

CHAPTER 2

SCOPE & METHODOLOGY

RECEIVED: 31/04/2025



Table of Contents

CHAPTER 2: SCOPE & METHODOLOGY	3
Introduction	3
Legislation and Appropriate Guidance	3
Annex IV of Directive 2014/52/EU	3
EIA Approach Overview: EPA Guidelines (2022)	6
EIA Process	8
Screening.....	8
Scoping.....	9
Consultation	10
EIAR Preparation.....	17
Difficulties Encountered in Preparing the EIAR.....	17
Structure of the EIAR.....	17
Structure of the EIAR Chapters	18
Determining the Key Features of the Proposed Development.....	18
Determining the Baseline.....	18
Prediction of Impacts and Effects and Development of Mitigation Measures	19
Assessment of Significant Effects.....	20
Descriptions of Effects	21
Design and Mitigation	24
Cumulative Impact Assessment	25
Methodology for the Cumulative Assessment of Projects.....	25
Projects Considered in Cumulative Assessment	25
Prediction of Residual Impacts and Effects.....	26
'Do-nothing' Scenario.....	26

RECEIVED: 31/01/2025

CHAPTER 2: SCOPE & METHODOLOGY

Introduction

- 2.1 This chapter presents an outline of the EIA reporting methodology to be employed for the project. It outlines the methodology for the identification and evaluation of potential likely significant environmental effects and also presents the methodology for the identification and evaluation of potential cumulative and inter-related impacts.

Legislation and Appropriate Guidance

- 2.2 The European Union Directive 85/337/EC required that certain private and public projects which are likely to have significant resultant environmental impacts are subject to a formalised Environmental Impact Assessment prior to their consent. This Directive was subsequently amended by the EU through three amendments: 97/11/EC, 2003/4/EC and 2009/31/EC, which were then codified in Directive 2011/92/EU and subsequently amended by Directive 2014/52/EU.
- 2.3 The 2014/52/EU Directive was transposed into Irish law through European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (SI No. 296 of 2018) which amended the Planning and Development Act, 2000, and the Planning and Development Regulations, 2001. This EIAR has been produced in accordance with these relevant legislative requirements and Statutory Instruments.
- 2.4 The Environmental Impact Assessment of the Proposed Development has been made with regard to the 'Guidelines on the information to be contained in Environmental Impact Assessment Reports', published by the EPA (Environmental Protection Agency, 2022); and the 'Draft Advice Notes for Preparing Environmental Impact Statements', (Environmental Protection Agency, 2003).
- 2.5 The latter document contains specific guidance on the types of issues to be considered in relation to Quarries (Project Type 18). The classification of effects and their significance has also been carried out in accordance with these guidance; unless this is otherwise stated within the relevant section or chapter.
- 2.6 The Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Housing, Planning and Local Government, 2018), were also considered in this assessment. Assessments of technical disciplines have been made in accordance with applicable legislation, identified guidance and industry best practice. Relevant European Commission guidance considered as part of this assessment includes: Environmental Impact assessment of Projects – Guidance on Screening (European Commission, 2017b); Environmental Impact assessment of Projects – Guidance on Scoping (European Commission, 2017a); and Environmental Impact Assessment of Projects – Guidance on the Preparation of the Environmental Impact Assessment Report (European Commission, 2017c).

Annex IV of Directive 2014/52/EU

- 2.7 Information for the EIAR Data and information to be included by the developer in the EIAR is identified in Annex IV of the amended EIA Directive, 2014/52/EU. Table 2.4: Requirements of 2014/52/EU Annex IV and where these have been addressed in this EIAR.

Table 2.1: Requirements of 2014/52/EU Annex IV and where these have been addressed in this EIAR

Item	Requirement of Annex IV item	Reference in EIAR
1	<p>Description of the project, including in particular:</p> <p>(a) a description of the location of the project;</p> <p>(b) a description of the physical characteristics of the whole project, including, where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases;</p> <p>(c) a description of the main characteristics of the operational phase of the project (in particular any production process), for instance, energy demand and energy used, nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) used;</p> <p>(d) an estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation) and quantities and types of waste produced during the construction and operation phases.</p>	<p>(a) Chapter 1.0 – Introduction & (a) & (b) Chapter 3.0 – Project Description</p> <p>(c) and (d) Chapter 3.0 Project Description, and identified in the relevant technical chapters</p>
2	<p>A description of the reasonable alternatives (for example in terms of project design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.</p>	<p>Chapter 4.0 – Alternatives</p>
3	<p>A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the project as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge</p>	<p>A ‘Baseline Conditions’ section has been provided in each technical chapter along with a section which summarises a ‘Do-Nothing’ scenario without development.</p>
4	<p>A description of the factors specified in Article 3(1) likely to be significantly affected by the project: population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape</p>	<p>Each relevant study area which has been scoped into the EIAR is provided within a dedicated technical chapter. Chapters 5.0 – 15.0.</p>

<p>5</p>	<p>A description of the likely significant effects of the project on the environment resulting from, inter alia:</p> <p>(a) the construction and existence of the project, including, where relevant, demolition works;</p> <p>(b) the use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources;</p> <p>(c) the emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste;</p> <p>(d) the risks to human health, cultural heritage or the environment (for example due to accidents or disasters);</p> <p>(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;</p> <p>(f) the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change; (g) the technologies and the substances used. 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.</p>	<p>(a), (b) and (c) Each technical chapter, as appropriate</p> <p>(d) Chapter 5.0 (Pop and Human Health)</p> <p>(e) Chapter 15.0 (Interactions).</p> <p>(f) Chapter 10.0 (Air Quality) and Chapter 9.0 (Climate)</p> <p>(g) Each technical chapter, as appropriate</p> <p>Descriptions of effects are identified in each technical chapter, as appropriate</p>
<p>6</p>	<p>A description of the forecasting methods or evidence, used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved.</p>	<p>Assessment methodology is identified in each technical chapter.</p> <p>Difficulties encountered in compiling the EIAR has been identified within the technical chapters.</p>
<p>7</p>	<p>A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). That description should explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced or</p>	<p>The identification of mitigation measures is identified in each technical chapter, as appropriate.</p>

