

1 Cumulative Landscape and Visual Effects

NB This text supersedes all previously published cumulative landscape and visual assessment, including that within the June 2015 Addendum and Chapter 19 of the Consolidated ES (May 2013). The assessment has been updated and also includes the assessment of the published North-South 400 kV Interconnection Development and a number of newly approved projects.

Figure 5.1 from the Consolidated ES Addendum has been revised and included in this appendix. Figure 5.2 and 5.3 are unchanged but have also been included for ease of reference.

1.1 Introduction

1. This Section assesses the likely significant landscape and visual cumulative effects resulting from the addition of the Tyrone - Cavan Interconnector with other developments. A further assessment of cumulative effects is outlined in the Joint Environmental Report¹ for the proposed Interconnector project (i.e. the project in Northern Ireland and Ireland). This is contained in Volume 3 Appendix 2.1 of the Consolidated ES Addendum.

1.1.2 Scope of Cumulative Assessment

1.1.2.1 Overview

2. Cumulative effects may arise from the “combined effects of a number of other developments, in combination with the development being assessed, on a single receptor/resource” (DMRB 2008). This can include multiple impacts of the same or similar type from a number of developments upon the same receptor/resource.
3. For the purposes of the assessment of the proposed Tyrone - Cavan Interconnector, the categories of other developments included in the assessment of potential cumulative effects has been taken to include:
 - All overhead line developments currently in the planning process within 30km of the Tyrone - Cavan Interconnector²; and,
 - Approved planning applications within 5km³ with the potential for significant cumulative effects with the Tyrone - Cavan Interconnector.

¹ The Joint Environment Report for the proposed interconnector is intended to accompany the Consolidated ES and EIS in each jurisdiction. The purpose is to provide the reader with an overview of impacts and the transboundary issues of the proposed interconnector, taking into account the EC Transboundary Guidance document. The full details of the project are contained in the respective planning applications and accompanying documents which should be read in conjunction so that the detail of the project can be fully realised.

² Chapter 20 Transboundary Impacts of the Consolidated ES (and as updated in the Consolidated ES Addendum) assesses the impact of the Tyrone - Cavan Interconnector (i.e. the project within Northern Ireland) on receptors within the Ireland, as required by the EIA Regulations.

³ It has been determined that beyond 5km, vegetation, local variations in topography, inclement weather and lighting will shield or partially interrupt or obscure views of the Proposed Development. In addition, at distances of 5km or greater, the 25 m to 54 m tall tower structures are unlikely to be prominent features or become focal points within views due to reduced perceptibility.

1.1.2.2 Overhead Line Developments

4. The following proposed overhead lines have been considered within the cumulative assessment:

- Tamnamore to Omagh 110 kV network reinforcement project (planning permission approved). This is a 50 km 110 kV overhead electricity line and substation between existing NIE substations at Tamnamore (Dungannon) and Omagh. Tamnamore substation is located approximately 4.7 km to the north west of the Tyrone - Cavan Interconnector at its closest point. The Tamnamore to Omagh line is located approximately 1.6km from the proposed interconnector at its closest point; and,
- North-South 400 kV Interconnection Development (i.e. the section of the proposed interconnector in Ireland⁴) running from the Northern Ireland/ Ireland border at a position between the townlands of Doohat or Crossreagh, County Armagh, and Lemgare, County Monaghan running south (via the Northern Ireland townland of Crossbane) to an existing substation at Woodland, County Meath.

1.1.2.3 Other Developments

5. Information on planning applications was obtained from the DOE and Monaghan County Council (June 2015). A review of all planning applications of similar scale and type, with the potential for cumulative effects with the Tyrone - Cavan Interconnector was undertaken.

6. Projects to be included within the cumulative assessment were selected based on the following scoping criteria:

- Nature of the project – developments with large vertical structures were selected because of the potential for cumulative effects with the proposed towers. In addition, other developments with significant effects in their own right, or which required an EIA, were considered;
- Distance – developments further from the Tyrone - Cavan Interconnector were scoped out because of distance and the diminishing potential for significant cumulative effects; and,
- Scale – developments which are large scale were considered because of the potential for significant cumulative effects.

7. A large number of developments that meet the above criteria were identified within the study area. A screening process was undertaken to evaluate which of the identified developments would have the potential for significant cumulative effects in relation to the Tyrone – Cavan Interconnector. The following 12 developments were identified with the potential for significant cumulative effects:

- Tamnamore to Omagh 110 kV network reinforcement project;
- North-South 400 kV Interconnection Development (June 2015);
- Wind Turbine (App No. M/2014/0596/F) formerly M/2012/0432/F;
- Wind Turbine (App No. LA09/2015/0742/F)
- Wind Turbine (App No. O/2013/0464/F);
- Wind Turbine (App No. O/2013/0397/F);
- Wind Turbine (App No. O/2013/0259/F);
- Wind Turbine (App No. O/2014/0096/F);
- Wind Turbine (App No. O/2012/0183/F);
- Wind Turbine (App No. O/2013/0157/F);

⁴ Also called the Republic of Ireland

- Wind Turbine (App No. O/2013/0273/F); and,
 - Poultry House (App No. LA9/2015/0176/F).
8. These 12 developments have been cumulatively assessed within the following text.
9. The EIA team has sought to keep aware of any potential changes to these schemes through regular checks of submitted planning applications. There are no known planning applications located in Ireland (other than the North-South 400 kV Interconnection Development) that would require inclusion in this cumulative impact assessment. In addition, a separate cumulative impact assessment has been undertaken for the North-South 400 kV Interconnection Development with other developments, which has been subject to a separate planning process.
10. The construction of poultry sheds near to Tower 40 has resulted in changes to the proposed access track to that tower (see the Statement of Case and Technical Report 4 for further details). These sheds are part of consented planning application O/2013/0426/F and, having been constructed, form part of the baseline conditions included in the Landscape and Visual assessment of the proposed Tyrone – Cavan Interconnector. The O/2013/0426/F application has been scoped out of this cumulative impact assessment.

1.1.3 Significance of Effects

11. The cumulative effects resulting from the addition of the Tyrone Cavan Interconnector to other identified developments are assessed by considering the sensitivity of the receptor and the cumulative magnitude of change and are described in relation to the significance criteria outlined in Table 1.1 table included for reference only.

Table 1.1: Determining Significance of Cumulative Effects

Significance	Effects
Major	Additional changes, due to relationship with other developments, substantially affecting the elements therein. For example a major effect is likely when a receptor of high sensitivity is affected by a high magnitude of additional change.
Moderate	Additional change, due to relationship with other developments, affecting, to a lesser degree or the elements therein. For example a moderate effect is likely when a receptor of medium sensitivity is affected by a medium magnitude of additional change.
Minor	Slight additional change, due to relationship with other developments. For example a minor effect is likely when a receptor of low sensitivity is affected by a small magnitude of additional change.
Imperceptible	No or minimal perceptible additional change, due to relationship with other developments.

1.2 Assessment of Cumulative Landscape and Visual Effects

1.2.1 Overhead Line Developments

1.2.1.1 Tamnamore to Omagh 110 kV network reinforcement project

12. This is a 50km 110 kV overhead electricity line and substation between existing NIE substations at Tamnamore, Dungannon and Omagh. The Tamnamore substation is located approximately 4.7km to the northwest of the proposed interconnector at its closest point. The Tamnamore to Omagh line is located approximately 1.6km from the proposed interconnector at its closest point.

Cumulative Landscape Character Effects

13. A cumulative ZTV (Figure 5.2 – published in Volume 3 of the Consolidated ES Addendum) has been produced which illustrates areas of combined visibility between the proposed Tamnamore to Omagh

110 kV network reinforcement project and the Tyrone - Cavan Interconnector. The ZTV⁵ shows that much of the northern part of the study area would have combined theoretical visibility, with large areas lying between the two proposals (between the M1 road corridor and western edges of Moy) and more separated large patches beyond this, towards the edges of the study area boundary. There are also some smaller patches of combined theoretical visibility on top of drumlin summits to the west of Benburb and east of Blackwatertown, although at this distance (>5km) the Tamnamore to Omagh 110 kV network reinforcement project is likely to be barely discernible.

