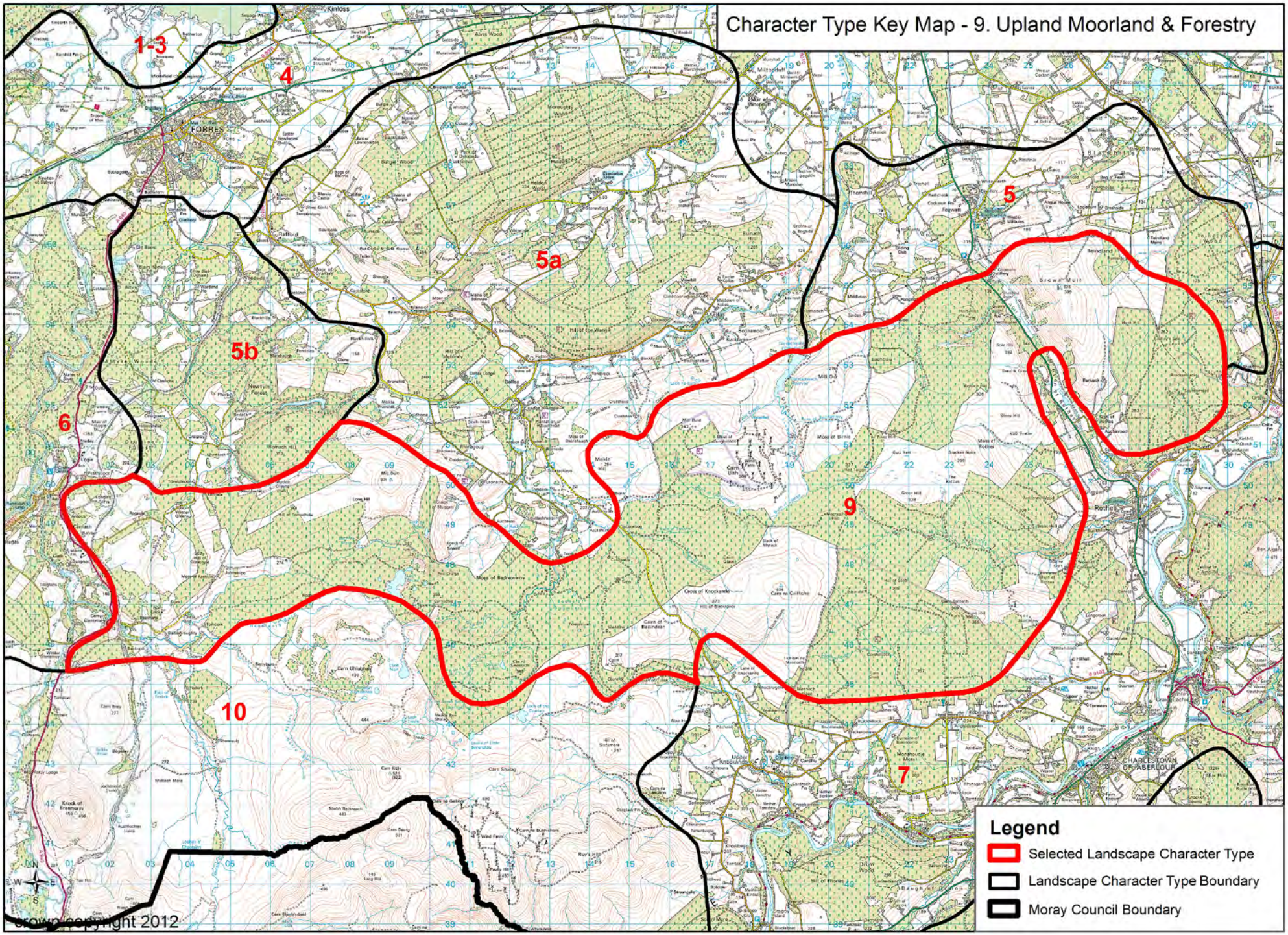
Character Type Key Map - 9. Upland Moorland & Forestry
1-3
4
5
5a
5b
6
9
10
7
FORRES
Kinloss
Rothes
CHARLESTOWN OF ABERLOUR
Legend
Selected Landscape Character Type
Landscape Character Type Boundary
Moray Council Boundary
N
W
E
S
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Landscape Character Type 9: Upland Moorland and Forestry

Introduction
The Upland Moorland and Forestry character type occurs in a single area within Moray. Some minor alteration has been made to the southern and northern boundaries of this character type to exclude the more settled farmed hill fringes which have a smaller scale. These areas have been incorporated into the adjacent character types of the 'Broad Farmed Valley' (7) to the south and the 'Rolling Farmlands and Forest with broad valleys' (5b) to the north.

This character type merges gradually with the 'Open Uplands' (10) to the west although the 'Open Uplands' (10) forms a higher plateau with generally more defined hills than the 'Upland Moorland and Forestry' (9).

Detailed sensitivity assessment has been undertaken for the larger development typologies only, due to the sparsely settled nature of this landscape which is likely to limit interest in medium-small and small typologies. General guidance is given for smaller typologies within the summary that follows.

Existing/consented wind farm development
The operational Rothes wind farm is located within this character type. This development comprises 22 turbines, 100m high to blade tip. An extension for 18 turbines, 125m high has been consented to this wind farm.

The operational Paul's Hill wind farm sited within the 'Open Uplands' (10) and the Hill of Towie wind farm are visible within 7-12km from this character type. The consented Berry Burn wind farm located within the 'Open Uplands' (10) will also be visible from this character type.

Summary of sensitivity
The Upland Moorland and Forestry character type features a gently undulating plateau-like landform with smooth even slopes. This landscape has a simple land cover of extensive coniferous forestry and moorland. It is sparsely populated and already accommodates the operational/consented Rothes wind farm. Many of these characteristics present potential opportunities to accommodate large scale wind farm development although the more defined and higher hills found on the edge of the lower-lying interior hills and basins are important in providing a backdrop to smaller scale valleys and thus have an increased sensitivity to larger turbines. This is a very sparsely settled area which is not notably popular for recreation. Visibility of the interior of these uplands is restricted from roads and settlement within adjacent settled valleys and hill fringes although there are longer views from the Coastal Farmlands within Moray. The more defined landmark hills of Brown Muir, Mill Buie and Carn na Cailliche, located on the edges of these uplands, are sensitive to turbine development as they either form a focus in views from low-lying well-settled character types or contain existing wind farm development within the lower-lying interior.

Overall sensitivity is judged to be ***Medium*** for the large and medium typologies.

Smaller typologies
There is unlikely to be a significant demand for smaller typologies (turbines <50m) within the very sparsely settled uplands of this landscape. Smaller typologies would appear out of

scale in relation to the predominantly large scale of these uplands and could have cumulative effects with existing and consented wind farm developments in some nearby views if seen in close proximity with existing/consented turbines.
Some limited opportunities exist for the smaller typologies to be located on lower hill slopes at the transition with the 'Broad Farmed Valley' (7) and the 'Rolling Farmland and Forest with Broad Valleys' (5b) where they could be back dropped by rising ground and visually associated with the more settled and farmed hill fringes.
Smaller typologies should be sited within this transitional landscape away from key areas of close inter-visibility with the operational/consented Rothes wind farm however. There are greater opportunities to accommodate the small typology (turbines <35m) in these areas due to their better scale relationship with nearby settlement.

Cumulative issues
The existing wind farm development of Rothes and its consented extension are located in a concentrated cluster within the interior of this upland area. This development comprises a total of 40 turbines between 100-125m high to blade tip.

Key cumulative landscape and visual issues include:

- Potential sequential and simultaneous views of multiple developments visible on the long, low skylines of this character type seen in views from the 'Coastal Plain' (4), Rolling Farmland and Forest' (5) and 'Rolling Farmland and Forest with Valleys' (5a) from the north.
- Potential effects on views from the A95 and settlement within the 'Broad Farmed Valley (7) (Spey Valley) where the Paul's Hill and Hill of Towie wind farms are already visible and where any additional development in this character type could increase impacts.
- Sequential and simultaneous visibility of multiple wind farm developments within this character type and the adjacent 'Open Uplands' (10) from the Dava Way which could affect the experience of using this popular recreational route.

Constraints:

- The more defined steeper-sided hills of Brown Muir and Mill Buie which form landmark features in views from the north, and particularly from the 'Coastal Plain' (4), within the context of more even lower ridges which form the backdrop to these views. Views of these hills recur across the more settled northern character types.
- The landmark hill of Carn na Cailliche which lies on the south-western edge of this landscape and provides a simple upland backdrop seen from the 'Broad Farmed Valley' (7) to the south and visually contains the operational and consented Rothes wind farm from parts of the Spey Valley.
- Smaller hills and ridges on the edges of these uplands which form immediate skylines to adjacent valleys, for example above Glen of Rothes and the upper Lossie valley within the 'Rolling Farmland and Forest with Broad Valleys' (5b) character type and small forested hills seen on the approach to Moray from the A940 and forming a low backdrop in views from rare open spaces within the 'Narrow Wooded Valley' (6).
- Cumulative effects with operational and consented wind farm developments both within this character type and the adjacent 'Open Uplands' (10).

Opportunities:

- The simple landform and expansive scale of the interior plateau areas.

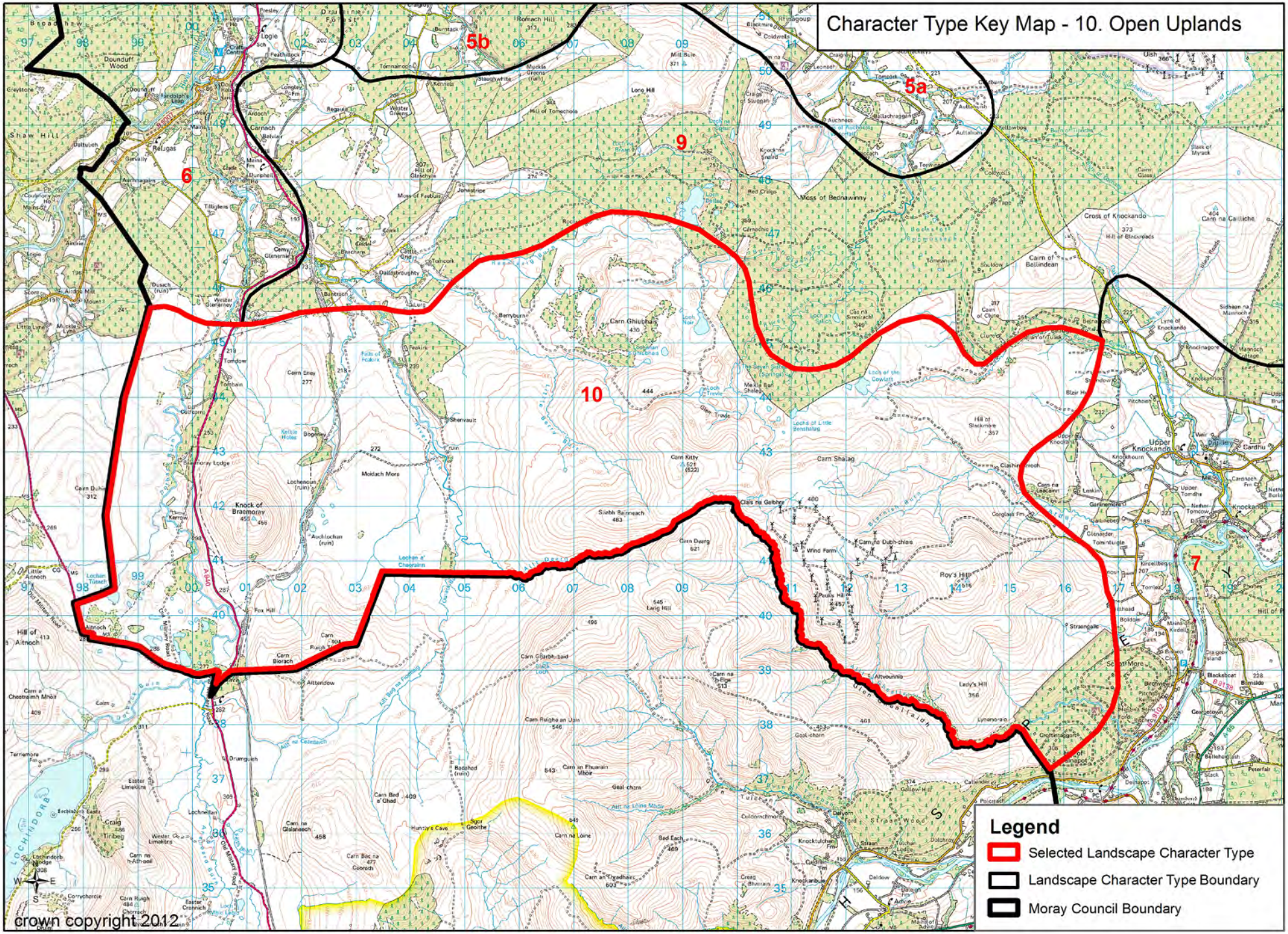
- The sparsely settled nature of this character type and the relatively limited visibility of the interior of these uplands from surrounding settled landscapes

