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Supporting Document 8

Green Infrastructure Statement

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1.0 INTRODUCTION

1.1 Introduction

1.1.1 This Green Infrastructure Statement (GIS) has been prepared in relation to the proposed Kronospan Low Carbon Combined Heat and Power (CHP) Facility (the Proposed Development), located within the wider Kronospan site at Chirk. The GIS has been prepared in support of a Development of National Significance (DNS) application under Section 62D of the Town and Country Planning Act 1990.

1.1.2 The GIS has been prepared in accordance with the requirements of paragraph 6.2.12 of *Planning Policy Wales*¹ (PPW), which states that:

“A green infrastructure statement should be submitted with all planning applications. This will be proportionate to the scale and nature of the development proposed and will describe how green infrastructure has been incorporated into the proposal. In the case of minor development this will be a short description and should not be an onerous requirement for applicants. The green infrastructure statement will be an effective way of demonstrating positive multi-functional outcomes which are appropriate to the site in question and must be used for demonstrating how the step-wise approach (Paragraph 6.4.15) has been applied”.

1.1.3 The GIS draws upon information presented in greater detail in other drawings and documents that form part of the DNS submission including:

- DNS3-012 Off-Site Biodiversity Mitigation and Enhancement.
- DNS4-001 Planning Statement (PS).
- DNS4-002 Design and Access Statement (DAS).
- DNS4-007 Biodiversity Assessment Report (BAR).
- DNS5 Environmental Statement (ES).

1.1.4 The BAR is of particular relevance in identifying the need for the off-site mitigation and enhancement measures that are illustrated on Drawing DNS3-012.

¹ Welsh Government, 2024. *Planning Policy Wales*, edition 12



2.0 THE SITE OF THE PROPOSED DEVELOPMENT

2.1 Application Site

- 2.1.1 The Site of the Proposed Development (the Site) is located towards the south-western boundary of the wider Kronospan Facility, which covers an area of approximately 41.2 hectares at the western edge of Chirk.
- 2.1.2 Kronospan is a well-established industrial facility, which has been in operation since the 1970s, and which includes several large industrial process buildings (some with emissions stacks), storage areas for raw materials, warehouse buildings, offices and car parking. Some of the existing structures are large in scale and height. The tallest structures on site are the CHP emissions stack (70m), the SEKA wet electrostatic precipitator (WESP) stack (65.5m), the Medium Density Fibreboard (MDF) cyclones (57m), and the dryer exhaust stack at the WESP Chip Dryer (50m).
- 2.1.3 Surface water for most of the facility currently drains to two lagoons on the northern boundary. A third lagoon takes surface water from the log yard.
- 2.1.4 The development of the existing Kronospan Facility is ongoing, reflecting changes in industrial processes and in market conditions. Planning permission has been granted for the following developments which are either recently completed, under construction, or planned to be constructed in the near future:
- An oriented strand board ('OSB') Facility (APP/H6955/A/19/3227571) which is currently under construction.
 - A new warehouse building (P/2021/0725).
 - An extension to the existing main warehouse building to create a covered loading yard and storage area (P/2022/0336).
 - The erection of a new building to form engineering stores, a dedicated apprentice workshop, an access track around the new structure and ancillary works (P/2022/0615).
 - The erection of two raw material silos, extension to the existing chip preparation building, and the erection of three silos and associated works (P/2022/0765).
 - A proposed new access road (North Access Road), lorry park, weighbridge, 132kV substation and associated infrastructure on land immediately north of the existing Kronospan Facility (Decision Notice is pending (under planning

reference P/2022/1080) subject to confirmation of legal agreements for off-site enhancements).

- 2.1.5 An overview of the Site and existing operations at Kronospan is presented at **ES Figure 1.2**.

