
APPENDIX 6: CUMULATIVE ASSESSMENT

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Figures: Cumulative Photomontages A-N

1.0 Introduction

1.1 This Cumulative Assessment forms an Appendix to the Landscape and Visual Impact Assessment (LVIA) of the Proposed Development (the Gas Engines).

1.2 In addition to the various buildings and structures that are already present at the Kronospan site, three developments benefit from planning consent (but have yet to be constructed), and one further development is the subject of an extant planning permission that has yet to be determined, as follows:

- Chip Preparation (constructed and undergoing commissioning at the time of writing);
- Log Delivery and Transfer / Chipper and Flaker (under construction);
- Raw Board Store (under construction);
- OSB Manufacturing Facility (the subject of a planning appeal following non-determination).

1.3 Each of these developments has been the subject of an LVIA which considered cumulative interactions with the others

1.4 With regards to the Proposed Development, it is important to assess what the cumulative effects of the gas engines would be in a scenario where the four schemes listed above have been implemented.

2.0 Methodology

2.1 An assessment of cumulative effects is concerned with the additional effects of a proposed development in conjunction with other development(s) that do not already form part of the existing baseline.

2.2 The GLVIA¹ identifies that cumulative landscape and visual effects are those that:

“...result from additional changes to the landscape or visual amenity caused by the proposed development in conjunction with other development (associated with or separate to it), or actions that occurred in the past, present or are likely to occur in the foreseeable future”.²

¹ Landscape Institute and Institute of Environmental Management and Assessment. 3rd edition 2013. *Guidelines for Landscape and Visual Impact Assessment*. Routledge: Abingdon

² Ibid, paragraph 7.2

“The challenge is to keep the task reasonable and in proportion to the nature of the project under consideration. Common sense has an important part to play in reaching agreement about the scope of the assessment. Where the competent authority and other stakeholders are uncertain about the preferred approach the landscape professional may have to exercise judgement about what is appropriate and be able to justify the approach taken. It is always important to remember that the emphasis in EIA is on likely significant effects rather than on comprehensive cataloguing of every conceivable effect that might occur...”³

- 2.3 The (non-cumulative) LVIA addresses the effects of introducing the Proposed Development into a context where other existing development at the Kronospan site is present. The presence of this other existing development forms part of the assessment baseline.
- 2.4 The cumulative LVIA is concerned with the effects of the proposed development based upon a further cumulative baseline scenario, where other proposed development at Kronospan is also present.
- 2.5 The GLVIA notes⁴ that cumulative effects can include:
- An intensification of the effects of one development resulting from an extension to it, or the introduction of another development;
 - The ‘filling’ of an area with development over time, such that it may substantially alter the landscape and/or views;
 - The interaction between different developments, which may lead to a greater total effect than the sum of the effects of each development individually;
 - Temporal effects of simultaneous or successive developments over a period of time;
 - Indirect effects of development, such as enabling or disabling other development, which may lead to landscape and visual effects;
 - The effects of a future action that may have consequences for other existing/proposed development.
- 2.6 Cumulative landscape effects may be either:
- Physical effects on the landscape fabric, resulting from changes to landscape elements/feature, or the introduction of new elements/features;

³ Ibid, paragraph 7.5

⁴ Ibid, pages 123-124

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- Effects on aesthetic/perceptual attributes of the landscape;
 - Effects on the overall character of the landscape.

2.7 Cumulative visual effects may be either:

- In combination - where two or more features are seen together at the same time from the same place, in the same arc of view, with their visual effects being combined;
- In succession - where two or more features are present in views from the same place, but cannot be seen together because they are not in the same arc of view. As the arc of view experienced by the observer changes, the features become visible in succession;
- Sequential - where two or more features are not present in views from the same point on a route and cannot therefore, ever be seen at the same time even if the arc of view experienced by the observer changes. The observer must move to another point on the same route to see the second or more of them, so they will then appear in sequence. These sequential views may occur frequently along a route, or more occasionally.

