

Chapter 17

Cumulative Impacts

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17. Cumulative Effects

17.1 Introduction

17.1.1 This chapter provides a summary of the likely significant cumulative effects associated with the Project, both for intra-project (where a single receptor is affected by multiple aspects of a project, worsening the effect) and inter-project effects (where effects are exacerbated due to other reasonably foreseeable projects either in construction, consented or yet to be built).

17.1.2 **Chapter 4: Approach to Environmental Impact Assessment** described the process used to assess cumulative effects in this chapter. This chapter also provides the approach to the cumulative effects assessment, which has been included within Chapters 6-14 in the individual topic areas. A description of the Project is provided in **Chapter 3: Project and Site Description**,

17.2 Summary of Relevant Legislation, Planning Policy and Guidance

17.2.1 **Chapter 2: Regulatory and Policy Background** outlines the legislation and planning policy associated with the project, and that relevant to cumulative assessment is detailed below.

a) EIA Regulations

17.2.2 The EIA Regulations require a description of the likely significant effects of the Project on the environment, which should cover cumulative effects (Schedule 4 Section 5) The inter relationship of likely significant effects of the Project therefore needs to be assessed. Overarching National Policy Statement for Energy (EN-1).

17.2.3 The Overarching National Policy Statement for Energy (NPS EN-1) (Ref 17.1) states the following in relation to requirements for the assessment of cumulative effects:

Section 4.2.5 - 'When considering cumulative effects, the Environmental Statement (ES) should provide information on how the effects of the applicant's proposal would combine and interact with the effects of other developments (including projects for which consent has been sought or granted, as well as those already in existence).'

17.2.4 Inter-relationships between effects are also referred to as follows:

Section 4.2.6 - 'The Infrastructure Planning Commission (IPC) (now the Planning Inspectorate (PINS)) should consider how the accumulation of, and interrelationship between, effects might affect the environment, economy or community as a whole, even though they may be acceptable when considered on an individual basis with mitigation measures in place.'

17.2.5 In considering any proposed development, and in particular when weighing its adverse impacts against its benefits, the Secretary of State should take into account:

17.2.6 Section 4.1.3: *'its potential adverse impacts, including any long-term and cumulative adverse impacts, as well as any measures to avoid, reduce or compensate for any adverse impacts'*

b) Guidance

17.2.7 Guidance that is applicable to each specific topic assessment is identified in the relevant Chapters (Chapter 6 to 14 of this Preliminary Environmental Impact Report (PEIR)).

17.2.8 PINS Advice Note Nine: Using the 'Rochdale Envelope' (Ref 17.2) states that:

'The inter-relationship between aspects of the proposed development should be assessed and careful consideration should be given by the developer to explain how inter-relationships have been assessed in order to address the environmental impacts of the proposal as a whole.'

17.2.9 Advice Note Nine provides a definition of cumulative effects which are described as considering '...other proposed development within the context of the site and any other reasonably foreseeable proposals in the vicinity

17.2.10 Advice Note Nine also establishes that 'other developments' and more specifically 'major developments' need to be identified to assess the probable significant effects against the baseline position. Built and operational developments are included in this baseline. The 'major developments' that should be considered within the cumulative assessment include those that are:

- Under construction;
- Permitted application(s), but not yet implemented;
- Submitted applications(s) not yet determined;
- Projects on the Planning Inspectorate's Programme of Projects;
- Identified in the relevant Development Plan; and
- Identified in other plans and programmes (as appropriate) which set the framework for future development consents/approvals, where such development is reasonably likely to come forward.

17.2.11 This list is also included in the document Planning Act 2008: Guidance on the Pre-Application Process (Ref 17.3). This document acknowledges that it is not always easy for applicants to assess potential cumulative effects due to the lack of information available and that a pragmatic approach should therefore be taken when determining what is feasible and reasonable.

