pronounced. Larger turbines in this location would have a potentially significant impact on amenity of the southern residential edge of Bo'ness. In addition, this settlement edge of Bo'ness is only around 2km from the settlement of Linlithgow, meaning that there may be visual impact arising from larger turbines.

*Bo'ness western edge:* The western edge adjoins 6(ii) Grangemouth/Kinneil Flats which the Landscape Capacity Study highlights as being of lower-medium visual sensitivity.

The key characteristics of this area are the presence of the huge petrochemical works, docks and other industrial installations on the wide, extensive, large scale coastal flats alongside the Firth of Forth. Flat land at Kinneil between Grangemouth and Bo'ness lies on land reclaimed from the Forth saltmarsh and comprises a sewage works, industrial units and an extensive area of land-raise, with horticultural land uses and wet grassland in-between. The Landscape Capacity Study highlights some potential for larger typologies of wind energy development in this location, provided this is within the context of the petro-chemical plant.

In terms of outward views from the western edge of Bo'ness, there is some screening from Kinneil woodland and other tree cover but higher ground would experience views of turbines, with the backdrop of the Grangemouth petro-chemical facility beyond.

*Muirhouses:* In terms of outward views from Muirhouses, these extend to the south and east, up to the highest point of the east-west ridge. Turbines are likely to have significant visual impact, not just on Muirhouses, but to West Lothian settlements.

*Blackness:* Views from Blackness southern edge extend southwards, up towards House of the Binns. As with Muirhouses, turbines are likely to have significant visual impact, not just on Blackness, but on West Lothian settlements including Linlithgow.

### **Justification for Proposed Separation Zones**

It is considered that a 2km separation zone is appropriate, particularly along the southern edge of the settlement, where visual impact to existing residential areas is likely. In addition, there is a requirement to protect the visual amenity of Linlithgow, particularly for any proposals higher up on the ridge, given that the settlement is only 2km distant. There may be some leeway in the 2km separation zone the west of Bo'ness, but this would require to be considered on an individual basis in terms of impact on the community. Turbines of less than 50m to tip will be considered against Development Management guidance in Part 2 of the SG.

**Settlement:** Grangemouth

**Separation Zone:** 1km from settlement edge as defined in the Local Development Plan. This is because of the narrow separation between Grangemouth and adjacent settlements. It is not an indicator of lack of sensitivity.

### **Relevant Landscape Character Unit(s)**

- 4(v) Falkirk/Grangemouth Urban Fringe (Medium Visual Sensitivity)
- 6 (i) Bo'ness Coastal Hills (Higher Visual Sensitivity)
- 6(ii) Grangemouth/Kinneil Flats (Lower-Medium Visual Sensitivity)
- 6(iii) Skinflats (Medium Sensitivity)

### **Visual Characteristics**

North-western edge: The north-western edge adjoins LCU 6(iii) which is an area of moderate visual sensitivity. The Landscape Capacity Study advises that typologies of over 50m are unlikely to be acceptable.

Key landscape characteristics are the large scale, open, flat and very low lying, and horizontal coastal margin. The scale and character of the coastal landscape would suggest that larger turbines and groups could be an appropriate fit. However, the Carseland is highly sensitive visually with extensive views of the Forth and to the Ochil Hills beyond from sensitive transport corridors and other amenity routes. The setting of the character area and in particular the contrast between the flat open coastal margins and the distinctive landmark hills is especially sensitive. There are close views of existing power lines and pylons which appear as incongruous vertical features into this characteristically flat landscape. Turbines could create visual confusion with the dominant foci of pylons, and would accentuate the visual impact. Even small turbines could appear out of scale with the wide open landscape, where fields are large and skies are huge. In terms of impact on the settlement edge, the main land-use within the north-western part of Grangemouth is industrial/business. As Grangemouth is so flat, however, there are likely to be direct views from well within the settlement within residential area, turbines close to the settlement edge which may be visually jarring.

*Southern Edge:* The second encompasses the area of Green Belt between Grangemouth and Falkirk. This edge adjoins 4(v) Falkirk/Grangemouth Urban Fringe which are both identified in the Landscape Capacity Study as being of Medium Visual Sensitivity. Within LCU 4(v), the Landscape Capacity Study advises that typologies of over 20m are unlikely to be acceptable.

There are a variety of land uses including mixed industrial areas, some agricultural land and major communication routes, many of which are close to residential areas. The topography is largely flat. Larger typologies of turbine in this location are likely to have an impact in terms of visual effect from settlement edges, as well as potential impacts in terms of noise and shadow flicker. In terms of views from the southern settlement edge, these are partly screened by motorway landscape screening. Beyond this, there are views towards wooded areas within the Green Belt.

*Eastern Edge:* The third edge encompasses LCUs 6 (i) Bo'ness Coastal Hills (Higher Visual Sensitivity) 6(ii) Grangemouth/Kinneil Flats (Lower-Medium Visual Sensitivity). The character area occupies the flat reclaimed saltmarsh between Grangemouth and Bo'ness. Despite being largely open, it has a unique, developed coastal character due to the presence of the petrochemical works, docks and other industrial installations on the wide, expansive, large scale coastal flats alongside the Forth. The majority of the land within this settlement edge of industrial/petrochemical and Impacts on visual amenity from the settlements are likely to be lower.