LCA 64: Lough Neagh Peatlands

14. Lough Neagh Peatlands LCA is considered to have Medium Sensitivity to change. Some of the areas of combined theoretical visibility within this LCA lie within 1km of the Tamnamore to Omagh 110 kV network reinforcement project. These same areas are however, distant from the Tyrone - Cavan Interconnector and when the Tyrone - Cavan Interconnector is considered in combination, the resulting cumulative effect is assessed as Imperceptible (as defined by Table 1.2).

LCA 45: Dungannon Drumlins and Hills

15. Dungannon Drumlins and Hills LCA is considered to have Medium Sensitivity to change. Areas of combined theoretical visibility within this LCA, that lie beyond the M1 corridor have, in reality, no visibility of the Tyrone - Cavan Interconnector proposals. For the other areas of theoretical visibility within this LCA, no additional change would be experienced when the Tyrone - Cavan Interconnector is considered in combination with the Tamnamore to Omagh 110 kV network reinforcement project. This is due to a combination of distances relative to each proposal from any given part of the LCA and the layers of intervening vegetation that lie across this LCA, which limit changes to the experience of character. Therefore, when the Tyrone - Cavan Interconnector is considered in combination, the resulting cumulative effect is assessed as Imperceptible.

LCA 47: Loughgall Orchard Belt

16. Loughgall Orchard Belt LCA is considered to have Medium Sensitivity to change. Areas of combined theoretical visibility within this LCA tend to be focussed in the areas lying between the two proposals (between the M1 road corridor and western edges of Moy). Other areas to the east of the Tyrone - Cavan Interconnector are distant from the Tamnamore to Omagh 110 kV network reinforcement project. Overall, additional change would be experienced in several parts of this LCA when the Tyrone - Cavan Interconnector is considered in combination with the Tamnamore to Omagh 110 kV network reinforcement project, resulting in Medium magnitude of cumulative change. The resulting cumulative effect is assessed as Moderate Adverse.

Cumulative Visual Effects

17. Viewpoints 1, 4 and 6 have been identified as having the potential for cumulative visual effects with the Tyrone - Cavan Interconnector in combination with the proposed Tamnamore to Omagh 110 kV network reinforcement project.

Viewpoints 1 and 4

18. Viewpoints 1 and 4 are considered to have Medium Sensitivity to change. From both of these viewpoints the Tamnamore to Omagh 110 kV network reinforcement project would be a distant element in views to the west and would not be viewed simultaneously with the Tyrone - Cavan Interconnector proposals. The resulting cumulative effect is assessed as Imperceptible which is not considered significant.

Viewpoint 6

19. Viewpoint 6 is considered to have Medium Sensitivity to change. From this viewpoint, the Tamnamore to Omagh 110 kV network reinforcement project is theoretically visible along the A29 road corridor.

⁵ Whilst the ZTV may show that the development is theoretically visible from a location, this is not in itself indicative of the type of impact or magnitude of effect. The ZTV is therefore augmented by field work to consider the nature and composition of existing views, local landform and vegetation that may shield visibility of the proposed overhead line, and further analysis of potential extents of visibility. The ZTV has been generated from a 10m Digital Terrain Model (DTM) using a Geographic Information System.

However, in reality, views from this viewpoint are restricted by subtle variations of road alignment that limit views to the straight section of the road that the Tamnamore to Omagh 110 kV network reinforcement project crosses. Other sections of the Tamnamore to Omagh 110 kV network reinforcement project would be screened by drumlin slopes and successive layers of vegetation that intervene. Therefore, the resulting cumulative effect is assessed as Imperceptible which is not considered significant.

Dwellings

20. No dwellings have been identified within 500m⁶ of both the Tamnamore to Omagh 110 kV network reinforcement project and the Tyrone – Cavan Interconnector and as such no significant cumulative effects are anticipated.

1.2.1.2 North-South 400 kV Interconnection Development

Cumulative Landscape Character Effects

21. A cumulative ZTV (Figure 5.3 published in Volume 3 of the Consolidated ES Addendum) has been produced which illustrates areas of combined theoretical visibility between the proposed North-South 400 kV Interconnection Development and the Tyrone - Cavan Interconnector. The ZTV shows a central swathe of combined theoretical visibility which would stretch approximately from Drummark in Northern Ireland to Lisdrumgormly in Ireland, following the open drumlin valley that is typical of this part of the study area. There are some smaller patches of combined theoretical visibility on top of the drumlin summits within the 5km study area and on more elevated landscapes to the east and west beyond the 5km study area.

LCA 66: Armagh Drumlins

22. Armagh Drumlins LCA is considered to have High sensitivity to change. The North-South 400kV Interconnection Development would introduce a series of vertical elements adjacent to the south of this LCA but would have limited and localised influence on its character. The Tyrone – Cavan Interconnector would pass through this LCA and introduce a linear feature and a series of vertical structures into the landscape. Although the Tyrone – Cavan Interconnector would increase the extent of the LCA affected by this type of development, the limited influence of the North-South 400 kV would reduce the potential for cumulative effects. Taking this into account, when the Tyrone – Cavan Interconnector is considered in combination with the North-South 400 kV Interconnection Development the cumulative magnitude of change would be Negligible. Cumulative effects on the Armagh Drumlins LCA is therefore assessed as Minor Adverse which is not considered significant.

LCA 68: Carrigatuke Hills

23. Carrigatuke Hills LCA is considered to have Medium Sensitivity to change. No additional changes would be experienced when the Tyrone - Cavan Interconnector is considered in combination with the North-South 400 kV Interconnection Development and the resulting cumulative effect is assessed as Imperceptible which is not considered significant.

LCA 6: Mullyash Uplands

24. Mullyash Uplands LCA is considered to have High Sensitivity to change. The North-South 400 kV Interconnection Development would pass through this landscape, introducing a linear feature and series of vertical structures. The Tyrone – Cavan Interconnector would be located outwith this LCA and as such would have a more limited influence on the character. Taking this into account, the cumulative magnitude of change on the Mullyash Uplands LCA resulting from the addition of the Tyrone – Cavan Interconnector to the North-South 400 kV Interconnection Development is assessed as Negligible and the cumulative effect is assessed as Minor Adverse, which is not considered significant.

⁶ Extensive field study of the characteristics of the landscape has shown that due to the scale and topography of the drumlin landscape type that dominates the route, properties that lie within 500m of the overhead line route are more likely to have clear views of the proposals. For this reason particular attention has been paid to properties within 500m.

LCA 2: Blackwater Valley and Drumlin Farmland

26. Blackwater Valley and Drumlin Farmland LCA is considered to have High Sensitivity to change. No additional changes would be experienced when the Tyrone - Cavan Interconnector is considered in combination with the North-South 400 kV Interconnection Development and the resulting cumulative effect is assessed as Imperceptible which is not considered significant.

27.

Cumulative Visual Effects

28. Several viewpoints (30, 32, 33 & 34) have been identified as having the potential for cumulative visual effects with the North-South 400 kV Interconnection Development.

Viewpoint 30 (Crossbane Road, near Tower 102)

29. The North-South 400 kV Interconnection Development would pass in close proximity in the foreground of the view and introduce a number of prominent vertical elements. The Tyrone – Cavan Interconnector would be more distant and appear as a less prominent extension to the North-South 400 kV Interconnection Development. Taking this into account the cumulative magnitude of change would be Negligible and the resulting cumulative effects is assessed as Minor Adverse which is not considered significant.