17.2.12 PINS Advice Note Seventeen: Cumulative effects assessment (Ref. 17-4) provides advice on a 'staged process that applicants may wish to adopt in cumulative effects assessment for NSIPs. The four assessment stages comprise:

1. Establish the NSIPs zone of influence and identify a ‘long list’ of other developments which could potentially have effect interactions with the NSIP. This long list is presented in Table 4-6 of **Chapter 4: Approach to Environmental Impact Assessment**;
2. Develop a ‘short list’ of other developments which could potentially have effect interactions with the NSIP. Essentially analysing the ‘long list’ developed in stage 1 in more detail in order to include only those developments that have potential to give rise to significant cumulative effects by virtue of overlaps in temporal scope; due to the scale and nature of the ‘other development’/receiving environment; or any other relevant Factors. The projects for inclusion in each technical assessment (the ‘short list’) have been noted where applicable in the cumulative effects section of Chapters 6-14;
3. Gather available information on the shortlisted developments; and
4. Assessment of likely significant impacts arising as a result of the NSIP cumulatively with the short listed developments identified during stage 2 and available information gathered in stage 3.

17.2.13 Table 3 of Advice Note Seventeen describes potential schemes for cumulative assessment in three tiers and recognises that for each tier, there is a decreasing level of detail likely to be available. The three tiers are:

Tier 1 – Projects under construction

- Permitted application(s), whether under the PA 2008 or other regimes, but not yet implemented; and
- Submitted application(s) whether under the PA 2008 or other regimes but not yet determined;

Tier 2

- Projects on the Planning Inspectorate’s Programme of Projects where a scoping report has been submitted.

Tier 3

- Projects on the Planning Inspectorate’s Programme of Projects where a scoping report has not been submitted;
- Identified in the relevant Development Plan (and emerging Development Plans with appropriate weight being given as they move closer to adoption) recognising that much information on any relevant proposals would be limited; and

- Identified in other plans and programmes (as appropriate) which set the framework for future development consents/approvals, where such development is reasonably likely to come forward.

17.3 Methods

17.3.1 The methodology for cumulative assessment is outlined in **Chapter 4: Approach to Environmental Impact Assessment**, and summarised below.

17.3.2 The cumulative effects assessment for the Project follows the guidelines as set by the Institute of Environmental Management and Assessment (IEMA) and advice from PINS.

17.3.3 IEMA’s guidelines recognise two major sources of cumulative effects:

- **Intra-project effects** – These occur where a single receptor is affected by more than one source of effect arising from different aspects of the Project. An example of an intra-project effect would be where a local resident is affected by dust, noise and traffic disruption during the construction of a scheme, with the result being a greater nuisance than each individual effect alone; and
- **Inter-project effects** – These effects occur as a result of a number of past, present or reasonably foreseeable proposed developments, which individually might not be significant, but when considered together could create a significant cumulative effect on a shared receptor, and could include developments separate from and related to the Project.

17.4 Consultation

17.4.1 Consultation regarding cumulative development undertaken in relation to the Project is listed in Table 17-1 below.

17.4.2 Through the Scoping Report and ongoing consultation with CCS, a long list was agreed for this PEIR, as presented in Table 4-6.

Table 17-1: Consultation summary for cumulative effects

Organisation	Comment	Response
SoS (Scoping Opinion, paras.3.69-3.70)	The SoS recommends that the Applicant consider the inclusion of the following developments identified by CCS: Mynydd y Gwair Wind Farm; Felindre Business Park; ,Brynwhilach Solar Park; and proposed sustainable urban village at Felindre	These proposals have been considered in relevant cumulative assessments and where still current are listed in Chapter 4: Approach to Environmental Impact Assessment of the PEIR. This is described in section 17.6 in further detail.
CCS (email dated 23/10/17)	Email response from CCS giving agreement on an updated cumulative scheme list (from 2014 to	The cumulative scheme list has been updated to include additional schemes, as listed in

Organisation	Comment	Response
	October 2017) and details of the inclusion of additional schemes to consider.	Table 4-6 in Chapter 4: Approach to Environmental Impact Assessment.

