Middle Muir Wind Farm

Landscape and Visual ES Addendum

Prepared on behalf of Banks Renewables (Middle Muir Wind Farm) Limited

March 2023

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BARTON WILLMORE now Stantec

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Prepared by:	JG	JG
Checked by:	IH	IH
Authorised by:	CL	CL

Barton Willmore, now Stantec
38 Queen Street
Glasgow
G1 3DX

Tel: 020 7446 6888
Fax: 020 7446 6889
Email: iain.hynd@bartonwillmore.co.uk

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CONTENTS

ILLUSTRATIVE MATERIAL

1.0 INTRODUCTION

1.1 This Landscape and Visual Environmental Statement (ES) Addendum has been prepared as part of the variation application in terms of Section 36C of the Electricity Act for Middle Muir Wind Farm, South Lanarkshire, with respect to its 2016 S36C consent (ref: EC00003166), which itself was a variation to an original permission which was consented in September 2014 (ref: EC00005219).

1.2 The application is to extend the operational period of Middle Muir Wind Farm, as set in the 2016 S36C consent, extending it another 15 years from its expiry date of 21 December 2043 until 21 December 2058. No repowering or alterations to the existing 15 wind turbines are proposed.

1.3 The Landscape and Visual Impact Assessment (LVIA) undertaken in this addendum reviews the existing baseline, based on the eight representative viewpoints used in the supporting information for the 2016 S36C consent, as illustrated on **Figure 1: Site Context Plan**:

- VP1 – Crawfordjohn
- VP2 – Glespin
- VP3 – Red Moss
- VP6 – Duneaton Water
- VP9 – Tinto Hill
- VP11 – Cairn Table
- VP18 – B740 at Spango
- VP22 – Auchensaugh Cairn

1.4 The LVIA identifies changes that have occurred in the existing baseline since the previous consent and considers the likely future baseline for the years 2043 to 2058 based on the information currently available.

1.5 An assessment is then made as to whether any of the possible future changes to the landscape and visual baseline may affect the suitability of a 15 year extension of the existing wind farm. This is undertaken through a review of the potential landscape and visual impacts set out in the previous ES and ES Addendum.

1.6 The methodology used for the LVIA is drawn from principles of good practice in Guidelines for Landscape and Visual Impact Assessment, 3rd Edition[1] and current Technical Advice Notes and Guidance published by the Landscape Institute and NatureScot.

[1] Landscape Institute. and I. E. M. A. (2013) Guidelines for Landscape and Environmental Impact Assessment Third Edition

2.0 LANDSCAPE CHARACTER

2.1 Since the preparation of the 2012 ES and 2015 ES Addendum, the Scottish Natural Heritage (SNH) regional landscape character assessments were updated by NatureScot. The updated landscape character assessment identifies Middle Muir Wind Farm as falling within Landscape Character Type (LCT) 213: Plateau Moorlands – Glasgow and Clyde Valley, which is bound by LCT 207: Upland River Valley to the north and south. The key characteristics of the LCT include:

- *"Large scale landform*
- *Undulating hills and sloping ridges in the western areas; a more even plateau landform in the east.*
- *Distinctive upland character created by the combination of elevation, exposure, smooth plateau landform, moorland vegetation.*
- *Predominant lack of modern development.*
- *Extensive wind turbine development, including one of the largest wind farms in Scotland, Black Law.*
- *Sense of apparent naturalness and remoteness which contrasts with the farmed and settled lowlands, although this has been reduced in places by wind energy development."*

2.2 With respect to perception, the assessment notes that:

> ***"The landscape has an exposed and relatively remote character where wind turbines are not present, although enclosure within the forests can be well defined. Wind farms have reduced the perception of undeveloped character, although this is still associated with higher, exposed areas of remoter moorland. However, there have been signs of human activity in most areas of this Landscape Character Type now. Wildness levels on the western plateau are slightly higher than those in the Central Plateau.***
>
> ***Where forestry permits, views tend to be relatively open across the surrounding valleys and adjacent hill groups. There are a number of man-made features visible, particularly road corridors and electrical infrastructure, though few visual foci are present."***

2.3 However, the 2010 South Lanarkshire Landscape Character Assessment remains the current local landscape character assessment for the area and this formed the basis of the landscape character description and assessment within the ES and ES Addendum. Whilst the regional landscape character assessment is more up to date, it is undertaken at a higher level and therefore use of the local landscape character assessment remains appropriate.