	offset, and should cover both the construction and operational phases.	
8	A description of the expected significant adverse effects of the project on the environment deriving from the vulnerability of the project to risks of major accidents and/or disasters which are relevant to the project concerned. Relevant information available and obtained through risk assessments pursuant to Union legislation such as Directive 2012/18/EU of the European Parliament and of the Council or Council Directive 2009/71/Euratom or relevant assessments carried out pursuant to national legislation may be used for this purpose provided that the requirements of this Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies	The identification of risks of major accidents and/or disasters is identified in each technical chapter as appropriate.

EIA Approach Overview: EPA Guidelines (2022)

2.8 The fundamental principles to be followed when preparing an EIAR are:

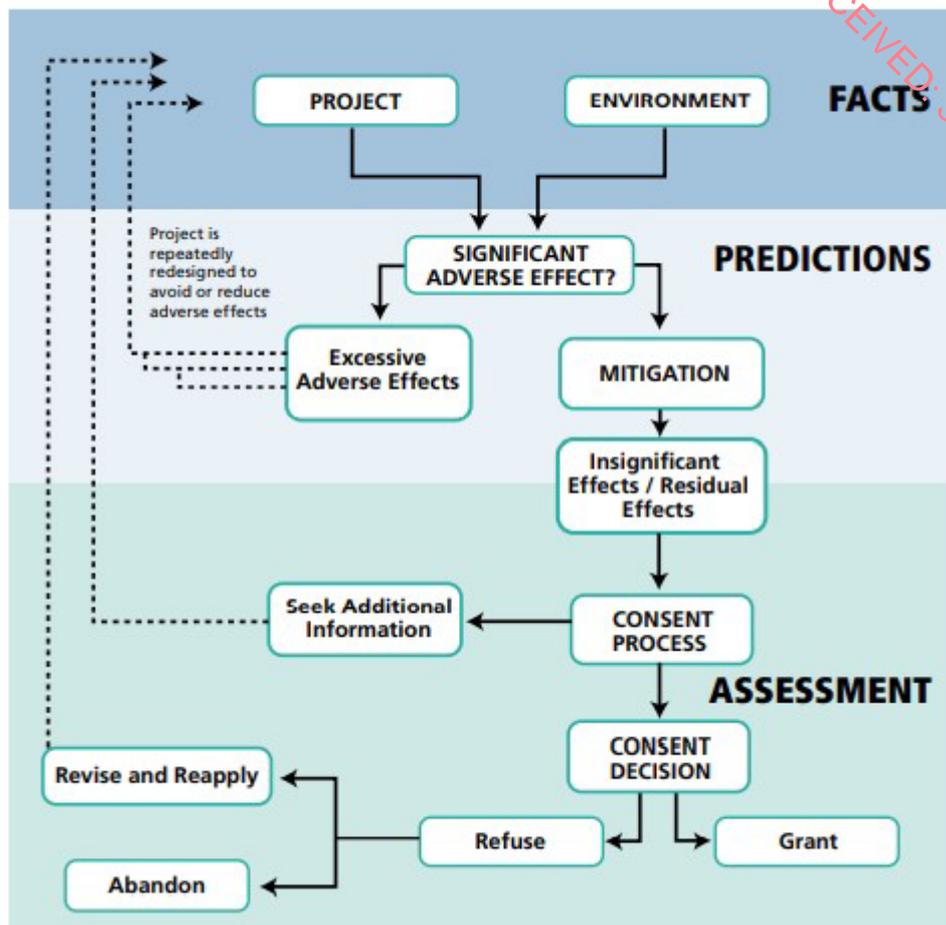
- Anticipating, predicting, avoiding and reducing significant effects;
- Assessing and mitigating effects;
- Maintaining objectivity;
- Ensuring clarity and quality;
- Providing relevant information to decision makers;
- Facilitating better consultation.

2.9 Figure 2.1 below illustrates that the EIA process can be considered as involving three main parts. The first consists of a compilation of facts – i.e. the description of the existing environment and the description of the proposed project.

2.10 The second consists of predictions of likely effects – this may be carried out on an iterative basis as the design is improved to eliminate excessive adverse effects.

2.11 The final part consists of the assessment of the environmental effects as part of a consent process which may decide to grant, condition, refuse or seek additional information.

Figure 2.1: The EIA Process (taken from the EPA Guidelines (2022))