Guidance on development

There is some ***limited*** scope to accommodate further larger scale typologies in this character type. The more defined landmark hills of Brown Muir, Mill Buie and Carn na Cailliche should be avoided with development being sited in lower-lying areas set well back into the interior of these uplands to minimise landscape and visual impacts on adjacent sensitive well-settled and smaller scale landscapes. Small hills and ridges which lie on the outer fringes of these uplands and form the immediate skyline to smaller scale valleys such as the Glen of Rothes, the upper Lossie within the adjacent 'Rolling Farmland and Forest with Broad Valleys' (5b) and the 'Narrow Wooded Valleys' (6) should be avoided. Intrusion on the key approach to Moray on the A940 (see Figure 4) should also be avoided.

Care should additionally be taken to minimise cumulative effects with operational and consented wind farm development sited in this and adjacent character types. These developments include the Rothes wind farm in this character type and the Paul's Hill and Berry Burn wind farm in the 'Open Upland' (10). Key issues to consider will be potential effects on the design and setting of these developments appreciated in key views and cumulative effects on views and the experience of using the Dava Way recreational route.

Smaller typologies should be located on lower hill slopes at the transition with the 'Broad Farmed Valley' (7) and the 'Rolling Farmland and Forest with Broad Valleys' (5b) character types. There are greater opportunities to accommodate the small typology (turbines <35m) in these areas due to their better scale relationship with nearby settlement. Detailed guidance on the siting and design of smaller turbines is set out in section 5 of this report.


Character Type Key Map - 10. Open Uplands
5b
5a
9
6
10
7
Legend
Selected Landscape Character Type
Landscape Character Type Boundary
Moray Council Boundary
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Landscape Character Type 10: Open Uplands

Introduction

The Open Uplands character type occurs in two areas within Moray. It is the most southerly upland landscape in Moray. To the north lie the Upland Farmland (8) and Upland Moorland and Forestry (9) character types. The Open Uplands (10) also overlook the Broad Farmed valleys (7) of the Spey and Glen Rinnes, and the very south-eastern end of the Narrow Wooded Valley (6) to the west.

Due to the differences in context, character and scale of landscapes within the Open Uplands (10) character type, two sub-divisions have been identified for the purpose of this study:

- The 'Open Uplands with Settled Glens' (10a) which occurs to the far east of Moray, and includes rounded hills and gentle slopes enclosing the wide bowl of The Cabrach and the upper reaches of the River Deveron;
- The 'Open Uplands with Steep-Sided Slopes' (10b) which includes the western side of Glenfiddich Forest and the steep-sided Ben Rinnes

The western area of the Open Uplands has been retained as character type 10. This landscape forms a relatively narrow band of broad rounded hills interspersed with shallow valleys and low-lying moss lying adjacent to the generally lower upland plateau of the Upland Moorland and Forestry (9). This character type forms part of a more extensive area of similar uplands extending south and west in the adjoining Highland area.

This sensitivity assessment considers the Open Uplands (5) character type. Detailed sensitivity assessment has been undertaken for the larger development typologies only, due to the sparsely settled nature of this landscape which is likely to limit interest in medium-small and small typologies. General guidance is given for smaller typologies within the summary that follows.

Existing/ consented wind farm development

The operational Paul's Hill wind farm is sited within this character type. This development comprises 28 turbines, 100m high. The consented Berry Burn wind farm is also located in this character type and this development comprises 32 turbines, 104m high.

The operational Rothes wind farm is located within the adjacent 'Upland Moor and Forest' (9) character type. This development comprises 28 turbines, 100m high. An extension for 18 turbines, 125m high, has been consented to this wind farm.

Summary of sensitivity

The Open Uplands character type forms an upland plateau of rounded hills, some of these are well-defined such as the Knock of Braemoray and Roy's Hill, and the broad low-lying basin of Moidach More. Smaller, more complex knolly hills and lochans occur on the north-eastern fringes of these uplands. This landscape has a simple land cover of grass and heather moorland with drained pastures and moss on lower hill slopes and within low-lying basins. It is sparsely populated with small farms associated with the shallow valleys of the River Divie and Dorback Burn on the northern and western fringes of the character type. The operational and consented wind farms of Paul's Hill and Berry Burn are sited within this character type. While the scale and generally simple landform of these uplands reduces

sensitivity to larger typologies, the presence of operational and consented wind farm development and the limited extent of this landscape, restricts opportunities for additional development. The more pronounced landmark hills of Knock of Braemoray and Roy's Hill, additionally constrain scope for development due to their prominence, but also their importance in visually containing and separating operational and consented wind farm developments. Although this is a very sparsely settled area with only limited views possible into the interior uplands and basins from roads and settlement in the surrounding area, the landmark hills on the fringes of these uplands form key foci in views and visual sensitivity is also increased by the Dava Way Trail which is aligned through this landscape.

This landscape has an overall ***High-medium*** sensitivity to both the large and the medium typologies.

Smaller typologies

There is unlikely to be a significant demand for smaller typologies (turbines <50m) within the very sparsely settled uplands of this landscape. Smaller typologies would appear out of scale in relation to the predominantly large scale of these uplands and could have cumulative effects with large scale operational and consented wind farm developments if seen in close proximity with existing/consented turbines.

Some limited opportunities exist for the smaller typologies to be located within the sparsely settled valleys of the Dorback Burn and at the transition with the adjacent 'Upland Moorland and Forest' (9) and 'Broad Farmed Valley' (7) although significant cumulative effects with operational and consented wind farm developments should be avoided by careful site selection. There are greater opportunities to accommodate the small typology (turbines <35m) in these areas due to their better scale relationship with nearby settlement and to minimise cumulative landscape and visual effects where there would be inter-visibility with larger development typologies sited within the core of these uplands.

Cumulative issues

The operational wind farm development of Paul's Hill is clustered in a defined grouping of turbines on slightly lower ground north-west of Roy's Hill. The higher Roy's Hill provides a degree of containment to this wind farm in views from the Spey Valley. This wind farm is also largely shielded in views from the west by a band of higher hills, for example, from the Dava Way trail. It is however seen extensively in more open and elevated views from the minor hill road between Upper Knockando and Dallas (and is also seen sequentially with the Rothes wind farm in the adjacent 'Upland Moorland and Forest' (9) from this road).

The consented Berry Burn wind farm is located to the north west of Paul's Hill wind farm. This development comprises a concentrated grouping of turbines on the west-facing slopes of Carn Ghiubhais but has a more linear form to the south, wrapping around the lower slopes of Carn Kitty. This wind farm will be most visually prominent from the minor road between Upper Knockando and Dallas (where it will appear to form a more extensive band of turbines merging with Paul's Hill wind farm) and from the sparsely settled Divie Valley on the northern fringes of this character type. There will be visibility of the wind farm from the Lochindorb area and intermittent views from the A940. More distant views will also occur to the north from the Elgin/Lossiemouth and Forres/Findhorn area.

Key cumulative landscape and visual issues include:

- Sequential and simultaneous views of multiple developments visible from the minor road between Upper Knockando and Dallas. The wind farm developments of Paul's Hill, Berry Burn and Rothes are seen at 3-7km from this road and the consented Rothes extension will be significant closer. The Paul's Hill and Berry Burn developments occupy much of the skyline of these uplands seen to the west but are/would be set back into the hills thus reducing their prominence. The defined hill of Carn na Cailliche within the 'Upland Moorland and Forest' (9) is important in visually containing the Rothes development and preventing a 'corridor' effect of turbines consistently occupying the skyline of ridges adjacent to the road. Further wind farm development within the 'Open Uplands' (10) character type could compromise the integrity of design and setting of operational and consented developments seen from this road.
- Potential cumulative effects on views and the experience of using the Dava Way Trail and the effects of multiple developments within this character type and within the adjacent Highland Council area from the A940 and Lochindorb area.
- Potential effects on views from the 'Broad Farmed Valley' (7) where additional development could affect the containment and setting higher hills such as Roy's Hill provide to the operational Paul's Hill wind farm.

Constraints:

- The more defined steeper-sided hills of Knock of Braemoray (which forms a key landmark feature in rare open views from the 'Narrow Wooded Valley' (6)) and Carn Biorach which form highly visible hills on the more visible western edge of this character type seen from the A940, a key approach to Moray.
- Roy's Hill, which forms a landmark feature seen from the Spey Valley on the southern edge of this character type and which provides some visual containment of the operational Paul's Hill wind farm, and the conical peak of Carn Kitty (521m).
- Smaller, more complex knolly hills and lochans on the north-eastern fringes of landscape at the transition with the 'Upland Forest and Moorland' (9) character type.
- The smaller scale, sparsely settled valleys of the River Divie and the Dorback Burn.
- Views from the Dava Way Trail between Grantown and Forres.
- Cumulative effects with operational and consented wind farm developments both within this character type and the adjacent 'Upland Moorland and Forestry' (9) (see key cumulative issues listed above).