3.0 KEY CHANGES TO THE EXISTING BASELINE

3.1 Site visits were carried out in February and March 2023 to review the existing baseline and identify changes since the original applications and addendums were submitted in 2012 and 2015. This included retaking the representative viewpoint photographs that were selected from the original viewpoints and updated in the 2015 ES Addendum (**Appendix 1**).

3.2 The main changes to the existing baseline within the 15km Study Area, as summarised on the Viewpoint Photographs (**Appendix 1**), include the following:

- Construction of Andershaw Wind Farm, comprising 11 wind turbines immediately adjacent to Middle Muir Wind Farm (all viewpoints);
- Construction of Kennoxhead Wind Farm, comprising 19 wind turbines to the west of Middle Muir Wind Farm (Viewpoints 9 and 11);
- Construction of new wind farms and extensions around Hagshaw Hill Wind Farm, including Galawhistle, Douglas West and Nutberry Wind Farms to the north-west of Middle Muir Wind Farm (Viewpoints 9 and 11);
- Changes associated with areas of commercial forestry, where trees are felled, restocked and mature (Viewpoints 9, 11 and 22);
- Planting of new blocks of coniferous forest to the south of the B7078 and north-east of Middle Muir Wind Farm (Viewpoints 3 and 22);
- Restoration of Glentaggart Opencast Mine and implementation of Woodland Project, planting native pioneer species, to the south of Glespin (Viewpoint 2);
- Construction of a new residential property at Crawfordjohn (Viewpoint 1); and
- General growth, removal and planting of existing vegetation.

3.3 The views from Tinto Hill and Cairn Table represent views from prominent and popular hilltops that provide 360 degree elevated views of the landscape. These viewpoints (Viewpoints 9 and 11 respectively) have been the most affected by the introduction of new wind farms into the study area, and by changes in commercial forestry patterns. However, Middle Muir Wind Farm forms a relatively small feature within these panoramic views and is located on the lower lying moorlands between the Douglas Water and Duneaton Water. With respect to the view from Cairn Table, the Kennoxhead Wind Farm introduces large wind turbines into the foreground of the view, further reducing the prominence of Middle Muir Wind Farm.

4.0 LIKELY FUTURE BASELINE

4.1 The likely future baseline for the years 2043 to 2058 has been considered based on the information currently available and some reasonable assumptions.

4.2 As identified on the Viewpoint Photographs (**Appendix 1**), changes likely to affect the future baseline include the following:

- Changes associated with areas of commercial forestry, where trees are felled, restocked and mature (Viewpoints 9, 11 and 22), including the introduction of new areas of commercial forestry (Viewpoints 3 and 22);
- General growth, removal and planting of existing vegetation;
- Construction of approved wind farms and extensions, in particular at Kennoxhead (Viewpoints 9, 11 and 22); and
- Construction of other development and upgrades to existing infrastructure.

4.3 There are a number of planning applications and scoping requests submitted for proposed wind farms and extensions within the Study Area and the immediate vicinity of the Site, including:

- West Andershaw Wind Farm extension: 12 wind turbines to the south-west of Middle Muir and Andershaw Wind Farms;
- Glentaggart Wind Farm: 7 wind turbines to the west of Middle Muir and Andershaw Wind Farms; and
- Bodinglee Wind Farm: a cluster of 13 wind turbines to the immediate north of Middle Muir and Andershaw Wind Farms, west of Auchensaugh Hill and 49 wind turbines in two clusters to the north-east, beyond the M74.

4.4 These applications will come forward in the context of the existing wind farm at Middle Muir, and therefore they are not considered to affect the suitability of a 15 year extension of the existing wind farm. The distribution of wind farms was described as following a pattern of development that focussed *"the largest scale wind farms in the north and south of South Lanarkshire with smaller developments on the rolling moorland areas between the Clyde tributary valleys"*, as described in the LVIA executive summary of the 2012 ES (paragraph 6.5). This pattern has changed over time, with an increase in clusters of wind farms within the Study Area:

i) Wind Farms on the open and forested hills of Hagshow, Hareshaw and Nutberry to the south of Coalburn and west of Douglas;

ii) Middle Muir and Andershaw Wind Farms on the relatively lower lying ground between the Douglas Water and Duneaton Water, north-west of Crawfordjohn;

iii) Kennoxhead Wind Farm and Extensions on the forested eastern slopes of Cairn Table, Little Cairn Table and Stony Hill; and

iv) Clyde Wind Farm and Extensions on the forested and open hills and slopes of Whitelaw Brae, Yearngill Head, Clyde Law and Wintercleuch Fell to the east of Abington and Crawford and the A702.

