

16 CUMULATIVE EFFECTS

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APPENDICES

Presented in Volume 3 of this Environmental Statement
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Presented in Volume 4 of this Environmental Statement
Figure 16.1 Location of shortlisted committed developments

16.1 Introduction

- 16.1.1 Regulation 4(2) of the Town & Country Planning EIA (Wales) Regulations 2017 requires that the EIA ‘*must identify, describe and assess... the direct and indirect significant effects of the Proposed Development on... (a) population and human health; (b) biodiversity...; (c) land, soil, water, air and climate; (d) material assets, cultural heritage and the landscape; and (e) the interaction between the factors listed in sub-paragraphs (a) to (d)*’.
- 16.1.2 This chapter assesses the potential for interactions in the factors of the environment to give rise to likely significant effects. In other words, this chapter assesses whether the combination of multiple effects upon a common environmental receptor (as identified individually in **ES Chapters 5 to 14**) would result in likely significant effects.
- 16.1.3 Paragraph 5 of Schedule 4 of the EIA Regulations also requires the ES to include ‘*A description of the likely significant effects of the development on the environment resulting from, inter alia... (e) the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources...*’.
- 16.1.4 As set out in **ES Chapter 4: Environmental assessment methodology**, there are therefore two parts to the cumulative effects assessment reported herein:
- Intra-project combined effects – the interaction and combination of multiple significant effects from the Proposed Development on common receptors; and
 - Inter-project cumulative effects – the combined effects of the Proposed Development together with other committed development projects on commonly shared receptors.

16.2 Statutory and planning context

- 16.2.1 In preparing this chapter, consideration has been given to relevant legislation, planning policy and guidance documents. This includes, but is not limited to, the documents summarised in **Table 16.1**.

Table 16.1 Legislation, planning policy, and guidance documents relevant to this chapter

Document	Summary
Legislation	
Town & Country Planning EIA (Wales) Regulations 2017 ¹	Regulation 4(2)(e) and Schedule 4 (sub-section 5(e)) set out the requirement for applicants to consider the potential for cumulative effects as part of the EIA process. Regulation 4(2) states that the EIA must identify, describe and assess in an appropriate manner, in light of each individual case, the direct and indirect significant effects of the proposed development on population and human health, biodiversity, land, soil, water, air, climate, material assets, cultural heritage, and the landscape and “ <i>the interaction between [these] factors</i> ”.

¹ <https://www.legislation.gov.uk/wsi/2017/567/contents>

Document	Summary
	Schedule 4 (subsection 5(e)) states that an ES should include “a description of the likely significant effects of the development on the environment resulting from... the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources”.
Planning Policy	
Planning Policy Wales Edition 12, Future Wales: The National Plan 2040 (2021) ²	In addition to cumulative effects assessment being a required element of the EIA, it is also recognised in Planning Policy Wales Edition 12, Future Wales: the National Plan 2040 and the adopted Neath Port Talbot Local Development Plan (2011-2026) as being a relevant consideration in the determination of development proposals.
Neath Port Talbot County Borough Council Local Development Plan (2011-2026) ³	
Guidance	
Planning Inspectorate’s Advice Note 17: Cumulative Effects Assessment (2019) ⁴	Although the Proposed Development does not constitute a nationally significant infrastructure project (NSIP), the adopted method reflects that set out in Planning Inspectorate Advice Note Seventeen: Cumulative Effects Assessment, as in the absence of more specific guidance, this is considered to represent best practice in respect of cumulative effects assessment and also captures the requirements in the IEMA⁵ and HRA⁶ guidance. This comprehensive approach to the cumulative effects assessment also takes into account the nature of the Proposed Development and surrounding land use. Advice Note 17 sets out a staged process to cumulative effects assessment and provides a recognised method for documenting the cumulative effects assessment within an ES. Note: Advice Note 17 was the most up to date guidance at the time of preparing the cumulative effects chapter of this ES. It was superseded by the Planning Inspectorate’s ‘Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment’ on 20 September 2024, however this wasn’t taken into consideration for this ES, as the cumulative effects assessment had been substantially completed at that time.

16.3 Consultation undertaken

16.3.1 Informal pre-application consultation workshops were held with Neath Port Talbot Council (NPTC). During these, the proposed approach to cumulative assessment was broadly discussed. A draft of the shortlist of committed developments to be taken forward for the

² <https://www.gov.wales/future-wales-national-plan-2040-0>

³ https://www.npt.gov.uk/media/7321/ldp_written_statement_jan16.pdf?v=20170727124344

⁴ <https://www.gov.uk/government/publications/nationally-significant-infrastructure-projects-advice-note-seventeen-cumulative-effects-assessment-relevant-to-nationally-significant-infrastructure>

⁵ <https://www.iema.net/download-document/236676>

⁶ <https://www.gov.uk/guidance/habitats-regulations-assessments-protecting-a-european-site>

assessment of inter-project cumulative effects was shared with NPTC for comment. A summary of consultation to date is provided in **Table 16.2**.

Table 16.2 Consultation responses

Consultee	Summary of consultation	Comment / Action taken
NPTC	Recommendation that the zone of influence (Zol) for air quality be extended from the stated 250 m. The recommendation was to use a Zol of 10 km in relation to industrial sources of pollution and to consider the roads most affected by the Proposed Development in relation to traffic emissions.	Amended the Zol for the air quality cumulative effects assessment in line with NPTC's recommendations.
	Request for clarification on the Zol for odour.	Confirmed that odour has been scoped out of the assessment as significant emissions of odour are considered unlikely to be generated by the EAF.
	Comment that human health did not seem to be considered.	Clarification provided that human health is included as part of the socio-economics cumulative effects assessment.

16.4 Approach to the assessment

Impact assessment and significance criteria

- 16.4.1 The Planning Inspectorate's Advice Note 17 Cumulative Effects Assessment methodology forms the basis of this assessment, as it is considered to represent good practice in respect of cumulative effects assessment (CEA) for large infrastructure projects.
- 16.4.2 The significance criteria adopted for CEA follows the policy and guidance documents outlined above and the general EIA approach methods presented in **ES Chapter 4: Environmental assessment methodology** together with significance criteria presented in **ES Chapters 5 to 14** where aspects of these assessments have been relied upon.
- 16.4.3 With regard to **ES Chapter 15: Major accidents and disasters**, this assessment uses a risk-based criteria, and considers events that have a low likelihood and high magnitude effects, which if unmitigated would potentially result in significant effects. Due to the low likelihood of these events occurring, the assessment outcomes cannot be directly compared with the outcomes for the other environmental factor assessment. Potential interactions with other committed developments where reasonably foreseeable, unplanned events with a low likelihood of occurring but potential for high consequences could occur have still been taken into consideration in **ES Chapter 15: Major accidents and disasters**. As such, a summary of potential inter-project cumulative effects relating to major accidents and disasters is provided in **Section 16.6**, but it is not considered elsewhere in the chapter.

Intra-project cumulative effects

- 16.4.4 Intra-project CEA is the assessment of the interaction and combination of multiple significant effects from the Proposed Development on common receptors.
- 16.4.5 The assessment only considers effects on a particular receptor that have been assessed elsewhere in the ES (**ES Chapters 5 to 14**) as 'significant'. The study area for the assessment of intra-project effects relates to the study area of each individual factor of the environment being cumulatively assessed (as presented in **ES Chapters 5 to 14**). The assessment of the intra-project combined effects has been undertaken in two steps:
- Step 1 has involved a review of **ES Chapters 5 to 14** to identify sensitive receptors exposed to more than one type of residual (post-additional mitigation) effect during the construction and operation phases of the Proposed Development. Those common sensitive receptors exposed to two or more types of residual (post-additional mitigation) effects concluded to be 'significant' are considered further herein.
 - Step 2 provides a qualitative assessment of the overall significance of the cumulative effects on common sensitive receptors identified in the first step, which is undertaken based on technical information provided in **ES Chapters 5 to 14** and supporting technical appendices provided in **ES Volume 3**. Given that the types of effects may be very different in some cases, professional judgement is applied in concluding the overall significance on each common receptor.

Inter-project cumulative effects

- 16.4.6 Inter-project CEA is the assessment of combined effects of the Proposed Development and other committed development projects on commonly shared receptors.
- 16.4.7 Inter-project cumulative effects concern only other committed developments proposed to be constructed or operated (or decommissioned) at the same time the Proposed Development is proposed to be constructed or operated (or decommissioned). New development projects that are already operational at the time of assessment of the Proposed Development, or likely to be operational at the time of construction of the Proposed Development, form part of the existing environmental baseline in **ES Chapters 5 to 14**).
- 16.4.8 The assessment of inter-project effects is based upon the residual (post-additional mitigation) effects information contained within **ES Chapters 5 to 14**, as well as publicly available environmental information for the other committed developments. In accordance with Advice Note 17, the identification of other committed developments has been undertaken in two stages as follows:
- **Stage 1:** establish a long list of other committed developments based on appropriate spatial and temporal limits.
 - **Stage 2:** apply a clear rationale to establish a short list of other committed developments which, in combination with the Proposed Development, have the potential to result in a significant cumulative effect for inclusion within the assessment.