17.5 Intra-project Effects

17.5.1 For the purpose of this chapter, consideration will be given to the additive or amplified effects resulting from environmental effects on 'shared receptors' and also where sources of effect from different components of the Project may combine to be of greater significance than when considered alone. Each of the topic specific chapters from Chapter 6 – 14 has outlined the cumulative effects from that specific individual topic including the mitigation required. These measures will be incorporated in the Outline CEMP in Appendix 3.1 where appropriate or via specific DCO Requirements to be agreed.

17.5.2 As outlined in Chapters 6-14, there are unlikely to be any intra-project effects from the operation and decommissioning phases of the Project and so these are not considered further.

a) Shared Receptors

17.5.3 Shared receptors from individual elements of the Project (e.g. construction of Power Generation Plant, Gas Connection and Electrical Connection) are likely to be limited to nearby residential dwellings.

17.5.4 Potential effects at these shared receptors may comprise of the following:

- Noise effects;
- Views from residential dwellings;
- Potential effects on waterbodies and water based receptors from increased risk of sediment runoff and polluted discharges during the construction phase;
- Traffic effects from increased vehicle numbers during the construction phase; and
- Production of dust during the construction phase.

17.5.5 Due to the application of embedded and additional mitigation measures (such as the avoidance of habitats, the CEMP and topic specific management plans) which ensure that likely significant effects on shared receptors are unlikely, or the absence of any effects on shared receptors, the following topics are scoped out from the intra-cumulative assessment:

- Ecology - due to the embedded and additional mitigation, there is unlikely to be any cumulative effects from multiple components of the Project working simultaneously affecting several species. In addition, the total permanent habitat loss will be mitigated by the creation of the Ecological Mitigation Area and / or enhancements via the Landscaping and Reinstatement Plan;
- Socio-economic;

- Historic Environment; and
- Geology, Ground Conditions and Hydrogeology.

b) Assessment of Potential Intra-project effects

17.5.6 Table 17-2 outlines the potential intra-project cumulative effects from the Project. As previously described in Chapters 6-14, it is considered unlikely that there will be any intra-project effects during operation or decommissioning, and so the assessment only considers construction stage effects.

Table 17-2: Intra-Project Cumulative Effects

Receptor with potential for multiple effects	Potential Intra-Project Effects	Comments
Residential	Dust, Noise, Traffic, Landscape	<p>Construction of the whole Project will result in construction activity not previously present and additional vehicles along access routes. This creates an increase in traffic flows for all Project components, disruption of views and potential production of noise, dust and air pollutants from the Project as a whole during the construction period.</p> <p>This may have an effect on local communities and nearby residential dwellings. As embedded and additional mitigation is proposed within the individual topic chapters (such as a CTMP and CEMP), this will result in a Minor adverse in-combination effect, which is not significant</p>

17.6 Inter-project Effects

17.6.1 A review of the planning applications and proposed developments within a 5 km study area around the Project was undertaken to scope any other projects that were considered to constitute ‘major development’ schemes. A further review was undertaken to determine which developments had the potential to result in likely significant cumulative effects with the Project within each individual technical chapter.

17.6.2 Further to the SoS comments received within the Scoping Opinion, the projects listed in Table 17-1 have been reviewed and are included within those listed in Table 4-6.

17.6.3 Further to liaison with CCS, a “long list” of consented, in construction, or consented but not yet implemented developments, in addition to those allocated within the Local Development Plan (LDP), was agreed. The “long list” was then reviewed and refined, resulting in the following developments being identified as having likely cumulative effects. There are no other major developments, Tier 1, Tier 2 or Tier 3 developments or applications present within the 5 km study area.