2.12 The EIA process follows three main stages to the point at which the EIA Report (EIAR) is submitted:

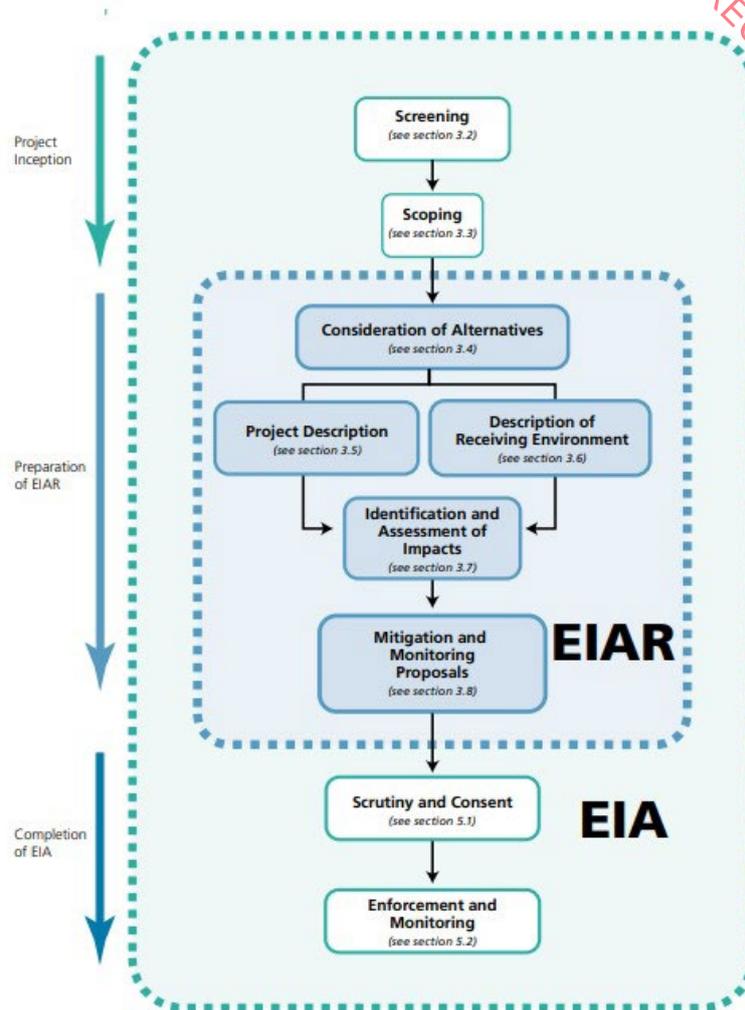
- 1) Screening – to determine whether a proposed development should be subject to EIA;
- 2) Scoping – to determine which topic areas (environmental factors) should be included in the EIA (scoped in) and which should be excluded (scoped out); and
- 3) EIAR Preparation – the stage in which the main body of work is undertaken, resulting in the production of an EIAR.

2.13 EIA involves a number of processes, which take place during screening, scoping and the main EIA stages:

- 1) Identifying and describing relevant features of the proposed development;
- 2) Identifying and describing relevant features of the baseline environment;
- 3) Consultation; and
- 4) Predicting likely impacts and effects of the proposed development on the baseline environment and developing any required mitigation measures.

2.14 More details of these stages and processes are provided in Figure 2.2, and the sections below.

Figure 2.2: The Position of an EIAR within the EIA Process (taken from the EPA Guidelines (2022))



EIA Process

Screening

- 2.15 Screening is a procedure used to determine whether a proposed development is likely to have significant effects on the environment. The outcome is a decision on whether EIA needs to be undertaken for the proposed development, in which case the subsequent stages of scoping and EIAR preparation will be followed.
- 2.16 In order to determine whether an EIA is required for the proposed development, it is necessary to determine whether it is a project listed in one of the Annexes to the Directive 2011/92/EU (as amended by Directive 2014/52/EU). These Annexes have been transposed in to Irish law.
- 2.17 The prescribed classes of development which require EIA are outlined in Schedule 5 of the Planning and Development Regulations 2001 (S.I. 600 of 2001, as amended).
- 2.18 Paragraph 19 of Part 1 of Schedule 5 states that the following form of development requires an EIA:
- “Quarries and open-cast mining where the surface of the site exceeds 25 hectares.*
- 2.19 Paragraph 22 relates to changes or extensions. It states:

“Any change or extension of projects listed in this Annex where such a change or extension in itself meets the thresholds, if any set out in this Annex.”

2.20 Paragraph 2 of Part 2 of Schedule 5 refers to extractive industry and part (c) of that section states that the following requires an EIA

“Extraction of stone, gravel, sand or clay, where the area of extraction would be greater than 5 hectares.”

2.21 In addition, paragraph 13(a) of Part 1 requires EIA in respect of:

“Any change or extension of development already authorised, executed or in the process of being executed (not being a change or extension refer to in Part 1) which would:-

- i. result in the development being of a class listed in Part 1 or paragraphs 1 to 12 of Part 2 of this Schedule and*
- ii. result in an increase in size greater than –*

25 per cent, or

an amount equal to 50 per cent of the appropriate threshold,

whichever is the greater.

2.22 The proposed development relates to the deepening of an existing quarry within an application area of c.19 ha.

2.23 The deepening area of the quarry is greater than the areas specified in Paragraph 13 (a) of Part 2. On this basis the extraction area of the quarry exceeds the area stated under Part 2 and an EIAR is required.

Scoping

2.24 The scoping stage involves deciding which environmental topics should be covered by the EIA and therefore what information should be included in the EIAR. This involves considering the nature of the proposed development and the initial, usually desk based, information that has been obtained on the baseline environment. The topic areas where significant effects may potentially arise (and those where significant effects are unlikely to arise) are then identified. Methodologies for filling any information gaps and for undertaking the assessment are then developed for each of the topic areas that have been 'scoped in'.

2.25 When deciding on the scope of an EIAR, there is no statutory requirement to seek a Scoping Opinion from the local planning authority. The Planning and Development Act, (2000) 173, 2(a) states:

“If an applicant or a person intending to apply for permission so requests, the planning authority concerned shall give a written opinion on the information to be contained in an environmental impact statement, subject to any prescribed consultations to be carried out by the planning authority in relation to such an opinion, before that person submits the application for the grant of planning permission.”

2.26 A formal Scoping Request was not submitted for the Proposed Development.

2.27 The following topics have been scoped into the EIA, as it was considered that there was potential for significant environmental effects to arise as a result of the Proposed Development:

- Population and Human Health;
- Biodiversity;

- Land, Soils and Geology;
- Water;
- Climate;
- Air Quality;
- Noise and Vibration;
- Landscape and Visual;
- Traffic and Transport;
- Cultural Heritage;
- Material Assets;
- Interactions.

