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# **Chapter 25**

## **Cumulative Effects**

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## 25 CUMULATIVE EFFECTS

### 25.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) presents the approach and methodology undertaken for the assessment of potential cumulative effects of the N2 Slane Bypass and Public Realm Enhancement Scheme (hereafter referred to as the ‘Proposed Scheme’) with other existing and/or approved projects/developments, during the construction and operational/maintenance phases of the Proposed Scheme.

The cumulative impact assessment (CIA) with other approved development for each topic of the EIAR has been fully assessed and compiled within each of the topic **Chapters 7 – 23**.

### 25.2 Methodology

#### 25.2.1 Legislation, Policy and Guidance

##### 25.2.1.1 Legislation

Legislation requires that cumulative effects with other approved projects are considered. Cumulative effects are assessed in accordance with the EIA Directive, of which Annex IV.5(e) states:

*“The description of the likely significant effects on the factors specified in Article 3(1) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the project. This description should take into account the environmental protection objectives established at Union or Member State level which are relevant to the project.”*

Annex IV.5 of the EIA Directive requires that:

*“a description of the likely significant effects of the project 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.”*

Cumulative effects are defined as per the EPA Guidelines (EPA, 2022) as:

*“The addition of many minor or insignificant effects, including effects of other projects, to create larger, more significant effects.”*

##### 25.2.1.2 Policy

There is no specific policy relating to the assessment of cumulative effects. Relevant policy has been considered as part of the preparation of each technical EIAR chapter.

##### 25.2.1.3 Guidance

The following guidelines and publications were considered in undertaking the CIA:

- Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EPA, 2022a);
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment, Department of Housing, Local Government and Heritage (DHLGHa, 2018);
- Guidelines on the Assessment of Indirect and Cumulative Impacts as well as Impact interactions, European Commission (EC, 1999);
- Environmental Impact Assessment of Projects – Guidance on the preparation of the Environmental Impact Assessment Report (EC, 2017); and

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- Advice Note Seventeen: Cumulative effects assessment relevant to nationally significant infrastructure projects, published by the Planning Inspectorate, an executive agency of the Ministry of Housing, Communities and Local Government of the United Kingdom (2019).

### 25.2.2 Zone of Influence

A fundamental requirement and first step of undertaking CIA is to identify those projects or activities with which the Proposed Scheme may interact to produce a cumulative impact. These interactions may arise during the construction or operational/maintenance phases. Existing projects, where relevant, have been considered as part of the chapter baselines in **Chapters 7 – 23**.

The Zone of Influence (Zol) for each of the EIA topics was therefore first defined by each topic specialist. The Zol for the majority of the topics extends from 50 m to 1,000 m from the centreline of the Proposed Scheme. For the topic of Landscape and Visual Impact, the Zol extends up to 7 km. Therefore, in order to undertake a comprehensive CIA, a list of relevant projects, plans and activities occurring within a 7 km Zol of the centreline of the Proposed Scheme was produced. Additionally, in order to provide a comprehensive assessment of cumulative impacts for the Brú na Bóinne World Heritage Property, a 7 km buffer of the core zone of the World Heritage Property was applied.

### 25.2.3 Staged Process for undertaking CIA

The following sections set out the step-by-step staged process that was followed in order to methodically and transparently screen the projects that were considered cumulatively alongside the Proposed Scheme. The process has considered the level of detail publicly available for projects, as well as the potential for interactions on a conceptual, spatial and temporal basis.

#### 25.2.3.1 Stage 1 – Desk Study: Zone of Influence and Collating Project Information

A desk study was undertaken to source publicly available information on projects within the CIA Zol using planning databases and other available sources to identify other projects falling within the Zol, which may have the potential to give rise to cumulative effects with the Proposed Scheme.

A search was conducted of planning applications using the My Plan map viewer (DHLGHa, 2023), the EIA Portal map viewer (DHLGHb, 2023) and Meath County Council (MCC) planning application map viewer (MCC, 2023) and Meath County Development Plan 2021-2027 MapViewer (MCC, 2021). The search was limited to the five-year period to end-April 2022 and excluded incomplete, withdrawn, and refused applications, as well as those under 'retention' as it is assumed this category comprises existing developments. A five-year time frame is deemed the most appropriate period for planning searches as permissions granted more than five years ago would generally be constructed, partially constructed, or are under construction when the planning sites are viewed. Closer to the date of planning submission, the search was re-run for the period start-May 2022 to July 2023.

In addition, a search of An Bord Pleanála's website (ABP, 2023) was completed to identify any relevant applications including Strategic Infrastructure Development (SID), Strategic Housing Development (SHD), and Part 8 local authority applications in the past five years or in close proximity to the Proposed Scheme.