Viewpoint 32 (Minor road north-east of Castleshane, RoI)

30. Viewpoint 32 is considered to have Medium Sensitivity to change. From this viewpoint, both the North-South 400 kV Interconnection Development and the Tyrone – Cavan Interconnector would be barely discernible. The resulting cumulative effect is assessed as Imperceptible which is not considered significant.

Viewpoint 33 (Scenic view from Tullybuck (Clontibret - RoI))

31. Viewpoint 33 is considered to have High Sensitivity to change. From this viewpoint, both the North-South 400 kV Interconnection Development and the Tyrone – Cavan Interconnector would be barely discernible. The resulting cumulative effect is assessed as Imperceptible which is not considered significant.

Viewpoint 34 (Mullyash Mountain)

32. Viewpoint 34 is considered to have High Sensitivity to change. The North-South 400 kV Interconnection Development would be visible in the distance to the west of this viewpoint. The Tyrone – Cavan Interconnector would be more distant and barely discernible and therefore the cumulative effect is assessed as Imperceptible which is not considered significant.

Dwellings

33. Several dwellings (See Figure 1.2, included in Appendix 3 of the Technical Report 11) have been identified as having the potential to be affected by cumulative visual effects with the Tyrone – Cavan Interconnector and North-South 400 kV Interconnection Development. Of the dwellings assessed in the non-cumulative individual dwellings assessment (Chapter 13 Landscape and Visual of the Consolidated ES) the following dwellings lie within 500m of the North-South 400 kV Interconnection Development: J48, J51, J51+, J52, J55, J59, J59a, J60, J61 & J62. Each of these dwellings is assessed as having a High Sensitivity.
34. For dwellings J52, J55 and J62 the North-South 400 kV Interconnection Development would be predominantly screened by topography and as such there would be no or an Imperceptible cumulative effect which is not considered significant.
35. For dwelling J59 the North-South 400 kV Interconnection Development would be only partially visible to the south. The Tyrone – Cavan Interconnector would largely be screened from this property by adjacent trees. Due to the influence of the North-South 400kv Interconnection Development, the cumulative magnitude of effect would be Negligible resulting in Minor Adverse cumulative effects which is not considered significant.
36. For dwelling J59a the North-South 400 kV Interconnection Development would be partially visible to the south. Views of the Tyrone – Cavan Interconnector would be filtered by intervening vegetation and topography. The cumulative magnitude of change is considered to be Negligible and the cumulative

effect is assessed as Minor Adverse which is not considered significant.

37. For dwelling J48 the North-South 400 kV Interconnection Development would be visible to the southeast, within the main view, and would introduce a series of vertical structures. The Tyrone – Cavan Interconnector would be in closer proximity, although with fewer structures visible. Taking this into account the resulting cumulative magnitude of change is High and the cumulative effect is assessed as Major Adverse which is considered significant.
38. For dwellings J51, J51+, J60 and J61 the North-South 400 kV Interconnection Development would be visible and often prominent in the view. The Tyrone – Cavan Interconnector would introduce additional prominent elements and increase the extent of the view affected. Therefore, when considering the Tyrone – Cavan Interconnector in combination with the North-South 400 kV Interconnection Development the cumulative magnitude of change is High and the cumulative effect is assessed as Major Adverse, which is considered significant.

1.2.2 Wind Turbine Developments

Cumulative Landscape Character Effects

39. There are a number of individual wind turbine developments throughout the study area and as such they are becoming a typical element and feature within this agricultural landscape. Individual wind turbine development generally has a localised influence on the landscape character, often with limited effects on the wider LCAs. Therefore potential cumulative change in relation to wind turbine developments would be limited and localised and is unlikely to result in significant cumulative effects on the wider LCAs within the study area. There are no predicted significant cumulative effects arising from the influence of wind turbine development when considered with the Tyrone – Cavan Interconnector for any of the LCAs within the study area. In order to avoid repetition and to ensure that the assessment focusses on those cumulative effects with the potential to be significant, the following section therefore concentrates on potential cumulative visual effects.

1.2.2.2 Wind Turbine (App No. M/2014/0596/F) (Substitution of M/2012/0432/F)

40. This application is for the substitution of a single wind turbine (up to 67m tip height), to replace a small turbine approved under planning permission (M/2012/0433/F). The proposal is located approximately 435m NE of 14 Culkeeran Road, Moy, Dungannon and approximately 210m from the Tyrone-Cavan Interconnector on elevated ground near Tower 10.

Cumulative Visual Effects

41. Viewpoints 6, 7 and 8 have been identified as having the potential for cumulative visual effects with this proposed application.

Viewpoint 6

42. Viewpoint 6 is considered to have Medium Sensitivity to change. The non-cumulative magnitude of change is considered to be Medium. The turbine would introduce a new point of focus to elevated ground in the south east of the view. The towers and overhead line would contribute to change over a wider area. Views would be successive in relation to the Tyrone – Cavan Interconnector, with the substation screened by topography and successive layers of vegetation that intervene. When considered in combination with the wind turbine, the addition of the Tyrone – Cavan Interconnector would result in a Medium cumulative magnitude of change, introducing a notable change over a limited area. The cumulative effect would be Moderate Adverse which is considered significant.

Viewpoint 7

43. Viewpoint 7 is considered to have Medium Sensitivity to change. The Tyrone – Cavan Interconnector would be viewed in combination with the wind turbine. The turbine will introduce movement of rotating blades, which will occupy a very small part of the view to the north west and the turbine will be of a slightly larger scale to the towers of the proposed Tyrone – Cavan Interconnector which will appear in the foreground. The overhead line and towers would bring further development to an area containing vertical man made elements in the landscape. When considered in combination with the wind turbine, the addition of the Tyrone – Cavan Interconnector would result in a Low cumulative magnitude of change. The cumulative effect would be Minor Adverse which is not considered significant.

Viewpoint 8

44. Viewpoint 8 looks along Gorestown Road, to an enclosed landscape with drumlins and hedgerows limiting views. It is considered to have Medium Sensitivity to change. Overall, the non-cumulative magnitude of change is considered to be Low. The overhead line and towers will be visible in the foreground. It is possible that the tips of the wind turbine could be viewed in the centre of the view. However, given local topography and screening, the tips would be barely discernible. The cumulative magnitude of change will be Low resulting in Minor Adverse cumulative effects, which is considered not significant.

Dwellings

45. The wind turbine application has been identified as having the potential to have cumulative visual effects on several dwellings. Of the dwellings assessed in the non-cumulative individual dwellings assessment (Section 13.6.2.2. Chapter 13 Landscape and Visual of the Consolidated ES) the following lie within 500m of this proposal B8, B11, B11+ and B12. Each of these receptors is assessed as having a High Sensitivity.
46. For dwelling B8, the turbine will be visible, oblique to the south and partially screened by intervening topography. The Tyrone – Cavan Interconnector would be visible in slightly closer proximity to the southeast and would introduce a series of additional vertical elements. The cumulative magnitude of change would be Low resulting in Minor Adverse effects which is not considered significant.
47. For dwellings B11 and B11+ the Tyrone – Cavan Interconnector would be screened by intervening topography and vegetation and as such there would be no cumulative effects.
48. For dwelling B12, the wind turbine will be visible within the main view to the east and would appear as a prominent vertical moving feature. The Tyrone-Cavan Interconnector would be visible at a slightly greater distance to the east and would introduce further vertical features, although of a lesser height and static nature. The cumulative magnitude of change would be Negligible resulting in Minor Adverse effects, which is not considered significant.

1.2.2.3 Wind Turbine (App No. LA09/2015/0742) (Substitution of M/2011/0135/F)

This application is for the erection of a single wind turbine (up to 48.4m tip height). The application is in substitution of a formerly approved wind turbine (M/2011/0135/F), in an alternative location. The application is located approximately 155m East of 24 Drumgose Road, Benburb and to the north west of Tower 26.

Cumulative Visual Effects

Viewpoints 9 and 10 have been identified as having the potential for cumulative visual effects with this proposed application.