RECEIVED: 31/01/2025

Consultation

- 2.28 Consultation is an important part of the EIA process, at both the pre and post application stage. Consultation may take place with the responsible authority, statutory consultees, other relevant bodies, and with the general public. It allows information to be obtained on the local environment and other issues, and for feedback to be provided on the Proposed Development and scope of the EIA.
- 2.29 A preplanning consultation request was issued to a number of consultees. The list of consultees and a record of consultation is provided in Table 2-1. Ongoing or post-application consultation will be referred to in EIAR chapters, where relevant.

Table 2-1 List of Consultees and Record of Consultations

Consultee	Consultation Response	Summary of Comments Received	Relevant EIAR Chapters
<p>Geological Survey Ireland</p>	<p>Yes</p>	<p>Use of GSI Data and Datasets: Geological Survey Ireland (GSI) encourages the use of their publicly available datasets and maps in the preparation of the Environmental Impact Assessment Report (EIAR) for the proposed deepening of the limestone quarry at Cregaree, Cong, Co. Mayo. They provide independent geological information and gather various data, which can enhance the content and robustness of the environmental assessment and planning process. All data or maps used should be correctly attributed to 'Geological Survey Ireland'.</p> <p>Geoheritage Sites: GSI highlights the presence of adjacent County Geological Sites (CGSs), specifically Cong Springs and Pigeon Hole in Co. Galway, and Curreighnabannow Spring in Co. Mayo. These sites are significant karst features under the themes IGH1 Karst and IGH16 Hydrogeology. While the current plan does not envisage impacts on these CGSs, GSI requests to be contacted if the development plan changes for further information and possible mitigation measures. The CGSs are integral to the national geological heritage and are included in County Development Plans to ensure their recognition and appropriate protection within the planning system.</p> <p>Assistance with Geological Heritage Goals: GSI requests the operator's assistance in achieving their geological heritage objectives by:</p> <ol style="list-style-type: none"> 1. Allowing access to quarry faces by appropriate scientists during quarrying operations (with due regard to Health and Safety requirements) to study any new stratigraphies or geological relationships that may become exposed. 2. Considering leaving a representative section of the quarry face at the end of the quarry's life or including informational panels to promote geology to the public, thereby developing tourism or educational resources, depending on the future use of the site. 	<p>Chapter 3: Figure 3.2 (Restoration Plan)</p> <p>Chapter 7 Land Soils & Geology;</p> <p>Chapter 8 Water.</p>

RECEIVED: 31/01/2025

RECEIVED: 31/01/2025

Consultee	Consultation Response	Summary of Comments Received	Relevant EIAR Chapters
		<p>These measures aim to promote a partnership between geological heritage and active quarrying, as outlined in the 'Geological Heritage Guidelines for the Extractive Industry', which serves as a comprehensive guide for sustainable extraction while preserving Ireland's geological heritage.</p> <p>Groundwater Considerations: GSI emphasises the importance of considering potential impacts on groundwater abstractions and resources. The area is underlain by a 'Regionally Important Aquifer – Karstified (conduit)', with variable groundwater vulnerability. They recommend using GSI's groundwater maps, including wells, drinking water source protection areas, aquifer classifications, groundwater vulnerability, recharge, and subsoil permeability maps. The Karst Viewer indicates numerous karst features in the vicinity, such as karst springs, enclosed depressions, turloughs, and caves. GSI advises using these datasets to identify areas of High to Extreme Vulnerability and 'Rock at or near surface' in assessments, as groundwater–surface water interactions would be greatest in these areas.</p> <p>Geological Mapping and Geohazards: GSI maintains online datasets of bedrock and subsoil geological mapping, which are reliable and accessible. They encourage the use of these data in assessments. They have also launched QGIS-compatible bedrock and Quaternary geology map data, making their data more accessible to the general public and stakeholders. Regarding geohazards, GSI recommends considering potential risks such as landslides, flooding, and coastal erosion, especially in areas where these hazards are prevalent. They provide information via the National Landslide Database and Landslide Susceptibility Map, which are available on their dedicated Map Viewer.</p> <p>Geochemistry and Geophysical Data: GSI provides baseline geochemistry data as part of the Tellus programme, which can be used to assess the chemical status of soil and water at a regional scale. They also produce high-resolution geophysical</p>	

RECEIVED: 31/01/2025

Consultee	Consultation Response	Summary of Comments Received	Relevant EIAR Chapters
		<p>data (magnetic field, electrical conductivity, natural gamma-ray radiation) of soils and rocks, which can support environmental impact and risk assessments.</p> <p>Guidelines for Assessment: GSI references several guidelines to assist in preparing the EIAR, including:</p> <ul style="list-style-type: none"> • Institute of Geologists of Ireland (2013) – Guidelines for the Preparation of the Soils, Geology and Hydrogeology Chapters of Environmental Impact Statements. • Environmental Protection Agency (EPA, 2022) – Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EIAR). • Department of Environment, Heritage and Local Government (2004) – Quarries and Ancillary Activities, Guidelines for Planning Authorities. • EPA (2006) – Environmental Management in the Extractive Industry: Non-Scheduled Minerals. • Geological Survey Ireland – Irish Concrete Federation (2008) – Geological Heritage Guidelines for the Extractive Industry. <p>Other Comments and Requests: Should the development proceed, GSI would appreciate copies of reports detailing any site investigations carried out. They request that any significant bedrock cuttings be designed to remain visible as rock exposures rather than being covered with soil and vegetated, in accordance with safety guidelines and engineering constraints. This measure would permit ongoing improvement of geological knowledge of the subsurface and could contribute to the geoheritage dataset. Alternatively, they ask for a digital photographic record of significant new excavations. Potential visits from GSI to document exposures can be arranged. The data collected would be added to GSI's national database of site investigation boreholes, enhancing the service provided to the civil engineering sector.</p>	
<p>Department of Housing, Local</p>	<p>Yes</p>	<p>Archaeology: The National Monuments Service reviewed the pre-planning documentation for the proposed deepening of the existing limestone quarry at</p>	<p>- Chapter 6: Biodiversity</p>