4.5 Andershaw Wind Farm was constructed in 2017 with consent for a 25 year and therefore would potentially be decommissioned in 2042 / 2043 unless an extension is applied for and granted.

4.6 The effects of climate change on the landscape, including adaptations made to reduce emissions and make places more resilient to climate change and to meet zero carbon targets are likely to be apparent in the period of 2043 to 2058 although it is difficult to predict how those changes will affect landscape character and visual amenity, but it is assumed that the trend of warmer summers and wetter winters will intensify.

4.7 The provision of additional forms of low carbon energy are likely to increase, with greater demand for wind farms, and potential demand for hydrogen, hydroelectric and solar developments.

4.8 Scottish Forestry recognises that Scotland's woodlands and forests have a contribution to make towards achieving Net Zero by 2045 by increasing woodland creation and there is also a need to ensure they can adapt to a changing climate and be resilient to the threats and challenges associated with climate change, as required by the UK Forestry Standard. Scottish Forestry identifies actions for resilience as including *"increasing the diversity of tree species, provenance and management system, using mixed species stands and natural regeneration, future proofing forest design, and contingency planning"* in their 'Climate Adaptation and Building Resilience – Information Note', which makes reference to the 'Adapting forest and woodland management to the changing climate' guidance. This may result in an increase in the extent of woodland and forestry within the Study Area, as well as an increase in the variety of species that are planted and a greater age diversity. It is likely that the open character of the Study Area will remain, with an increase in mixed and broadleaf woodland along watercourses and glens where it would reinforce the landform and legibility of watercourses. Commercial forestry areas may increase in size and, in line with best practice, this is likely to include the creation of more permanent and softer woodland edges to the blocks of commercial forestry. Therefore, the fundamental openness of the landscape, contrasting with blocks of forestry and occasional shelterbelts and woodlands, is likely to persist.

5.0 ES AND ES ADDENDUM LANDSCAPE AND VISUAL ASSESSMENT

5.1 The original ES was submitted in 2012 with planning permission granted for 15 wind turbines and associated infrastructure, which have been constructed. In 2015 an ES Addendum was submitted to allow for a range of rotor diameters and associated range of hub-heights; to revise noise conditions; and to increase the height of the anemometer mast. This section briefly summarises the key findings of the ES and ES Addendum LVIAs.

Landscape Character

5.2 The 2012 ES identified the following significances of impact, with no changes identified as a result of the proposed changes to the physical appearance of the wind farm, as assessed in the 2015 ES Addendum:

Table 1: Landscape Character Impact Table from 2012 ES (15km Study Area)

Viewpoint	Sensitivity to Change	Significance of Impact
Rolling Farmland (SLCLCA)	High	N/A
Plateau Farmland (SLCLCA)	Medium	Negligible
Plateau Moorland (SLCLCA)	Medium	Negligible / Locally substantial
Rolling Moorland (SLCLCA)	Medium	**Moderate / Locally Substantial**
Upland River Valley (SLCLCA)	High	**Moderate**
Broad Valley (SLCLCA)	Medium	Slight-Moderate
Foothills (SLCLCA)	High	**Moderate**
Prominent Isolated Hills (SLCLCA)	High	Slight-Moderate
Southern Uplands (SLCLCA)	Medium	Slight
Upland Glen (SLCLCA)	High	Negligible
Southern Upland (DGLA)	High	Slight-Moderate
Plateau Moorland (ALA)	High	Slight-Moderate
Upper River Valleys (ALA)	Medium	Slight

5.3 Significant landscape effects on Rolling Moorland, Upland River Valley and Foothills Local LCAs were identified in the 2012 ES. The proposed time period extension would not result in any additional landscape effects.