2.8 Effects are determined using professional judgement in keeping with the methodology set out in Appendix 1 of the LVIA.

3.0 Baseline

3.1 This cumulative assessment considers the cumulative landscape and visual effects of introducing the Proposed Development (the gas engines) into a baseline where four other cumulative schemes are also present (i.e. where five new developments are present within the wider Kronospan site). The four cumulative schemes are as follows:

- Chip Preparation:
 - New Chip Preparation building and associated silos (maximum height 35m);
 - New Dryer (maximum height 31m);
 - Dryer exhaust stack / WESP (height 50m);
 - Sifters and silos (maximum height 30m);
 - Hurricyclones (with a total height 49.5m).
- Log Delivery and Transfer / Chipping and Flaking System:
 - New Building (maximum height 21.1m);
 - Tracksides cranes;

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- Conveyors
 - Raw Board Storage:
 - Vertical extension to existing building (existing roof height 11.5m), with a proposed roof height of 22.935m.
 - OSB Facility:
 - A vertical extension to an existing building at the heart of the established Kronospan site, which would involve raising the roof of that building by 16.5m to a new roof height of 28m.
 - An adjacent new building, with a maximum roof height of 33.2m.

3.2 Cumulative photomontages from each of the viewpoints included in the LVIA have been produced and are displayed on the Figures that accompany this Appendix. Not all the cumulative schemes are visible from each viewpoint.

4.0 Effects

Landscape Fabric

- 4.1 The Proposed Development and each of the four cumulative schemes would all be located within the wider Kronospan site and would be either replace existing industrial structures or hard standing, or would vertically extend existing buildings, with no increase in footprint. None of the schemes would result in any loss of vegetation.
- 4.2 Effects on landscape fabric would thus be minimal in respect of each project individually and the cumulative effects on landscape fabric would also be minimal and not significant.

Landscape Character

- 4.3 Individually, each of the four cumulative schemes would be introduced into an extensive existing industrial site, where other similar and larger structures are already present. In this context, the individual presence of each proposed scheme would be unremarkable and cumulatively there would be little additional change in landscape character, with only incremental change to the visual context of the surrounding landscape by virtue of the addition of new or enlarged structures within the site. Existing tall structures at the site (including the existing WESP stack, CHP stack and MDF cyclones) would continue to be the most evident features present,

and would remain the features that draw most attention to the presence of Kronospan within the landscape.

- 4.4 With the further additional presence of the Proposed Development, this would not change. Although relatively large in their own right, in the context of the Kronospan site and the four cumulative schemes, the gas engines would be small structures, and their presence would not have any influence upon the wider landscape character. The underlying characteristics of the two LCAs to the east (LCA 7a: Chirk) and west (LCA 5a: Chirk Estate to Froncysyllte) of the site (which include the established influence of the Kronospan site) would not change. As such, it is concluded that there would be no cumulative effect upon landscape character as a result of the Proposed Development.

Visual Effects

- 4.5 Table 1 overleaf summarises the visibility of each individual scheme from each of the assessments included in the LVIA, and then comments upon cumulative visibility, drawing a conclusion as to whether significant cumulative visual effects would occur.