RECEIVED 31/01/2025

Consultee	Consultation Response	Summary of Comments Received	Relevant EIAR Chapters
<p>Government, and Heritage (National Monuments Service & Development Applications Unit)</p>		<p>Cregaree, Cong, Co. Mayo. They note that an Archaeological Impact Assessment (AIA) is scoped into the EIAR as part of the Cultural Heritage Impact Assessment (CHIA), which includes a detailed desktop study and field inspection. The Department advises that the AIA must be conducted by a suitably qualified archaeologist and that all previous archaeological mitigation measures required under existing planning permissions must be demonstrated as completed in the EIAR. The Department awaits the results of the CHIA and the full EIAR before further comments.</p> <p>Nature Conservation: The Department does not provide specific comments on nature conservation at this stage and indicates that additional observations may be submitted upon review of the full EIAR. They note that no inference should be drawn regarding the Department's position on the proposal, as any further comments may arise during statutory consultation by the planning authority.</p>	<p>- Chapter 14: Heritage (Archaeology and Cultural Heritage)</p>
<p>Transport Infrastructure Ireland (TII)</p>	<p>Yes</p>	<p>Key Points:</p> <ul style="list-style-type: none"> • TII's Role: TII, as a statutory consultee, will review planning applications and respond in line with official policy and guidelines, particularly those set out in the 'Spatial Planning and National Roads Guidelines for Planning Authorities' (DoECLG, 2012). • General Recommendations: <ul style="list-style-type: none"> ○ Consult with local authorities and National Roads Design Offices regarding road schemes. ○ Assess potential impacts on the national road network, including haul routes and junctions. ○ Consider visual impacts from existing national roads. ○ Incorporate relevant EIAR/EIS conditions related to road schemes. ○ Adhere to TII's publications and environmental assessment guidelines for noise and transport assessments. ○ If applicable, conduct a Traffic and Transport Assessment (TTA) to evaluate site-related traffic impacts on the national road network. 	<p>- Chapter 13 Traffic</p>

RECEIVED: 31/01/2025

Consultee	Consultation Response	Summary of Comments Received	Relevant EIAR Chapters
		<ul style="list-style-type: none"> ○ Consider the need for Road Safety Audits and address potential risks associated with heavy or abnormal loads along the haul route. ○ Ensure consultation with road authorities and contractors on haul route and operational requirements. ○ Developers must address the cost of improvements required on national roads to facilitate the development. <p>Key Considerations:</p> <ul style="list-style-type: none"> ● Traffic and Transport Impact: A Traffic and Transport Assessment (TTA) should be conducted to assess site traffic volumes, haul routes, and their impact on national roads and junctions. ● Abnormal Loads: The applicant must seek permits and structural approval for abnormal loads, ensuring all structures on the haul route can accommodate these loads. ● Safety and Road Maintenance: Measures must be identified to safeguard the safety and operational standards of the national road network, including rectifying any damage from abnormal loads. ● Greenway Proposals: Consultation with local councils regarding Greenway proposals is recommended. 	
<p>Uisce Éireann (Irish Water)</p>	<p>Yes</p>	<p>Water Services Guidance for EIAR: Uisce Éireann provided general guidance on aspects of water services to consider in the Environmental Impact Assessment (EIA) for the proposed deepening of the limestone quarry. They recommend including measures to prevent any negative impact on drinking water sources during construction and operational phases, identifying hydrological/hydrogeological pathways to receiving waters, and proposing mitigations for any potential impacts on water sources near the site.</p> <p>Key Considerations for Water Services: Uisce Éireann outlines several requirements:</p> <ul style="list-style-type: none"> - Backfilling materials must be assessed to ensure inert content with a waste sampling strategy. 	<ul style="list-style-type: none"> - Chapter 8: Hydro (Water Services and Impact on Drinking Water Sources) - Chapter 7: Land, Soils, and Geology - Chapter 15: Material Assets (Water Infrastructure)

RECEIVED: 31/01/2025

Consultee	Consultation Response	Summary of Comments Received	Relevant EIAR Chapters
		<ul style="list-style-type: none"> - Assessment of potential impacts on nearby reservoirs, hydrogeology, groundwater, and surface water interactions is required. - Confirm capacity of existing water services to cater to the development, with a Confirmation of Feasibility (COF) needed if connection to public water or sewage systems is proposed. A Pre-Connection Enquiry (PCE) should be submitted to determine connection feasibility. - Identification of any infrastructure upgrades needed to support the development. - Trade effluent discharges may require upstream treatment before connecting to the Uisce Éireann network. - Surface water management should prevent discharges to combined sewers, and mitigation should be included to manage impacts on the combined sewer network. <p>Impacts on Uisce Éireann Assets: Uisce Éireann advises identifying any physical impacts on their assets (e.g., reservoirs, pipes, pumping stations, and treatment works) and potential relocations required. Developers should also verify the location of water service assets and ensure that public water services and drinking water catchments are fully assessed. Uisce Éireann highlights the need to evaluate potential impacts on the assimilative capacity of receiving waters and any risk to the quality or capacity of water sources abstracted by Uisce Éireann for public supply.</p> <p>Protected/Sensitive Areas: If the development proposes to connect to a network affecting a "protected" or sensitive area, any potential compromise to conservation objectives must be identified in the report.</p> <p>Zero Risk Requirement: Mitigation measures should ensure zero risk to Uisce Éireann drinking water sources, including both surface and groundwater. Uisce Éireann specifies that they will not accept new surface water discharges to combined sewers.</p>	

EIAR Preparation

Difficulties Encountered in Preparing the EIAR

- 2.30 No particular technical difficulties were encountered in the preparation of the EIAR such that that the prediction of impacts from the Proposed Development has not been possible. Relevant difficulties or survey limitations specific to each study area have been identified in the respective technical chapters, as appropriate.
- 2.31 Conservative assessments and construction good practice methods/mitigations have been applied where information concerning methodology or program could not be fully determined. Other details of the development may be revised prior to the final planning permission grant of the development, in agreement with the planning authority.
- 2.32 As appropriate, information from publicly available sources has been used in the course of this assessment. This includes mapping sources such as the Environmental Protection Agency (EPA), Geological Survey of Ireland (GSI), Department of Environment, Climate and Communications and other information including Census returns. Due care has been taken in the review of these data sets; however no responsibility can be taken for inaccuracies which may be present within this public data.