Stage 1: Long list methodology

- 16.4.9 The first stage in establishing the long list of other relevant committed developments is to determine the Zol for potential cumulative effects of each environmental factor assessed

within this ES. The Zol is defined as the spatial area over which either a project or cumulative effect is likely to be experienced.

- 16.4.10 **Table 16.3** presents the topic-specific Zols as based on the environmental factor-specific study areas presented in **ES Chapters 5 to 14**. These Zols have been determined by the relevant competent expert based on their professional judgement or, if available, relevant technical guidance. At distances beyond the identified Zol it is assumed there is no potential for significant cumulative effects due to distance from the Proposed Development.

Table 16.3 Zone of Influence for each environmental factor

Environmental Factor	Zone of Influence (distance from EAF planning application boundary)	Justification
Landscape and Visual	7 km	The extent of the Zol is consistent with the Zol for committed developments that is specified in ES Chapter 5: Landscape and visual impact. This Zol differs from the search area and study area used in the LVIA assessment because initial detailed viewpoint analysis indicated that there was no potential for intervisibility beyond 7 km that would lead to any significant effects. This is due to intervening distance or intervening built form and/or topography and/or, to a lesser extent, vegetation between the Proposed Development and any potential receptors.
Air Quality	Dust: 250 m Vehicle emissions: Same as Transport and Access Zol, i.e. the links and junctions on the route between the Site and Junction 41 of the M4 in the north and Junction 38 of the M4 in the south, via the A4241 Harbour Way and A48. Industrial emissions: 10 km	For dust, the extent of the Zol is consistent with the 250-metre construction dust study area as considered in ES Chapter 6: Air quality. In relation to the assessment of vehicle emissions on human health, the traffic data that was provided considered the cumulative schemes deemed by the Transport and Access team to be relevant to the assessment. Industrial sources within 10 km of the Site have also been assessed as part of the CEA.
Noise and Vibration	5 km	The extent of the Zol is consistent with the Zol for committed developments that is specified in ES Chapter 7: Noise and vibration. This Zol is greater than the largest study area considered in the noise and vibration assessment (which is 1 km from the Site boundary in relation

Environmental Factor	Zone of Influence (distance from EAF planning application boundary)	Justification
		to noise effects arising from the operational project) and is based on professional judgement.
Biodiversity	Protected species: 2 km Non-statutory Designated Sites: 1 km National Statutory Designated Sites (SSSI): 2 km International Statutory Designated Sites (SAC, SPA and Ramsar): 10 km	The extent of the Zol is consistent with the study area considered in ES Chapter 8: Biodiversity .
Surface water, flood risk and drainage	Water Resources: 5 km Flood Risk: The hydrological catchment of the Site, i.e. Afon Kenfig (Cynffig), including Magarm Moors and the Ty Du Brook Surface water drainage: Any areas with surface water drainage features (watercourses, drains, culverts) draining to the Site, Margam Moors or the Tata Steel UK Limited (Tata Steel) wastewater treatment works. Foul Drainage: Areas draining to the DCWW Port Talbot wastewater treatment works.	The extent of the Zol is consistent with the Zol for committed developments that is specified in ES Chapter 9: Surface water flood risk and drainage .
Land, soil and groundwater	Site boundary plus land up to 1 km from the Site boundary	The extent of the Zol is consistent with the study area considered in ES Chapter 10 Land, Soil and Groundwater .
Cultural Heritage and Archaeology	Non-designated heritage assets: 1 km Designated heritage assets: 5 km	The extent of the Zol is consistent with the study area considered in ES Chapter 11 Cultural Heritage .
Transport and Access	Comprises the links and junctions on the route between the Site and Junction 41 of the M4 in the north and Junction 38 of the M4 in the south, via the A4241 Harbour Way and A48.	The extent of the Zol is consistent with the study area considered in ES Chapter 12 Transport and Access , as agreed informally with NPTC during scoping discussions.
Climate Change	N/A (global)	Cumulative effects assessments are not applicable for greenhouse gas

Environmental Factor	Zone of Influence (distance from EAF planning application boundary)	Justification
		emissions (all schemes globally contribute to global emissions). Climate resilience is covered in the cumulative effects assessments for ES Chapter 8 Biodiversity and ES Chapter 9: Surface water flood risk and drainage .
Socio-economics and health	Neath Port Talbot Council (NPTC), City and County of Swansea Council (CCSC), and Bridgend County Borough Council (BCBC) local authority administrative areas	The extent of the Zol is consistent with the 'Sub-regional Impact Area (SRIA)' study area considered in ES Chapter 14: Socio-economics and health , which covers the three combined local authority administrative areas. This was deemed appropriate since evidence from the Applicant shows that 80% of established baseline employees at the Site reside within the sub-regional area, indicating a relatively high rate of containment in this geography. Cumulative effects relating to other environmental factors assessed elsewhere in the ES have been screened for impact pathways on human health in ES Chapter 14: Socio-economics and Health . The Zols therefore reflect the distances from the planning application boundary presented in the rows above.

- 16.4.11 With the exception of socio-economics, the greatest Zol in terms of distance is 10 km, which is associated with the biodiversity assessment in relation to international statutory designated sites and with the air quality assessment in relation to industrial sources of emissions. It is this Zol upon which the search area for forming the long list of committed developments was based, again with the exception of socio-economics (as explained further below).
- 16.4.12 Following the adoption of the 10 km cumulative effects search area, a planning application search was undertaken to identify other committed development(s) within the 10 km Zol. Information was drawn from the NPTC, BCBC, CCSC, Welsh Government DNS and PEDW planning portals.
- 16.4.13 The Zol associated with the socio-economics assessment comprises the jurisdictions of NPTC, BCBC, and CCSC. Because of the relative separation from the Site, in the interests of conducting a proportionate search, the search parameters for developments within BCBC and CCSC jurisdictions have been limited to only include projects relating to notable major industrial/energy infrastructure and DNS/NSIP developments, and those with potentially significant impacts on employment opportunities.
- 16.4.14 To focus the search criteria for the long list, the primary focus was on those developments considered to be of a nature and sufficiently large scale to have potential to interact with

the Proposed Development at the Zol scale considered. This included the following and was informed by development proposals likely to constitute 'major' development proposals in planning terms and/or to require EIA screening:

- Employment developments;
- Residential developments of 10+ dwellings;
- Minerals and waste applications;
- Industrial developments;
- DNS applications;
- NSIP developments;
- Transport infrastructure developments (trunk roads or motorways only); and
- Energy infrastructure developments

16.4.15 The developments were assigned in tiers which descend from Tier 1 (most certain) to Tier 3 (least certain) and reflect a diminishing degree of certainty which can be assigned to each development. Of the development types listed above, only those that met one or more of the following criteria were included on the long list (in line with the 'Tier 1' and 'Tier 2' descriptions in Table 2 of Advice Note 17).

16.4.16 With reference to Advice Note 17, the following criteria were used to inform the list of committed developments:

- Projects that are under construction but that will not be completed prior to the Proposed Development commencing (Tier 1);
- Projects with planning permission granted (within the last five years), whether under the Planning Act 2008 or other regimes, but not yet implemented (Tier 1);
- Submitted but not yet determined planning applications, whether under the Planning Act 2008 or other regimes (Tier 1); and
- EIA development not yet submitted but subject of EIA scoping request (Tier 2).

16.4.17 Interpretation of the last point above is that, as expressed in Advice Note 17, this is intended to relate solely to NSIPs. However, for the purposes of a robust assessment this criteria was widened to also include all projects screened as EIA development under the Development of National Significance (DNS) and Town & Country Planning regimes, where an EIA Scoping Report has been submitted but for which an application has not yet been submitted.

16.4.18 It should be noted that with reference to 'Tier 3' descriptions in Table 2 of Advice Note 17, the following other committed development(s) have not been considered for inclusion in the long list, as none of the below have sufficient environmental assessment information freely and publicly available to inform the inter-project CEA, nor are any of the below considered to be 'existing development and/or approved development':

- Projects on the Planning Inspectorate's Programme of Projects where an EIA Scoping Report has not been submitted, i.e. they may still be at EIA screening stage; and
- Projects that have been identified in the relevant Development Plan(s) (and emerging Development Plans).

16.4.19 The long list of other committed developments is provided in **Appendix 16.1 in ES Volume 3**. Note that since the long list was first compiled, the application for committed development ID 63 (DNS/3253154) has been withdrawn. This other committed

development has therefore been removed from the long list, but the reference numbering of subsequent other committed developments in **Appendix 16.1** has been retained.

Stage 2: Short list methodology

16.4.20 Following the formation of the long list, the eligible other committed developments identified have been through further assessment (Stage 2) to establish a short list of developments which, in combination with the Proposed Development, have the potential to result in significant cumulative effects.