Opportunities:

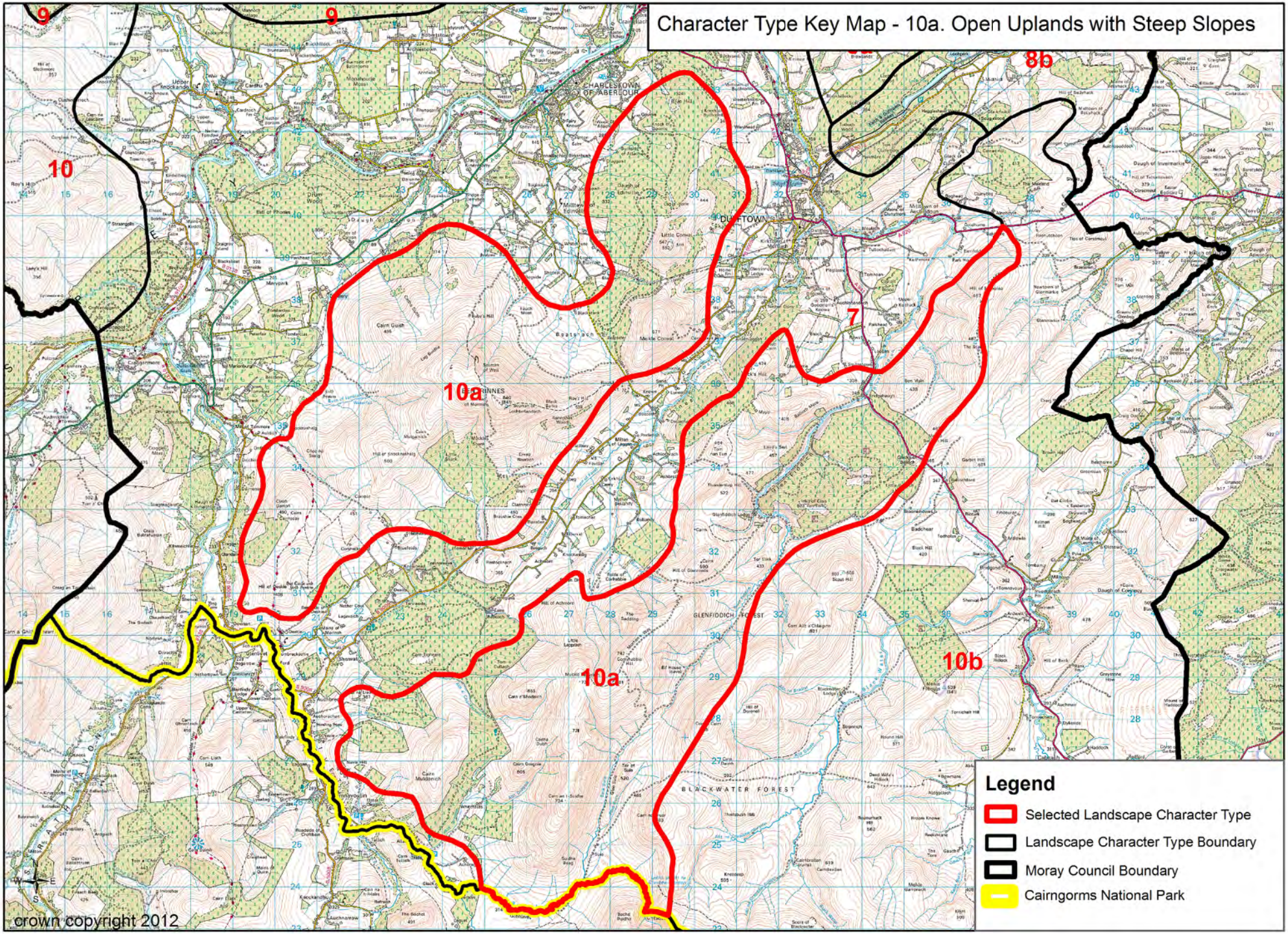
- The simple landform and large scale of the interior plateau and basin areas.
- The sparsely settled nature of this character type and the relatively limited visibility of the interior of these uplands from surrounding settled landscapes

Guidance on development

Opportunities for additional wind farm development are ***severely limited*** by key landscape and visual constraints and the potential for significant cumulative impacts to arise with operational and consented wind farm developments. There may be some limited opportunities for very small extensions to the Paul's Hill and Berry Burn wind farms but no scope to open up any new areas of development due to cumulative effects on key views but also because of effects on the integrity of design, setting and separation of these operational and consented wind farms.

This character type extends into the adjacent Highland Council area. Although not lying within Moray, the higher hills on the south-west boundary of this character type are important in shielding views of the Paul's Hill wind farm from the A940 and the Lochindorb area and also limiting cumulative impacts with the consented Berry Burn wind farm in views from the Dava Way Trail. Wind farm development sited on these hills would compromise the present containment and setting of the Paul's Hill wind farm and would be likely to significantly increase cumulative impacts with the consented Berry Burn wind farm in views from the Lochindorb area.

Smaller typologies should be located on lower hill slopes at the transition with the 'Broad Farmed Valley' (7) and the 'Upland Moorland and Forestry' (9) character types. There are greater opportunities to accommodate the small typology (turbines <35m) in these areas due to their better scale relationship with nearby settlement and the clear differential in size with larger turbines sited within the core of these uplands. Guidance on the siting of smaller turbines is set out in section 5 of this report.


Character Type Key Map - 10a. Open Uplands with Steep Slopes
9
9
8b
10
10a
7
10a
10b
CHARLESTOWN OF ABERLOUR
DUFFTOWN
BLACKWATER FOREST
GLENFIDDICH FOREST
Legend
Selected Landscape Character Type
Landscape Character Type Boundary
Moray Council Boundary
Cairngorms National Park
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Landscape Character Type 10a: Open Uplands with Steep Slopes

Introduction

The Open Uplands (10) landscape character type is the most southerly upland landscape in Moray. To the north lie the Upland Farmland (8) and Upland Moorland and Forestry (9) character types. The Open Uplands (10) also overlook the Broad Farmed valleys (7) of the Spey and Glen Rinnes, and the very south-eastern end of the Narrow Wooded Valley (6).

Due to the differences in context, character and scale of landscapes within the Open Uplands (10) character type, two sub-divisions have been identified for the purpose of this study:

- The 'Open Uplands with Steep-Sided Slopes' (10a) which includes the steep slopes east of Glen Rinnes and the steep sided Ben Rinnes
- The 'Open Uplands with Settled Glens' (10b) which occurs to the far east of Moray, and includes rounded hills and gentle slopes enclosing the wide bowl of The Cabrach and the upper reaches of the River Deveron;

This section of the report is the landscape sensitivity assessment which has been undertaken for the sub-type 'Open Uplands with Steep Slopes' (10a).

Open Uplands with Steep Slopes (10a) forms the steep-sided uplands of ridges and rugged summits which contain the Broad Farmed Valleys (7) and lie adjacent to the more rounded Open Uplands with Settled Glens (10b) to the east.

Detailed sensitivity assessment has been undertaken for the larger development typologies only, due to the sparsely settled nature of this landscape which is likely to limit interest in medium-small and small typologies. General guidance is given for smaller typologies within the summary that follows.

Existing/consented wind farm development

The consented Dorenell wind farm is located in the adjacent Open Uplands with Settled Glens character type (10b), on the boundary with this character type. This development comprises 59 turbines, up to 126m high to blade tip.

Pauls Hill (28 turbines, up to 100m high to blade tip), Hill of Towie (21 turbines, up to 100m to blade tip) and Rothes (22 turbines, up to 100m high to blade tip) wind farms are visible, within distances which vary from 12 to 15 km, from key viewpoints within this character type. The consented Berryburn windfarm (32 turbines, up to 104m high to blade tip) and Clashindarroch windfarm (18 turbines, up to 110m high to blade tip), which lies within Aberdeenshire on the border with Moray, will also be visible from this LCT. At a greater distance, the four turbines at Findhorn are also visible.

Summary of sensitivity

The Open Uplands with Steep Slopes (10a) character type forms two relatively narrow areas which provide the immediate upland context and backdrop for the low-lying and smaller scaled Broad Farmed Valley (7) character type. The steep slopes extend up to narrow ridges or more complex summit forms. The landscape scale of the highest upland areas is large, but the topographical relief is much lower to the north and where there are more complex landforms and small foothills at the transition with the valleys. This landscape has a relatively

simple land cover of moorland and upland grass, with some conifer forests and shelter woods along the lower slopes. It is sparsely populated with occasional small farms associated with the glens which extend into the hills from the broad farmed valleys. The consented Dorenell wind farm is located in the neighbouring Open Upland with Settled Glens (10b).

While the scale of this landscape is generally extensive and this reduces sensitivity to the larger typologies, these slopes, ridges and summits provide the backdrop and setting as well as the containment for the smaller scale adjacent Broad Farmed Valleys (7). The steep slopes, areas of more complex landform and the presence of a large consented wind farm development on the boundary with an adjacent landscape type restricts opportunities for additional development. This is a very sparsely settled area but it is highly inter-visible with the surrounding area, and from key summits and ridges within the character type. Ben Rinnes, Meikle Conval and Little Conval form key visual foci in views, as they are both prominent and easily recognisable landmark hills. Visual sensitivity is further increased by the relative popularity of Ben Rinnes as a walking route.

This landscape has an overall ***High*** sensitivity to the large typology and ***High-medium*** sensitivity to the medium typology.

Smaller typologies

There is unlikely to be a significant demand for smaller typologies (turbines <50m) within the very sparsely settled uplands of this landscape. Smaller typologies (turbines <50m) would appear out of scale in relation to the predominantly large scale of these uplands and could have cumulative effects with large scale consented wind farm developments if seen in close proximity with existing/consented turbines.

Limited opportunities exist for the small-medium and small typologies to be located within the sparsely settled valleys, across the more gentle slopes and lower relief of the hill slopes to the north of the character type and at the transition with the adjacent 'Broad Farmed Valley' (7). Significant cumulative effects with consented wind farm developments should be avoided by careful site selection.

There are greater opportunities to accommodate the small typology (turbines <35m) in the low-lying valleys and settled glens, where they are likely to have a balanced scale relationship with farmed landscapes, small woodlands and nearby settlement. Locating smaller turbines in these low-lying settled areas would also minimise cumulative landscape and visual effects by reducing inter-visibility with larger development typologies sited within the core of the uplands.

Potential cumulative issues

The consented wind farm of Dorenell lies in the neighbouring Open Uplands with Settled Glens (10b) character type, but on the western edge, at the transition with this landscape character type. It extends for nearly 7km along the ridge and hill slopes above Glenfiddich forest. The wind farm straddles a ridge, so that from the east, viewpoints such as Ben Rinnes will overlook up to 36 turbines[3]. Other nearest large scale operational wind farms include Paul's Hill (at approximately 12km north west of Ben Rinnes), Hill of Towie (formerly Drummuir) (at approximately 12-15km north east of Ben Rinnes) and Rothes and its

[3] Dorenell Windfarm ES, Volume 4: Landscape and Visual, Visualisations and Figures, 2008

consented extension (at approximately 15km north-north west of Ben Rinnes). In addition, consents have been given for Berryburn (at 15-20km north-west of Ben Rinnes) and Clashindarroch (at approximately 15km east of Ben Rinnes).

Key cumulative landscape and visual issues include:

- Views from the top of Ben Rinnes to surrounding high ridges and landmark hills which form the immediate upland context for this hill
- The erosion and diminution of Moray's wild land qualities and the sense of remoteness especially as experienced from hill tops, other upland landscapes and more remote glens
- The role played by the undeveloped eastern flank of Glen Rinnes, which currently provides a visual buffer between the consented Dorenell and the low-lying, smaller scale 'Broad Farmed Valley' (7) of Glen Rinnes
- Potential effects on views from the neighbouring 'Broad Farmed Valley' (7) from where Hill of Towie and Paul's Hill wind farm are already visible
- The setting of Dufftown, from which Hill of Towie wind farm and a small number of the Dorenell turbines are partially visible
- Potential visual clutter if turbines of any size are located in visual juxtaposition with the consented Doronell wind farm.

Constraints:

- The steep slopes which form the containment of the smaller scaled and well-settled Broad Farmed Valley (7) character type, and also overlook the Braes of Glenlivet to the south
- The lower relief and more complex landform associated with smaller scale foothills and lower hills to the northern end of this character type and at the transition with the Broad Farmed Valley (7) character type
- The narrowness of the ridgeline along the eastern flank of Glen Rinnes, from Carn an t- Suidhe north to Thunderslap Hill
- The rugged profile, more complex landform and the prominent 'stand alone' setting of Ben Rinnes, Meikle Conival and Little Conival, which together form a group of landmark hills which are highly visible and recognisable features over a wide area
- The more enclosed and narrow valleys such as Glen Fiddich and the narrow passes which are occupied by public roads, including the A941
- The setting of Dufftown, in neighbouring 'Broad Farmed Valley' (7), which is in part created by these upland areas
- Views from Ben Rinnes
- Cumulative effects with the consented wind farm at Dorenell in the adjacent Open Uplands with Settled Glens (10b) character type (see cumulative issues listed above).