Structure of the EIAR

- 2.33 The findings of the EIA are set out in this EIAR, comprising the following set of documents:
- Non-Technical Summary (NTS): This document will provide a summary of the key findings of the EIA in non-technical language.
 - Environmental Impact Assessment Report (EIAR): This document will contain the full text of the EIA.
- 2.34 It is proposed that the chapter headings will be as follows:
- 1.0: Introduction;
 - 2.0: Scope and Methodology;
 - 3.0: Project Description;
 - 4.0: Alternatives;
 - 5.0: Population and Human Health;
 - 6.0: Biodiversity;
 - 7.0: Land, Soils and Geology;
 - 8.0: Water;
 - 9.0: Climate;
 - 10.0: Air Quality;
 - 11.0: Noise & Vibration;
 - 12.0: Landscape and Visual;
 - 13.0 Traffic;
 - 14.0 Heritage
 - 15.0 Material Assets;
 - 16.0: Interactions
 - 17.0 Mitigation and Monitoring.

Structure of the EIA Chapters

2.35 Each technical chapter will follow a similar structure, covering the following:

- Introduction;
- Legislative and Policy Context;
- Assessment Methodology and Significance Criteria;
- Baseline Conditions;
- Potential Effects;
- Mitigation and Management (and/or Monitoring);
- 'Do-Nothing' Scenario;
- Cumulative Effects;
- Residual Effects;
- Difficulties Encountered; and
- References.

Determining the Key Features of the Proposed Development

2.36 A description of the Proposed Development is provided in Chapter 3.0 'Project Description' including information on the site, design, size and other relevant features of the development.

2.37 A description of the reasonable alternatives, which are relevant to the Proposed Development and its specific characteristics, is provided in Chapter 4.0. Information is provided of the main reasons for the option chosen, taking into account the effects of the development on the environment, economic and social effects.

Determining the Baseline

2.38 The EIA Directive requires the following in terms of baseline description under Annex IX:

"A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the project as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge."

2.39 The EPA's Guidelines on the Information to be Contained in EIARs (EPA, 2022) provides guidance on the methodology used to establish the baseline scenario within an EIAR.

2.40 Establishment of the baseline is a key foundation when carrying out the EIA process as it identifies existing environmental factors which must be considered relating to the Proposed Development and likely impacts from the Proposed Development, and significance of those impacts, on the baseline.

2.41 Within the EIAR, a description is provided within the various topic chapters of the relevant aspects of the current state of the environment (baseline scenario). An outline is also provided of the likely evolution of the baseline environment in the absence of implementation of the Proposed Development (the 'Do-Nothing' scenario). Information on the baseline environment was obtained through desk top review of existing environmental data and, where necessary, the collection of new data through site surveys.

2.42 The assessments presented in this EIAR are largely based on the comparison of expected impacts compared with current or recent baseline environmental conditions. This is with the

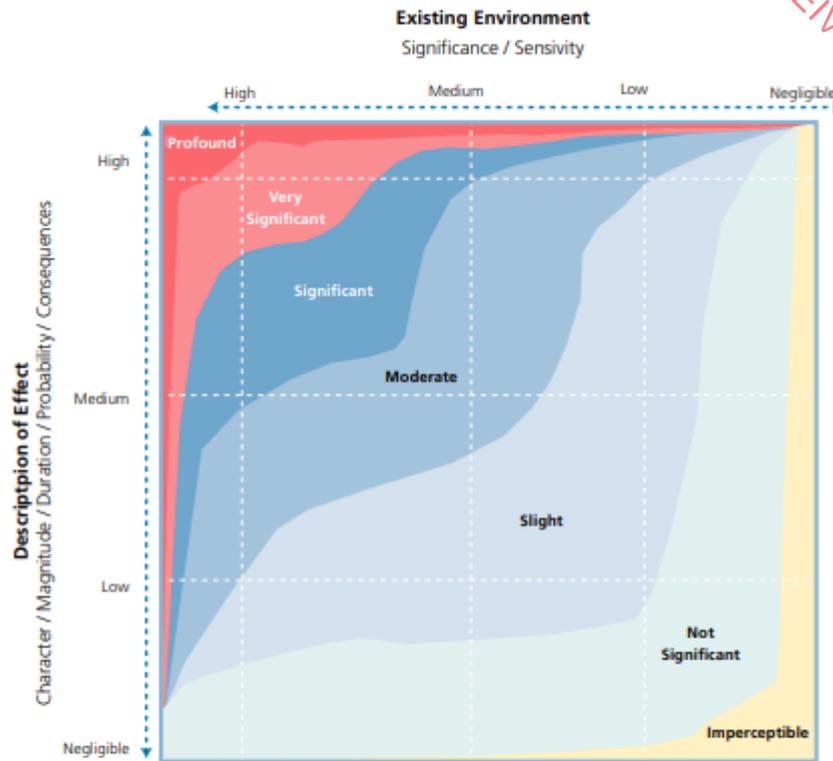
exception of topics such as air quality, noise, traffic and transport, landscape and visual assessments which factor in future baseline changes.