16.4.21 The criteria used to determine whether to include or exclude another committed development on the short list reflect the process established by Advice Note 17 and have regard to relevant policy and guidance documents and consultation with NPTC. Advice Note 17 states at 3.2.4 that the criteria should address the following:

- ***“Temporal scope:*** *The applicant may wish to consider the relative construction, operation and decommissioning programmes of the ‘other existing development and/or approved development’ identified in the ZOI together with the [project] programme, to establish whether there is overlap and any potential for interaction.*
- ***Scale and nature of development:*** *The applicant may wish to consider whether the scale and nature of the ‘other existing development and/or approved development’ identified in the ZOI are likely to interact with the proposed [project]. Statutory definitions of major development and EIA screening thresholds may be of assistance when considering issues of scale.*
- ***Other factors:*** *The applicant should consider whether there are any other factors, such as the nature and/ or capacity of the receiving environment that would make a significant cumulative effect with ‘other existing development and/or approved development’ more or less likely and may consider utilising a source-pathway-receptor approach to inform the assessment.*
- ***Documentation:*** *The CEA shortlisting process may be documented using Matrix 1 (Appendix 1). The reasons for excluding any development from further consideration should be clearly recorded. This will provide decision makers, consultation bodies and members of the public with a clear record of ‘other existing development and/or approved development’ considered and the applicant’s decision making process with respect to the need for further assessment.”*

16.4.22 Advice Note 17 suggests that professional judgement may also be used to supplement the threshold criteria and in order to avoid excluding other committed development(s) this professional judgement may consider if the following matters justify a development being scoped in for assessment even if it does not meet the above threshold criteria:

- *“Below the threshold criteria limits but has characteristics likely to give rise to a significant effect; or*
- *Below the threshold criteria limits but could give rise to a cumulative effect by virtue of its proximity to the proposed [project].”*

16.4.23 Taking the above into consideration, the committed developments on the long list were reviewed against the following three criteria to form the short list of committed developments:

- **Criteria 1:** The committed development has a construction, operational and/or demolition phase that is concurrent with the Proposed Development;
- **Criteria 2:** The committed development and the Proposed Development share common sensitive receptors/resources which are assessed and described in the

supporting environmental documentation, and have the potential to be significantly affected by the combination of the committed development and the Proposed Development; and

- **Criteria 3:** The committed development has sufficient environmental assessment information freely and publicly available to inform the inter-project CEA. The assessment of each committed development on the list will be proportionate to the environmental assessment information available.

16.4.24 Where a committed development met all of the above criteria, it has been included on the 'short list' and was taken forward for further consideration in the assessment. The short list of committed developments that were considered in assessments of cumulative effects is provided in **Table 16.4**. The approximate location of the shortlisted committed developments is available at **Figure 16.1** in **ES Volume 4**. Note that the identification numbers for each development in **Figure 16.1** correspond with those in the first column of **Table 16.4**. Distances stated are the approximate shortest distance from the edge of the red line boundary of the Proposed Development to that of each respective other committed development.

Other development

National Grid Margam Substation extension and cable connection construction

- 16.4.25 National Grid is submitting a planning application in relation to the extension of Margam Substation and the construction of a cable connection located outside of the Site. The Margam Substation project does not meet the criteria for Tier 1 and Tier 2 as described above due to not being sufficiently far advanced in the planning process. However, it is proposed that this project be included in the short list of developments to be taken forward for the inter-project CEA. This ensures robust consideration of the National Grid elements of the proposal within this ES.
- 16.4.26 The construction programme is subject to the granting of planning permission and therefore yet to be confirmed. Operation is expected to coincide with that of the EAF.
- 16.4.27 At the time of preparing this ES limited environmental information is available to assess this development. An assessment of the cumulative effects of the development has nevertheless been undertaken below based on worst-case assumptions using the available information.

P Fields

- 16.4.28 Tata Steel UK Limited (Tata Steel) is submitting a standalone full planning application in relation to laying concrete in the P Fields area, which lies within the extent of the EAF planning application boundary. The total area of concrete hardstanding proposed is expected to be approximately 26,600 m², with approximate dimensions of 195 m (east to west) by 140 m (north to south).
- 16.4.29 The P Fields project would meet the criteria for Tier 1 as the application has been submitted at the time of writing. The P Fields works are also anticipated to commence in advance of the Proposed Development. This project is therefore included in the short list of committed developments to ensure a robust CEA within this ES.

Table 16.4 Short list of committed developments

ID	Application Reference	Planning Regime	Details	Distance from the Proposed Development (km)	Status
Projects that are under construction but that will not be completed prior to the EAF project commencing					
37	P2018/0493	Town and Country Planning Act 1990 Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017	<u>Land At Pen Y Bryn Croeserw Cymmer Port Talbot</u> Outline planning application by Afan Valley Ltd (including access) for a proposed adventure resort comprising 600 no. lodges/apartments, 100-bed hotel with associated spa, central plaza containing restaurants, leisure activities and shops, adventure activities and associated buildings, restaurants and associated administration and maintenance buildings and parking for approx. 850 cars, plus associated landscaping, drainage and engineering operations including re-profiling of land, boundary treatment, retaining structures, external lighting and CCTV, and diversion of public rights of way.	11 km north	Approved 18.01.2022
38	P2021/0327	Town and Country Planning Act 1990 Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017	<u>Land at and surrounding the Nant Helen Surface Mine site, Powys and Onllwyn Distribution Centre, Neath Port Talbot</u> Outline planning application for the development of a Global Centre of Rail Excellence by GCRE Ltd (Welsh Gov company), comprising of two test tracks of loop configuration including an electrified high speed rolling stock test track of 6.9km in length and an electrified low speed infrastructure test track of 4.5km.	25 km north	Approved 28.07.2021
Projects with planning permission granted (within the last five years) but not yet implemented					
3	P2022/0470	Town and Country Planning Act 1990 Town and Country Planning	<u>Land At Baglan Way Port Talbot</u> Erection of an industrial unit (use class B2) (GIA 25,545sqm) with associated works including sustainable drainage, car parking, cycle storage and landscaping.	4.5 km north	Approved 12.10.2022

		(Development Management Procedure) (Wales) Order, 2012			
39	P2014/0825	Town and Country Planning Act 1990 Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017	<u>Foel Trawsnant Bryn Port Talbot</u> Full planning permission for Pennant Walters (Foelt) Ltd to install 11 wind turbines with a maximum tip height of 145m, together with ancillary development including substation and control building, on site underground electrical cables, stone site access tracks, temporary construction compounds, turbine foundations and temporary crane pads.	7 km north	Approved 25.11.2021
40	P2021/1255	Town and Country Planning Act 1990 Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017	<u>Land off J38 of the M4, Margam</u> Full planning application by Sandvik Osprey Ltd for a metal processing facility totalling 28,500sq.m of floorspace comprising a powder processing plant, warehouse and store, office building, amenity building, laboratory, services building, substation, phase 2, CCTV, storage tanks and plant, parking, servicing and roads and associated works.	850 m north	Approved 13.01.2023
Submitted but not yet determined planning applications					
41	P2021/1193	Town and Country Planning Act 1990 Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017	<u>Former Oil Refinery Llandarcy Neath SA10 6FG (Coed Darcy Llandarcy Neath)</u> St. Modwen Developments Ltd have submitted an outline planning application, with all matters reserved except for strategic access, for residential uses (C2 & C3 use class), including land for education (D1 use class) with associated public open space, commercial uses (A1, A2, A3, B1, D1 & D2), commercial/employment (B2 & B8) uses, public open space, highway works, sustainable drainage, ecological mitigation and enhancement, landscaping, ground remediation, and associated engineering and infrastructure works.	10 km north	Awaiting decision (validated 23.02.2022)
42	P2023/0858	Town and Country Planning Act 1990	<u>Crown Wharf Port Talbot Docks Port Talbot SA13 1RA (Project Dragon)</u> LanzaTech Ltd has submitted an application for the demolition of existing structures and erection of a Sustainable Aviation Fuel (SAF) production facility, including the production of green hydrogen and sustainable diesel, enclosed	1.3 km north-west	Awaiting decision (validated 13.11.2023)

		Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017	ground flare, storage tanks, installation of pipework and electrical, processing and utility equipment, administration, warehouse and laboratory buildings, new access, car parking and transport infrastructure including a truck loading area and associated works, hard and soft landscaping, areas for temporary construction laydown, and associated development on land at Crown Wharf Port Talbot Docks Port Talbot SA13 1RA.		
44	2023/1748/FUL	Town and Country Planning Act 1990 Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017	<u>Land At Kilvey Hill And Landore Park And Ride Facility Swansea</u> New leisure development comprising gondola stations with gondola and associated infrastructure, multi-purpose visitor building including the sale of food and drink with associated outside seating and hardstanding, together with luge tracks, chairlift, skyswing, mountain bike trails, access routes, zipline and supporting infrastructure, ancillary buildings for staff and maintenance, ground profiling works, landscaping, temporary construction access and compound, drainage works, plant, highway works, parking, demolition of park and ride terminal and associated works.	12 km west	Awaiting decision (validated 10/11/2023)
46	2023/2671/FUL	Town and Country Planning Act 1990 Town and Country Planning (Development Management Procedure) (Wales) Order, 2012	<u>Land To The South Of Glanffrwd Road Pontarddulais Swansea</u> Hybrid application comprising: A) full application for residential development of 504 homes, community facility, highway, drainage and green infrastructure and associated works and the demolition of identified farm buildings and B) an outline application for a new primary school and associated works (within local development plan)	24 km north-west	Awaiting decision (validated 23/01/2024)
60	DNS/3264571	Planning (Wales) Act 2015	<u>Y Bryn Wind Farm</u> Y Bryn Wind Farm Ltd (owned by ESB and Coriolis Energy Ltd) has submitted a DNS application for the installation of up to 18 wind turbines (ranging between up to 206m, up to 230m and up to 250m to tip) with associated infrastructure on land at Bryn and Penhydd forests, located between Port Talbot and Maesteg. Y Bryn Wind Farm is expected to generate up to 129.6MW.	1 km north-east	Accepted (03/07/2024) - Inspector Report submission estimated by 17/02/2025
PF	N/A	Town and Country Planning Act 1990	<u>P Fields</u> Tata Steel UK Limited (Tata Steel) is submitting a standalone full planning application in relation to laying concrete in the P Fields area (within the extent of the EAF Site boundary) to create a site compound. The P Fields project is therefore included in the CEA shortlist.	Within the Site boundary	Application submitted
EIA development not yet submitted but subject of EIA scoping request					