Visual Amenity

5.4 The 2012 ES assessed the likely effects on the visual amenity of a wide range of receptors, including settlements, residents, users of footpaths, cycleways and roads. The 2012 ES was based on 21 representative viewpoints. The 2015 ES Addendum assessment was based on 7 of these representative viewpoints, as agreed with the South Lanarkshire Council, with an additional viewpoint included from Auchensaugh Cairn for cultural heritage purposes. No changes were identified as a result of the proposed changes to the physical appearance of the wind farm, as assessed in the 2015 ES Addendum and summarised in the table below:

Table 2: Viewpoint Impact Table from 2012 ES and 2015 ES Addendum

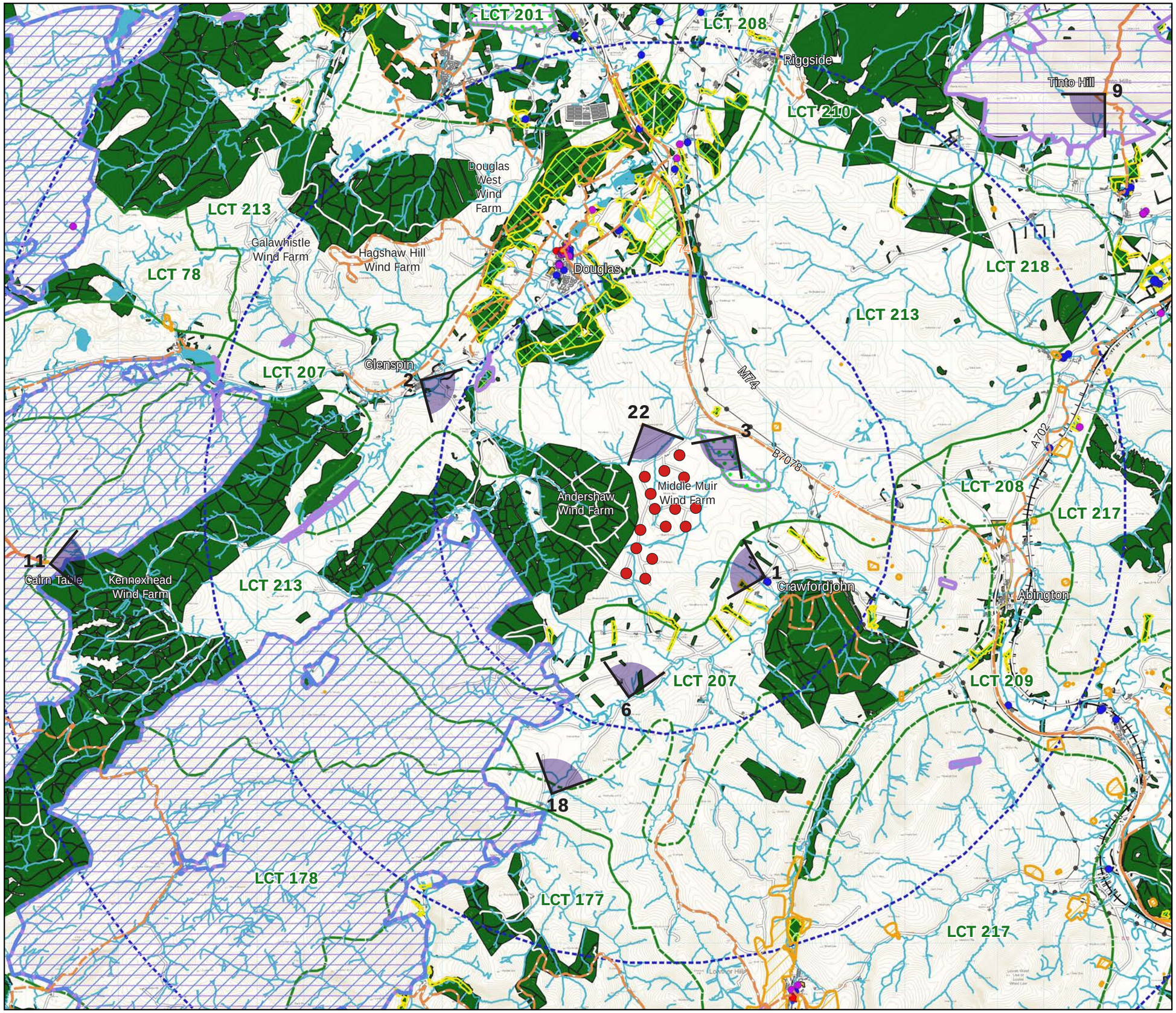
Viewpoint	Sensitivity to Change	Significance of Impact
VP1: Crawfordjohn	High	**Moderate**
VP2: Glespin	High	**Moderate-Substantial**
VP3: Red Moss	High	**Substantial**
VP6: Duneaton Water	Medium	**Moderate**
VP9: Tinto Hill	High	Slight
VP11: Cairn Table	High	Slight
VP18: B740 at Spango	Medium	Slight-Moderate
VP22: Auchensaugh Cairn	N/A*	N/A*