- 2.43 These approaches are explained in further detail in the relevant chapters.
- 2.44 Establishment of the current and future baseline allowed effects to be assessed and reported by comparing a scenario with the Proposed Development against one without the Proposed Development.
- 2.45 The baseline description provided in the EIAR:
- Includes a description of the site location and the surrounding area as far as environmental effects are anticipated; and
 - Defines existing land-uses and environmental receptors/resources relevant to the environmental topic.

Prediction of Impacts and Effects and Development of Mitigation Measures

- 2.46 The environmental impact assessment of the project has been made with regard to the 'Guidelines on the information to be contained in Environmental Impact Assessment Reports', published by the EPA (Environmental Protection Agency, 2022); and the 'Draft Advice Notes for Preparing Environmental Impact Statements' (Environmental Protection Agency, 2015).
- 2.47 Assessments of technical disciplines have been made in accordance with applicable legislation, identified guidance and industry best practice. For several topic areas, forecasting methods developed by the respective professional bodies have been followed in order for an assessment of significance of impacts to be made. For topics where there is no topic specific guidance available, a common framework of assessment criteria and terminology has been used throughout this EIAR based on the EPA's Guidelines on the Information to be Contained in EIARs (Environmental Protection Agency, 2022).
- 2.48 This common framework follows a 'matrix approach' to environmental assessment which is based on the value (sensitivity) of the receptor and the characteristics of the impact (magnitude and nature). The terms used in the common framework are described below. Details of how these specifically relate to the individual topic areas are provided within the respective topic chapters. The descriptive terminology identified by the EPA has been reproduced below for the sake of reference for this document. The consistent use of this terminology provides clarity in the method of the assessment and meaning of the conclusions.
- 2.49 The EPA's method of determining the significance of impacts that is described below and portrayed in Figure 3.4 of the updated Guidance (EPA 2022) has been used in this EIAR. There are seven generalised degrees of impact significance that are commonly used in EIA, which are: Imperceptible, Not Significant, Slight, Moderate, Significant, Very Significant and Profound, the definitions of which are given under Description of Effects below.

Figure 2.3: Chart Showing Typical Classifications of the Significance of Effects (taken from the EPA Guidelines (2022))



There are seven generalised degrees of effect significance that are commonly used in EIA. Imperceptible, Not Significant, Slight, Moderate, Significant, Very Significant and Profound. Generalised definitions of each of these are provided in Table 3.4. When more specific definitions exist within a specialised factor or topic, e.g. biodiversity, these should be used in preference to these generalised definitions. (ref. Advice Notes⁶⁸.)

Assessment of Significant Effects

- 2.50 As stated in the “Guidelines on the Information to be contained in Environmental Impact Assessment Reports’ (EPA, 2022), an assessment of the likely significant effects of a project is a statutory requirement of the EIAR process. The criteria for the presentation of the characteristics of potential significant effects will be described with reference to the magnitude, spatial extent, nature, complexity, probability, duration, frequency, reversibility, cumulative effect and transboundary nature (if applicable) of the effect
- 2.51 It may be useful to consider such impacts in light of the criteria listed in Annex III of the amended Directive.
1. magnitude and spatial extent of the impact (for example geographical area and size of the population likely to be affected);
 2. nature of the impact;
 3. transboundary nature of the impact;
 4. intensity and complexity of the impact;
 5. probability of the impact;
 6. expected onset, duration, frequency and reversibility of the impact;

7. cumulation of the impact with the impact of other existing and/or approved projects; and
8. possibility of effectively reducing the impact.

Descriptions of Effects

- 2.52 Each effect usually needs to be qualified to provide a comprehensive description of the predicted effect on receptors. The EIA should focus on the likely, significant effects.
- 2.53 The extent to which the effects of major accidents and/or disasters are examined in the EIA should be guided by an assessment of the likelihood of their occurrence (risk). This may be supported by general risk assessment methods or by systematic risk assessments required under other regulations, e.g., a COMAH (Control of Major Accident Hazards involving Dangerous Substances) assessment.
- 2.54 The potential for a project to cause risks to human health, cultural heritage or the environment due to its vulnerability to external accidents or disasters is considered where such risks are significant, e.g., the potential effects of floods on sites with sensitive facilities. Where such risks are significant then the specific assessment of those risks in the form of a Seveso Assessment (where relevant) or Flood Risk Assessment may be required. The EIA should refer to those separate assessments while avoiding duplication of their contents.

Figure 2.4: Description of Effects (taken from the EPA Guidelines (2022))

<p>Quality of Effects</p> <p>It is important to inform the non-specialist reader whether an effect is positive, negative or neutral.</p>	<p>Positive Effects</p> <p>A change which improves the quality of the environment (for example, by increasing species diversity, or improving the reproductive capacity of an ecosystem, or by removing nuisances or improving amenities).</p>
	<p>Neutral Effects</p> <p>No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.</p>
	<p>Negative/Adverse Effects</p> <p>A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem, or damaging health or property or by causing nuisance).</p>
<p>Describing the Significance of Effects</p> <p>‘Significance’ is a concept that can have different meanings for different topics – in the absence of specific definitions for different topics the following definitions may be useful (also see <i>Determining Significance</i>).</p>	<p>Imperceptible</p> <p>An effect capable of measurement but without significant consequences.</p>
	<p>Not Significant</p> <p>An effect which causes noticeable changes in the character of the environment but without significant consequences.</p>
	<p>Slight Effects</p> <p>An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.</p>
	<p>Moderate Effects</p> <p>An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.</p>
	<p>Significant Effects</p> <p>An effect which, by its character, magnitude, duration or intensity, alters a sensitive aspect of the environment.</p>
	<p>Very Significant</p> <p>An effect which, by its character, magnitude, duration or intensity, significantly alters most of a sensitive aspect of the environment.</p>
	<p>Profound Effects</p> <p>An effect which obliterates sensitive characteristics.</p>
<p>Describing the Extent and Context of Effects</p> <p>Context can affect the perception of significance. It is important to establish if the effect is unique or, perhaps, commonly or increasingly experienced.</p>	<p>Extent</p> <p>Describe the size of the area, the number of sites and the proportion of a population affected by an effect.</p>
	<p>Context</p> <p>Describe whether the extent, duration or frequency will conform or contrast with established (baseline) conditions (is it the biggest, longest effect ever?)</p>