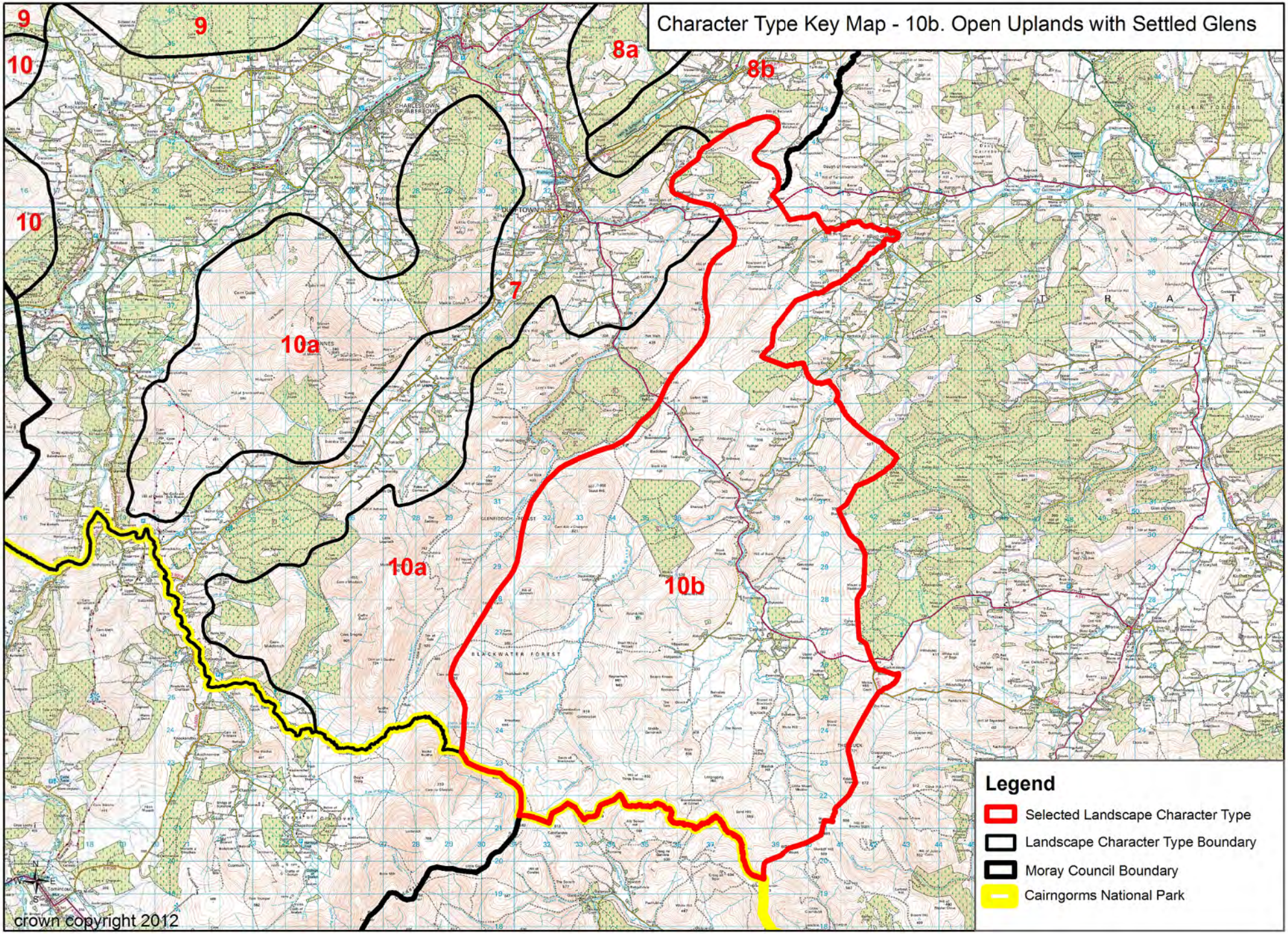
Opportunities:

- The large scale and high relief of the topography associated with the higher uplands
- The sparsely settled nature of this character type

Guidance on development

There are no opportunities for larger typologies to be accommodated within this character type due to significant landscape and visual constraints, including potential cumulative visual effects on views from Ben Rinnes.

There is limited opportunity to site the small-medium (35-50m) typology in this area. these should be located on lower hill slopes at the transition with the ‘Broad Farmed Valley’ (7) character type. There are greater opportunities to accommodate the small typology (turbines <35m) on the transition with the farmed valleys and along the lower slopes of this LCT due to their better scale relationship with nearby settlement and the scale of the farmed lowlands of the glens. Care should be taken to avoid potential visual confusion between different sizes of turbines. Guidance on the siting of smaller turbines is set out in Section 5 of this report.


Character Type Key Map - 10b. Open Uplands with Settled Glens
9
9
10
10
8a
8b
7
10a
10a
10b
Legend
Selected Landscape Character Type
Landscape Character Type Boundary
Moray Council Boundary
Cairngorms National Park
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Landscape Character Type 10b: Open Uplands with Settled Glens

Introduction
The Open Uplands (10) landscape character type is the most southerly upland landscape in Moray. To the north lie the Upland Farmland (8) and Upland Moorland and Forestry (9) character types. The Open Uplands (10) also overlook the Broad Farmed valleys (7) of the Spey and Glen Rinnes, and the very south-eastern end of the Narrow Wooded Valley (6).

Due to the differences in context, character and scale of landscapes within the Open Uplands (10) character type, two sub-divisions have been identified for the purpose of this study:

- The 'Open Uplands with Steep-Sided Slopes' (10a) which includes the high ridges and steep slopes extending east of Glen Rinnes and the steep sided Ben Rinnes.
- The 'Open Uplands with Settled Glens' (10b) which occurs to the far east of Moray, and includes rounded hills and gentle slopes enclosing the wide bowl of The Cabrach and the upper reaches of the River Deveron.

This section of the report is the landscape sensitivity assessment which has been undertaken for the sub-type 'Open Uplands with Settled Glens' (10b).

'Open Uplands with Settled Glens' (10b) extends across lower rounded hills which form the eastern boundary of Moray. This type includes the elevated shallow bowl of the Cabrach and the upper valley of the Deveron and it is adjacent to the Open Uplands with Steep Slopes (10a) to the west, and forms the outer south eastern boundary of Moray.

Existing/consented wind farm development
The consented Dorenell wind farm is located within this type at its boundary with Open Uplands with Steep Slopes (10a). This development comprises 59 turbines up to 126m high to blade tip.

The operational Pauls Hill (28 turbines, up to 100m high to blade tip), Rothes (22 turbines, up to 100m high to blade tip) and Hill of Towie (21 turbines, up to 100m to blade tip) wind farms are visible, within distances which vary from 5 – 20 km from viewpoints within this character type. The consented Clashindarroch windfarm (18 turbines, up to 110m high to blade tip) lies within Aberdeenshire on the border with Moray, immediately adjacent to this LCT. At a greater distance, the four turbines at Findhorn are also visible.

Summary of sensitivity
'Open Uplands with Settled Glens' (10b) extends across lower rounded hills which form the eastern boundary of Moray. These higher hills contain the elevated shallow bowl of the Cabrach and the upper valley of the Deveron. Steeper slopes between Black Water Glen and Glen Fiddich create a transition between this and the neighbouring Open Uplands with Steep Slopes (10a) character type.

These uplands lie adjacent to the forested uplands of Aberdeenshire to the east and the steeper slopes of Open Upland with Steep-Sided Slopes (10a) to the west. They extend from the Valleys within Upland Farmland (8b) in the north to the hinterland of the Ladder Hills and glens of Strathdon which lie within the Cairngorms National Park to the south. Characterised by generally smooth landform and open moorland occasionally fragmented by conifer

woodland above improved pasture fields. The low-lying valleys of this landscape are widely settled, but with dispersed farms and small settlements, and two 'A' roads pass through the area, entering Moray across high passes.

The extensive sweeping scale of this landscape, the generally smooth landform, often with gentle gradients, as well as the overall extent of the uplands and the simple landcover pattern of the upland areas, all combine to create some scope for wind farm development in this area, if it is associated with the uplands.

However, the consented wind farm of Dorenell is sited within this character type, and consented Clashindarroch lies adjacent to this character type, and this increases sensitivity in relation to potential cumulative effects of the larger typologies.

Scope to accommodate additional larger typologies is further limited by the relatively small extent of remaining undeveloped upland areas, which are also closer to settled and smaller scaled lower lying landscapes and the A class roads. In addition, remaining upland areas are closer to contextual sensitivities, including the sense of arrival to Moray from the east and the setting of smaller scale landscapes in neighbouring glens within the Cairngorms National Park. Elevated views from the high passes and relatively high inter-visibility across the wide shallow basin and glens increase visual sensitivity.

This landscape therefore has an overall ***High-Medium*** sensitivity to the large (80m – 130m) typology, ***Medium*** sensitivity to the medium (50m – 80m) typology, and ***Medium-low*** to the small-medium (35m- 50m) typology and ***Low*** sensitivity to the small (20m – 35m) typology.

Potential cumulative issues

The consented wind farm of Dorenell lies within this landscape type. This development comprises a total of 59 turbines of up to 126m high to blade tip. The consented wind farm of Clashindarroch lies immediately adjacent to this landscape character type, within Aberdeenshire. This development comprises 18 turbines of up to 110m high to blade tip.

Key cumulative landscape and visual issues include:

- Potential sequential and simultaneous views of multiple developments along the skyline around the bowl of the Cabrach and from the A941
- Visual confusion and an absence of rationale which could occur between large turbines sited in simple and more expansive upland areas and the same size of turbines also sited within these more settled smaller scale valleys
- Variations in the type and size of single and small groups of small turbines proposed within the landscape type.

Constraints:

- The shallow farmed and settled basin of the Cabrach and the settled valley of the upper Deveron, where the scale of the landscape is reduced by the presence of the land cover pattern and settlement
- The narrow extent of this character type to the north, where it provides the context for more low-lying and smaller scale landscapes
- The elevated 'sense of arrival' panoramic views crossing into Moray from the east over high passes on the A941 and the A920
- The visual prominence of The Buck, a landmark hill

- The proximity of the Cairngorms National Park and the setting of the Ladder Hills and Glen Buchat to the south
- Cumulative effects with consented wind farm developments of Dorenell and Clashindarroch

Opportunities:

- The simple, gently graded landform and expansive scale of the long undulating ridges and shallow, contained bowls to be found within the upland areas.
- The simplicity and openness of the upland vegetation pattern and relative extensiveness of the upland areas.

Guidance on development

Scope to accommodate further larger scale typologies in this character type is limited, largely due to the cumulative effects likely to arise in conjunction with the consented Dorenell and Clashindarroch wind farms and the sensitivities of siting large typologies within the narrow extent of remaining undeveloped upland areas. Extensions to Dorenell wind farm are likely to be difficult to accommodate without creating visual confusion due to the existing number of turbines and their widespread distribution.

Smaller typologies (turbines <50m) should be located on lower hill slopes at the transition between the upland ridges and the farmed land, along gentle slopes. The small-medium typologies (35-50m) should be sited to avoid overwhelming the scale of small buildings and clusters of development. There are opportunities to accommodate the small typology (turbines <35m) closer to large farm buildings. Care should be taken to avoid potential visual confusion between different sizes of turbines. Guidance on the siting of smaller turbines is set out in Section 5 of this report.