47	2023/0740/SCO	Town and Country Planning Act 1990 Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017	<u>Land At Pantlasau Farm Clasemont Road Morriston Swansea</u> SCOPING OPINION for Hybrid planning application comprising A) Outline planning application with all matters reserved for residential led mixed use development of up to 460 residential dwellings in total to be developed in phases: two form entry primary school and nursery; provision of commercial hub, public open space/play provision, highways, drainage, ecological mitigation, landscaping and engineering works; B) Full application for the erection of 140 dwellings and associated works as part of phase 1 of the development alongside phase 1B comprising temporary commercial units and associated works	16 km north-west	Pre-application – EIA scoping
62	DNS CAS-03018-G7G6H7	Planning (Wales) Act 2015	<u>Mynydd Ty-Talwyn Energy Park</u> Galileo 03 Ltd has submitted a Scoping Direction Request in relation to the proposed construction and operation of up to 10 wind turbines, ground mounted solar photovoltaic modules, Battery Energy Storage Systems, substation, permanent anemometer mast, ancillary infrastructure works, habitat management, and works to facilitate vehicular access to the site on land approximately 4km north-west of Bridgend.	5.5 km east	Pre-application – EIA scoping (Scoping Direction received 11.04.2024)
64	DNS CAS-01977-L5K6R7	Planning (Wales) Act 2015	<u>Eirlys Solar Farm</u> Octo Partners Ltd has submitted a Scoping Direction Request in relation to a proposed solar farm and energy storage project with an installed generation capacity of approximately 79 MW on agricultural land to the south of Moel Ton-mawr and west of Mynydd Margam.	4 km north	Pre-application – EIA scoping (Scoping Direction received 16.06.2023)
Other development					
NG	N/A	Unknown	<u>National Grid Margam substation extension and cable connection</u> Following project-related discussions with National Grid, it is understood that an application will be forthcoming in relation to the extension of the National Grid Margam substation and construction of a cable route outside of the Site. The National Grid project is therefore included in the CEA shortlist.	Directly adjacent (to the east)	Pre-application

- 16.4.30 A review of the short-listed projects has been undertaken to inform the consideration of cumulative effects for the purposes of this assessment (see **Section 16.6** below). Should significant cumulative effects be identified, further consideration is given to additional mitigation to avoid, prevent, reduce or, if possible, offset any identified significant adverse cumulative effects.
- 16.4.31 There is no formal guidance on the criteria for determining significance of cumulative effects. The following principles have been considered when applying professional judgement of the significance of inter-project effects, with consideration given to Advice Note 17 and any mitigation measures required to avoid, prevent, reduce or, if possible, offset any identified significant adverse cumulative effects:
- Extent of inter-project impact on any receptors/resources;
 - The duration and frequency of the effects;
 - The sensitivity of the receptors/resources affected;
 - How the impacts identified combine to affect the condition of the receptor/resource;
 - The probabilities of the impacts occurring in relation to each other in such a way so as to produce a cumulative effect, considering the extent and duration of the impact change;
 - The ability of the receptor/resource to absorb further impacts; and
 - The level of effect compared to that considered at the project level.

Difficulties and uncertainties

- 16.4.32 The assessment of inter-project cumulative effects is limited to publicly available information obtained from the relevant planning applications on the NPTC, BCBC, CCSC, Welsh Government DNS and PEDW planning portals. This includes information on environmental effects of committed developments, not all of which would have been subject to the same level of statutory EIA that the Proposed Development has been subject to.
- 16.4.33 The information obtained from the relevant planning portals for the developments in the shortlist is up to date as of August 2024.

16.5 Assessment of potential effects: intra-project cumulative effects

- 16.5.1 The approach to the assessment of intra-project cumulative effects considers the interaction and combination of multiple significant effects from the Proposed Development on common receptors. An overall assessment of the intra-project combined effects on identified common sensitive receptors has been made using professional judgement on the basis of the information provided in **ES Chapters 5 to 14**.
- 16.5.2 The assessment is based upon residual (i.e. post-additional mitigation) adverse effects considered to be 'significant'. Only residual effects that have the potential for effect interactions or combinations are considered. As a result, some environmental factors are excluded from the assessment, either because no individual significant adverse residual effects were anticipated or because a factor had no receptors in common with other factors as follows:

- Landscape and visual (operation only);
- Air quality (construction and operation);
- Noise (construction and operation);
- Biodiversity (construction and operation);
- Surface water, flood risk and drainage (construction and operation);
- Climate change (construction and operation);
- Land, soil and groundwater (construction and operation);
- Cultural heritage (construction and operation);
- Transport and access (construction and operation); and
- Socio-economics and human health (operation only)

16.5.3 Although significant effects in relation to socio-economics and human health are anticipated during the operational phase, no other environmental factor concluded that any significant effects would occur during the operational phase and therefore this is not taken forward for the intra-project cumulative effects assessment.

16.5.4 Only the following factors of the environment therefore have the potential for effect combinations and interactions, and are therefore included within the intra-project cumulative effects assessment:

- Landscape and visual (construction only); and
- Socio-economics and human health (construction only).

16.5.5 **Table 16.5** presents the likely significant effects during the construction phase on individual receptors identified elsewhere in the ES.

Table 16.5 Construction phase likely significant effects on individual environmental receptors

Receptor	Construction phase likely significant effects		Common receptor (Y/N?)	Potential for effect interaction (Y/N?)
	ES Chapter: 5 Landscape and visual	ES Chapter 14: Socio-economics and health		
Users of Longland Lane	Moderate adverse visual effects would be limited to users of Longland Lane during the construction phase.	N/a	N	Y
Labour force	N/a	Major adverse effects anticipated in relation to change in direct, indirect and induced employment during the construction phase.	N	Y
Human health	N/a	Moderate adverse effects anticipated in relation to change in	N	Y

Receptor	Construction phase likely significant effects		Common receptor (Y/N?)	Potential for effect interaction (Y/N?)
	ES Chapter: 5 Landscape and visual	ES Chapter 14: Socio-economics and health		
		health outcomes during the construction phase.		

- 16.5.6 No specific single receptor is anticipated to experience significant residual effects from multiple environmental factors as a result of the Proposed Development (i.e. no common receptor is identified). Although no common receptors have been formally identified, there is some potential for interaction effects where two separate receptors are reassessed as one and the same receptor (for example if a residential receptor and a labour market receptor are considered to be the same receptor).
- 16.5.7 There is potential for local residents to both fall into the category of users of Longland Lane (who are anticipated to experience moderate adverse visual effects during the construction phase) to also be part of the local labour force (who are anticipated to experience major adverse effects during the construction phase), and/or to also experience effects in relation to human health (which are anticipated to be moderate adverse during the construction phase). Nevertheless, these effects are not likely to be experienced in the same way and are not therefore likely to cumulate. For example, visual effects to users on Longland Lane during construction would not impact on the labour market, or vice-versa, even if they were considered to be the same receptor. Similarly, visual effects to users on Longland Lane during construction would not significantly affect human health, as the public right of way would still be accessible.
- 16.5.8 Note that the human health assessment (provided in **ES Chapter 14**) is already based on the labour force effects (also provided in **ES Chapter 14**) and therefore is not a combined effect. Similarly, the assessment of biodiversity receptors (provided in **ES Chapter 8**) is based on the lighting assessment (provided in **ES Chapter 5**) and the air quality assessment (provided in **ES Chapter 6**) and are not therefore cumulative effects.

16.6 Assessment of potential effects: inter-project cumulative effects

Landscape and visual

- 16.6.1 For full details on the assessment of inter-project cumulative effects in relation to landscape and visual amenity refer to **ES Chapter 5: Landscape and visual**.
- 16.6.2 The following committed developments from **Table 16.4** fall within the Zol for cumulative effects in relation to landscape and visual amenity:
- ID 3 (Land At Baglan Way Port Talbot);
 - ID 39 (Foel Trawsant Bryn Port Talbot);
 - ID 40 (Land off J38 of the M4, Margam);
 - ID 42 (Crown Wharf Port Talbot Docks Port Talbot SA13 1RA (Project Dragon));
 - ID 60 (Y-Bryn Wind Farm);
 - ID PF (P Fields);

- ID 62 (Mynydd Ty-Talwyn Energy Park);
- ID 64 (Eirlys Solar Farm); and
- ID NG (National Grid Margam substation extension and cable connection).