Moving south, there is a stark contrast with the Kinneil Flats and the Bo'ness Coastal hills, and the land become more elevated, with a ridge rising up and facing the Grangemouth settlement. Larger turbines are likely to be inappropriate within this LCU, and impacts on residential areas within Grangemouth Town may become more pronounced.

### **Justification for Proposed Separation Zones**

It is considered that there would be a high level of visual impact on the settlement edge from larger wind turbines of over 50m. Much of the area between Grangemouth and Skinflats, and Grangemouth and Falkirk/Polmont is already subsumed within existing 2km separation zones of the other settlements. There are limited residential areas to the east of Grangemouth, north and east of the B9143, so a 1km separation zone is appropriate in this instance. Turbines of less than 50m to tip will be considered against Development Management guidance in Part 2 of the SG.

**Settlement:** Shieldhill and California

**Separation Zone:** 1km from settlement edge as defined in the Local Development Plan

### **Relevant Landscape Character Unit(s)**

- 3(i) Slamannan Plateau (Medium Visual Sensitivity)
- 3(ii) Darnrig/Gardrum Moss Plateau Moorland (Lower-Medium visual sensitivity)
- 3(iii) Castlecary/Shieldhill Plateau Farmland (Medium/Higher visual sensitivity)

### **Visual Characteristics**

*Northern edge of Shieldhill and California:* This edge adjoins 3(iii) Castlecary/Shieldhill Plateau Farmland which is identified as Medium/Higher visual sensitivity. The Landscape Capacity Study advises that there is Low-Moderate capacity to accommodate wind energy development and that the larger wind turbine typology heights above 50m are unlikely to be acceptable. This northern

edge between the village and the southern edge of Falkirk/Wallacestone is highly sensitive and is accordingly protected by the separation zones of both settlements. The outward views of the settlement are towards the Union Canal and the settlement edge of south Falkirk.

*South/Eastern edges of Shieldhill and California:* This edge adjoins 3(i) Slamannan Plateau (Medium Visual Sensitivity) and 3(ii) Darnrig/Gardrum Moss Plateau Moorland (Lower-Medium visual sensitivity). The Landscape Capacity Study highlights the potential for larger turbines within both these LCU's.

The landscape within the Slamannan Plateau LCU is a rolling plateau extending over a large part of the Falkirk Council Area. The LCU is predominantly large scale, open, featureless improved and semi-improved grass moorland with patches of heather, wet bog with few trees east of Slamannan and south of the River Avon. There is a complexity and variety in land cover and frequent though often subtle landform changes. The Darnrig/Gardrum Moss Plateau is comparatively open and featureless in relation to the Slamannan Plateau.

The outward views from the Shieldhill south settlement edge are towards a high point in the landscape, at less than 1km distant. California has limited views to the south due to commercial forestry. There are views out to around 1km to the east and west on to open moorland, with some tree cover.

### **Justification for Proposed Separation Zones**

It is considered that there would be a high level of visual impact on the northern settlement edge from larger wind turbines of over 50m. This area is already subsumed within existing 2km separation zones with Falkirk South and Wallacestone. There is partial screening by existing woodland to the south of California, and there is a ridgeline to the south of Shieldhill which would provide some screening from wind turbine development. A separation of 1km would provide an adequate separation zone on the northern side of the settlements. Turbines of less than 50m to tip will be considered against Development Management guidance in Part 2 of the SG.

**Settlement:** Standburn and Avonbridge

**Separation Zone** 1km from settlement edge as defined in the Local Development Plan

**Relevant Landscape Character Unit(s)**

3(i) Slamannan Plateau (Medium Visual Sensitivity)

4(i) Avon Valley (Medium Visual Sensitivity)

### **Visual Characteristics**

Both of the above LCU's are identified in the Landscape Capacity Study as being of Medium Sensitivity. The Avon Valley is considered to have lower scope to accommodate larger turbines of over 50m. The Slamannan Plateau is considered to have relatively high capacity. The landscape within the Avon Valley LCU is small-scale and enclosed, whereas west of Avonbridge, the landscape opens out into a broader plateau. In terms of outward views from the settlement edges, there are wider views towards the plateau from the south and west of Avonbridge, with some limited tree cover providing some screening. The north is largely screened by mixed commercial and native woodland. Standburn is relatively enclosed by a mix of commercial and semi-natural tree cover, but with some views out towards the east. If the tree cover was lost due to commercial forestry interests, then the landscape outwith 1km of both settlements could potentially accommodate some larger typologies of wind energy, provided they were sensitively sited.

### **Justification for Proposed Separation Zones**

Given the landform around the settlements, and to some extent existing screening, 1km separation zone would provide an adequate separation zone from the settlement edge.

**Settlement:** Limerigg and Slamannan

**Separation Zone:** 1km from settlement edge as defined in the Local Development Plan. 2km to the northern edge of Slamannan.