5. Guidance on the micro-siting of smaller turbines

Introduction
The height of turbines relative to other structures in the landscape is a key consideration in terms of landscape 'fit'. With this in mind, five types of 'small' turbines were initially considered when developing the methodology for this landscape capacity assessment. These are:

- Domestic systems — Roof/wall mounted systems
- Micro wind — Freestanding up to 12m to blade tip
- Micro-small wind turbines — 12m – 20m to blade tip
- Small wind turbine — 20m – 35m to blade tip
- Small-medium wind turbine — 35m – 50m to blade tip

Domestic systems
Domestic roof/wall mounted systems are most likely to have an impact on townscape and add to cumulative effects especially in urban areas. They have not been included in this landscape capacity assessment, as it is difficult to identify a robust list of sensitivities for this size of development which can be properly assessed at the strategic scale required for this locational guidance.

Micro wind developments
Freestanding turbines up to 12m high relate well to the size of existing buildings in the landscape, including farm buildings. These turbines are just over twice the height of a single storey house, while a two storey house is about 9m high to roof pitch. This height of turbine is also similar to small telephone masts and tall telegraph poles[4]. This size of turbine has not been included in the landscape sensitivity assessments.

A single turbine of this height is most likely to be used to contribute to the energy needs of a residential house, farm or other rural based small business. The size means that it is relatively easy to accommodate in a settled landscape, if sited to be associated with such a building cluster. It is therefore likely that any assessment of landscape sensitivity will conclude that this size of turbine could be readily accommodated – perhaps, at the most, subject to siting considerations to encourage the turbines to be located where they can be visually seen to be part of a group of buildings, or clearly linked to an individual house.

Therefore, while it is recognised that the free standing turbines of up to 12m may have cumulative effects on the landscape, they have been excluded from the landscape sensitivity assessments.

[4] Telegraph poles are available in heights from 6m to 25m, although based on site observations most appear to be 10m or less in height.

Guidance for micro-small turbines (12m – 20m in height to blade tip)

Freestanding turbines between 12m and around 20m in height to blade tip can be, at its highest, over twice the height of a two storey house. This size of turbine is therefore likely to be prominent and may appear above buildings. However, a well grown, mature forest, broadleaved or conifer tree is also about 15-20m in height. Turbines are likely to be similar in height to these trees, even more so in fertile lowland landscapes where trees often achieve good growth. Other structures of a similar height include taller communications masts and small pylons.

It is likely that proposals for this height of turbine will only come forward in settled lowland landscapes or hill fringes, and in these locations, trees and other structures will provide an appropriate scale reference. Specific landscape sensitivity assessments for this size of turbine were therefore not carried out within each of the landscape character types. Nevertheless, this size of turbine has been considered within the guidance offered in the lowland landscape sensitivity assessments carried out for this study. Generic guidance for this height of turbine is provided below.

Background

Within the Moray landscape, the following issues have been identified as being particularly influential in terms of detailed siting of this typology within character types identified as being appropriate for this typology:

- ***Association with existing built development***
- ***Turbine height in relation to the scale of the landscape***
- ***Landform shape***
- ***Settlement and land use pattern and features***
- ***Visibility***
- ***Potential cumulative issues***

Association with existing built development

Wherever possible, a turbine of less than 20m high will 'fit' into the landscape more successfully if it forms part of a 'cluster' of development and is visually associated with other built structures in the landscape. This is best achieved if the size of the turbine is in proportion to the size of individual features, such as buildings, trees and even pylons and other structures.

Image 1*: A turbine illustrated at an indicative 2x height of the house from this view, or a taller turbine located behind the ridge to reduce overall height from this view. The turbine is well scaled in relation to the size of other individual features. It is also located on the side of the hill, rather than the hill top, where it can be 'read' in conjunction with the farm buildings. This forms a 'cluster' of development, which reduces landscape and visual impact.*

Turbine height in relation to the scale of the landscape

Understanding scale, and the relative proportions of features in the landscape, is important in siting this typology. Landscape scale is made up of two factors, the scale of the landform and the scale of the pattern of land use.

Assessing the scale of the landform involves assessing the perceived vertical height and horizontal expanse of the topography, as well as the degree of openness and containment created by topographical relief.

The pattern of land use creates an additional layer of possible enclosure, for example where woodland, hedges and field walls provide containment. Conversely, low-growing vegetation, such as moorland, can reinforce openness. In addition, while we often assess sense of scale relative to ourselves within the landscape, individual elements, from trees to pylons, can provide reference points against which the scale of the landscape or size of other elements is perceived and understood.

In Moray, the scale of the landform is a significant factor in defining landscape character. More enclosed and steep-sided river valleys, small scale hummocky landforms and low hills, as well as more complex landform along some of the foothills, create areas of relatively small scale character. Plateau moorlands, more expansive hills, long undulating ridges are characteristic of upland areas. Relatively expansive but undulating lowlying landscape is more characteristic of the lowland farmed plains.

Trees and woodland, field pattern, settlements and farms are located on the lower fringes of the uplands, within the glens and across the farmed plains. The consistent and recurring presence of these elements creates a pattern which reduces the scale in these areas, and the individual elements provide scale reference points against which height can be judged.

As shown in Image 1 above, turbines of this height (12m – 20m) are still small enough to be sited where they can be associated with buildings and trees. Although they may be bigger than these elements, they are proportionately unlikely to be more than three times the size of

any building or tree, and within a wider landscape setting, this size relationship can usually be accommodated unless there are site-specific scale sensitivities.

On the coastal fringe, landform relief tends to be very low, with raised beaches or sand dunes, some of which are forested, forming a backdrop to the beach. Even where cliffs and more pronounced landform is present, the scale is sensitive, and a turbine can easily diminish the sense of height.

As a result, the landscape sensitivity assessment for the Coastal Fringe (1-3), concludes that turbines of no more than 20m high to blade tip are appropriate for this area. Turbines should be set back from the crest of a raised beach, promontory, cliff or other key landform feature.

Wherever possible, they should be sited where they can be associated with existing development. Buildings along the coast are often small, and even trees can be 'wind shorn' and struggle to reach full height in exposed locations. This further emphasises the need to use only small turbines in the coastal landscape, to reflect the relative size of these features.

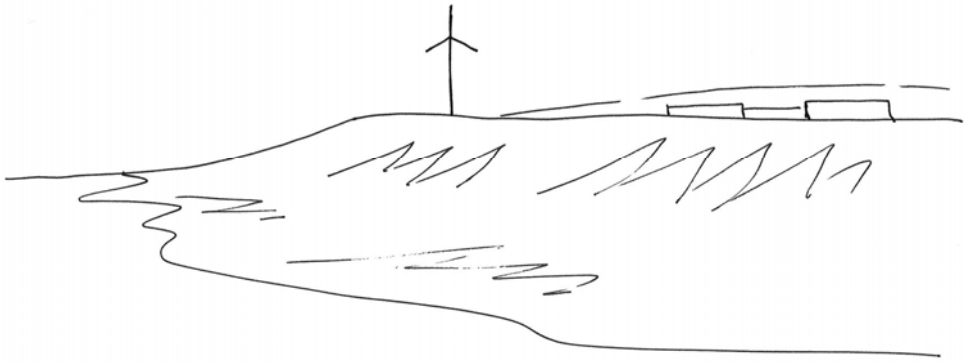


Image 2 – Coastal landscapes*: This turbine is perched on top of the raised beach and although it is quite small, instantly dominates the view and overlooks, or appears to 'hover above', the coast.*

Image 3 – Coastal landscapes*: The same turbine set back from the immediate coastal edge and associated with buildings is a less intrusive impact on the coast. The buildings along the coast are often small and low, therefore smaller turbines are more acceptable in terms of relative scale.*

Landform shape

The farms and settlements where turbines of this height (12m – 20m) are most likely to be located are generally associated with lower hill slopes or valley floors. Some valleys have broad upper terraces, across which are scattered small farms, and where some of the steadings have fallen into disuse. The more extensive farmed coastal plains are gently undulating, often with subtle terraces or smaller areas of more complex landform created by deposits. There are also occasional long ridges, where settlement can extend far up the slopes, for example in Rolling Farmland with Forests and Valleys (5b).

These farmed slopes and valley or glen floors often have terraces, narrow ledges, folds and subtle hollows, distinct changes in gradient associated with rising slopes or dips within undulations. These changes in gradient all have the potential to create natural platforms for siting turbines of this height (12m – 20m) within the settled landscape.

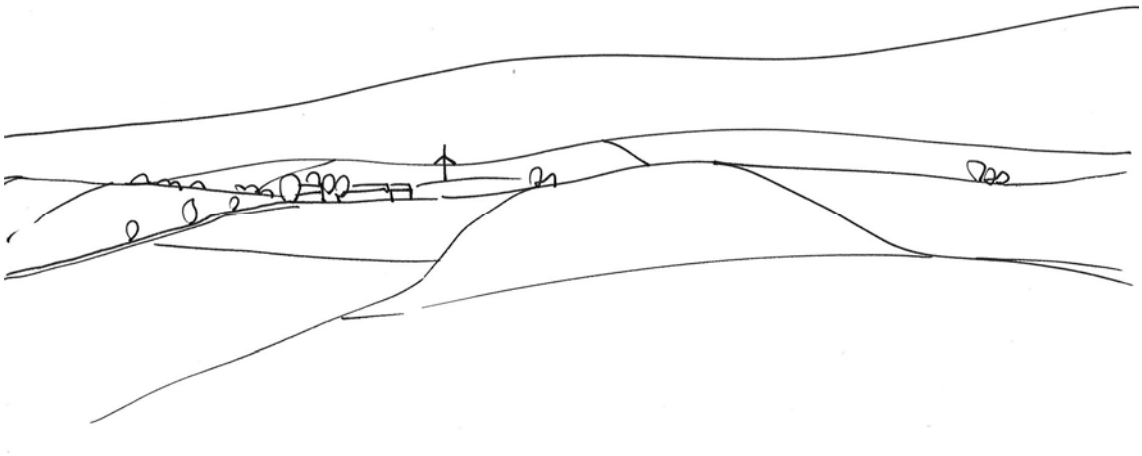


Image 4 – landform shape – locating turbines on changes of gradient*: This turbine (an indicative 2 x the size of the two storey house), is located at the distinct change in gradient close to the farm buildings. This means that the turbine reinforces the presence of the existing change of gradient or break in slope, rather than detracts from it.*

When siting turbines in this landscape, avoid locating them on the tops of knolls. Side slopes of low hill and ridges, and terraces or places where there is a marked change in gradient offer good opportunities.

On the more expansive farmed landscapes – such as the Coastal Farmland (4) and the Upland Farmland (8) – landform is more subtle, with long low ridges and undulating forms, as well as occasional more pronounced ridges. Turbines of this height (12m – 20m) should aim to be linked to existing building groups, and should avoid the tops of ridges except where this is a characteristic of settlement pattern. These turbines will be more easily accommodated if they are sited on the side slopes of ridges.

Settlement and land use pattern and features

Turbines of this height (12m – 20m) are most easily accommodated in areas where there is existing settlement and other infrastructure. In such areas, the distribution of existing built development can form a recognisable pattern to which wind turbines can be visually and physically linked.

In Moray, there is frequently a clear link between settlement and landform, for example, buildings may be located at a natural break in slope, the side slopes of the glens or associated with watercourses. In more extensive farmed areas, farm buildings may be relatively evenly dispersed across the landscape. Along the coast, settlement is located on harder rocky terrain, near the mouths of rivers and sheltered coastal locations.

Larger farm buildings, industrial buildings and distilleries are also to be found in Moray, and these building groups can even include tall stacks or other masts.

While even turbines of this height (12m – 20m) may be larger than most domestic and farm buildings, it is likely to still be appropriate to establish a visual relationship between a turbine and a farm or other group of buildings in this type of landscape. It is desirable to support the existing pattern of built development, where turbines of a similar size are consistently associated with a commonly occurring detailed landform or built features associated with the farms or small settlements in an area. Note that proximity to 'regularly occupied' buildings will also need to be balanced with a noise buffer zone.

