

Appendix 9D

In-Combination Climate Change Impact Assessment

Prepared for: Kronospan

December 2025

DNS4-040

1.0 INTRODUCTION

- 1.1.1 This appendix has been written in support of Chapter 9 of the Environmental Statement (ES) which supports the Development of National Significance (DNS) application for the Proposed Development.
- 1.1.2 The planning application is seeking to install a new CHP Facility which would replace the normal operation of the K7 Biomass Plant and remove the requirement to build two of the gas engines which currently have planning consent and an EP to operate.
- 1.1.3 This appendix considers the extent to which climate change exacerbates or ameliorates the potential effects identified within each of the technical assessments presented in each of the following technical chapters:
- i) Chapter 5: Noise and Vibration;
 - ii) Chapter 6: Air Quality and Odour;
 - iii) Chapter 7: Landscape and Visual Impact Assessment;
 - iv) Chapter 8: Historic Environment;
 - v) Chapter 10: Material Assets and Waste; and
 - vi) Chapter 11: Population and Human Health.
- 1.1.4 ICCIs are unlikely to impact upon the construction phase of the Proposed Development given that, if consented, construction would occur in the near future when the climatic conditions are well understood and would be accounted for in the construction practices. The ICCI Assessment presented has been informed by the projected change in climate identified in **9B: Climate Change Resilience Assessment** which includes:
- i) Increased winter precipitation;
 - ii) Increased frequency and magnitude of storms;
 - iii) Decreased summer precipitation; and
 - iv) Increase in temperatures.



- 1.1.5 This ICCI Assessment has been produced using the principles as set out in the Institute of Sustainability and Environmental Professionals (ISEP) (formally known as the Institute of Environmental Management and Assessment 'IEMA') guidelines titled: "Environmental Impact Assessment Guide to: Climate Change Resilience & Adaptation"ⁱ (hereafter referred to as the 'ISEP Climate Change Resilience Guidance'). Professional judgement has been used to assess how potential effects presented within the technical assessments will be affected by climate change.
- 1.1.6 The Environmental Permit (EP) for the existing Facility will be varied to allow for the operation of the CHP Facility. As part of the EP application the resilience of the Kronospan Facility to the effects of climate resilience will need to be considered and where appropriate adaptation measures incorporated into the design and operations. The EP will ensure that appropriate strategies are considered for the entire lifespan.



2.0 ICCI ASSESSMENT

Table 9.1 – ICCI Assessment

Technical chapter	Change in climate	Hazard resulting from climate change	Potential impacts of climate change	Additional mitigation requirement
Chapter 5: Noise and Vibration	<ul style="list-style-type: none">Decreased summer precipitation; andIncrease in temperatures.	<ul style="list-style-type: none">Drought;Heatwaves; andChanges in annual average temperature.	Increased temperatures may increase noise from the CHP Facility due to higher cooling demands, greater operational stress, and accelerated wear on components.	<p>No significant noise impacts have been identified in the noise assessment relating to the operation of the CHP Facility, including noise or plant vibration.</p> <p>While the potential effects of climate change have not been specifically assessed, the operational noise calculations are based on ISO 9613-2:1996, a standard historically used in previous noise impact assessments and shown to accurately represent noise levels from the existing Kronospan Facility over time. Mitigation measures have been proposed to ensure operational noise remains within relevant guidance and standards, including the use of Best Available Techniques (BAT) to control potential peak noise sources.</p> <p>Therefore, no additional mitigation is required beyond those set out in Chapter 5, as they remain effective under anticipated climate change scenarios.</p>



Technical chapter	Change in climate	Hazard resulting from climate change	Potential impacts of climate change	Additional mitigation requirement
Chapter 6: Air Quality and Odour	<ul style="list-style-type: none"> Decreased summer precipitation; and Increase in temperatures. 	<ul style="list-style-type: none"> Drought; Heatwaves; and changes in annual average temperature. 	Increased temperatures and drought can worsen air quality by drying out surfaces and increasing dust emissions from both the CHP Facility and vehicle emissions.	<p>The CHP Facility is not predicted to give rise to significant environmental effects on air quality and odour either in isolation or in combination with other projects both on the existing Kronospan Facility or the wider area.</p> <p>Although the potential impacts of climate change have not been specifically assessed, detailed air quality modelling has been completed. There are no high sensitivity receptors within 250 metres of the CHP Facility, and no receptors within 50 metres of roads where dust trackout could occur. A Dust Management Plan and an Odour Management Plan are already in place for the existing Kronospan Facility, developed in accordance with Natural Resources Wales (NRW) requirements. As part of the Environmental Permit (EP) application, both plans will be updated to reflect the inclusion of the CHP Facility. Additionally, a range of mitigation measures will be implemented to strengthen the resilience of local ecological habitats to potential air quality impacts within the Biodiversity Assessment Report.</p> <p>Therefore, no additional mitigation is required beyond those set out in Chapter 6, as they remain effective under anticipated climate change scenarios.</p>