Searches for EPA licence applications and licenced facilities (EPA, 2023b), giving consideration in particular to those discharging to the River Boyne, were also undertaken. In order to inform the CIA on the EIA factors of land, soils, biodiversity and water, all applied-for EPA licenced facilities and licence applications within the area defined by the water catchment and the three groundwater bodies traversed by the Proposed Scheme were also searched.<sup>1</sup>

Only projects that met the following assumptions were included in the list to bring forward to Stage 2:

- For evaluating likely temporal overlap, the Proposed Scheme will entail a maximum three-year (36 months) construction duration;

<sup>1</sup> This comprised a search for Integrated Pollution Control, Industrial Emissions and Waste licenses, as well as wastewater licenses (Wastewater Discharge Authorisation and Certificate of Authorisations) that intersect the Boyne Catchment (Hydrometric Area 07), as well as the Wilkinstown, Trim and Donore Groundwater Bodies.

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- The following types of projects were not listed owing to their nature and scale (i.e. they are unlikely to result in cumulative impacts with the Proposed Scheme): one-off housing, farm sheds/ buildings, house/ building extensions, or renovations;
- Projects with the following application status were not considered: incomplete, withdrawn, or refused applications;
- Projects with ‘retained’ application status were not considered as these are likely to have already been built;
- Projects that are defined as having ‘planning’ status were assumed to have potential for temporal overlap as the construction timeline was ‘unknown’;
- Projects where any appealed decision was refused; and
- EPA licence search for facilities that had ‘applied’ status, as facilities with ‘licensed’ status are likely to already be constructed and/or operational with defined emission limit values (ELVs) in place for their emissions and therefore already considered as part of EIA chapter baselines as relevant.

Projects that did not fall within the defined Zol were not considered. Approximate distances from the Proposed Scheme to each project were also provided, to better understand any spatial overlap. Confidence in the status of the permissions was also noted in the assessments where relevant, as there may have been uncertainty as to whether a development had been constructed, or where construction may have been delayed beyond the timeframes/ durations noted in the planning permission/ project EIA.

**Volume 4, Appendix 25.1 – Stage 1 Initial Project Compilation** provides a list of all projects and plans included in the Stage 1 compilation exercise. The list of projects is up to date as of mid-July 2023<sup>2</sup> and includes projects which are:

- Under construction;
- Consented (permitted) but not yet implemented; or
- Submitted but not yet determined i.e. in the planning or other consent application process.

When the above assumptions were applied to the Stage 1 list, this produced a ‘short-list’ of 80 projects which were then brought forward to Stage 2 for each EIA specialist to screen in for potential cumulative effects; see **Volume 4, Appendix 25.2 – Stage 2 Project Screening List**.

### 25.2.3.2 Stage 2 – Project Screening

Stage 2 involved each of the topic specialists carrying out a screening exercise on the ‘short-list’ of projects compiled during Stage 1. This has been carried out in accordance with a set of defined screening criteria (grounds for screening-in or out) in order to identify which projects should be considered in the assessment of cumulative effects (Stage 3); refer to **Appendix 25.2**. The criteria are set out in **Table 25-1** and further described in the sections below.

**Table 25-1: Screening Criteria for the Cumulative Impact Assessment**

Criteria	Description of Criteria	Screening Decision (in/out)
Included as part of the topic assessment	As the project has been considered as part of the relevant chapter baseline, it has already been assessed/considered and hence is not considered within the CIA.	Screened <b>out</b> of assessment
Part of the baseline but has an ongoing impact	As the project has been considered as part of the relevant chapter baseline, it has already been assessed. However, the project has ongoing impacts (e.g. operational effects) and is therefore considered relevant to the CIA.	Screened <b>into</b> assessment
Potential cumulative impact exists	An effect and pathway have been identified either within the construction, operational and maintenance and/or decommissioning phase of	Screened <b>into</b> assessment

<sup>2</sup> Note – this is the latest month for which planning applications are available for Meath County Council.

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Criteria	Description of Criteria	Screening Decision (in/out)
	the project that may cause a combined impact the Proposed Scheme.	
No conceptual or physical effect-receptor pathway	No source, pathway or effect was identified between the Proposed Scheme and the project.	Screened <b>out</b> of assessment
Low data confidence	The data provided by the project does not provide enough evidence or lacks adequate information for an assessment of cumulative effects to be completed.	Screened <b>out</b> of assessment
No temporal overlap	The project is defined by a different time frame and does not overlap with the time frame of the Proposed Scheme.	Screened <b>out</b> of assessment
Project has been withdrawn from development or operation	A withdrawn application is no longer relevant to be subject to assessment.	Screened <b>out</b> of assessment

### Data confidence

Data confidence is taken into account when screening projects and activities into or out of the CIA. The premise here is that projects, plans and activities with a low level of detail publicly available cannot meaningfully contribute to a CIA and, as such, are screened out.