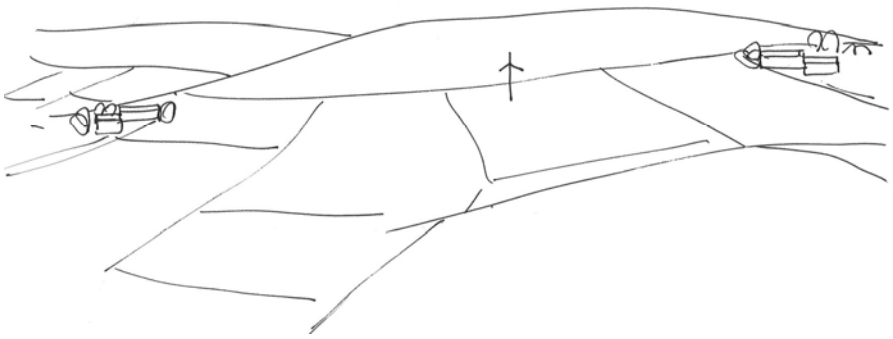


Image 5 – Poor relationship with settlement pattern*. Here a turbine is located in between two farms, and is not associated with either. It appears to 'drift' unattached in the landscape as it does not reflect the existing pattern of built development. Instead, the turbine is setting up a new pattern of development which conflicts with the existing well-established pattern.*

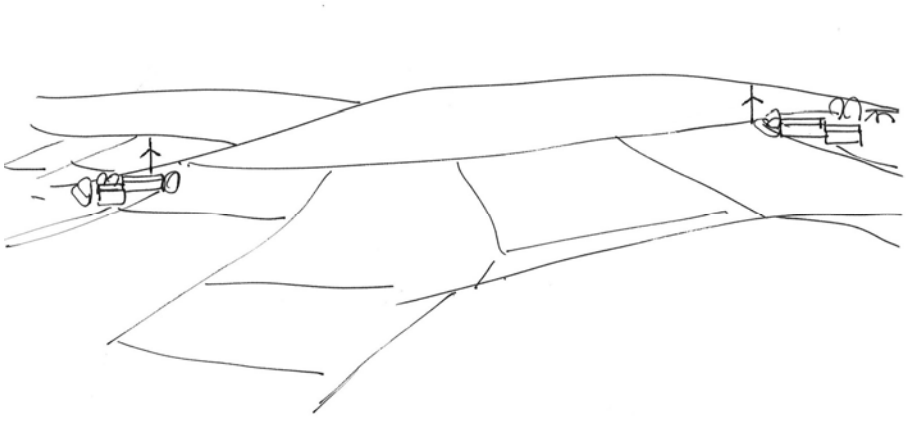


Image 6 – Strong relationship with settlement pattern*. The same landscape, with a turbine sited to each of the farms, close to the buildings, each of which now form 'building clusters'. Here the turbines reflect the existing pattern of settlement, emphasising this, rather than starting a new built pattern which conflicts with the existing pattern. Micro-siting will need to balance creating a development cluster with the need to apply a recommended 'noise buffer' zone.*

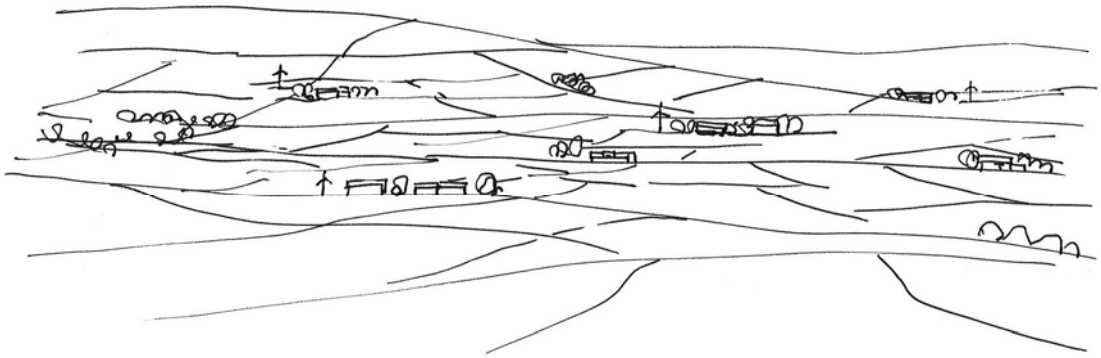


Image 7 – Settlement pattern on extensive low-lying farmed landscapes: *Most farms are located away from the top of the high ridges, and landform is relatively subtle. Micro-small turbines (12 – 20 m) can be located relatively close to buildings, to form 'clusters of development' consistently placed across the more expansive farmland areas. Consistent siting and association with existing farms will limit negative cumulative landscape effects. Micro-siting will need to balance creating a development cluster with the need to apply a recommended 'noise buffer' zone.*

In some landscapes, this consistency can be further reinforced if turbines are located at a similar elevation, especially if this relates to the existing elevation of farms, settlements or another major feature, such as the head dyke, which forms the boundary between fields and open hill ground, and is often located at a break in slope.

It is important to assess and understand the existing settlement pattern at the outset, and consider how a number of turbines could be sited in a landscape. Careful and consistent siting will limit potential negative cumulative effects on landscape character.

Visibility

Unsurprisingly, these micro-small turbines are likely to be less visible than the larger ones over a wider area. Turbines which are 20m or less are more likely to be able to be screened or partially hidden by the low ridges and more undulating landform within the settled landscapes of Moray. Tree cover, including sometimes extensive woodland, also limits visibility, although this can be sparse in more open farmed areas.

Hiding turbines *per se* is not more important than choosing a turbine of the right size in relation to landform or other landscape features, or than good micro-siting in relation to landform and settlement pattern. However, reducing sustained visibility of turbines helps limit potential cumulative visual impacts.

Siting turbines on the sides of ridges and low hills, rather than their summits and high points overall reduces visual cumulative effects – turbines are partially screened from some viewpoints to the lee of the hill and slopes in these locations. If several turbines are visible in an area, broad consistency of turbine design, height and location can help mitigate potential visual impacts.

Potential cumulative issues

Given the current incentives, these micro-small turbines may become a frequent and common occurrence in farmed landscapes. Key cumulative issues for small turbines are likely to relate strongly to potential clutter in the landscape. Issues may include:

- *Several individual, or small groups of turbines, could begin to dominate local character;*
- *The landscape could appear 'cluttered' if single or groups of turbines were associated with the majority of land holdings, especially where holdings are small and therefore closer together;*
- *Lack of a clear siting strategy could lead to fragmentation of an existing robust, recognisable, consistent and characteristic pattern of settlement, especially if turbines do not relate well to existing buildings and established pattern of built development;*
- *While one turbine breaching a skyline may be a focal point, a number of diverse structures, all spinning at different speeds – or even several of the same type of turbine – or appearing at irregular intervals along a prominent or important skyline will become a visual distraction from other landscape features or from perceived visual amenity, especially from key viewpoints;*
- *The variety of potential different types of wind turbines within the landscape could lead to clutter with different styles, sizes of structures and speeds of blade movement dotted across a landscape;*
- *There may be the added complication of increased visual clutter created by a wide range of different heights of turbine within a farmed landscape with micro-, small and small/medium sized turbines;*
- *Potential clutter may also be exacerbated if there are other masts, such as telecoms masts, overhead wires and pylons within the same vicinity*

The sensitivity assessment has assumed that single turbines and some groups of up to 3 micro-small (below 20m to blade tip) turbines are most likely to be associated with this typology and will have the most potential to be accommodated in the landscape. The assessment has also assumed that this size of turbine is most likely to be associated with farmed and settled landscapes.

Proposals for 'wind farms/crofts' of micro-small turbines over 3 in number are likely to have more significant adverse impacts on the landscape character, including on cumulative effects.

Guidance for small turbines (20m – 35m in height to blade tip)

The sensitivity of the landscape to this development scenario has been included in all assessments carried out in settled and farmed lowland landscape and coastal character types. Less settled upland landscape character types were not assessed for this size of development, as this size of turbine is associated with more settled landscapes and applications are unlikely to come forward in areas where there are no farms or other settlement.

Background

Within the Moray landscape, the following issues have been identified as being particularly influential in terms of detailed siting of this typology within character types identified as being appropriate for this typology:

- ***Turbine height in relation to the scale of the landscape***
- ***Landform shape***
- ***Settlement and land use pattern and features***
- ***Visibility***
- ***Potential cumulative issues***

Turbine height in relation to the scale of the landscape

Turbines of between 20m and 35m are going to be one of the tallest structures in any Moray landscape. They are going to be taller than most buildings and trees. They are still, however, similar in height to some taller pylons and communications masts. In addition, especially on the coastal farmland, there are taller communication masts and structures associated with military activity.

Understanding scale, and the relative proportions of features in the landscape, is therefore important in siting this typology. Landscape scale is made up of two factors, the scale of the landform and the scale of the pattern of land use.

Assessing the scale of the landform involves assessing the perceived vertical height and horizontal expanse of the topography, as well as the degree of openness and containment created by topographical relief.

The pattern of land use creates an additional layer of possible enclosure, for example where woodland, hedges and field walls provide containment. Conversely, low-growing vegetation, such as moorland, can reinforce openness. In addition, while we often assess sense of scale relative to ourselves within the landscape, individual elements, from trees to pylons, can offer reference points against which the scale of the landscape or size of other elements is perceived and understood.

In Moray, the scale of the landform is a significant factor in defining landscape character. More enclosed and steep-sided river valleys, small scale hummocky landforms and low hills, as well as more complex landform along some of the foothills, create areas of relatively small scale character. Plateau moorlands, more expansive hills and long undulating ridges are characteristic of upland areas. Relatively expansive but undulating lowlying landform is more characteristic of the lowland farmed plains.

Turbines of this size (20m – 35m), even in small groups of up to three turbines, may be able to take advantage of the degree of relief created by small and medium scaled landforms, for example the broad slopes of foothills and lower fringes of upland areas, lower side slopes of valleys or the sides of undulating ridges and more subtle landforms of Upland Farmland (8) and the Coastal Farmland (4).

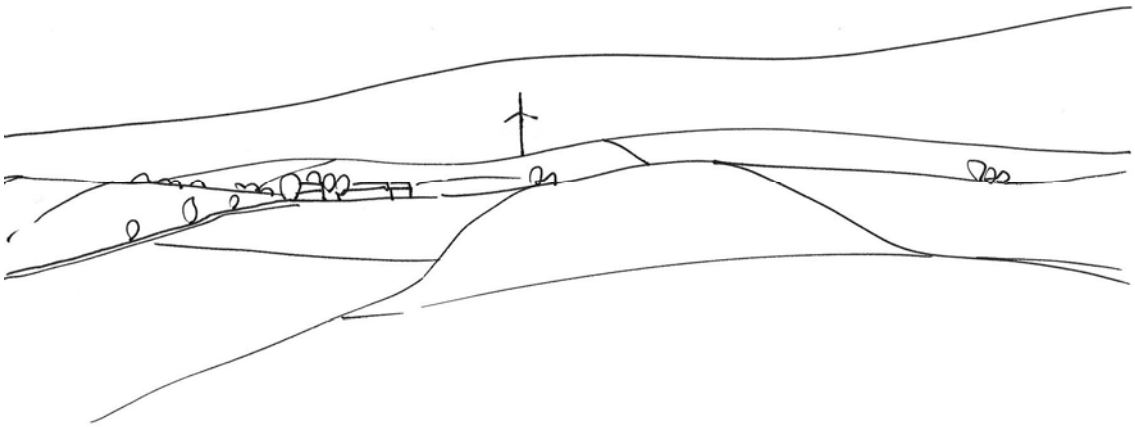


Image 8 – Landscape scale and size of features: *A 'small typology' (20m – 35m) turbine located on a low-lying ridgeline set back from but still associated with the pattern of settlement. In this location, the turbine is linked to the scale of the landform and there are no features in the immediate proximity against which to judge turbine height. It is sited at a slight dip in the ridge, and back-dropped in this view by higher ground. It is located away from the house, to avoid overwhelming the buildings in terms of scale.*

Trees and woodland, field pattern, settlements and farms are located on the lower fringes of the uplands, within the glens and across the farmed plains. The consistent and recurring presence of these elements creates a pattern which reduces the scale in these areas, and the individual elements provide scale reference points against which height can be judged. Care should be taken to site 20m – 35m high turbines where they do not dominate individual buildings, trees or other features, although some association with broad settlement pattern is still considered appropriate.