Viewpoint 9

49. This viewpoint looks south along Benburb Road which, is in an open landscape framed by drumlins with roadside hedges and mature trees scattered across the landscape following roadsides and field boundaries. Views north are obscured by drumlin topography. The sensitivity is considered to be Medium for this viewpoint location.
50. From Viewpoint 9 the turbine is located approximately 1.3km to the south-west. It is likely that the turbine will be largely screened by intervening vegetation in successive views gained from this location. As a result, the magnitude of cumulative change would be Negligible and the level of effect would not be greater than that of the scheme in isolation. The cumulative effect is therefore assessed as Imperceptible which is not considered significant.

Viewpoint 10 (A/B)

51. This viewpoint is located on Benburb Road and the view is largely of open landscape framed by drumlins with scattered hedges and mature trees following roadsides and field boundaries. Existing telecommunication line and wooden poles are medium scale vertical elements within the existing view. The sensitivity is considered to be Medium for this viewpoint location.

52. The turbine is located approximately 1km to the south-west. It is likely that the turbine would be largely screened by intervening vegetation in successive views gained from this location. As a result, the magnitude of cumulative change would be negligible and the level of effect would not be greater than that of the scheme in isolation. The cumulative effect is therefore assessed as Imperceptible.

1.2.2.4 Wind Turbine (App No. O/2013/0464/F)

53. This is an application for a single Endurance 55kW E3120 Wind Turbine (up to 46m tip height). The proposal is located approximately 168m south west of 151 Battleford Road Armagh Co. and is located in line with Tower 43 of the Tyrone-Cavan Interconnector.

Cumulative Visual Effects

54. Viewpoints 16 and 19 have been identified as having the potential for cumulative visual effects with this proposed application.

Viewpoint 16

55. Viewpoint 16 is considered to have High sensitivity to change. This viewpoint looks south east along the B115 which, sits in a landscape with hedges, scattered mature trees and small mixed woodlands within a gentle drumlin landscape. From this viewpoint there would be views of the wind turbine to the northwest and the Tyrone-Cavan Interconnector to the north and south. The turbine will introduce a prominent vertical and moving feature in the view. The Tyrone – Cavan Interconnector would introduce further vertical structures into the view, in closer in closer proximity and occupying a larger extent of the view. The cumulative magnitude of change is Medium, resulting in an assessment of Moderate Adverse which is significant.

Viewpoint 19

56. Viewpoint 19 is considered to have High sensitivity to change. This viewpoint is located at Navan Fort and the landscape in this view is heavily wooded with mainly deciduous, well managed, small woodland blocks. The turbine will introduce a light coloured moving object which would be discernible on the horizon in the distance. Screening from mature trees and the drumlin topography would result in the Tyrone-Cavan Interconnector being barely perceptible. The cumulative magnitude of change would therefore be Negligible and the cumulative visual effect is assessed as Imperceptible which is not considered significant.

57. For an assessment of the effect to the setting of Navan Fort refer to Cultural Heritage Chapter 12 of the Consolidated ES.

Dwellings

58. Of the dwellings assessed in the non-cumulative individual dwellings assessment (Section 13.6.2.2. Chapter 13 Landscape and Visual of the Consolidated ES) the following dwellings lie within 500m of the proposed wind turbine application: E20, E21, E22, E23, E24 and E25. Each of these dwellings is assessed as having a High Sensitivity.

59. For dwellings E20 and E21, the wind turbine will introduce a prominent vertical feature in close proximity to the dwelling, although with the potential for partial filtering from adjacent tree cover. The Tyrone – Cavan Interconnector would introduce a series of additional vertical features within the view, although at a greater distance, of lesser height and static in nature. There would be some partial filtering and screening of views from adjacent vegetation and buildings. The cumulative magnitude of change is Low. The resulting cumulative visual effect is assessed as Moderate Adverse which is considered significant.

60. For dwelling E22, screening from adjacent buildings and vegetation would result in no or very limited visibility of both the wind turbine and Tyrone – Cavan Interconnector and as such there would be no cumulative visual effects.

61. For dwelling E23 and E24, the wind turbine will be visible to the north and will be a prominent vertical feature in the view. The Tyrone-Cavan Interconnector would be visible to the east and would introduce a series of additional vertical elements into a different part of the view. The Tyrone – Cavan Interconnector towers would be partially screened by topography and vegetation and would be of a lesser height than the turbine. The cumulative magnitude of change is Medium. The resulting

cumulative visual effect is assessed as Moderate Adverse which is considered significant.

62. For dwelling E25, the wind turbine will be visible to the north and will be a prominent vertical feature in the view. The Tyrone-Cavan Interconnector would be visible in close proximity to the east and south, and would introduce a series of additional vertical elements into a different part of the view. The Tyrone – Cavan Interconnector towers would be in closer proximity and cover a larger part of the view. The cumulative magnitude of change is Medium. The resulting cumulative visual effect is assessed as Moderate Adverse which is considered significant.

1.2.2.5 Wind Turbine (App No. O/2013/0397/F)

63. This application is the erection of a single wind turbine (up to 57.8m tip height) with associated switch room. The proposal is located approximately 367m east of no.12 Tullycallidy Road, Armagh and approximately 0.3 km from the proposed Tyrone – Cavan Interconnector at its closest point. The proposal is located on elevated ground near Tower 61.

Cumulative Visual Effects

64. Viewpoint 19 has been identified as having the potential for cumulative visual effects with this proposed application.

Viewpoint 19

65. Viewpoint 19 is considered to have High sensitivity to change. The non-cumulative magnitude of change is considered to be Negligible. This viewpoint is located at Navan Fort and the landscape in this view is heavily wooded with mainly deciduous, well managed, small blocks of woodland. The turbine, would introduce a moving object which would be relatively distant, but discernible on the horizon.
66. From this location, there is screening from mature trees and the drumlin topography to the distant Tyrone – Cavan Interconnector, and the development has been assessed as barely perceptible. A group of 6 overhead line towers (towers 62 – 67) adjacent to the site of the turbine application would appear to the south of the view, amongst existing woodland. These towers are difficult to discern as they would be small elements within the overall view, and would be nestled behind intervening woodland with only the tops actually visible.
67. The cumulative change in the view would be barely discernible and over a very limited area. Taking this into account the cumulative magnitude of change is considered to be Negligible. This results in a Minor Adverse effect which is not considered significant.

Dwellings

68. Several dwellings have been identified as having the potential for cumulative visual effects resulting from the Tyrone – Cavan Interconnector and the approved application erection of wind turbine. Of the properties assessed in the non-cumulative individual properties assessment (Section 13.6.2.2 Chapter 13 Landscape and Visual) property F33 is within 500m of both developments. Individual properties F31 and F31+ lie just outwith the 500m buffer, however, due to their elevated nature and potential views to the Interconnector and turbine, have been included within this assessment. Each of these properties is assessed as having a High Sensitivity.
69. For dwelling F31, the turbine is located on an elevated position to the west of this property and will largely be screened from the house by a farm shed and as such will not contribute to a cumulative effect in combination with the Tyrone – Cavan Interconnector.
70. For dwelling F31+, the turbine will introduce a vertical man made structure and movement on an elevated location, which would be visible above the local topography. The Tyrone – Cavan Interconnector would introduce further vertical features into the views, increasing the extent of the view affected. The cumulative magnitude of change is considered to be Medium. The cumulative effect is assessed as Moderate Adverse which is considered significant.
71. For dwelling F33, the turbine is located on an elevated position to the south of this dwelling. However, there are no views to the south from this dwelling and as such the turbine will not be visible in combination with the Tyrone –Cavan Interconnector Tyrone – Cavan Interconnector resulting in no

cumulative effect.

1.2.2.6 Wind Turbine (App No. 0/2013/0259/F)

72. This is an application for a single wind turbine (up to 55m tip height). The proposal is located approximately 152m SW of 48 Dernalea Road, Tamlaght, Armagh and is located to the west of the line in the vicinity of Tower 71 and Tower 72.