Decisions upon whether to screen a project or activity in or out at this stage are taken on a topic-by-topic basis. This allows certain projects and activities to be screened-in for certain topics where sufficient detail is present, while the same project or activity may be screened out for another topic.

### Conceptual overlap

For a cumulative effect to occur, it must be established that a cumulative impact has the potential to affect the receptor(s) directly or indirectly in question. In EIA terms, this is described as an impact-receptor-pathway and is hereafter referred to as a conceptual overlap. An example of a conceptual overlap can be seen where increased suspended sediment concentrations arising from a nearby project and from the Proposed Scheme (impact) affect the same population of fish (receptor).

Each project and activity on the Stage 1 list has been considered on a topic-by-topic basis in order to evaluate the potential for conceptual overlaps to exist. Projects and activities that clearly do not have such an overlap are screened out of the assessment.

### Spatial overlap

The ability for impacts arising from the Proposed Scheme to overlap with those from other projects and activities has been assessed on a receptor basis for each topic. This means that, in most examples, an overlap of the physical extents of the impacts arising from the two (or more) projects, plans and activities must be established for a cumulative impact to arise. For example, for a cumulative sedimentation impact or accidental spill impact to be established between the Proposed Scheme and another project, it must be established that the extent of sediment or pollutant release from both projects has the potential to overlap and may affect a receptor at a single physical place (e.g. upstream or downstream projects with sediment or pollutant release to the River Boyne).

For the purposes of the Proposed Scheme CIA projects, plans and activities which do not have a spatial overlap of impacts for a given EIA topic with those of the Proposed Scheme have been screened out.

### Temporal overlap

Some impacts are active only during certain phases of development, such as piling noise during construction. Such a consideration is particularly important for receptors such as salmonids, where the overlap of impacts during construction may be important. The anticipated construction periods for projects and activities within the Stage 1 list have been obtained from their relevant planning documents where available (e.g. Scoping Reports, EIARs etc.). The details provided represent the current understanding of programmes of development though it is recognised that these programmes may be subject to change. In taking a conservative approach, where information on construction timeframes is unknown or not certain, it has been assumed that construction programmes may overlap.

### 25.2.3.3 Stage 3 – Implementing the CIA for the Proposed Scheme

A list of all project activities screened-in for assessment is recorded for the relevant topic chapter (**Chapters 7 – 23**) in **Appendix 25.2**. The list also includes a summary of relevant details of each of the projects and activities relevant to the CIA.

The Stage 3 CIA is detailed for each of the technical chapters and is set out within each of the topic **Chapters 7 – 23**. These detailed assessments have considered any potential cumulative impacts of the projects screened-in during Stage 2 alongside the Proposed Scheme. The CIA for each topic that follows has utilised the same language as that used for the impact assessments as specified and detailed within the methodology sections of each topic chapter.

## 25.3 Chapter References

ABP (2022) An Bord Pleanála planning website. Available at: <https://www.pleanala.ie/en-ie/home>

DHLGH (2023a) My Plan – National Planning Application Database. Available at: <https://housinggovie.maps.arcgis.com/apps/webappviewer/index.html?id=9cf2a09799d74d8e9316a3d3a4d3a8de>

DHLGH (2023b) EIA Portal Web-based Viewer. Available at: <https://housinggovie.maps.arcgis.com/apps/webappviewer/index.html?id=d7d5a3d48f104ecbb206e7e5f84b71f1>

DHLGH (2018) Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment.

EC (2017) Environmental Impact Assessment of Projects – Guidance on the preparation of the Environmental Impact Assessment Report.

EC (1999) Guidelines on the Assessment of Indirect and Cumulative Impacts as well as Impact interactions.

EPA (2022a) Guidelines on the Information to be contained in Environmental Impact Assessment Reports.

EPA (2023b) EPA Licensing and Permitting. Available at: <http://www.epa.ie/licensing/>

MCC (2023) Meath County Council Web-based Planning Application Viewer. Available at: <https://www.eplanning.ie/MeathCC/SearchTypes>

MCC (2021) Meath County Development Plan 2021-2027 Map Portfolio. Available at: <https://meath.maps.arcgis.com/apps/instant/portfolio/index.html?appid=84a669c14a84416c92b3583ffd774e58>

Planning Inspectorate UK (2019) Advice Note Seventeen: Cumulative effects assessment relevant to nationally significant infrastructure projects. Published by the Planning Inspectorate, an executive agency of the Ministry of Housing, Communities and Local Government of the United Kingdom.