Technical chapter	Change in climate	Hazard resulting from climate change	Potential impacts of climate change	Additional mitigation requirement
Chapter 7: Landscape and Visual Impact Assessment	<ul style="list-style-type: none"> • Increased winter precipitation; • Decreased summer precipitation; • Increase in temperatures; and • Increased frequency and magnitude of storms. 	<ul style="list-style-type: none"> • Drought; • Heatwaves; • Changes in annual average temperature; • Increased frequency and magnitude of wind surges; and • Surface water and fluvial flooding. 	<p>The projected changes in climate have the potential to cause damage to the planting as a result of drought, flooding, or increased high wind events.</p>	<p>The Proposed Development is not predicted to give rise to significant environmental effects on the landscape character and visual impact.</p> <p>The CHP Facility would be introduced at the existing Kronospan Facility which is a well-established industrial complex. The CHP Facility would be a large new building with two large silos and a new emissions stack. The stack would be the tallest structure at the Kronospan Facility but would be less bulky than many of the existing stacks. Views of the CHP Facility would mostly be screened by vegetation and the surrounding landscape.</p> <p>Although the potential impacts of climate change on the vegetation have not been specifically assessed, a range of mitigation measures will be implemented to strengthen the resilience of local ecological habitats to climate change effects within the Biodiversity Assessment Report.</p> <p>Therefore, no additional mitigation is required beyond those set out in Chapter 7, as they remain effective under anticipated climate change scenarios.</p>



Technical chapter	Change in climate	Hazard resulting from climate change	Potential impacts of climate change	Additional mitigation requirement
Chapter 8: Historic Environment	<ul style="list-style-type: none"> Increased winter precipitation; Decreased summer precipitation; and Increase in temperatures. 	<ul style="list-style-type: none"> Surface water and fluvial flooding; and Drought. 	The projected changes in climate have the potential to cause damage to the planting as a result of drought, flooding, or increased high wind events.	<p>The design has considered the setting of designated heritage assets in the local area and screening would be provided by vegetation and the surrounding landscape.</p> <p>Although the potential impacts of climate change on the vegetation have not been specifically assessed, a range of mitigation measures will be implemented to strengthen the resilience of local ecological habitats to climate change effects within the Biodiversity Assessment Report.</p> <p>Therefore, no additional mitigation is required beyond those set out in Chapter 8, as they remain effective under anticipated climate change scenarios.</p>



Technical chapter	Change in climate	Hazard resulting from climate change	Potential impacts of climate change	Additional mitigation requirement
Chapter 10: Material Assets and Waste	<ul style="list-style-type: none"> Increased winter precipitation; Decreased summer precipitation; and Increase in temperatures. 	<ul style="list-style-type: none"> Surface water and fluvial flooding; and Drought. 	<p>The projected changes in climate have the potential to cause the mobilisation of the by-products, ash and Air Pollution Control Residues (APCR), from the CHP facility, via air and water.</p>	<p>Climate change will not affect the amounts of ash and APCR produced at the Site. However, it could affect how the ash and APCR is managed.</p> <p>On-site, the ash and APCR is securely stored in silos prior to export, eliminating risks associated with increased flooding or drought associated with climate change.</p> <p>Off-site, the ash will either be transported to landfill or to an appropriately licensed facility for recovery or beneficial reuse. APCR will be transported to a licensed waste contractors for appropriate treatment and disposal as it is classified as a hazardous waste. Waste management and treatment facilities are required to consider climate resilience and adaptation measures as part of their EP. Therefore, effective measures to deal with the effects of climate change should be in place.</p> <p>Therefore, no additional mitigation is required beyond those set out in Chapter 10, as they remain effective under anticipated climate change scenarios.</p>



Technical chapter	Change in climate	Hazard resulting from climate change	Potential impacts of climate change	Additional mitigation requirement
Chapter 11: Population and Human Health	<ul style="list-style-type: none"> Decreased summer precipitation; and Increase in temperatures. 	<ul style="list-style-type: none"> Drought; Heatwaves; and Changes in annual average temperature. 	<p>Increased temperatures and drought may:</p> <ul style="list-style-type: none"> Increase noise from the CHP Facility due to higher cooling demands, greater operational stress, and accelerated wear on components. Worsen air quality by drying out surfaces and increasing dust emissions from both the CHP Facility and vehicle emissions. <p>Changes in noise and air quality and environmental determinants of health, and so have the potential to increase health impacts reported at the population level.</p>	<p>No significant health effects have been identified in the population and health assessment relating to the operation of the CHP Facility.</p> <p>Mitigation measures applied focus on environmental precursors to adverse population and health outcomes, thereby providing an opportunity for intervention to prevent any manifest health outcome.</p> <p>As outlined above, these include the use of Best Available Techniques (BAT) to control potential peak noise sources and ensure operational noise remains within relevant guidance and standards which are set to be protective of the environment and human health.</p> <p>Similarly, a Dust Management Plan and an Odour Management Plan seek to control potential dust impacts, noting that there are no high sensitivity receptors within 250 metres of the CHP Facility, and no receptors within 50 metres of roads where dust trackout could occur.</p> <p>On the above basis, no additional mitigation is required beyond those set out in Chapter 11, as the inherent mitigation which focusses on environmental precursors to adverse health impacts remain effective under anticipated climate change scenarios.</p>



3.0 CONCLUSION

- 3.1.1 Climate change has the potential to exacerbate and/or ameliorate the potential effects identified within the technical chapters. However, the mitigation measures outlined in the technical chapters remain effective in the context of anticipated climate change scenarios.

ⁱ ISEP. (2020). *Environmental Impact Assessment Guide to: Climate Change Resilience & Adaptation*. Available at: <https://www.iema.net/media/mabhqino/iema-eia-climate-change-resilience-june-2020.pdf> [Last Accessed 06 October 2025].