Cumulative Visual Effects

73. Viewpoints 20, 21 and 22 have been identified as having the potential for cumulative visual effects with this proposed application.

Viewpoint 20

74. This viewpoint is considered to have Medium sensitivity to change. The wind turbine will be located on elevated ground to the northwest and will appear as a prominent element in the view. The Tyrone – Cavan Interconnector would be in slightly closer proximity, although on lower lying ground. The lower height, steel lattice construction and static nature of the Tyrone – Cavan Interconnector towers would be less prominent than the wind turbine, although would occupy a larger part of the view. The cumulative magnitude of change would be Medium resulting in Moderate Adverse effect, which is considered significant.

Viewpoint 21

75. This viewpoint looks along the A3 and the view is largely concentrated on the road corridor due to the tall roadside hedgerows. There are scattered mature trees and scrubland strips following the field boundaries which, in part, restrict views.

76. The sensitivity is considered to be Medium for this viewpoint location.

The turbine will appear on top of the ridge line to the left hand side of Tower 72, partially screened by vegetation. The proposed overhead line route would cross the path of the A3 between Towers 73 and 72 in the foreground. The visible towers will introduce a new type of vertical feature within the landscape which would be seen in combination and succession with the turbine. The cumulative magnitude of change is considered to be Medium resulting in a Moderate Adverse effect which is considered significant.

Viewpoint 22

77. This viewpoint looks north along Maddan Road.

78. The sensitivity is considered to be Medium for this viewpoint location.

79. In views to the north, tower 73 would sit on the lower part of a drumlin slope. Almost all of tower 73 would appear above the horizon. The turbine would appear between tower 73 and the road. The turbine would be visible in combination with the Tyrone – Cavan Interconnector. However, intervening vegetation within the wider landscape would provide partial screening of the turbine.

80. The cumulative magnitude of change is considered to be Medium resulting in a Moderate Adverse effect, which is considered significant.

Dwellings

81. Several properties have been identified as having the potential for cumulative visual effects with the approved application. Of the properties assessed in the non-cumulative individual properties assessment (Section 13.6.2.2. Chapter 13 Landscape and Visual) the following properties lie within 500m of this proposal G32, G33, G33a, G34, G34a G42+, H5 and H6. Each of these properties is assessed as having a High sensitivity.

82. For dwelling G32 the wind turbine will be visible to the south, oblique to the main view, and will be a prominent vertical and moving element. The Tyrone – Cavan Interconnector would be located to the southeast, would be largely screened by intervening topography, vegetation and buildings and therefore would appear less prominent than the wind turbine. The cumulative magnitude of change would be Low resulting in Minor Adverse which is not considered significant.

83. For dwellings G33 and G33a, the wind turbine will be located in close proximity to this dwelling but visibility would be very limited as it is side-on to the property which has no windows in the gable. The Tyrone – Cavan Interconnector would be visible within the main view to the southeast, although partially screened by farm buildings and vegetation. The cumulative magnitude of change would be Medium. The cumulative effect is assessed as Moderate Adverse which is considered significant.
84. For dwelling G34, the wind turbine will be visible to the southeast, oblique to the main view, and will appear as a prominent vertical structure in the landscape. The Tyrone – Cavan Interconnector would be located to the east, although visibility would be limited to the tops of towers due to intervening landform. The cumulative magnitude of change would be Negligible. The cumulative effect is assessed as Minor Adverse which is not considered significant.
85. For G34a, the wind turbine will be visible in an elevated position to the south and will be a prominent feature in the view. The Tyrone – Cavan Interconnector would be visible to the southeast, although would be largely screened by intervening topography and vegetation. The tops of towers are likely to be visible and would be slightly more distant and less prominent than the wind turbine. The cumulative magnitude of change would be Negligible. The cumulative effect is assessed as Minor Adverse which is not considered significant.
86. For dwelling G42+, the wind turbine will be visible on an elevated position to the west and will be a prominent vertical feature. The Tyrone – Cavan Interconnector would also be visible to the west, although at a lower elevation. It would appear in closer proximity than the wind turbine, although the lower height, steel lattice construction and static nature would reduce the prominence slightly. The cumulative magnitude of change would be Medium. The cumulative effect is assessed as Moderate Adverse which is considered significant.
87. For dwelling H5, the wind turbine will be located in close proximity to the northwest and is likely to be predominantly screened by the adjacent woodland and therefore will not be viewed in combination with the Tyrone – Cavan Interconnector. Consequently, there is no cumulative effect.
88. For dwelling H6, the wind turbine will be located to the north. The Tyrone– Cavan Interconnector would be visible to the southeast, oblique to the main view, and would introduce a number of vertical features into the view. The cumulative magnitude of change would be Negligible. The cumulative effect is assessed as Minor Adverse which is not considered significant.

1.2.2.7 Wind Turbine (App No. O/2014/0096/F)

89. This application is for the erection of a single wind turbine (up to 35.83m tip height), located approximately 379 m north east of 78 Glassdummond Road Fergot. Co Armagh. The proposal is located to the west of Towers 91 and 92 and lies approximately 0.2 km from the proposed Tyrone – Cavan Interconnector at its closest point.

Cumulative Visual Effects

Viewpoints 26, 27 and 28

90. No or very limited visibility of turbine due to topography and vegetation screening.

Dwellings

91. Of the dwellings assessed in the non-cumulative individual dwellings assessment (Section 13.6.2.2 Chapter 13 Landscape and Visual), properties I26, I26a, I27 and J1 are within 500m of both the wind turbine application and the Tyrone – Cavan Interconnector. Each of these dwellings is assessed as having a High Sensitivity.
92. For both dwelling I26 and I26a, the turbine will be located approximately 285m to the southeast and would introduce a vertical man made structure and movement, oblique to the side of the main view. The Tyrone – Cavan Interconnector would introduce further vertical features into the view from the rear of the dwelling and would be partially screened by landform and vegetation. The cumulative magnitude of change is considered to be Low. The cumulative effect therefore would be Moderate Adverse which is considered significant.
93. For dwelling I27, the turbine will be located approximately 160m to the south, and would introduce a vertical man made structure and movement, peripheral to the main view. The Tyrone - Cavan Interconnector would introduce further vertical features into the view, extending further east partially

screened by vegetation. The cumulative magnitude of change is considered to be Low. The cumulative effect therefore would be Moderate Adverse which is considered to be significant.

94. For dwelling J1 the turbine would be located approximately 400m to the northeast and would introduce a vertical man made structure and movement, oblique to the side of the main view. Trees and vegetation and to a lesser extent topography would partially restrict views of the turbine. The Tyrone – Cavan Interconnector would introduce further vertical features into the view from the rear of the dwelling and would largely be screened by landform and vegetation. The cumulative magnitude of change is considered to be Negligible. The cumulative effect therefore would be Minor Adverse which is not considered significant.

1.2.2.8 Wind Turbine (App No.O/2013/0157/F)

95. This application is the erection of a single wind turbine on a mono-pole on 26.83m height, and associated alterations to existing access. The proposal is located approximately 220m south east of 10 Liskarkelt Road, Derrynoose. Co Armagh, in an elevated position near Tower 96 approximately 93m from the Tyrone-Cavan Interconnector.

Cumulative Visual Effects

Viewpoint 26

96. Given the location of the turbine, limited visibility of the top of turbine over intervening trees and topography and considering the direction of view is east towards the Tyrone –Cavan Interconnector, there are no predicted cumulative effects for this viewpoint.

Viewpoint 27

97. The viewpoint looks southwest, down Derrynoose Road across a rolling landscape with drumlins, compartmented by hedgerows, hedgerow tree and occasional large specimen trees.
98. The turbine will appear in the centre of this view and will add to the existing turbines seen in views to the south-west. Although distant, the turbine will add a further vertical feature and movement to the view, and will be a noticeable feature on the skyline.
99. The Tyrone – Cavan Interconnector would also be visible along the horizon, introducing further vertical structures into the view. These structures would occupy a larger extent of the view but would be less prominent due to their static nature and steel lattice construction. The cumulative magnitude of change would be Medium resulting in Moderate Adverse effect which is considered significant.