- 17.6.4 The Mynydd Y Gwair windfarm (planning reference 2012/1221) is currently in construction and will be operational prior to the commencement of this Project. Therefore the potential cumulative effects are restricted to landscape and visual during operation. Construction traffic from the Project will not have any cumulative effects with operational traffic from the windfarm. It is considered that there will be no cumulative effects with the Mynydd y Gwair windfarm due to the intervening topography ensuring that there is no cumulative visual impact (as shown on the ZTV in Figure 11-8).
- 17.6.5 Proposed sustainable urban village at Felindre and other allocated sites have been scoped out of the cumulative assessment as there are very limited details about the scale and nature of the proposed developments in which to form a robust basis for assessment.
- 17.6.6 The Brynwhilach Solar Park (2014/1022) is also under construction and will be installed and operational during the determination period of this Project. The potential cumulative effects are limited to landscape during the operation of both this Solar Park and the Project, and this is discussed within paragraphs 11.10.22 to 11.10.32 of **Chapter 11: Landscape & Visual**.
- 17.6.7 The Felindre Business Park is currently under construction (planning reference 2006/0773) with a second application (planning reference 2013/1835) approved but not yet implemented for the car park and share facility. The potential cumulative effects to relates principally to traffic and transport on the B4489 during the operation phase of the Business Park and construction traffic for the Project, and landscape and visual, however there are no shared receptors. The cumulative effects related specifically to landscape and visual and traffic and transport are discussed within **Chapter 11: Landscape & Visual** and **Chapter 12: Traffic, Transport & Access**.
- 17.6.8 To summarise, the Landscape Character around the Project Site and visual amenity viewpoints 9 and 15 are expected to experience cumulative effects with the Felindre Business Park during the construction phase of the Project due to views contained construction equipment, lighting and construction activities. This is expected to result in **Minor adverse** effects, which is not significant. During operation, both developments would experience cumulative effects due to changes in landscape character, landform and presence. However these are also considered to be **Minor adverse, and therefore not significant**.
- 17.6.9 As the construction traffic cumulative assessment assumes all developments, the residual cumulative effect for pedestrian experience will be **Minor to Moderate adverse**. There will also be a **moderate adverse effect** on driver delay on the B4489 (North) and a **major adverse** effect on the B4489 (South). Whilst these effects are **significant**, no mitigation is considered to be required due to the temporary effect during construction.
- 17.6.10 As detailed within the cumulative assessment of Chapters 6 to14, no other projects were considered to have potential to cause cumulative effects with the Project

either in terms of shared receptors, shared access routes or simultaneous construction or operational phases. Therefore, it is unlikely that there will be any inter-project effects from other Projects in Table 4-6 and so effects are considered to be **not significant**.

17.7 Summary

17.7.1 The assessment of intra-effects of the Project on shared receptors has concluded that the effects are **Minor adverse**, and therefore are **not significant**.

17.7.2 The assessment of inter-project effects have been described, summarised and assessed in this chapter. It is concluded that the cumulative effects on shared receptors from individual topics and also cumulatively with the Project and other proposed developments are mostly **Minor adverse** effects, with the exception of cumulative effects relating to pedestrian experience and driver delay as these are considered to be **Moderate adverse**, which is **significant**. However as these effects are temporary during construction, no further mitigation is required, and they do not add to the overall significance of the effects of the Project.

17.8 References

- Ref. 17.1 Department of Energy and Climate Change. (2011). Overarching National Policy Statement for Energy (EN-1).[Online].
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- Ref. 17.2 The Planning Inspectorate. (2012). Advice Note Nine: Rochdale Envelope. Version 2. [Online].
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[Accessed: 30/10/17].
- Ref. 17.3 Department for Communities and Local Government. (2015). Planning Act 2008: Guidance on the Pre-Application Process. [Online].
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https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/418009/150326_Pre-Application_Guidance.pdf
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- Ref. 17.4 The Planning Inspectorate (2015). Advice Note Seventeen: Cumulative Effects Assessment [Online].
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