2.2 Wider Context

- 2.2.1 Chirk is a small town off the A5 and just north of the England-Wales border (within Wales). The residential areas of the town mostly lie east of the B5070, with the wider Kronospan site to the west of this road. Dense tree planting, some of which is on an earth bund defines the eastern perimeter of the wider Kronospan site and provides effective screening of views from nearby properties.
- 2.2.2 On the western side of the B5070, to the south-east of the wider Kronospan site is an area of greenspace comprising a private sports club (immediately south of the Kronospan car park) and Chirk Recreation Ground. The Cadbury's (Mondelez) factory is immediately south of the wider Kronospan site. Chirk town centre lies south-east of the wider Kronospan site and includes various commercial and community buildings and areas of public open space.
- 2.2.3 The wider area is rural. The landform falls steeply, from the hills to the west towards the much lower-lying Shropshire Plain to the east. Local variations in topography are evident, with a marked rise to a ridge east of the town.
- 2.2.4 To the west of the wider Kronospan site, the land rises towards the foothills of the Welsh mountains. The Llangollen Canal forms part of the Pontcysyllte Aqueduct and Canal World Heritage Site (WHS). In addition to recognised heritage value, the canal corridor is an important recreational route. The canal passes close to the western boundary of the wider Kronospan site and some of the existing structures and perimeter fencing are visible from it. Woodland along the canal corridor is locally designated as a Local Wildlife Site (LWS).



2.2.5 Beyond the canal, settlement is sparse and land cover comprises a mixture of pasture and small woodlands. Much of this area falls within the boundary of the Clwydian Range and Dee Valley National Landscape (CRDVNL). Chirk Castle and its associated grounds (Grade 1 registered) are a notable feature within the landscape. The Castle is owned by the National Trust and is a well-known and well-frequented visitor destination. Much of the land within the Chirk Castle Estate is designated at national level as a Site of Special Scientific Interest (SSSI).

3.0 THE PROPOSED DEVELOPMENT

- 3.1.1 The Proposed Development would comprise a Low Carbon CHP Facility with the capacity to generate up to 40 megawatts (MW) of electricity and 125 MW of thermal energy for use in the existing manufacturing processes at Kronospan. The Proposed Development would be capable of processing approximately 293,000 tonnes (of feedstock) per annum.
- 3.1.2 Key components of the Proposed Development are illustrated on Drawings **DNS-003 to DNS-011**, and comprise:
- Feedstock Storage and Handling.
 - Boiler Building.
 - Turbine Building.
 - Service Building.
 - Air Cooled Condenser (ACC).
 - Flue Gas Treatment (FGT) Facility.
 - Air Pollution Control (APC) Reagent Provisions (lime silo and ammonia tank).
 - Ash Silo (FGT).
 - Ash Pit (bottom ash).
 - Water treatment.
 - Stack.
- 3.1.3 In addition, several existing structures would need to be either relocated or removed to accommodate the Proposed Development. These are illustrated on Drawing **DNS3-002**.
- 3.1.4 The Proposed Development would also incorporate off-site biodiversity enhancement and mitigation measures which are described in detail in the BAR (**DNS4-007**) and illustrated on **Drawing DNS-3-012**.



4.0 GREEN INFRASTRUCTURE BASELINE

4.1 Site Context

- 4.1.1 The baseline environment of the Site is described in detail in the ES (**DNS5**) and the BAR (**DNS4-007**). The ES includes chapters addressing effects on air quality and odour, and landscape and visual effects.
- 4.1.2 The Site itself extends over areas of hardstanding and existing structures at Kronospan. No vegetation cover is present.
- 4.1.3 Outside of the Site, hedgerows run north and south along the B5070 corridor, and along the boundaries of fields to the west of the road. Denser belts of tree cover are located along the eastern side of the Kronospan Facility, and within the former Chirk Golf Course on to the west of the Llangollen Canal.
- 4.1.4 The Llangollen Canal corridor is also lined with tree cover, with more substantial woodland (Canal Wood LWS) extending over approximately 13.4 hectares on the cutting slopes south and south-west of the Kronospan Facility. The Site Citation for the LWS describes it as having a sycamore-dominated canopy with abundant ash, and frequent sessile oak and birch. In the understorey hawthorn is frequent with hazel, elder and elm. The ground flora comprises dog's mercury, nettles and tufted hair-grass with wood melick, bluebell and primrose also occurring.
- 4.1.5 West of the canal, further woodland areas are located, including within the Chirk Castle Estate. The Chirk Castle Estate also includes wildflower meadows, and veteran parkland trees. The Chirk Castle and Parkland SSSI covers much of the land within the Castle Estate. The SSSI was notified for the following features:
- Veteran trees.
 - Saproxylic (dead-wood) invertebrates.
 - Lesser horseshoe bats.
 - Grassland fungi (waxcap and other grassland fungi).
- 4.1.6 Some of the woodland within the LWS and SSSI is also Ancient Woodland.
- 4.1.7 Drawing **DNS3-012** illustrates the location of the LWS, the SSSI and areas of Ancient Woodland.