Viewpoint 28

100. The wind turbine will be largely screened from this location by topography with only blade tips likely to be visible. The Tyrone – Cavan Interconnector would occupy the foreground of the view with the potential for tips of turbine blades to be just visible between Towers 98 and 97. The cumulative magnitude of change is assessed as Negligible arising in Imperceptible effect anticipated on this viewpoint.

Dwellings

For dwelling J6 the wind turbine will be located to the southeast and would be largely screened by adjacent trees, resulting in glimpsed or heavily filtered views. The Tyrone – Cavan Interconnector would also be largely screened by topography, buildings and vegetation and as such the cumulative magnitude of change would be Negligible. The resulting cumulative visual effect is assessed as Imperceptible which is considered not significant.

For dwelling J7 the wind turbine will be located to the south, oblique to the view and partially screened by adjacent buildings. It will appear as a relatively prominent vertical moving feature within the view. The Tyrone - Cavan Interconnector would be in close proximity to the east and would introduce further notable vertical features into the view. The cumulative magnitude of change would be Medium –High with a resulting Moderate – Major Adverse which is considered significant.

For dwelling J8 views towards the wind turbine and the Tyrone – Cavan Interconnector would largely be screened and as such there would be an Imperceptible cumulative visual effect.

For dwelling J13 the non-cumulative magnitude of change is High – Medium. The wind turbine would be located to the southwest and would be largely screened by intervening landform and vegetation, with the potential for some glimpsed views due to movement of turbine. The Tyrone – Cavan Interconnector would be in closer proximity than the wind turbine and although partially screened by topography and vegetation, two towers are likely to be visible. The cumulative magnitude of change would be Medium and the resulting cumulative visual effect is assessed as Moderate Adverse which is considered significant.

For dwelling J14 the wind turbine will be visible within the main view to the south, and although partially screened by landform and vegetation the movement of the blades would make it a notable feature. The Tyrone – Cavan Interconnector would be visible in the main view and also from the side and rear of the dwelling. One of the towers would be prominent and would be viewed in conjunction with the wind turbine, although in closer proximity. Cumulative magnitude of change would be High, resulting in a Major Adverse cumulative visual effect which is considered significant.

For dwelling J15 the wind turbine will be visible to the rear of the dwelling and will be largely screened by intervening landform and vegetation. There may be some visibility of the turbine blades due to their movement. The Tyrone – Cavan Interconnector would also be visible to the rear of the property, in closer proximity with some screening from vegetation. Cumulative magnitude of change would be Low resulting in Moderate Adverse cumulative visual effect which is considered significant.

For dwelling J16 the non-cumulative magnitude of change is High. The wind turbine will be visible to the northwest, oblique to the rear of the property and would be partially screened by adjacent buildings and topography. The turbine would be a relatively prominent feature in this view due to the movement of the blades. The Tyrone – Cavan Interconnector would pass in closer proximity to this dwelling, and although partially screened by adjacent buildings, would be a notable feature in views. Cumulative magnitude of change would be High, resulting in a Major Adverse cumulative visual effect which is considered significant.

For dwelling J18 the wind turbine will be located to the northwest, oblique to the rear of the dwelling and largely screened by the adjacent farm buildings. There is potential for some partial views of the wind turbine from the upper storey of the dwelling. The Tyrone – Cavan Interconnector would also largely be screened, with only oblique views from the upper storey of the rear of the property. Cumulative magnitude of change would be Negligible resulting in Minor Adverse cumulative visual effect which is considered not significant.

For dwelling J19 and J19+ the wind turbine will be visible to the southeast, within the main view. Although partially screened by topography the wind turbine will be a prominent element within the view. The Tyrone – Cavan Interconnector would be located to the east and largely screened by topography, adjacent buildings and vegetation and as such would be less visually prominent than the wind turbine. The cumulative magnitude of change would be Negligible and the resulting cumulative visual effects are assessed as Minor Adverse which is considered not significant.

For dwelling J20 the wind turbine will be located to the southeast and would be partially screened by topography and vegetation but would appear as a prominent feature within the view. The Tyrone – Cavan Interconnector would be located to the east at a slightly greater distance than the wind turbine. Partial screening by topography, trees and adjacent buildings would result in the Tyrone – Cavan Interconnector being a less prominent element in the view than the wind turbine. The cumulative magnitude of change would be Negligible resulting in Minor Adverse effect which is considered not significant.

For dwelling J22 the wind turbine will be located in close proximity to the east and would be a prominent vertical element in the view. The Tyrone – Cavan Interconnector would also be visible to the east, although the towers would be at a slightly greater distance and lower height and less prominent in the view, they would occupy a larger extent of the view. The cumulative magnitude of change would be Medium and the resulting cumulative visual effects are assessed as Moderate Adverse which is considered significant.

For dwelling J23 the wind turbine will be located to the northeast, oblique to the rear of the property and will be a prominent feature in the view. The Tyrone – Cavan Interconnector would introduce additional vertical features into the view from the rear of the dwelling, with some partial screening provided by local topography and vegetation. The cumulative magnitude of change would be Low and the resulting

cumulative visual effects are assessed as Moderate Adverse (as defined by Table 1.1), which is considered significant.

For dwelling J25 the wind turbine will be located to the northeast, oblique to the main view from the property and would be partially screened by intervening vegetation. As a result of its slightly elevated position and movement of the blades the wind turbine will be a prominent feature in the view. The tops of a few of the Tyrone – Cavan Interconnector towers would be visible to the east, introducing additional vertical features into the main view from the dwelling. The cumulative magnitude of change would be Low and the resulting cumulative visual effects are assessed as Moderate Adverse which is considered significant.

For dwellings J25+ and J26 the wind turbine will be located to the northeast and will be partially screened by intervening vegetation. The Tyrone – Cavan Interconnector would be located to the east and would be partially screened by topography and vegetation. It would introduce further vertical elements into the view, and would occupy a larger extent of the view. The cumulative magnitude of change would be Low, resulting in a Moderate Adverse which is considered significant.

1.2.2.9 Wind Turbine (App No. O/2013/0273/F)

101. This application is for the erection of a single wind turbine (up to 40.5m tip height). The proposal is located approximately 98m South East of 15 Listrakelt Road Derrynoose Armagh and approximately 0.3 km from the proposed Tyrone – Cavan Interconnector at its closest point and near to tower 97.

Cumulative Visual Effects

Viewpoint 27

102. The sensitivity of this viewpoint location is considered High. The top of the wind turbine will be partially visible on the horizon, but largely screened by topography and vegetation. The Tyrone – Cavan Interconnector would introduce further vertical elements along the ridge to the west, behind Derrynoose and would increase the horizontal extent of the view affected. The cumulative magnitude of change is Medium, resulting in a Moderate Adverse effect which is considered significant.

Viewpoints 28

103. As there is no predicted visibility of turbine due to screening from topography, there are no predicted cumulative effects arising from the Tyrone- Cavan Interconnector.