Table 1: Cumulative Visibility

Viewpoint	Visibility of Individual Schemes					Cumulative Visual Effects resulting from the presence of the Gas Engines
	WESP Chip Dryer	Chipper and Flaker	Raw Board Storage	OSB Facility	Gas Engines	
A: Chirk Recreation Ground	Partially screened by existing structures. New WESP stack and hurricyclones evident	Not visible	Largely screened, but with limited visibility through a gap in tree cover	Largely screened. Partial visibility where tree cover ends, set against backdrop of much larger existing structures.	Largely screened. Partial visibility above the trees, in the context of far larger adjacent structures	The Gas Engines would be viewed largely against the backdrop of the larger and more prominent WESP Chip Dryer. Very limited and incremental change in view, with the influence of the Kronospan site upon the view not undergoing appreciable change Cumulative visual effects would not be significant.
B: Offa's Dyke Path near Fron Isaf	New Chip Preparation Buildings, and WESP stack evident, set within existing complex including larger structures	Largely screened by vegetation, with only roof tops visible, set against of much larger existing structures.	Visible within existing assemblage of structures, but increasing overall mass due to roof height.	Visible within the existing assemblage of structures, appearing a low level, between the far taller CHP and WESP stacks.	A minor addition to the existing assemblage of structures, appearing far smaller than the nearby CHP building and RCF silos,	The Gas Engines would be screened from view by the intervening WESP Chip Dryer. As such, cumulative visual effects would not occur at this viewpoint.
C: N edge of Chirk	Partially screened by tree cover (and partially screened by proposed Chipper and Dryer). New WESP stack evident	Visible from the road (with partial screening by vegetation), extending the horizontal spread of structures.	Visible in the background of the view, with views part filtered by trees.	Not visible	Not visible	As the Proposed Development (the gas engines) would not be visible from this viewpoint, cumulative visual effects would not occur.
D: Chirk Castle Gates	New structures not visible. Emission plume visible above tree cover	Not visible	Not visible	Not visible	Not visible	As the Proposed Development (the gas engines) would not be visible from this viewpoint, cumulative visual effects would not occur.
E: Green Lane	Partially screened by RCF silos.	Visible towards the north of the site, extending the horizontal	Clearly visible within the wider Kronospan site, with the existing	Clearly visible within the wider Kronospan site, with the existing	A minor addition to the existing assemblage of structures and	The Gas Engines would be a very minor addition to the Kronospan site. Their presence would be

Viewpoint	Visibility of Individual Schemes					Cumulative Visual Effects resulting from the presence of the Gas Engines
	WESP Chip Dryer	Chipper and Flaker	Raw Board Storage	OSB Facility	Gas Engines	
	New WESP stack evident	spread of structures.	and taller MDF cyclones forming part of the backdrop to the development	and taller MDF cyclones forming part of the backdrop to the development	appearing as a very small scale extension to these	difficult to discern in the context of the many more prominent structures. Cumulative visual effects would not be significant.
F: B5070 north of Chirk	New structures not visible. Emission plume visible above tree cover	Not visible	Not visible	Not visible	Not visible	As the Proposed Development (the gas engines) would not be visible from this viewpoint, cumulative visual effects would not occur.
G: Offa's Dyke Path west of Bronygarth	Minor addition which would be difficult to distinguish individually	Not visible	Minor addition which would be difficult to distinguish individually	Not visible	Not visible	As the Proposed Development (the gas engines) would not be visible from this viewpoint, cumulative visual effects would not occur.
H: Chirk Castle	New WESP stack evident above tree cover	Not visible	Not visible	Not visible	Not visible	As the Proposed Development (the gas engines) would not be visible from this viewpoint, cumulative visual effects would not occur.
I: New Hall	Partially screened by vegetation. New WESP stack evident	Almost entirely screened by vegetation. Not discernible as a distant feature	Almost entirely screened by the RCF silos (and by the WESP Chip Dryer)	Minor roof extension to a building viewed against the backdrop of the much taller existing WESP stack and MDF cyclones	A minor addition to the existing assemblage of structures, appearing far smaller than the prominent CHP stack, WESP stack and MDF cyclones	The Gas Engines would be a minor addition to the Kronospan site. In a context where a range of more prominent structures would be visible, their presence would have little or no influence upon the views available. Cumulative visual effects would not be significant.
J: Canal towpath near marina	New structures not visible. Emission plume visible above tree cover	Not visible	Partially visible through a gap in tree cover, and forming a backdrop to views of existing structures	Not visible	Not visible	As the Proposed Development (the gas engines) would not be visible from this viewpoint, cumulative visual effects would not occur.