16.6.3 Of the above, it is considered that the other committed developments listed below do not have potential to result in any significant cumulative effects with the Proposed Development due to a combination of one or more of the following: a lack of intervisibility, a lack of substantial shared views, sufficient separation or screening from the Proposed Development, and/or the nature of the Proposed Development being wholly within an area already characterised by industrial development.

- ID 3 (Land At Baglan Way Port Talbot);
- ID 39 (Foel Trawsnant Bryn Port Talbot);
- ID 42 (Crown Wharf Port Talbot Docks Port Talbot SA13 1RA (Project Dragon));
- ID PF (P Fields);
- ID 62 (Mynydd Ty-Talwyn Energy Park);
- ID 64 (Eirlys Solar Farm); and
- ID NG (National Grid Margam substation extension and cable connection).

16.6.4 In the case of P Fields, it would not extend the presence of industrial development into the wider landscape as it is within the EAF red line boundary, and the Proposed Development would be more prominent in cumulative views were the two schemes viewed together.

16.6.5 The two developments with potential for notable cumulative interactions with the Proposed Development are as follows:

- ID 40 (Land off J38 of the M4, Margam); and
- ID 60 (Y-Bryn Wind Farm).

Land off Junction 38 of the M4, Margam

16.6.6 The metal recycling facility and the Proposed Development in combination have the potential to increase the perceived extent of industry within the two coastal plain landscapes in which they lie. However, the metal recycling facility would be located in an area of Margam Marsh already heavily influenced by industrial and energy infrastructure and, once operational, the Proposed Development would be fully contained by existing steel works. The addition of the Proposed Development to a baseline including the metal recycling facility would therefore not result in increased adverse effects on the Margam Marsh landscape and would not cause a notable increase in adverse landscape impacts. The addition of the Proposed Development to a baseline containing the metal recycling facility would not result in any increase in these effects as it would remain a clearly separate development located within a neighbouring landscape character area ('LCA 50: Port Talbot Docks'), which is already characterised by large scale heavy industry. Permanent effects on 'LCA 1: Margam Marsh' from the addition of the Proposed Development would therefore remain moderate/minor in significance and adverse in nature, which would constitute a not significant effect.

16.6.7 Both proposals lie outside any landscape designations with no significant potential for cumulative effects with the Proposed Development in relation to the defining characteristics of the Margam and Kenfig Burrows SLAs.

16.6.8 The two schemes share a number of visual receptors discussed as follows, noting that only those receptors where effects have been assessed as greater than negligible for the Proposed Development are considered. Recreational users of Longland Lane would experience views of the two schemes sequentially, however, their separation would be maintained and the addition of the Proposed Development would not result in increased or significant effects. Recreational receptors using the Wales Coast Path to Mynydd Margam and the Ogwr Ridgeway Walk in the Margam Deer Park would experience views of both schemes in open panoramic views across the coastal plain. Although the Proposed Development would add to the quantum of industrial development, it would be wholly contained within the steel works and would not be perceived as further influencing views across the coastal plain. It is therefore judged that the addition of the Proposed Development to a baseline containing the metal recycling facility would remain at most moderate in significance and adverse in nature for 'LCA 6: Mynydd Bromil, Mynydd Emroch & Mynydd Dinas', which would constitute a not significant effect.

16.6.9 There would therefore be no significant cumulative effects as a result of the addition of the Proposed Development to the consented metal recycling facility.

ID 60 (Y-Bryn Wind Farm)

16.6.10 The proposed wind turbines would become an increasingly defining influence within the wider upland landscapes to the east, although existing wind farms such as Mynydd Brombil, already influence the landscape. The proposed new junction with the M4 and the predominantly upgraded 4.5m wide access track will look to join with the existing Mynydd Brombil Wind Farm track within 'LCA 6: Mynydd Brombil, Mynydd Emroch and Mynydd Dinas'. There would be no wind turbine development within LCA 6 and the proposed track and junction are unlikely to become defining new characteristics of the landscape. For both LCAs these changes would be perceived in landscapes well separated from the Proposed Development, which itself would be perceived within landscapes already dominated by industrial development. Both developments would clearly be seen within separate landscapes and have different areas of influence. The addition of the Proposed Development to a baseline containing the wind farm and access track would, therefore, not result in any increase in effects over and above those already assessed for the Proposed Development. Permanent effects on LCA 6 as a result of the addition of the Proposed Development would therefore remain at most moderate/minor in significance and adverse in nature, which would constitute a not significant effect. Effects on other landscape receptors less affected in combination with the wind farm would also remain unchanged.

16.6.11 In terms of landscape designations the wind farm would be well separated and, given the occurrence of existing wind energy in this location, the potential for significant cumulative effects with the Proposed Development in relation to the defining characteristics of the Margam SLA would be limited.

16.6.12 The two schemes share a number of visual receptors discussed as follows, noting that only those receptors where effects have been assessed as greater than negligible for the Proposed Development are considered. Recreational receptors using Longlands Lane, the Wales Coast Path to Mynydd Margam, the Ogwr Ridgeway Walk in the Margam Deer Park, the footpath at Foel Fynyddau, and Kenfig Nature Reserve would experience views of both schemes which would be well separated in often wide panoramic views.

Although the Proposed Development would add to the quantum of industrial development within the steel works, it would be wholly contained and would not be perceived as further influencing views within the coastal plain. Given the separation distance and differing visual influence of these two proposals, it is judged that the addition of the Proposed Development to a baseline containing the wind farm and access track would remain at most moderate in significance and adverse in nature, which would constitute a not significant effect.

- 16.6.13 There would therefore be no significant cumulative effects as a result of the addition of the Proposed Development to the consented windfarm.

Air quality

- 16.6.14 For full details on the assessment of inter-project cumulative effects in relation to air quality, as well as a description of the baseline on which the assessment relies, see **ES Chapter 6: Air quality**.
- 16.6.15 In relation to the dust assessments, the closest cumulative sites are the P Fields site, the National Grid Margam Substation extension and cable connection construction and the Sandvik Osprey metal processing facility (IDs PF, NG and 40 respectively in **Table 16.4**. Based on the nature and scale of the Proposed Development and the three other committed developments, they would all be subject to planning conditions requiring them to adopt mitigation measures to limit emissions of dust and emissions. Consequently, cumulative effects connected to dust generating activities are not anticipated to be significant.
- 16.6.16 The assessment of vehicle and industrial emissions at human receptors reported in **ES Chapter 6: Air quality** is considered to be inherently cumulative because the traffic and industrial data used includes emissions associated with other committed developments within the relevant Zol. The Proposed Development will predominantly have a beneficial effect on air quality, with no adverse effects expected at receptors near roads used by traffic associated with committed developments, or industrial sources.
- 16.6.17 In relation to the assessment of vehicle and industrial emissions on human health, the traffic data provided considered the cumulative schemes deemed by the Transport and Access team to be relevant to the assessment. Industrial sources within 10 km of the Site have been screened and professional judgement applied. As a result, ID 40 in **Table 16.4** ('Land off J38 of the M4, Margam') has been included within both the cumulative industrial emissions and road traffic emissions assessments, and ID 42 ('Crown Wharf Port Talbot Docks Port Talbot SA13 1RA (Project Dragon)') included within the cumulative industrial emissions assessment.
- 16.6.18 The vehicle study area was determined for the Transport and Access assessment (see **ES Chapter 12: Transport and access** for full details). During pre-application discussions with NPTC, it was informally agreed that the P Fields site could be scoped out of the Transport and Access assessment on the basis that it would not result in any significant change to annual average daily traffic (AADT) as the P Fields development would not increase intensification on the highway network, therefore traffic data were not provided. If assessed in its own right, the anticipated contribution in vehicle trips to the local road network while the P Fields site is redeveloped over 20 weeks would not require further air quality assessment as it would be below the screening criteria threshold found within Table 6.1 of the EPUK-IAQM guidance.

- 16.6.19 The assessment of impacts is inherently cumulative. This means that the impact of the Proposed Development itself (percentage change relative to the air quality threshold) would not change. Furthermore, considering the total predicted concentrations of pollutants are generally well below the thresholds in the modelled scenario, the addition of the P Fields site is unlikely to change the assessment conclusions, when compared against the baseline.
- 16.6.20 Based on the description submitted regarding the planning application for the other cumulative schemes located near the Site, only one is anticipated to have resulted in significant emissions to air (ID 41 in **Table 16.4** 'Former Oil Refinery Llandarcy Neath SA10 6FG (Coed Darcy Llandarcy Neath)'), where 10 generators were installed as part of the short-term operating reserve). This is not located near any of the assessed receptors and has therefore been discounted from further assessment. There are therefore no other known stationary combustion plant or industrial sources with the potential to generate emissions which could adversely affect air quality in-combination with the Proposed Development.