Dwellings

104. Of the dwellings assessed in the non-cumulative individual dwellings assessment (Section 13.6.2.2 Chapter 13 Landscape and Visual), properties J22, J23, J25 - J28, J30 – J33 and J38 are within 500m of both the wind turbine application and the Tyrone – Cavan Interconnector. Each of these dwellings is assessed as having a High sensitivity.
105. For dwelling J22 the wind turbine will be located approximately 500m to the south and although partially screened will be slightly elevated and a prominent vertical element in the view. The Tyrone – Cavan Interconnector would be visible to the east, and although static in nature, the towers would be slightly closer and would be notable features in the view. The cumulative magnitude of change would be Medium and the resulting cumulative visual effects are assessed as Moderate Adverse which is considered significant.
106. For dwelling J23 the wind turbine will be located approximately 360m to the south and will introduce a vertical man made structure and movement, oblique to the main view east. Trees and vegetation would partially restrict views of the turbine. The Tyrone – Cavan Interconnector would introduce additional vertical features into a different part of the view, from the rear of the dwelling, with some partial screening provided by local topography and vegetation. When the Tyrone – Cavan Interconnector is considered in combination with the wind turbine application, the cumulative magnitude of change is considered to be Negligible. The cumulative effect therefore would be Minor Adverse (as defined by Table 1.1), which is not considered significant.
107. For dwelling J25 the turbine will be located approximately 220m to the southeast and the tips will be visible and will introduce a vertical man made structure and movement, oblique to the main view. Trees and vegetation would partially restrict or filter views of the turbine. The tops of a few of the Tyrone – Cavan Interconnector towers would be visible, introducing additional vertical features into the main view

from the dwelling. When the Tyrone – Cavan Interconnector is considered in combination with the wind turbine application, the cumulative magnitude of change is considered to be Negligible. The cumulative effect therefore would be Minor Adverse which is not considered significant.

108. For dwellings J25+ and J26 the turbine will be located in very close proximity (less than 100m) to each of these properties and will therefore introduce a prominent vertical feature into the view. The Tyrone – Cavan Interconnector would be partially screened by topography and vegetation and would introduce further vertical elements into the view. The cumulative magnitude of change is considered to be Low. The cumulative effect therefore would be Moderate Adverse which is considered significant.
109. For dwellings J27 and J28 the turbine will be located approximately 220 – 260m to the northeast and will largely be screened by adjacent buildings and trees. The Tyrone – Cavan Interconnector would be largely screened by topography and trees and would be more distant than the wind turbines. When the Tyrone – Cavan Interconnector is considered in combination with the wind turbine application, the cumulative magnitude of change is considered to be Negligible. The cumulative effect would be Imperceptible which is not considered significant.
110. For dwellings J30, J31 and J32 the turbine will be located between approximately 220 – 370m to the north and will largely be screened by intervening trees. The Tyrone – Cavan Interconnector would be partially screened by topography and trees and would introduce further, although slightly less prominent, vertical elements into the view. The cumulative magnitude of change is considered to be Negligible. The cumulative effect would be Minor Adverse which is not considered significant.
111. For dwellings J33a and J33b the turbine will be located approximately 370 – 390m to the north and would be partially screened by intervening trees. The Tyrone – Cavan Interconnector would be partially screened by topography and trees and would introduce further vertical elements into the view. The cumulative magnitude of change is considered to be Medium. The cumulative effect would be Moderate Adverse which is considered significant.
112. J33 and J38 would have no visibility of the turbine. Therefore, when considered in combination with the Tyrone – Cavan Interconnector, no cumulative effects are predicted for these individual property receptors.

1.2.2.10 Wind Turbine (App No.O/2011/0067/F)

113. This application is for the erection of a single wind turbine (up to 55m tip height), located approximately 320m south east of 102 Derrynoose Road, Keady and approximately 1km from the proposed Tyrone-Cavan Interconnector at its closest point.

Cumulative Visual Effects

Viewpoint 27

114. The sensitivity of this viewpoint location is considered High. The wind turbine will be visible and relatively prominent on the hilltop, slightly oblique to the southwest of the viewpoint. The Tyrone – Cavan Interconnector would introduce further vertical elements along the ridge to the west, behind Derrynoose and would increase the extent of the view affected. The cumulative magnitude of change is considered to be Medium, resulting in Moderate Adverse cumulative effects, which is considered Significant.

Viewpoints 28

115. The sensitivity of this viewpoint location is considered Medium. The wind turbine will be visible and relatively prominent on the hilltop, to the east of the viewpoint. The Tyrone – Cavan Interconnector would introduce further vertical elements within close proximity in the foreground of the view. The addition of the Tyrone – Cavan Interconnector is anticipated to result in a Medium magnitude of cumulative change, and Moderate Adverse cumulative effects, which is considered Significant.

Dwellings

116. Of the dwellings assessed in the non-cumulative individual dwellings assessment (Section 13.6.2.2 Chapter 13 Landscape and Visual), no properties are within 500m of both the wind farm application and the Tyrone – Cavan Interconnector. Therefore no significant cumulative effects are anticipated for individual residential properties.

1.2.3 Poultry Related Development

Cumulative Landscape Character Effects

117. Poultry houses and other related development occur throughout the study area and as such are an existing element that contributes to the character of the landscape. Although further poultry development within this landscape may have a very localised influence it is unlikely to affect the landscape characteristics of the wider area. For this reason this type of development is not considered to contribute to any potentially significant cumulative effects in relation to the Tyrone – Cavan Interconnector on the landscape character. Therefore the following section focuses on potential cumulative visual effects.

1.2.3.2 Poultry Houses (App No O/2009/0807/F)

118. This application is for the erection of 1no. free range organic poultry house and is located near Brootally Road, Milford, directly adjacent to Tower 66.

Cumulative Visual Effects

119. No viewpoints have been identified as having the potential for cumulative visual effects with this approved application.

Dwellings

120. Several dwellings have been identified as having the potential for cumulative visual effects with the approved application O/2009/0807/F 1no. poultry house. The following dwellings lie within 500m of the approved application: G9, G10 and G12. Each of these dwellings has been assessed as having a High Sensitivity.
121. Screening from associated agricultural buildings, landform and vegetation, results in no, or very limited, views of the poultry house and as such it would not contribute to a cumulative visual effect. When considering the Tyrone – Cavan Interconnector in combination with the poultry house the cumulative magnitude of change would be none or Negligible, resulting in Imperceptible effect.

1.2.4 Cumulative Effects of Groups of Developments

122. In general the developments identified for inclusion in the cumulative assessment tend to be fairly well scattered throughout the study area. However, there are two occasions when these developments are close together, forming a pair and a cluster of developments. In these instances it is important to consider the cumulative effects of the addition of the Tyrone - Cavan Interconnector to the pair and cluster, as well as individually. The two instances where this occurs are: two individual turbines (M/2014/0596/F and M/2014/0599/F) to the northwest of Moy; and a cluster of five individual turbines (O/2014/0096/F, O/2012/0183/F, O/2013/0157/F, O/2013/0273/F and O/2011/0067/F) to the southwest of Keady.
123. As with the cumulative assessment of individual developments, the cumulative assessment of groups of development focuses on visual effects.

1.2.4.2 Wind Turbines M/2014/0596/F and M/2014/0599/F

Cumulative Visual Effects

124. Viewpoints 6, 7 and 8 have been identified as having the potential for cumulative visual effects with these two wind turbine developments.

Viewpoint 6

125. Viewpoint 6 is considered to have Medium Sensitivity to change. From this viewpoint the two wind turbines (M/2014/0596/F and M/2014/0599/F) will be visible along stretches of the A29 road corridor. The turbines will introduce new points of focus and will be prominent features in the view. The Tyrone – Cavan Interconnector would introduce further vertical elements into the view, but would generally be less prominent than the wind turbines as the towers would be of a lesser height, occupy lower lying ground and would be static. When considered in combination with the wind turbines, the addition of the Tyrone – Cavan Interconnector would result in a Low cumulative magnitude of change. The cumulative

effect would be Minor Adverse which is considered not significant.

Viewpoint 7

126. Viewpoint 7 is considered to have Medium Sensitivity to change. The wind turbines will be visible in close proximity to the south and northwest and will appear as prominent vertical features. Their elevated locations and the movement of the blades would increase their visual prominence. The Tyrone – Cavan Interconnector would introduce further vertical elements into the view, crossing the road in the foreground of the view. The OHL towers would generally be less prominent features in comparison to the wind turbines but would extend the influence of structures to a wider part of the view. On balance, the cumulative magnitude of change would be Low and the resulting cumulative effect is assessed as Minor Adverse which is not considered significant.