### **Relevant Landscape Character Unit(s)**

3(i) Slamannan Plateau (Medium Visual Sensitivity)

3(ii) Darnrig/Gardrum Moss Plateau Moorland (Lower-Medium visual sensitivity)

### **Visual Characteristics**

Both of the above LCU's are identified in the Landscape Capacity Study as being of Medium and Lower-medium Sensitivity. The Bayou BluEnvironment study highlights the potential for larger turbines within both these LCU's.

Visibility within 3(i) Slamannan Plateau LCA is predominantly limited by the undulating topography and land cover, but with extensive glimpses out from higher, more exposed areas. 3(ii) Darnrig/Gardrum Moss Plateau Moorland forms a large-scale, open, featureless plateau.

In terms of outward views from the settlement edges, Slamannan is surrounded by commercial forestry to the south and west, as well as some well-established tree belts. In the event of felling of commercial forestry, the undulating land and existing tree belt cover would provide screening for wind energy developments, subject to appropriate siting and design. To the north, there is a higher level of visibility over the plateau, with a number of intervening mixed native/commercial tree belts. It is considered that an extended buffer of 2km is appropriate here. To the east, the views remain relatively limited as a result of undulating topography, and mixed tree belts.

Limerigg is currently surrounded by mixed/commercial forestry. Should felling take place, the topography is undulating and visibility from most parts the settlement edge is likely to be moderate.

### **Justification for Proposed Separation Zones**

It is considered that given the landform around the settlements, together with existing screening, that 1km separation zone would provide an adequate separation distance from the settlement edge.

**Settlement:** Whitecross and Loan

**Separation Zone:** 1.5km from settlement edge as defined in the Local Development Plan

### **Relevant Landscape Character Unit(s)**

4(i) Avon Valley (Medium Visual Sensitivity)

5(i) Manuel Farmlands (Medium-Higher visual sensitivity)

### **Visual Characteristics**

This settlement edge adjoins 5(i) Manuel Farmlands to the north which is of Medium-Higher visual sensitivity.

The *Manuel Farmlands* is a small-medium scale, smoothly rolling landscape, with a variety of land uses, some a legacy of previous minerals working, with surrounding farmland and isolated estate houses with policy woodlands. 4(i) Avon Valley is a relatively enclosed, small-scale landscape and is considered to have lower scope to accommodate larger turbines of over 50m as set out in

the Bayou BluEnvironment. There are new strategic housing sites at Whitecross and Maddiston East, which are designated as a Strategic Growth Areas in the LDP, there is little scope for development of larger turbines between Maddiston, Polmont and Whitecross without impacting on residential amenity.

In terms of views out from the settlement limits, these extend on to undulating ground, with a number of important ridges. Visibility is particularly extensive to the south of Whitecross looking towards higher ground in West Lothian such as Cockleroy. Larger turbines are likely to extend above tree belts, woodland and field boundaries and be visually obtrusive to the eastern fringed of Polmont and Maddiston. It is also important to protect the western edge of Linlithgow with an adequate separation zone. The Loan settlement edge has some visibility around the village punctuated by tree belts and woodland. There are also a number of scale indicators such as pylons which will accentuate the visual impact of larger turbines.

### **Justification for Proposed Separation Zones**

Whilst there is some screening from woodland and tree belts around both settlements, it is considered that there are parts of the settlement edge with wider views. Whitecross is also a Strategic Growth area, and will result in a much larger settlement than seen today. Visual sensitivity between settlements from larger turbines could be extensive. A 1.5 km separation zone would provide adequate separation from larger turbines of over 50m.

**Settlement:** Airth, Letham, Dunmore and South Alloa

**Separation Zone:** 2km from settlement edge as defined in the Local Development Plan

### **Relevant Landscape Character Unit(s)**

6(iii) Skinflats

6(iv) Carse of Forth

### **Visual Characteristics**

Both of the above LCU's are identified in the Bayou BluEnvironment Study being of Medium Sensitivity. The study advises that larger turbines of over 50m are unlikely to be acceptable.

6(iv) Carse of Forth is generally flat, expansive, large scale, horizontal carseland. 6(iii) Skinflats is low lying at only 4-8m AOD, with a similarly expansive, flat landform. In terms of views from the settlement edges, the Ochils form a prominent backdrop to the

northern edges, and there are close views of existing power lines and pylons which appear as incongruous vertical features into this characteristically flat landscape. Turbines could create visual confusion with the dominant foci of pylons, and would accentuate the visual impact. Even small turbines could appear out of scale with the wide open landscape, where fields are large and skies are huge. Turbines could interrupt the strong horizon of the Forth and views of the long horizontal form of the Ochils.

There are extensive views around all settlements extending up to 10km in parts. This is highlighted in the LCS.

### **Justification for Proposed Separation Zones**

There is some limited screening from woodland and tree belts around some parts of settlements, such as south-west of Dunmore, around the Pineapple. However, many of the settlement edges have wider, extensive views across the Carse. There are also many scale indicators in the form of pylons and other large-scale infrastructure. The 2km is appropriate for what are a number of highly sensitive settlement edges.