*VP22: Auchensaugh Cairn was included for cultural heritage purposes in the 2015 ES Addendum.

5.5 Significant visual effects were likely to be experienced from four of the representative viewpoints: Viewpoints 1: Crawfordjohn, Viewpoint 2: Glespin; Viewpoint 3: Red Moss and Viewpoint 6: Duneaton. The proposed time period extension would not result in any additional visual effects.

6.0 CONCLUSION

6.1 A review of the baseline environment and assessment of effects on landscape character and visual amenity of the Middle Muir Wind Farm indicates that the proposed extension to its operational period would not result in any effects that have not already been assessed and taken into account in the determination of the original consent and amendment.



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LEGEND

- Core Paths
- National Cycle Routes
- Existing woodland
- Ancient Woodland (Ancient Woodland Inventory)
- Scheduled Monuments
- Gardens and Designed Landscapes

Listed Buildings

- Category A
- Category B
- Category C

- Special Protection Area
- Special Area of Conservation
- Site of Special Scientific Interest
- NatureScot Landscape Character Types

LCT 213 Plateau Moorlands - G&CV
LCT 207 Upland River Valley - G&CV
LCT 208 Broad Valley Upland
LCT 217 Southern Uplands - G&CV
LCT 218 Rounded Landmark Hills
LCT 177 Southern Uplands - D&G
LCT 178 Southern Uplands with Forest - D&G
LCT 78 Plateau Moorland - Ayrshire
LCT 201 Plateau Farmland - G&CV
LCT 210 Undulating Farmland and Hills
LCT 209 Upland Glen - G&CV

FIGURE 1

Project
Middle Muir Wind Farm
South Lanarkshire

Drawing Title
Site Context Plan

Date	Scale	Drawn by	Check by
10.03.23	1:80000 @A3	JG	ST

Project No	Drawing No	Revision
10075	B2-Ind01	-

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VIEWPOINT 1: CRAWFORDJOHN

Changes to Existing Baseline:

A new residential property has been constructed, as seen to the right of the view, and the hedgerow along the residential property boundary has become more established. The result is a slight increase in the screening of Middle Muir Wind Farm.

MIDDLE MUIR WIND FARM
SOUTH LANARKSHIRE

VIEWPOINT 1: CRAWFORDJOHN

DATE TAKEN: FEB 2023
PROJECT NUMBER: 10075

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VIEWPOINT 2: GLENSPIN

Changes to Existing Baseline:

Andershaw Wind Farm has been constructed immediately adajacent to Middle Muir Wind Farm, introducing additional wind turbines into the view, in which the two wind farms are perceived as a single, larger wind farm cluster. The coniferous forestry within the view has become slightly taller since views were taken in 2015.

MIDDLE MUIR WIND FARM
SOUTH LANARKSHIRE

VIEWPOINT 2: GLENSPIN

DATE TAKEN: FEB 2023
PROJECT NUMBER: 10075

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VIEWPOINT 3: RED MOSS

Changes to Existing Baseline:

Andershaw Wind Farm has been constructed immediately adajacent to Middle Muir Wind Farm, introducing additional wind turbines into the view, in which the two wind farms are perceived as a single wind farm cluster.

To the east (left of the panoramic view), blocks of young coniferous planting have been planted south of the B7078.