Viewpoint 8

127. Viewpoint 8 looks along Gorestown Road, to an enclosed landscape with drumlins and hedgerows limiting views. It is considered to have Medium Sensitivity to change. The wind turbines will be visible in the distance although partially screened by vegetation. Their overall height and the movement of the blades increase the visibility and prominence of the wind turbines in the view. The Tyrone – Cavan Interconnector would be visible in closer proximity, although also partially screened by adjacent vegetation. When considered in combination with the wind turbines, the addition of the Tyrone – Cavan Interconnector would result in a Low cumulative magnitude of change. The cumulative effect would be Minor Adverse which is not considered significant.

Dwellings

128. No dwellings have been identified within 500m of both wind turbines (M/2014/0596/F and M/2014/0599/F) and the Tyrone – Cavan Interconnector and as such no significant cumulative effects are anticipated.

1.2.4.3 Wind Turbines O/2014/0096/F, O/2012/0183/F, O/2013/0157/F, O/2013/0273/F and O/2011/0067/F

Cumulative Visual Effects

Viewpoint 26

129. As indicated in the individual cumulative assessment, no cumulative effects are anticipated on Viewpoint 26.

Viewpoint 27

130. The sensitivity of this viewpoint location is considered High. Each of the five wind turbines will be visible along the ridge and hilltops that surround the viewpoint, introducing a series of vertical features and movement into the view. The Tyrone – Cavan Interconnector would add further vertical elements along the ridge to the southwest. The static nature of the OHL towers and the steel lattice construction would appear less prominent than some of the turbines. The Tyrone – Cavan Interconnector would lead to a slight increase in the concentration of vertical structures in the view, but would not increase the extent of the view affected. The cumulative magnitude of change is Negligible resulting in Minor Adverse effect which is considered not significant.

Viewpoint 28

131. There would be no or very limited visibility of four of the five wind turbines (O/2014/0096/F, O/2012/0183/F, O/2013/0157/F, and O/2013/0273/F) resulting in no cumulative effect from this viewpoint and as such potential cumulative effects would be limited to O/2011/0067/F.

Dwellings

132. Of the dwellings assessed in the individual cumulative assessment (Section 13.6.2.2 Chapter 13 Landscape and Visual), the following are within 500m of two or more cumulative wind turbines and the Tyrone – Cavan Interconnector: J22, J23, J25, J25+ and J26. In each case these properties have the potential for cumulative effects from the addition of the Tyrone – Cavan Interconnector to wind turbines O/2013/0157/F and O/2013/0273/F. The remaining three wind turbine developments are beyond 500m from these dwellings and as such have not been included in the assessment. Each of the dwellings has been assessed as having a High Sensitivity.

133. For dwelling J22 both turbines will be prominent in the view, O/2013/0157/F in close proximity to the east and O/2013/0273/F more distant to the south. Due to the closer proximity to this dwelling wind turbine O/2013/0157/F will be the more prominent of the two. The Tyrone – Cavan Interconnector would be visible to the east and would introduce a series of further, notable vertical features into the view. The cumulative magnitude of change would be Medium - High and the resulting cumulative visual effects are assessed as Moderate - Major Adverse which is considered significant.

For dwelling J23 the wind turbines will be located to the northeast (O/2013/0157/F) and the south (O/2013/0273/F) and will be relatively prominent within the view. Intervening vegetation would partially screen wind turbine O/2013/0273/F. The Tyrone – Cavan Interconnector would introduce additional vertical features into the view from the rear of the dwelling, with some partial screening provided by local topography and vegetation. The wind turbines will be more prominent in the views from this property and as such the cumulative magnitude of change relating to the addition of the Tyrone – Cavan Interconnector would be Negligible. The resulting cumulative visual effects are assessed as Minor Adverse which is considered not significant.

For dwelling J25 both of the wind turbines will be partially screened by intervening vegetation but due to the associated movement will be notable features. Wind turbine O/2013/0157/F will be located to the northeast and wind turbine O/2013/0273/F to the southeast, oblique to either side of the main view. The tops of a few of the Tyrone – Cavan Interconnector towers would be visible to the east, introducing additional vertical features into the main view from the dwelling. The cumulative magnitude of change would be Negligible and the resulting cumulative visual effects are assessed as Minor Adverse which is not considered significant.

For dwelling J25+ and J26 wind turbine O/2013/0157/F will be located to the northeast and will be largely screened by intervening vegetation. Wind Turbine O/2013/0273/F will be located in very close proximity (less than 100m) to each of these properties and will therefore introduce a prominent vertical feature into the view. The Tyrone – Cavan Interconnector would be located to the east and would be partially screened by topography and vegetation. It would introduce further vertical elements into the view, although the lower height and static nature would reduce the prominence relative to the wind turbines, particularly turbine O/2013/0273/F. When the Tyrone – Cavan Interconnector is considered in combination with wind turbines O/2013/0157/F and O/2013/0273/F, the cumulative magnitude of change would be Negligible - Low. The resulting cumulative visual effects are assessed as Minor Adverse which is not considered significant.

1.2.5 Summary and Conclusion

134. An assessment of the likely significant cumulative effects of the Tyrone - Cavan Interconnector with other developments of a similar scale and type has been undertaken.
135. Landscape and Visual cumulative effects are predicted to be Imperceptible or Minor Adverse and therefore not significant apart from the following receptors set out below:

Landscape Character Areas

136. When the Tamnamore to Omagh 110kV network reinforcement project was considered in conjunction with the Tyrone – Cavan Interconnector, Landscape Character Area 47: Loughgall Orchard Belt was assessed to be the receptor of a Moderate Adverse cumulative effect.
137. The cumulative effect of Wind Turbine Application O/2012/0183/F on Landscape Character Area 66: Armagh Drumlins is considered to be Moderate Adverse.

Viewpoints

138. There would be Moderate Averse cumulative effect experienced from viewpoints 6, 16, 20, 27 and 28 which is considered to be Significant.

Dwellings

139. Dwellings E20, E21, E23, E24 and E25 were both considered to be receptors of a Moderate Adverse effect when the cumulative effect of Wind Turbine Application O/2013/0464/F was assessed.

140. Wind Turbine Application O/2013/0397/F was assessed as having a Moderate Adverse cumulative effect on Dwelling F31+.
141. Dwellings G33, G33a and G42+ were both considered to be receptors of a Moderate Adverse effect when the cumulative effect of Wind Turbine Application O/2013/0259/F was assessed.
142. The cumulative effect of Wind turbine Application O/2014/0096/F on Dwellings I26, 126a and I27 was assessed as being Moderate Adverse.
143. Wind turbine application O/2013/0157/F was assessed as having a Moderate – Major Adverse effect on Dwelling J7, a Major Adverse effect on Dwelling J14 and J16. It was assessed as having a Moderate Adverse effect on J13, J15, J22, J23, J25, J25+, J26. The cumulative effect of Wind turbine Application O/2014/0096/F on Dwellings J22, J25+, J26 and J33a, J33b was assessed as being Moderate Adverse.
144. Assessing the cumulative effect of O/2014/0096/F, O2012/0183/F, O/2013/0157/F, O/2013/0273/F and O211/0067 in conjunction with the Tyrone – Cavan Interconnector concludes a Moderate – Major Adverse effect for dwelling J22.
145. Dwellings J25, J33a and J33b were all assessed as being receptors of Moderate Adverse effects from the cumulative effect of Wind Turbine Application O/2013/0273/F.
146. When the North-South 400kV Interconnection Development was assessed in conjunction with the Tyrone – Cavan Interconnector, Dwellings J48 was assessed as receiving Moderate – Major Adverse effects whilst J51, J51+, J60 and J61 were all assessed as being receptors of Major Adverse effects.

1.3 References

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