4.2 Committed Mitigation and Enhancement Measures

- 4.2.1 Recent woodland planting has been undertaken by the Applicant to discharge planning conditions attached to several permissions.
- 4.2.2 Some of these conditions required the preparation of a landscape strategy to mitigate the visual effects of the Kronospan Facility from public viewpoints. As such, the Applicant submitted a landscape strategy for the area surrounding the Kronospan Facility to WCBC in 2017 (updated in 2018). The landscape strategy was approved in 2019, and planting has subsequently been carried out within land owned by Kronospan. This planting (which comprises narrow woodland belts) is beginning to become effective in screening views, including views towards the Site.
- 4.2.3 Further similar planting is required by several more recent (i.e. post-2019) planning consents. The location of planting (both implemented and proposed) is illustrated on Drawing **DNS3-012**.
- 4.2.4 Additional measures to enhance the cultural heritage resource within the surrounding area have also been proposed by the Applicant via a Conservation Management Plan which will be implemented and managed via a s106 Agreement attached to the planning permission for the North Access Road (P/2022/1080).



5.0 GREEN INFRASTRUCTURE STRATEGY

5.1 Design Approach

- 5.1.1 The approach to the environmental design of the Proposed Development is described in the ES (**DNS5**), the DAS (**DNS4-002**) and the BAR (**DNS4-007**).
- 5.1.2 The proposed design has been arrived at following input and discussions with the National Trust. Further details of discussions with National trust regarding biodiversity mitigation and enhancement is provided at **Section 1.5, ES Chapter 1.0 (Introduction)**.
- 5.1.3 In relation to the requirements of PPW, the design has followed the step-wise approach, which is set out in paragraphs 6.4.15-6.4.17 of that document as follows:
- Avoid (and enhance).
 - Minimise (and enhance).
 - Mitigate/restore (and enhance).
 - Compensate on site (and enhance).
 - Compensate off-site (and enhance).

5.2 Design Considerations

- 5.2.1 Key considerations were:
- Siting the Proposed Development in a location that avoids or minimises the potential for adverse effects on the amenity of residential properties.
 - Locating the proposed structures in proximity to existing large-scale structures at Kronospan, to minimise any perceived increase in the spread of such structures when seen in views from the surrounding area, and in relation to the setting of historic assets, thereby avoiding or minimising potential effects on these.
 - The potential for air quality impacts on the ecological resource outside of the Site and the need to mitigate against the effects of these.



5.3 Proposed Mitigation and Enhancement Measures

- 5.3.1 As the Proposed Development would be located within the existing Kronospan Facility, there would be no direct physical disturbance to any sensitive environmental features.
- 5.3.2 The BAR (**DNS4-007**) confirms that the air quality impacts of the Proposed Development would be unlikely affect the special features of Chirk Castle SSSI or result in an unacceptable level of harm to Canal Wood LWS. Nevertheless, there would be low magnitude impacts above the screening thresholds for both of these designations, and targeted off-site mitigation and enhancement measures are therefore proposed.
- 5.3.3 The priorities are to align with legislative and policy objectives, and in particular with the DECCA framework as described in paragraph 6.4.5 of PPW, with the overarching aim to maintain ecosystem resilience. To provide an environmental enhancement, over and above the need for mitigation, ecosystem resilience needs to be improved relative to the current baseline conditions.
- 5.3.4 In the specific context of Chirk Castle SSSI and Canal Wood LWS, measures are targeted at maintaining and enhancing the integrity and resilience of the woodland habitat feature. The primary aim of mitigation measures is to protect against impacts of atmospheric nutrient pollution. However, enhancement measures are aimed at delivering wider benefits within the DECCA framework, such as improved habitat connectivity.
- 5.3.5 The mitigation and enhancement measures forming part of the Proposed Development (and illustrated on **Drawing DNS3-012**) comprise the following:
- New woodland planting is proposed adjacent to the north-western part of Canal Wood LWS, onto what is currently a former golf course, now agricultural grassland.
 - New woodland planting is proposed along the eastern boundary of Chirk Castle SSSI, also within the former golf course.