MIDDLE MUIR WIND FARM
SOUTH LANARKSHIRE

VIEWPOINT 3: RED MOSS

DATE TAKEN: FEB 2023
PROJECT NUMBER: 10075

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VIEWPOINT 6: B740 AT DUNEATON WATER

Changes to Existing Baseline:

Andershaw Wind Farm has been constructed immediately adajacent to Middle Muir Wind Farm, introducing additional wind turbines and a meteorological mast into the view, in which the two wind farms are perceived as a single, larger wind farm cluster.

MIDDLE MUIR WIND FARM
SOUTH LANARKSHIRE

VIEWPOINT 6: B470 AT DUNEATON WATER

DATE TAKEN: FEB 2023
PROJECT NUMBER: 10075

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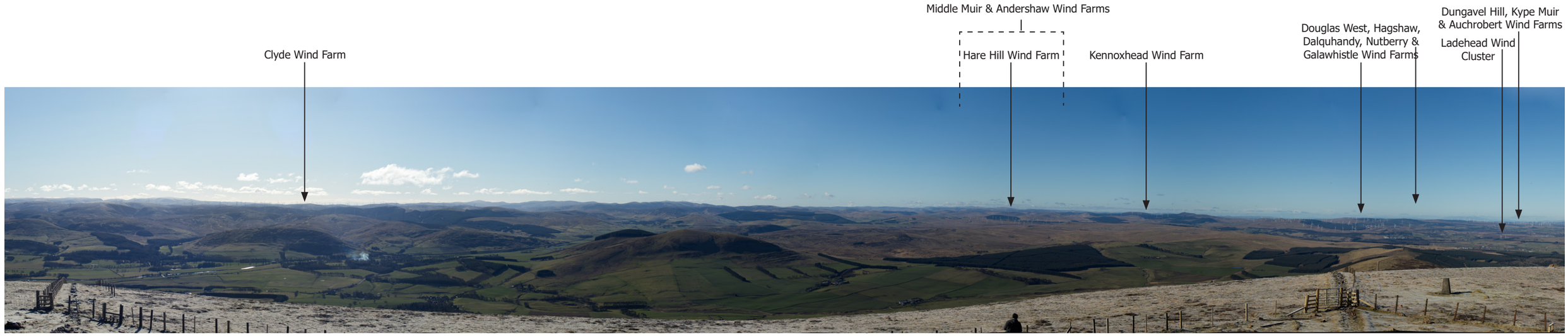

VIEWPOINT 9: TINTO HILL

Changes to Existing Baseline:

Andershaw Wind Farm has been constructed immediately adajacent to Middle Muir Wind Farm, introducing an additional 11 wind turbines into the view, within which the two wind farms are perceived as a single, larger wind farm cluster. Kennoxhead Wind Farm has been constructed within the forested area to the south-west of Middle Muir Wind Farm, around Cairn Table (right of the view). Galawhistle, Douglas West and Nutberry Wind Farms have been constructed on the hills around Hagshaw Hill Wind Farm creating a greater cluster of Wind Farms to the west (right of the panoramic view).

MIDDLE MUIR WIND FARM
SOUTH LANARKSHIRE

VIEWPOINT 9: TINTO HILL

DATE TAKEN: MARCH 2023
PROJECT NUMBER: 10075

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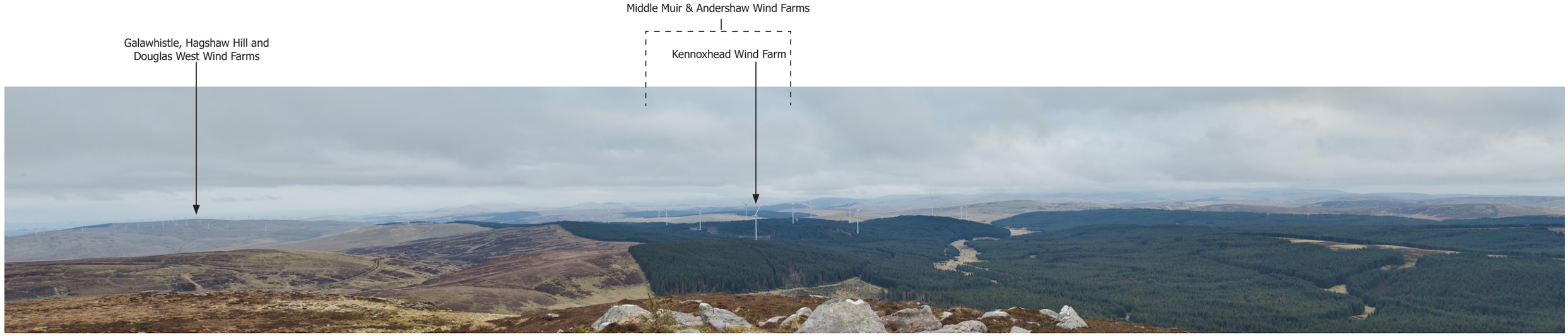