Noise and vibration

- 16.6.21 For full details on the assessment of inter-project cumulative effects in relation to noise and vibration see **ES Chapter 7: Noise and vibration**.
- 16.6.22 The following other committed developments from **Table 16.4** fall within the Zol for cumulative effects in relation to noise and vibration:
- ID 3 (Land At Baglan Way Port Talbot);
 - ID 40 (Land off J38 of the M4, Margam);
 - ID 42 (Crown Wharf Port Talbot Docks Port Talbot SA13 1RA (Project Dragon));
 - ID 60 (Y Bryn Wind Farm);
 - ID PF (P Fields);
 - ID 62 (Mynydd Ty-Talwyn Energy Park);
 - ID 64 (Eirlys Solar Farm); and
 - ID NG (National Grid Margam Substation extension and cable connection construction).
- 16.6.23 None of the other committed developments listed above are anticipated to have the potential to act cumulatively with the Proposed Development. This is mainly due to the distance of the other committed developments from the Proposed Development, low project noise emissions, and the lack of common receptors.
- 16.6.24 Given the above, the potential for cumulative effects as a result of the Proposed Development and other committed developments is negligible, and therefore not significant.

Biodiversity

- 16.6.25 For full details on the assessment of inter-project cumulative effects in relation to biodiversity see **ES Chapter 8: Biodiversity**.
- 16.6.26 There is potential for inter-project effects of the Proposed Development with the following committed developments from **Table 16.4**:
- ID 39 (Foel Trawsnant Bryn Port Talbot):

- o Potential in combination effects on the International Statutory designated sites (SAC, SPA and Ramsar).
 - ID 40 (Land off J38 of the M4, Margam):
 - o Potential for in combination effects on all designated biodiversity sites and species found on-Site;
 - o Potential for significant cumulative effects on watercourses within Zol e.g. Upper Mother Ditch, Nant Cwm Philip, Efglwys Nunydd Reservoir;
 - o Potential for in-combination effects relating to flood risk, water quality and groundwater abstraction.
 - ID 41 (Former Oil Refinery Llandarcy Neath SA10 6FG (Coed Darcy Llandarcy Neath)):
 - o Potential in combination effects on International Statutory designated sites (SAC, SPA and Ramsar).
 - ID 42 (Crown Wharf Port Talbot Docks Port Talbot SA13 1RA (Project Dragon)):
 - o Potential for in combination effects on all designated biodiversity sites and species found on-Site.
 - o Potential for significant cumulative effects on watercourses within Zol e.g. Upper Mother Ditch, Nant Cwm Philip, Efglwys Nunydd Reservoir.
 - o Potential for in-combination effects relating to flood risk, water quality and groundwater abstraction.
 - ID 60 (Y Bryn Wind Farm):
 - o Potential in combination effects with all designated sites and species found on the Site.
 - ID PF (P Fields)
 - o Effects will be limited to on-Site habitats and species only, which are already assessed in **ES Chapter: 8 Biodiversity**, with no additional cumulative effects anticipated.
 - ID 62 (Mynydd Ty-Talwyn Energy Park):
 - o Potential in combination effects on the International Statutory designated sites (SAC, SPA and Ramsar).
 - ID 64 (Eirlys Solar Farm):
 - o Likely potential for in combination effects with the International Statutory designated sites (SAC, SPA and Ramsar).
 - ID NG (National Grid Margam substation extension and cable connection).
- 16.6.27 The Proposed Development would not result in any significant adverse effects on any protected sites or watercourses within the area and therefore those other committed developments identified above with potential in-combination effects on protected sites and watercourses can be discounted.
- 16.6.28 The Proposed Development would not result in any significant adverse effects on protected species populations within the same geographical context and/or habitat niche as the other committed developments identified above and, therefore, can be discounted.
- 16.6.29 Given that the other committed developments to be considered do not have any other potential impact pathways for biodiversity to result in cumulative effects, no significant cumulative effects are anticipated.
- 16.6.30 In relation to climate change, no cumulative effects are anticipated on the basis that climate change adaptation effects and impacts are specific to the development and will not result in impacts to any of the identified neighbouring developments.

Surface water, flood risk and drainage

- 16.6.31 For full details on the assessment of inter-project cumulative effects in relation to water see **ES Chapter 9: Surface water flood risk and drainage**.
- 16.6.32 Sites within the committed development short list (**Table 16.4**) and Zol for water related aspects are as follows:
- ID 40 (Land off J38 of the M4, Margam);
 - ID 42 (Crown Wharf Port Talbot Docks Port Talbot SA13 1RA (Project Dragon));
 - ID PF (P Fields); and
 - ID NG (National Grid Margam substation extension and cable connection).

ID 40 (Land off J38 of the M4, Margam)

- 16.6.33 The proposed development at ID 40 (Land off J38 of the M4, Margam) has the potential to impact the same receptors as the Proposed Development at Port Talbot Steelworks. The Land off J38 of the M4 site is currently greenfield land proposed to be developed for metal processing. New drainage arrangements for the site would discharge into the SINC ditches of Margam Moors, which ultimately drain into Lower Mother Ditch and through Port Talbot Steelworks into Swansea Bay via the site outfall. The discharge of surface water from the J38 site has the potential for pollutants if not mitigated. Proposed mitigation, including SuDS and Environmental Permitting controls on pollution prevention, can be assumed to adequately manage the impact to a Negligible level. Consequently, it is considered unlikely that the cumulative impacts of the two sites would result in a change to the magnitude of the water quality impacts assessed in **ES Chapter 9: Surface water flood risk and drainage**.
- 16.6.34 The significant impermeable area of the J38 Margam development has the potential to increase surface water flows and flood risk to downstream receptors (Margam Moors). However, proposals for the site incorporate SuDS as required under legislation, which would mitigate the risk of increased surface water flows and associated impacts are negligible.
- 16.6.35 The Land off J38 of the M4 site does not propose to discharge effluent water to or abstract from any water receptors listed within **ES Chapter 9: Surface water flood risk and drainage**. All foul/effluent is to be processed by DCWW assets and water supplied by DCWW.

ID 42 (Crown Wharf Port Talbot Docks Port Talbot SA13 1RA (Project Dragon))

- 16.6.36 The proposals for development ID 42 (Crown Wharf Port Talbot Docks Port Talbot SA13 1RA (Project Dragon)) include discharge of surface water to Port Talbot Docks as part of the surface water drainage strategy. The proposals for the site also incorporate SuDS and Environmental Permitting controls, which mitigate the risk of surface water pollution. Water with the potential to be significantly contaminated by process operations would be treated as process water requiring treatment via an on-site wastewater treatment works, and would not be discharged as surface water into the SuDS. Effluent from the wastewater treatment works would be discharged into the docks. The effluent discharge would be required to meet the BAT limits set in the Environmental Permit. The waterbody receptor to these water quality impacts differs from the receptor to effluent discharge for the Proposed Development. While the two waterbodies are linked and discharges from

Port Talbot Docks enter Swansea Bay waters, the significant dilution potential of Swansea Bay means the cumulative effects of the two discharges is considered negligible.

- 16.6.37 The Crown Wharf Project Dragon SAF site would require abstraction of water for processing, from Port Talbot Docks. The abstraction volumes are relatively small, and the water is cycled back into the docks. The abstraction of additional water from the Docks has potential to mitigate some of the beneficial impacts of the reduction of abstraction and surrender of abstraction licences for the EAF facility at Land at Port Talbot Steelworks. However, as this beneficial impact was classified as 'small' and the environmental effect was 'negligible', the cumulative effects of the abstraction requirements of the two sites remains negligible.

ID PF (P Fields)

- 16.6.38 The P Fields development within the central area of Port Talbot Steelworks will involve construction of increased hardstanding. This has the potential to increase surface water runoff and on-site flood risk to the wider steelworks site. However, given the overall low risk of surface water flooding, the potential impact would be categorised as small without mitigation in place. Furthermore, the P Fields development includes a statutory SuDS drainage strategy to manage surface water and associated water quality. The implementation of the SuDS drainage strategy will adequately manage the surface water impacts from the P Fields development and is likely to provide a minor improvement when compared to the baseline scenario. The cumulative impacts with the Proposed Development are therefore assessed to be **negligible**.

ID NG (National Grid Margam substation extension and cable connection)

- 16.6.39 The laying of National Grid cables in the southern area of the Proposed Development has already been assessed as part of this ES. The National Grid Margam Substation project also involves the laying of cables outside of the development boundary through Margam Moors. As per the assessment carried out in this chapter, the laying of cables has a risk of negative environmental impacts to the watercourses during construction. This would need to be adequately mitigated by National Grid through embedded mitigation to ensure environmental effects from the works outside of the site boundary are negligible (CEMP, Ordinary Watercourse Consent). There is a potential for cumulative impacts on the ordinary watercourses if construction, habitat destruction and habitat remediation for the watercourses is not synchronised appropriately. However, as both areas of cable laying (within Land at Port Talbot Steelworks site boundary and outside of the boundary) would be managed by National Grid, it can be assumed that the project would be managed holistically and coordinated suitably. This approach is anticipated to result in negligible effects to the water quality receptors.
- 16.6.40 No inter-project cumulative effects are anticipated with regards to the impacts of climate change on surface water, flood risk and drainage on the basis of the following:
- The impacts of climate change on rainfall intensity (and therefore the potential for surface water flooding) would be accounted for within the design of the SuDS drainage strategy for the Proposed Development and all of the other committed developments. The effects of climate change are therefore not anticipated to impact neighbouring developments.