On more marginal farmed landscapes characteristic of the settled areas of Moray, buildings and tree cover are likely to be sparse and often are smaller in size than more fertile lowland farmlands. Trees may also be limited in height by exposure or poor soils and buildings are often low, either due to exposure, or due to the poorer quality farmland, which is often reflected in the characteristically more modest building style.

In these locations, the relationship between small turbines (20m – 35m) and landscape features is likely to be very sensitive, as this size of turbines could easily overwhelm the small stature and scale of individual elements which are key characteristics of these landscapes.

Where larger farm buildings, and even industrial and distillery buildings are located in more expansive landscapes or broader valleys, there are increased opportunities to site this height of turbine (20m – 35m) closer to buildings.

Overall, turbines of this height (20m – 35m) can most readily be accommodated by micro-siting them to relate to the scale of landforms or where present, larger buildings and woodlands, rather than trying to link them to the size of small structures, buildings and small trees.

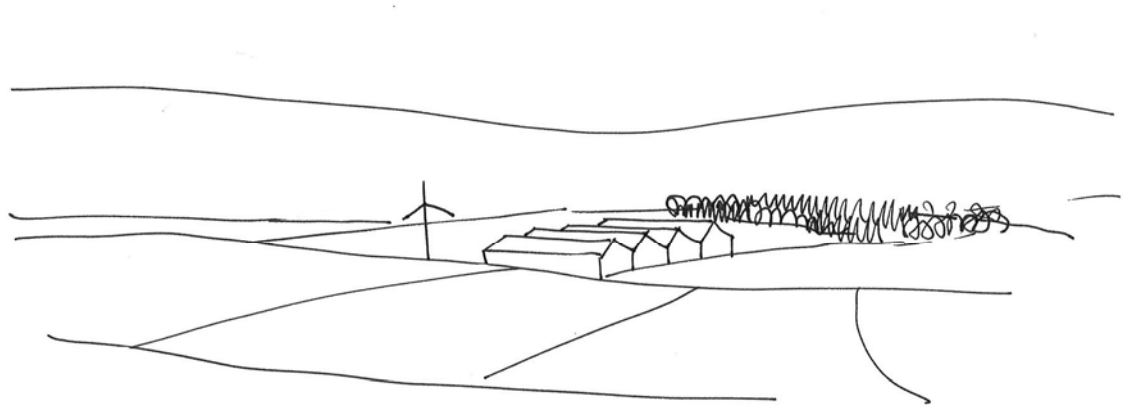


Image 9 – Landscape scale – larger buildings: *A turbine of this height (20 – 35m), could be associated with larger buildings in more simple landscapes, for example where larger woodlands are also present.*

Turbines of this height are likely to be more difficult to accommodate within very small scale and complex topography, along the floor of very narrow glens and passes, on the coast, or where small landscape scale is created by small fields, diverse land use and dense settlement pattern.

For this typology, if there is doubt about the potential impact of a turbine on the scale of the landscape, a photomontage or wireline of the turbine taken from a key viewpoint will help the assessment of potential impacts.

Landform shape

This size of turbine is more likely to fit with the landscape if they are sited to clearly relate to a specific landform. Turbines of this size could be accommodated on low hills or ridgelines across the more expansive farmed areas, or in the wider and more extensive areas of farmed valleys. Other opportunities include the rising ground which provides the immediate backdrop to the farmed lowland areas and valley floors, especially if they are back-dropped by larger hills.

Distinct changes in gradient associated with rising slopes, well defined dips within undulations or more expansive concave landforms, long ridges and interim hills along the lower edges of the foothills, as well as the edges of more expansive plateaux all provide potential opportunities for micro-siting turbines of this size.

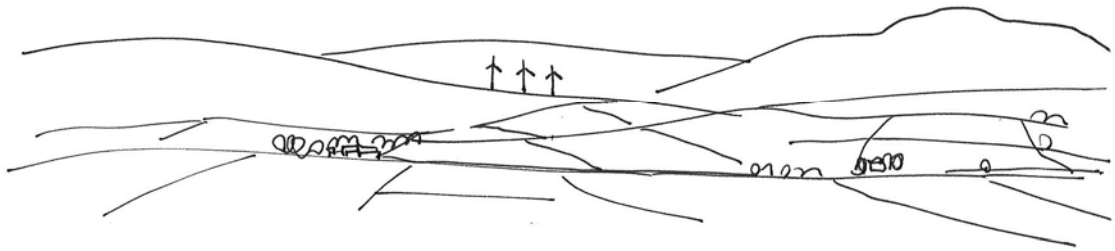


Image 10 – Landform shape and scale: *A cluster of indicative small (20 – 35m high) typology turbines located on the side of a hill, sited where there is a distinct, relatively level ridge and at a low point in the landform. The turbines have been located where they are not likely to interrupt key views of the 'landmark hills' to the right. They are also in scale with the landform, although they are at the upper end of this typology in terms of size.*

Settlement and land use pattern and features

In Moray, there is frequently a link between settlement and landform, for example, buildings may be located at a natural break in slope, the side slopes of the glens or associated with watercourses. In more extensive farmed areas, farm buildings may be relatively evenly dispersed across the landscape. Along the coast, settlement is located on harder rocky terrain, near the mouths of rivers and sheltered coastal locations.

Larger farm buildings, industrial buildings and distilleries are also to be found in Moray, and these building groups can even include tall stacks or other masts.

This height of turbine (20m – 35m height to blade tip) is larger than most buildings found in rural areas. They therefore should be sited where they can more readily be accommodated by landform scale, and avoid overshadowing or dominating smaller elements in the landscape, including small and complex landforms, small fields and settlement. It is more likely that these small sized turbines will be located on low ridges, the side slopes of hills, set slightly apart from farms or settlements.

The alignment of tracks and location of other infrastructure, as well as the turbines themselves, are also more likely to be an issue than with smaller turbine sizes.

Developing a recognisable pattern of development – for example, locating turbines at a similar elevation, and/or on similar topographical features across a landscape type will help create a pattern of development which will appear less cluttered and will also develop a distinctive and consistent landscape characteristic over time. Proximity to 'regularly occupied' buildings will need to be balanced with a noise buffer zone.

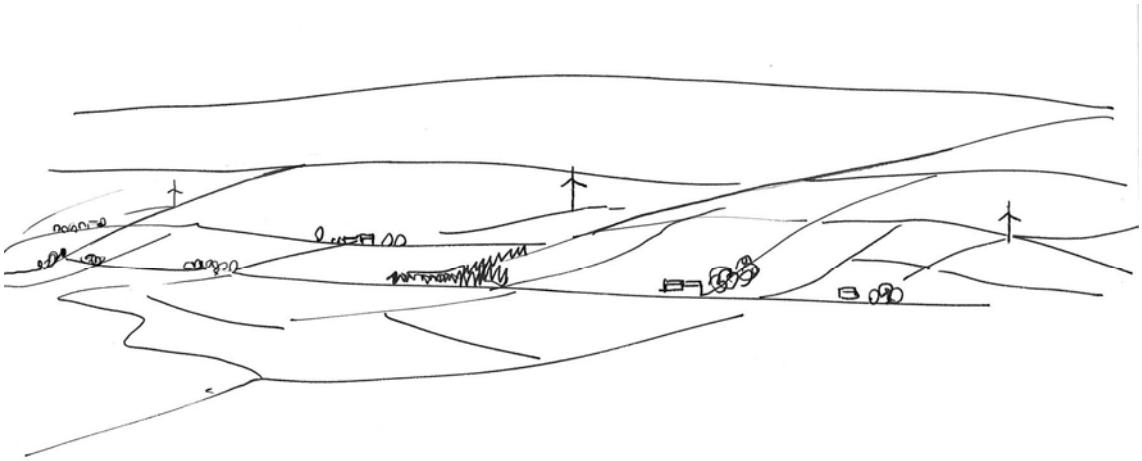


Image 11 – Developing a landscape pattern*: These indicative 35m high turbines are located at a similar elevation on this hillside. They are also loosely associated with the location of the farms. This similarity in size, location and elevation helps to maintain the unity of the landscape pattern. Consistent association with watercourses, low hills or breaks in slope, head dykes or other features will help increase unity in the landscape and reduce negative cumulative landscape effects.*

Visibility

Turbines which are more than 20m in height are taller than most trees and large farm buildings, and are therefore likely to have wider visibility than those turbines less than 20m in height.

As applicants may own farms or larger land holdings, there may be the potential to screen turbines from viewpoints if required, for example to reduce cumulative visual impacts, by establishing trees adjacent to the viewpoint (for quicker, maximum screening affect).

Potential cumulative issues

Given the current incentives, these small sized turbines may become a frequent and common occurrence, especially in farmed landscapes. Key cumulative issues are likely to relate strongly to potential clutter in the landscape and the visual relationship with other wind turbines. Issues are similar to those identified in the analysis of micro-small wind turbines, but because of the larger size of these turbines the issues are likely to occur more quickly and may include:

- *Several individual, or small groups of turbines, could begin to dominate local character;*
- *Lack of a clear siting strategy could lead to fragmentation of an existing robust and recognisable landscape pattern – where possible, it is important to site turbines on similar landforms, at similar elevations and with a similar relationship to the existing settlement pattern;*
- *Diverse designs of turbine, all spinning at different speeds – or even several turbines of the same type – strung along a prominent or important skyline could become a visual*

distraction from other landscape features or from perceived visual amenity, especially from key viewpoints;

- *The larger the turbine, the harder it is likely to be to accommodate a number of them in a single view or recognisable tract of landscape without them becoming the dominant feature. It is also harder to accommodate the turbines in a sequence of views experienced, for example, when travelling along a road;*
- *The variety of potential different types of wind turbines within the landscape could lead to clutter with different styles, sizes of structures and speeds of blade movement dotted across a landscape;*
- *Potential clutter may also be easily created if there are other masts, such as telecoms masts, overhead wires and pylons within the same vicinity;*
- *There may be the added complication of increased visual clutter created by a wide range of different heights of turbine within a farmed landscape with micro-, small and small/medium sized turbines;*
- *An additional complication may be the visual interrelationship with larger wind farms of large and medium sized turbines, especially along the upper edge of farmland adjacent to upland character types.*

Other landscape issues associated with this typology

Undergrounding electricity cables to a suitable off-site location to connect with the grid should also be undertaken in order to avoid a clutter of disparate built elements in the landscape.

Guidance for small-medium turbines (35m – 50m in height to blade tip)

The sensitivity of the landscape to this development scenario has been included in all assessments carried out in settled lowland landscape and coastal character types. Less settled upland landscape character types, however, were not assessed for this size of development, as this size of turbine is associated with more settled landscapes and applications are unlikely to come forward in areas where there are no farms or other settlements.