VIEWPOINT 11: CAIRN TABLE

Changes to Existing Baseline:

Andershaw Wind Farm has been constructed immediately adajacent to Middle Muir Wind Farm, introducing an additional 11 wind turbines into the view, within which the two wind farms are perceived as a single, larger wind farm cluster.

Kennoxhead Wind Farm has been constructed in the foreground of the view, and draws the eye. Galawhistle, Douglas West and Nutberry Wind Farms have been constructed on the hills around Hagshaw Hill Wind Farm creating a greater cluster of Wind Farms to the north (left of the panoramic view).

MIDDLE MUIR WIND FARM
SOUTH LANARKSHIRE

VIEWPOINT 11: CAIRN TABLE

DATE TAKEN: FEB 2023
PROJECT NUMBER: 10075

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VIEWPOINT 18: B740 AT SPANGO

Changes to Existing Baseline:

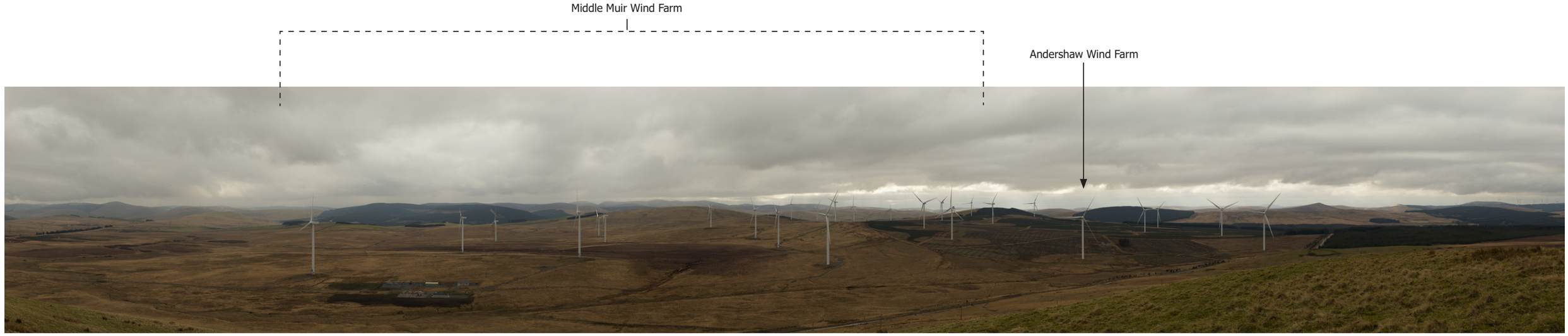
Andershaw Wind Farm has been constructed immediately adajacent to Middle Muir Wind Farm, introducing additional wind turbines and a meteorological mast into the view, within which the two wind farms are perceived as a single, larger wind farm cluster.

MIDDLE MUIR WIND FARM
SOUTH LANARKSHIRE

VIEWPOINT 18: B470 AT SPANGO

DATE TAKEN: FEB 2023
PROJECT NUMBER: 10075

BARTON WILLMORE now Stantec



VIEWPOINT 22: AUCHENSAUGH CAIRN

Changes to Existing Baseline:

Andershaw Wind Farm has been constructed immediately adajacent to Middle Muir Wind Farm, introducing 11 additional wind turbines into the view, within which the two wind farms are perceived as a single, larger wind farm. Kennoxhead Wind Farm introduces a new wind farm into the view to the south-west (right of the panoramic view).

MIDDLE MUIR WIND FARM
SOUTH LANARKSHIRE

VIEWPOINT 22: AUCHENSAUGH CAIRN

DATE TAKEN: FEB 2023
PROJECT NUMBER: 10075

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