- The impact of climate change on water resource management with regards to foul effluent treatment and potable water supply is assessed at a strategic level by DCWW in their 5 year plan (2020-2025 and 2025-2030) and 2050 strategy. DCWW provide approval and specify mitigation for connection to these services in line with their 'strategic responses' and asset strategy, which includes an assessment of asset vulnerability to climate change impacts. The effects of climate change on water resources as a result of the cumulative impacts from all sites in the development list is therefore accounted for elsewhere and not addressed further within **ES Chapter 9: Surface water flood risk and drainage**.

Land, soil and groundwater

- 16.6.41 For full details on the assessment of inter-project cumulative effects in relation to land, soil and groundwater see **ES Chapter 10: Land, soil and groundwater**.
- 16.6.42 Four other committed developments from **Table 16.4** have been identified within the study area for which cumulative effects for land, soil and groundwater should be considered. These comprise the following:
- ID 40 (Land off J38 of the M4, Margam);
 - ID 60 (Y Bryn Wind Farm);
 - ID PF (P Fields); and
 - ID NG (National Grid Margam substation extension and cable connection).
- 16.6.43 Indirect cumulative impacts may occur as a result of increased volumes of contaminated soil or groundwater being removed from the above other committed developments and the Proposed Development during construction for disposal at licensed facilities (and associated reduction in capacity at the receiving facilities). These effects for all sites listed above are anticipated to be minor and short-term. This effect is not likely to be significant based on the requirements for production of a Materials Management Plan at the Proposed Development and the other committed developments, which will ensure the application of the waste hierarchy and reduce the total volumes for off-site disposal.
- 16.6.44 In relation to both the National Grid Margam substation extension and cable connection and P Fields development, direct cumulative impacts (e.g., exposure and release of ground contaminants, generation of dust during earthworks process, etc.) may occur during the construction or subsequent operational phases of development. The significance of the impact is considered to be minimal as the application of construction phase plans will include controls to minimise the release of contaminated dusts and soils; and include contingencies for encountered unforeseen contamination. The P Fields development and development at ID 40 would comprise the laydown of concrete hardstanding which would reduce the infiltration rate and limit the release of any mobile contaminants. Due to the distance from the Site to the proposed Y Bryn Wind Farm and the low contaminative potential of this land use, no cumulative impacts are anticipated as a result of that site being developed alongside the Proposed Development. Furthermore, in relation to ID 40 ('Land off J38 of the M4, Margam'), the potential direct cumulative impacts specified above are considered to be minimal due to the distance from the Proposed Development.
- 16.6.45 The Proposed Development has been assessed as having no significant residual effects in relation to land, soil and groundwater receptors. The potential for cumulative effects (if any) is likely to be restricted to the pre-construction works (e.g., ground preparation). It is

unknown at this stage if the phases of the Proposed Development would overlap with the site clearance and ground preparation phases of the other committed developments. Assuming a worst-case scenario, and that the site preparation works are completed concurrently, then the potential for increased infiltration rates of rain waters may have an additive effect on the mobilisation of pollutants into the underlying aquifers discussed above. These effects are likely to be short term and have limited significance as site-specific ground investigations for each development will likely require the consideration of groundwater as a receptor.

- 16.6.46 Operationally, it is expected that the Proposed Development and other committed developments would adhere to local and national environmental controls and regulations (e.g. The Environmental Permitting (England and Wales) Regulations 2016 (as amended)). Therefore, any cumulative effect as a result of the Proposed Development and other committed developments is not expected to be significant during operation.

Cultural heritage

- 16.6.47 For full details on the assessment of inter-project cumulative effects in relation to cultural heritage see **ES Chapter 11: Cultural heritage**.
- 16.6.48 Sites within the committed development short list (**Table 16.4**) and Zol for cultural heritage related aspects are as follows:
- ID 60 (Y Bryn Wind Farm)
 - ID NG (National Grid Margam substation extension and cable connection)

ID 60 (Y Bryn Wind Farm)

- 16.6.49 Y Bryn Wind Farm has potential impacts on historic assets in common with the Proposed Development as outlined below.

Margam Park (151, PGW(Gm)52(NEP)) and associated assets

- 16.6.50 The Environmental Statement for Y Bryn Windfarm concludes that turbines would be visible from most of the park but it is considered that this would not adversely affect the ability to experience the aesthetic and evidential value of the majority of assets within the park. There is assessed to be a magnitude of impact of negligible adverse on these assets resulting in an effect of negligible significance.
- 16.6.51 It is considered that the Proposed Development would have a negligible long-term adverse impact on the cultural significance of Margam Park and associated assets. There would be a moderate effect which is considered not significant.
- 16.6.52 As such it is considered that the cumulative effect of these developments on Margam Park would remain moderate (not significant).

Hen Eglwys (GM163)

- 16.6.53 The Environmental Statement for Y Bryn Windfarm concludes that ten turbines would be visible from the area directly to the east of the ruins, with eight more being visible from the far right of the ruins when viewed from the south-east. The turbines would cause a visual distraction from the view of the monument but would not obstruct views of the church ruins or alter relationships with other assets. There is assessed to be a magnitude

of impact of low adverse on this asset of high importance resulting in an effect of minor adverse significance.

- 16.6.54 It is considered that the Proposed Development would have a negligible long-term adverse impact on the cultural significance of Hen Eglwys. There would be a moderate significance of effect which is considered not significant.
- 16.6.55 As such it is considered that the cumulative effect of these developments on Hen Eglwys would remain moderate (not significant).

Mynydd y Castell Camp (GM162)

- 16.6.56 The Environmental Statement for Y Bryn Windfarm concludes that some turbines would be visible to the far east of the hillfort in views from the east. There is assessed to be a magnitude of impact of low adverse on this asset of high importance resulting in an effect of minor adverse significance.
- 16.6.57 It is considered that the Proposed Development would have a negligible long-term adverse impact on the cultural significance of Mynydd y Castell. There would be a moderate significance of effect which is considered not significant.
- 16.6.58 As such it is considered that the cumulative effect of these developments on Mynydd y Castell Camp would remain moderate (not significant).

Chain Home Low Radar Station (GM488)

- 16.6.59 The Environmental Statement for Y Bryn Windfarm concludes that a partial view of a single turbine is anticipated to be visible above the north-eastern horizon from the asset. No impact is predicted on the western and southern horizons. There is assessed to be a magnitude of impact of negligible adverse on this asset of high importance resulting in an effect of negligible significance.
- 16.6.60 It is considered that the Proposed Development would have a negligible long-term adverse impact on the cultural significance of Chain Home Low Radar Station. There would be a moderate significance of effect which is considered not significant.
- 16.6.61 As such it is considered that the cumulative effect of these developments on Chain Home Low Radar Station would remain moderate (not significant).

National Grid Margam Substation extension and cable connection construction

- 16.6.62 Significant infrastructure works would be required at National Grid Margam Substation to increase the footprint of the substation and to integrate the new GIS with older existing equipment. Additionally, it is anticipated that future customer connections would be required. To facilitate these connections, it is understood that the future/spare bays would be built as part of these works.
- 16.6.63 Any impact on setting is likely to be similar in nature to that of Proposed Development given the scale, appearance and location of the substation building, for example long ranging setting impacts on historic assets in the local landscape with established visibility of the steelworks.
- 16.6.64 Where the cable corridor crosses the agricultural land at the southern end of the Site, it has been indicated during consultation with GGAT that the area is considered low risk and unlikely to require mitigation. Previous geophysical survey indicates a lack of

evidence for any substantial archaeological features in this area, with the results only indicating the presence of drainage grips across the area. The only other anomalies recorded are most likely due to variations in the composition of the tidal flat superficial deposits. Any tracks, pipes, and areas of ferrous/modern disturbance are considered to be of 20th century origin.

- 16.6.65 This other committed development is adjacent to the Site and will not impact any heritage asset or part thereof identified within the site or vicinity. There is considered to be a very low risk by consultees (at GGAT) and Headland Archaeology for the presence of previously unknown important archaeological remains to be present within the cable corridor. Discussion with GGAT has agreed that the risk of remains is so low that archaeological investigations or monitoring associated with the cable installation are not necessary. There is no evidence for a site or monument extending across the two sites which could be affected by the two schemes. If any remains were present within the cable route they would be distinct and separate to any archaeological remains within the Site and therefore there would not be a significant cumulative effect.

Transport and access

- 16.6.66 The baseline scenarios assessed in **ES Chapter: 12 Transport and access** include baseline traffic flows, background traffic growth and the traffic flows generated by the other committed developments that fall within the transport and access study area, as agreed with NPTC, whilst the assessment scenarios include the baseline traffic flows, background traffic growth, the traffic flows generated by the other committed developments and the traffic flows generated by the Proposed Development.
- 16.6.67 As such, the transport and access assessment is inherently cumulative, and concluded that no significant road traffic related environmental effects have been identified during the construction or operational phases of the Proposed Development.