Background

Within the Moray landscape, the following issues have been identified as being particularly influential in terms of detailed siting of this typology within character types identified as being appropriate for this typology:

- ***Turbine height in relation to the scale of the landscape***
- ***Landform shape***
- ***Settlement and land use pattern and features***
- ***Visibility***
- ***Cumulative issues***

Turbine height in relation to the scale of the landscape

Turbines of between 35m and 50m are going to often be the tallest structures in any Moray landscape. They are going to be taller than buildings and trees. They will also be taller than most communication masts and pylons, although there are some very tall masts associated with military installations on the Coastal Farmland (4) in Moray.

Understanding scale, and the relative proportions of features in the landscape, is therefore important in siting this typology. Landscape scale is made up of two factors, the scale of the landform and the scale of the pattern of land use.

Assessing the scale of the landform involves assessing the perceived vertical height and horizontal expanse of the topography, as well as the degree of openness and containment created by topographical relief.

The pattern of land use creates an additional layer of possible enclosure, for example where woodland, hedges and field walls provide containment. Conversely, low-growing vegetation, such as moorland, can reinforce openness. In addition, while we often assess sense of scale relative to ourselves within the landscape, individual elements, from trees to pylons, can offer reference points against which the scale of the landscape or size of other elements is perceived and understood.

In Moray, the scale of the landform is a significant factor in defining landscape character. More enclosed and steep-sided river valleys, small scale hummocky landforms and low hills, as well as more complex landform along some of the foothills, create areas of relatively small scale character. Plateau moorlands, more expansive hills and long undulating ridges are characteristic of upland areas. Relatively expansive but undulating lowlying landscape is more characteristic of the lowland plains.

Turbines of this height (35m – 50m) can therefore be accommodated most readily by relating the height of the turbines to the scale of the landform. If well sited, turbines of this size, even in small groups of up to three turbines, may be able to take advantage of the degree of relief created by medium scaled landforms. Examples include the broad slopes of larger scale foothills and fringes of extensive upland areas and plateaux or the transition between smaller scale farmed or settled landscapes and the edge of larger scale upland landscapes.

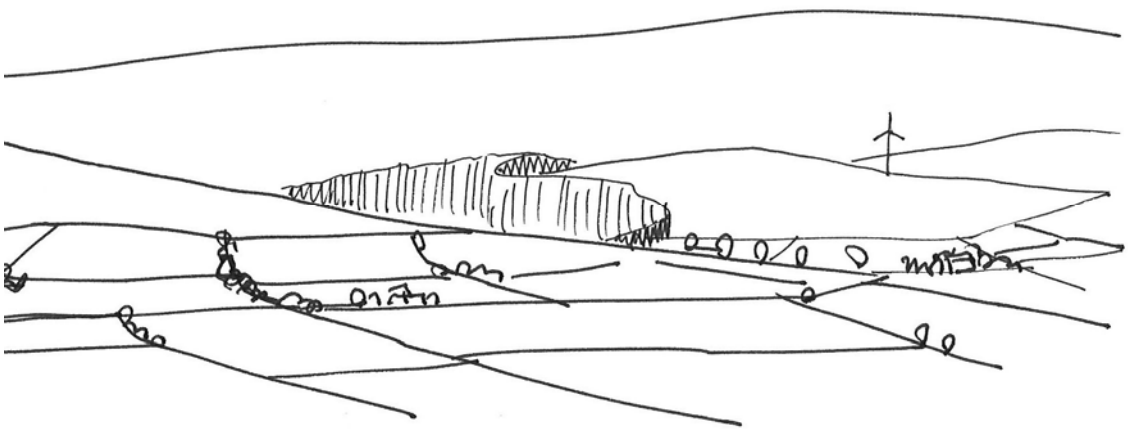


Image 12 – Landscape scale and size of features: *A 'medium-small' (35 – 50m high) turbine located where it is readily associated with the scale of the landform rather than individual features within the low-lying farmland. This size of turbine is more easily accommodated if it is not located close to farms and trees, but can be seen in the context of landform and more simple landcover, such as moorland and larger woods, for example at the transition between upland and lowland landscapes. This turbine has also been placed where it avoids eh hill top, and at a clear break in slope along the ridgeline.*

Trees and woodland, field pattern, settlements and farms are located on the lower fringes of the uplands, within the glens and across the farmed plains. The consistent and recurring presence of these elements creates a pattern which reduces the scale in these areas, and the individual elements provide scale reference points against which height can be judged.

On more marginal farmed landscapes characteristic of the settled areas of Moray, buildings and tree cover are likely to be sparse and often are smaller in size than more fertile lowland farmlands. Trees may also be limited in height by exposure or poor soils and buildings are often low, either due to exposure, or due to the poorer quality farmland, which is often reflected in the characteristically more modest building style.

In settled and farmed locations, the relationship between small-medium turbines (35m – 50m) and individual smaller scale elements is likely to be very sensitive, as this size of turbines could easily overwhelm the size of individual elements, such as farms, other buildings, trees, small woods and policy features which are key characteristics of these landscapes.

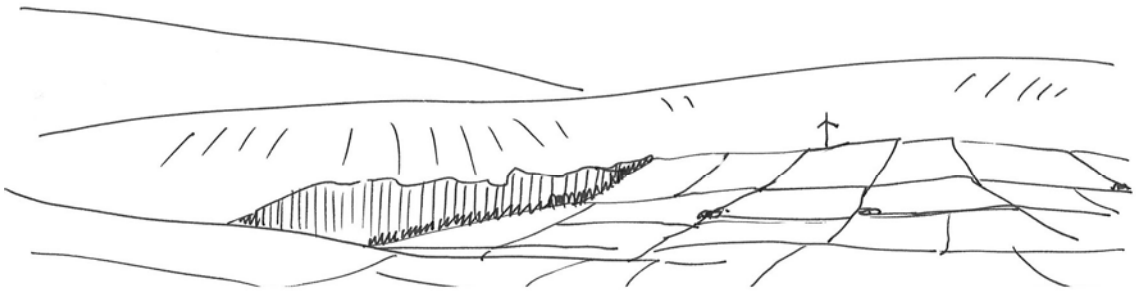
Turbines of this height (35m – 50m) can therefore be accommodated most readily by relating the height of the turbines to the scale of the landform, and away from the setting of farms, other buildings, trees and woodland, as shown in image 12 above.

For this typology, if there is doubt about the potential impact of a turbine on the scale of the landscape, a photomontage, wireline or photowire taken from a key viewpoint will help the assessment of potential impacts.

Landform shape

This size of turbine (35m - 50m to blade tip) is likely to be more readily accommodated in medium scaled landscapes or the transition between smaller scale farmed or settled landscapes and the edge of larger scale upland landscapes. In these locations, they are more likely to fit with the landscape if they are sited to clearly relate to a specific land form. Turbines of this size could be accommodated on low hills or ridgelines which provide the immediate backdrop to the farmed lowland areas, especially if they, too, are back-dropped by larger hills or more sweeping plateaux.

Distinct changes in gradient associated with rising slopes, well defined dips within undulations, natural terraces or more expansive concave landforms, long ridges, and interim hills and foothills, as well as the edges of more expansive plateaux all provide potential opportunities for micro-siting turbines of this size.



Landform shape and scale: *An indicative medium-small turbine (height 35 – 50m) shown at the break in slope at the transition between more accessible farmed land and steeper hillsides.*

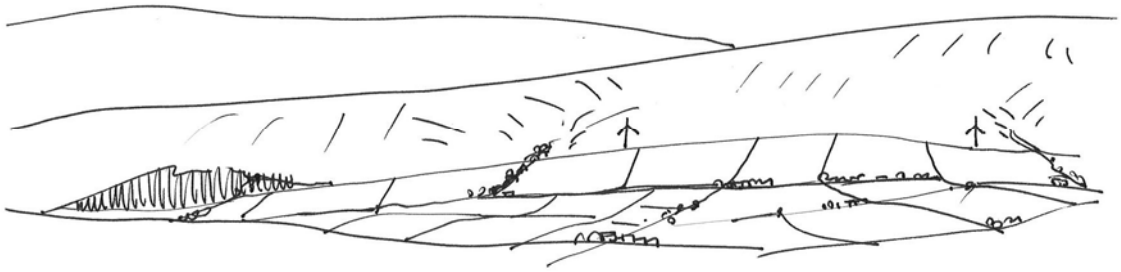
Settlement and land use pattern and features

Wherever possible, this size of turbine will 'fit' in the landscape more successfully if it is strongly associated with the scale of the landform and not individual features such as settlement. This will mean locating this typology away from the setting individual farms and buildings and woodland features.

This size of turbine (35-50m) is most likely to be accommodated where the pattern of built development becomes more sparse, for example in the upland fringe, or where farm holdings are large with very dispersed settlement pattern set within more open, large scale lowland landscapes. Other opportunities include where the pattern of fields gives way to more extensive forestry, open hills and moorland.

The alignment of tracks and location of other infrastructure, as well as the turbines themselves, are also more likely to be an issue than with smaller turbine sizes.

Developing a recognisable pattern of development – for example, locating turbines at a similar elevation, and/or on similar topographical features across a landscape type will help create a pattern of development which will appear less cluttered and will also develop a distinctive and consistent landscape characteristic over time.



Landscape pattern*: These two indicative 35-50m high turbines are located at the break in slope, reinforced by the change from field pattern to open ground. They are also broadly linked to watercourses on this hillside, therefore a pattern is emerging.*

Visibility

Turbines of this height are likely to be widely visible, as they are difficult to screen with smaller landform. Good siting is therefore very important, as the relationship with landform and wider landscape setting will be very visible.

Cumulative issues

Given the current incentives, these small-medium sized turbines may become a more common occurrence. Key cumulative issues are likely to relate strongly to potential clutter in the landscape and the visual relationship with wind farms of larger turbines or individual and small groups of small turbines. Cumulative issues may include:

- *Several individual, or small groups of turbines, could begin to dominate local character;*
- *Diverse designs of turbine, all spinning at different speeds – or even several turbines of the same type – strung along a prominent or important skyline could become a visual distraction from other landscape features or from perceived visual amenity, especially from key viewpoints;*
- *Lack of a clear siting strategy could lead to fragmentation of an existing robust and recognisable landscape pattern – where possible, it is important to site turbines on similar landforms, at similar elevations and with a similar relationship to the existing settlement pattern;*

- *The larger the turbine, the harder it is likely to be to accommodate a number of them in a single view or recognisable tract of landscape without them becoming the dominant feature. It is also harder to accommodate the turbines in a sequence of views experienced, for example, when travelling along a road;*
- *The variety of potential different types of wind turbines within the landscape could lead to clutter with different styles, sizes of structures and speeds of blade movement dotted across a landscape;*
- *Potential clutter may also be easily created if there are other masts, such as telecoms masts, overhead wires and pylons within the same vicinity – this is likely to be a bigger problem with these small turbines than larger ones;*
- *There may be the added complication of increased visual clutter created by a wide range of different heights of turbine within a farmed landscape with micro-, small and small/medium sized turbines;*
- *Other complications may be the visual inter-relationship with larger wind farms of large and medium sized turbines, especially along the upper edge of farmland adjacent to upland character types.*

Other landscape issues associated with this typology

More complex landform, such as the areas of small-scale deposits and knolls will be particularly sensitive to the construction of access tracks for this size of wind turbine development. The construction of new access tracks should be minimised by careful siting of turbines to use existing tracks and to avoid more difficult or steep terrain. Care should also be taken in the alignment and design of any access tracks to ensure that sensitive landform and vegetation is not adversely affected and that intrusion on key views is avoided.

Undergrounding electricity cables to a suitable off-site location to connect with the grid should also be undertaken in order to avoid a clutter of disparate built elements in the landscape.