- 5.3.6 In both cases, the proposed planting is intended to buffer local pollution sources (e.g. emissions from fertilisers and livestock) - initially by removing adjoining land from agricultural management, then as trees become established, via interception of pollutants.
- 5.3.7 Both locations are within land under the control of the Applicant and thus can be delivered without the need for any agreement with third parties.
- 5.3.8 Key principles followed in the design of the proposed woodland planting are:
- Shelterbelts for buffering should ideally be 30-50m wide.
 - They should form a continuous barrier, rather than groups of trees separated by gaps.
 - The aim should be to achieve (once established) a range of tree and shrub heights, including a well-developed understorey and shrub layer.
 - Notwithstanding point iii), planting should not be too dense so as to impede airflow into the shelterbelt when established (this point is emphasised in guidance for shelterbelts around intensive agricultural units) - there is an optimum leaf area density for infiltration and deposition of pollutants.
 - Where the buffer is necessarily less than 30m wide, a greater foliage density is recommended.
 - Species choice should include trees with complex leaf shapes (e.g. field maple, *Acer campestre*) and include an evergreen component (e.g. holly, *Ilex aquifolium* and Scots pine, *Pinus sylvestris*) to maintain effective capture through the year.
 - For gaseous pollutant interception, anisohydric species which keep stomata open for longer in dry conditions may be more effective - these include oak (*Quercus*) and poplar (*Populus*) species.
- 5.3.9 The proposals shown indicatively on Drawing **DNS3-012** reflect these principles. Should consent be granted for the Proposed Development, it is envisaged that full details of the proposal would need to be agreed with WCBC. A Management Plan for the proposed woodland planting would be prepared by the Applicant which would include details of implementation and establishment management, and long-term management and maintenance measures.



- 5.3.10 In respect of the DECCA framework, the proposals would align with the overall aim identified above of providing ecosystem resilience. Additionally, they would improve habitat extent and connectivity, which are two key elements of the DECCA framework, and would also maintain species diversity and habitat condition within the SSSI.
- 5.3.11 In relation to the step-wise approach, the Proposed Development would avoid or minimise environmental effects due to its proposed location. Mitigation measures would reduce effects on the Canal Wood LWS and Chirk Castle and Parkland SSSI, and the proposed approach to new woodland planting would enhance the condition of these two designations above baseline. These measures would be provided off-site but would be sited in locations where they would be most effective.
- 5.3.12 As discussed in **Section 4.0**, Drawing **DNS3-012** also shows planting that has recently been implemented, or which is required to be implemented as part of extant planning consents associated with development at Kronospan. Whilst not explicitly designed for pollution mitigation, this planting takes adjoining land out of agricultural use and will have some pollution interception benefits. It can therefore be considered as likely to have a cumulative positive effect in combination with the mitigation and enhancement measures associated with the Proposed Development.



6.0 CONCLUSION

- 6.1.1 The Proposed Development would not result in any direct physical disturbance to any sensitive environmental features. Off-site mitigation and enhancement measures are proposed, which would reduce impacts on Canal Wood LWs and Chirk Castle and Parkland SSSI, with the overarching aim of increasing ecosystem resilience to air quality impacts. These measures would comprise the planting of extensive areas of buffer woodlands adjacent to the two designated areas, which would remove adjoining land from agricultural management, and as planting becomes established, by intercepting pollutants. The measures proposed would also enhance habitat connectivity and diversity. The Proposed Development would deliver a net benefit for biodiversity.