Climate change

Climate change mitigation

- 16.6.68 IEMA'S GHG Guidance recognises the cumulative contributions of all GHG emissions sources to global climate change and the climatic system as sensitive receptor. For this reason, all global cumulative GHG sources are relevant to the effect on climate change. Effects of GHG emissions from specific cumulative projects therefore in general should not be individually assessed, as there is no basis for selecting any particular (or more than one) cumulative project that has GHG emissions for assessment over any other.
- 16.6.69 Instead, the contextualisation of GHG emissions incorporates by its very nature the cumulative contributions of other GHG sources which make up that context, whether geographical (in the case of Wales and UK carbon budgets) or sector-bounded (in the case of UK Government steel sector decarbonisation projections). Therefore a form of cumulative assessment of GHG emissions / savings has already been undertaken within the assessment in **ES Chapter 13: Climate change**.

Climate resilience

- 16.6.70 Refer to **ES Chapter 8: Biodiversity** (summarised in **Paragraphs 16.6.25 to 16.6.30** in this chapter) and **ES Chapter 9: Surface water flood risk and drainage** (summarised

in **Paragraphs 16.6.31 to 16.6.40** in this chapter) for details of how these assessments have considered cumulative effects.

Socio-economics and health

- 16.6.71 For full details on the assessment of inter-project cumulative effects in relation to cultural heritage see **ES Chapter 14: Socio-economics and health**.

Construction phase

- 16.6.72 The construction of a number of other committed developments (including IDs: 3, 37, 38, 39, 40, 41, 42, 44, 46, 47, 60, 62, and 64 in **Table 16.4**) may overlap with the timescales of the construction phase of the Proposed Development.
- 16.6.73 Cumulative effects with the relevant construction phase receptor (labour force) is therefore likely. As with the Proposed Development, all identified other committed developments could result in changes to provision of employment opportunities and education, skills and training, and therefore there exists potential for cumulative impacts with the Proposed Development and each individual other committed development and all other committed developments in total.
- 16.6.74 Where available, evidence regarding the gross direct construction phase employment impacts associated with each Cumulative Development has been sourced from the relevant planning application documents. Reported gross direct employment associated with the other committed developments sums to c. 1,690 jobs, the most notable individual contributor projects being IDs: 37 (535 jobs), 42 (450 jobs) and 44 (316 jobs).
- 16.6.75 Additional employment opportunities generated across the other committed developments could therefore reduce adverse effects on the labour force related to the isolated reduction in employment generated by the Proposed Development during the construction phase.
- 16.6.76 By way of illustration, the assessment found that the Proposed Development could result in a net reduction of 1,880 FTE jobs in the SRIA, and therefore the scale of employment across the identified other committed developments (c. 1,690 gross direct jobs) could quantitatively contribute towards reducing overall employment impacts associated with the Proposed Development in this impact area. To a lesser and proportionate extent, the above is also the case for each individual identified other committed development in combination with the Proposed Development, with effects being particularly notable with regard to the aforementioned IDs: 37, 42 and 44.
- 16.6.77 An increase in education, skills and training provision across the other committed developments would also result in enhanced beneficial effects for the labour in comparison to those generated by the Proposed Development in isolation.
- 16.6.78 It should, however, be noted that employment at each identified other committed development is contingent on the construction stage of the project and therefore may not overlap in full with the construction phase of the Proposed Development.

Operational phase

- 16.6.79 The operations of a number of other committed developments (including IDs: 3, 37, 38, 39, 40, 41, 42, 44, 46, 47, 60, 62, and 64) may overlap with the operational phase of the Proposed Development.
- 16.6.80 Cumulative effects with the relevant operational phase receptors (labour force and businesses) is therefore likely. As with the Proposed Development, all identified other committed developments could result in changes to provision of employment opportunities and employee expenditure and therefore there exists potential for cumulative impacts with the Proposed Development and each individual other committed development and all other committed developments in total.
- 16.6.81 Where available, evidence regarding the gross direct operational phase employment impacts associated with each other committed development has been sourced from the relevant planning application documents. Reported gross direct employment associated with the other committed developments sums to c. 1,550 jobs, the most notable individual contributor projects being IDs: 37 (707 jobs) and 38 (298 jobs).
- 16.6.82 Additional employment opportunities generated across the other committed developments could therefore reduce adverse effects on the labour force and employee expenditure related to the isolated reduction in employment and expenditure generated by the Proposed Development during the operational phase.
- 16.6.83 By way of illustration, the assessment found that the Proposed Development could result in a net reduction of 2,130 FTE jobs in the SRIA, and therefore the scale of employment across the identified other committed developments (c. 1,550 gross direct jobs) could quantitatively contribute towards reducing overall employment and expenditure impacts associated with the Proposed Development in this impact area.
- 16.6.84 To a lesser and proportionate extent, the above is also the case for each individual identified other committed development in-combination with the Proposed Development, with effects being particularly notable with regard to the aforementioned IDs: 37 and 38.
- 16.6.85 It should, however, be noted that employment at identified other committed developments span a wide range of industries, including leisure & tourism, rail, manufacturing, education and machinery maintenance, and therefore (whilst there may be a degree of overlap for some projects and industries) not all employment set to be created by other committed developments may be directly applicable to the skills and experience associated with jobs set to be no longer supported locally following delivery of the Proposed Development.

Major accidents and disasters

- 16.6.86 For full details on the assessment of inter-project cumulative effects in relation to cultural heritage see **ES Chapter 15: Major accidents and disasters**.
- 16.6.87 Sites within the committed development short list (**Table 16.4**) which are deemed to have potential for reasonably foreseeable, unplanned events with a low likelihood of occurring but potential for high consequences (i.e., major accidents and disasters) are as follows:
- ID 40 (Land of J38 of the M4, Margam):
 - o Risk of fires, explosions or environmental contamination.
 - ID 42 (Crown Wharf Port Talbot Docks Port Talbot SA13 1RA (Project Dragon)):

- o Risk of fires, explosions or environmental contamination.

ID 40 (Land of J38 of the M4, Margam)

- 16.6.88 This development has been included in this section due to the involvement of hazardous substances associated with metal processing. Potential major accidents such as fires, explosions or environmental contamination may result in cumulative effects when considered alongside the Proposed Development.
- 16.6.89 If a major cumulative fire event were to occur, cumulative smoke generation could negatively impact air quality. This poses health risks for residents at Margam estate, the residential area approximate 1 km north of the Proposed Development as this is likely to be a common receptor for both developments.
- 16.6.90 It is expected however, that this other committed development will be subject to strict legislative requirements, safety regulations and an environmental permit among other safety management systems. These controls will mitigate the risks and effects of major accidents and disasters, thereby reducing the cumulative risk of significant impacts as low as reasonably practicable.
- 16.6.91 Drainage arrangements for this development would discharge into Margam Moors, which ultimately drains through Port Talbot steelworks and into Swansea Bay. Both this development and the Proposed Development may exacerbate the risk of flooding in Margam Moors. Furthermore, sharing the same outfall location as the proposed development, the cumulative runoff from both projects may negate the beneficial effects of the Proposed Development on Swansea Bay, or result in a coastal pollution event.
- 16.6.92 Both developments will incorporate SuDS as required under legislation, which will mitigate the risk of increased surface water flows and associated impacts. Furthermore, both developments will be subject to environmental permits, imposing contamination limits and monitoring requirements to on outfall.
- 16.6.93 As a result, the cumulative risk of significant impacts from major accidents and disasters involving this development and the Proposed Development is expected to be not significant.

ID 42 (Crown Wharf Port Talbot Docks Port Talbot SA13 1RA (Project Dragon))

- 16.6.94 If approved, this proposed SAF facility is expected to involve the use hazardous substances associated with the production of SAF. Similarly to the Proposed Development, there is therefore potential for major accidents and disasters such as fires or explosions.
- 16.6.95 A major cumulative fire event may generate smoke generation which may negatively impact residents at Margam estate, which will likely be a common residential receptor. While this development is slightly further away from Margam estate, than the previous cumulative development discussed prior, eastward/northward winds may fan cumulative smoke towards residential receptors, posing the potential for health risks.
- 16.6.96 Similarly to the aforementioned metal processing development, this proposed SAF will be subject to a host of hazard prevention and control measures not dissimilar to those outlined in Table 15.1 of **ES Chapter 15: Major accidents and disasters**, thereby reducing the risk of major accidents and disasters.

16.7.1 For intra-project cumulative effects, no specific single receptor is anticipated to experience significant residual effects from multiple environmental factors (as assessed in **ES Chapters 5 to 14**) as a result of the Proposed Development). No common receptors have been formally identified and the potential for interaction effects on any single receptor is also ruled out.

16.7.2 With regard to inter-project cumulative effects, no significant inter-project cumulative effects are anticipated as a result of the Proposed Development in relation to any environmental factor. As such, no additional mitigation measures beyond those already identified within the topic chapters (**ES Chapters 5 to 14**) are proposed.

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Institute of Environmental Management and Assessment (IEMA) (2011). *The State of Environmental Impact Assessment in the UK*. Available online: <https://www.iema.net/download-document/236676>

Planning Inspectorate (2019). *Advice Note Seventeen: Cumulative effects assessment relevant to nationally significant infrastructure projects (Version 2)*. Available at: <https://www.gov.uk/government/publications/nationally-significant-infrastructure-projects-advice-note-seventeen-cumulative-effects-assessment-relevant-to-nationally-significant-infrastructure-projects/advice-note-seventeen-cumulative-effects-assessment-relevant-to-nationally-significant-infrastructure-projects>

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