Viewpoint	Visibility of Individual Schemes					Cumulative Visual Effects resulting from the presence of the Gas Engines
	WESP Chip Dryer	Chipper and Flaker	Raw Board Storage	OSB Facility	Gas Engines	
K: Canal towpath north-west of site	Partially visible through a gap in vegetation cover.	New building screened by vegetation. New crane visible above the tree cover.	Not visible	Not visible	Not visible	As the Proposed Development (the gas engines) would not be visible from this viewpoint, cumulative visual effects would not occur.
L: Chirk Castle driveway	Largely screened by landform. New WESP stack evident	Largely screened by landform, with only roofs visible above	Largely screened by landform, with only roofs visible above	Not visible	A minor addition to the existing assemblage of structures, appearing far smaller than the prominent CHP stack, WESP stack and MDF cyclones	The gas engines would be viewed against the backdrop of the far larger board store building, and would be difficult to discern in this context. Their presence would have little or no influence upon the views available. Cumulative visual effects would not be significant.
M. Canal towpath north of site	Partially visible in front of the existing CHP plant (but largely screened by the Chipper and Flaker). The proposed new stack would be screened by canalside tree cover.	Partially visible above railway corridor vegetation, in front of the existing CHP plant (and the proposed WESP Chip Dryer).	Largely screened by tree cover	Not visible	Barely visible to the rear of the RCF silos	The gas engines would be barely visible between the far more prominent RCF Silos and WESP Chip Dryer. Their presence would have little or no influence upon the views available. Cumulative visual effects would not be significant.
N. Canal towpath north of site	Partially visible in front of the existing CHP plant (but largely screened by the Chipper and Flaker). The proposed new stack would be	Partially visible through a gap in vegetation cover, in front of the existing CHP plant (and the proposed WESP Chip Dryer).	Not visible	Not visible	Barely visible to the rear of existing buildings and vegetation	The gas engines would be a barely visible addition to a view where other larger structures are already apparent. Their presence would have little or no influence upon the views available. Cumulative visual effects would not be significant.

Viewpoint	Visibility of Individual Schemes					Cumulative Visual Effects resulting from the presence of the Gas Engines
	WESP Chip Dryer	Chipper and Flaker	Raw Board Storage	OSB Facility	Gas Engines	
	visible above canalside tree cover, next to the existing WESP stack					

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- 4.6 Cumulative views would generally be in combination, i.e. where visible, the Proposed Development and the four cumulative schemes would be seen in the same field of view from the same location. Views in succession would not be available, as any viewer outside the site would not need to rotate their gaze significantly to see all the schemes.
- 4.7 Sequential cumulative visibility from the towpath of the Llangollen Canal is illustrated by Viewpoints J, K, M and N from which the Proposed Development, the cumulative schemes, and existing structures fall into and out of view. The strong influence of existing vegetation cover upon views towards the Kronospan site is reflected in these views.
- 4.8 Significant cumulative visual effects would not occur at any of the viewpoints. The Proposed Development, where visible, always be seen in the context of views where the presence of large-scale structures at the Kronospan site is an established influence, and where the further presence of the cumulative schemes would result in only incremental change in view. The gas engines themselves would not be widely visible and would typically appear far smaller than other more prominent structures. Existing vegetation cover and landform would often provide significant screening, and further screening would often be provided by existing structures at the Kronospan site.

5.0 Mitigation

- 5.1 As cumulative landscape and visual effects would not be significant, no specific mitigation measures are proposed.
- 5.2 Regard should be had to the mitigation section of the main LVIA, which discusses the separate landscape strategy for the area surrounding the Kronospan site that has been produced and submitted separately by the Applicant.

6.0 Residual Effects and Conclusions

- 6.1 The cumulative landscape and visual effects of the Proposed Development would not be significant. It would all be introduced into the Kronospan site, where much larger existing structures exert an established influence upon the surrounding area., and where further consented and proposed structures would also be more prominent than the gas engines.