RECEIVED 31/01/2025

RECEIVED: 31/01/2025

<p>Describing the Probability of Effects</p> <p>Descriptions of effects should establish how likely it is that the predicted effects will occur so that the CA can take a view of the balance of risk over advantage when making a decision.</p>	<p>Likely Effects</p> <p>The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.</p> <p>Unlikely Effects</p> <p>The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.</p>
<p>Describing the Duration and Frequency of Effects</p> <p>'Duration' is a concept that can have different meanings for different topics – in the absence of specific definitions for different topics the following definitions may be useful.</p>	<p>Momentary Effects</p> <p>Effects lasting from seconds to minutes.</p>
	<p>Brief Effects</p> <p>Effects lasting less than a day.</p>
	<p>Temporary Effects</p> <p>Effects lasting less than a year.</p>
	<p>Short-term Effects</p> <p>Effects lasting one to seven years.</p>
	<p>Medium-term Effects</p> <p>Effects lasting seven to fifteen years.</p>
	<p>Long-term Effects</p> <p>Effects lasting fifteen to sixty years.</p>
	<p>Permanent Effects</p> <p>Effects lasting over sixty years.</p>
	<p>Reversible Effects</p> <p>Effects that can be undone, for example through remediation or restoration.</p>
	<p>Frequency of Effects</p> <p>Describe how often the effect will occur (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually).</p>

Describing the Types of Effects	Indirect Effects (a.k.a. Secondary or Off-site Effects) Effects on the environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway.
	Cumulative Effects The addition of many minor or insignificant effects, including effects of other projects, to create larger, more significant effects.
	'Do-nothing Effects' The environment as it would be in the future should the subject project not be carried out.
	'Worst-case' Effects The effects arising from a project in the case where mitigation measures substantially fail.
	Indeterminable Effects When the full consequences of a change in the environment cannot be described.
	Irreversible Effects When the character, distinctiveness, diversity or reproductive capacity of an environment is permanently lost.
	Residual Effects The degree of environmental change that will occur after the proposed mitigation measures have taken effect.
	Synergistic Effects Where the resultant effect is of greater significance than the sum of its constituents (e.g. combination of SO _x and NO _x to produce smog).

2.55 The approach to assigning significance of effect included reasoned argument, the professional judgement of competent experts and using effective consultation to ensure the advice and views of relevant stakeholders were taken into account.

Design and Mitigation

2.56 The environmental assessment and design of the Proposed Development incorporated mitigation measures using a hierarchical system as follows:

1. Avoidance and prevention: design and mitigation measures to prevent the effect (e.g. alternative design options or avoidance of environmentally sensitive sites);
2. Reduction: where avoidance is not possible, then mitigation is used to lessen the magnitude or significance of effects; and
3. Remediation: where it is not possible to avoid or reduce a significant adverse effect, these are measures to offset the effect.

2.57 The following categories of mitigation have been described in the EIAR:

1. Embedded mitigation: project design principles adopted to avoid or prevent adverse environmental effects (as described in the Project Description, Chapter 3.0), and including fixed procedural commitments such as the development and adoption of a Environmental Management System (EMS)); and

2. Essential mitigation: measures required to reduce and if possible offset likely significant adverse environmental effects, in support of the reported significance of effects in the environmental assessment (as described in the individual topic chapters and in Chapter 3.0 Project Description).

- 2.58 Any enhancement measures have also been described (measures that are over and above what is required to mitigate the adverse effects of a project), as well as any requirements for monitoring of mitigation measures associated with any significant environmental effects.

Cumulative Impact Assessment

- 2.59 Each technical chapter of the EIAR includes a cumulative assessment which considers the impacts arising from the project alone and cumulatively with other relevant plans, projects and activities.
- 2.60 The cumulative effects were assessed when the conclusions of individual environmental topic assessments had been reached and reported. The assessment of cumulative effects from different projects are discussed within the relevant technical chapters.

Methodology for the Cumulative Assessment of Projects

- 2.61 The potential for cumulative effects to arise from the proposed development was assessed across key areas, including population & human health, biodiversity, land, soils and geology, water, climatic factors, landscape, cultural heritage, and material assets. Each relevant chapter of this Environmental Impact Assessment Report concludes with a cumulative impact assessment, where appropriate, to ensure comprehensive consideration of potential combined effects.
- 2.62 The cumulative impact assessment evaluates how the proposed quarry development may influence the surrounding environment when considered alongside other relevant permitted, proposed, and completed projects in the vicinity of the proposed site.

Projects Considered in Cumulative Assessment

- 2.63 Relevant assessment material was gathered on developments within the area surrounding the proposed site. This material, compiled from the Mayo & Galway County Council online Planning Register and reviews of relevant Environmental Reports or Environmental Impact Assessment Reports (EIARs), as well as planning application details and drawings, provides insights into past and future projects, their activities, and their environmental impacts.
- 2.64 Given the small scale and temporary nature of nearby residential and rural developments, there is no potential for these minor developments to create in-combination impacts with the proposed development.
- 2.65 For developments already constructed and operational, their impacts are reflected in the baseline conditions established within Chapters 4 to 15 of this EIAR.
- 2.66 The following developments have been included in the cumulative assessment:

Existing Quarry Operations at the Proposed Site

- 2.67 This includes ongoing quarry activities, such as extraction, processing, and dewatering. The current rate of production and existing environmental controls were reviewed to evaluate their interaction with the proposed development.

- 2.68 The on-site manufacturing of lime, concrete and asphalt products was considered. These operations form part of the baseline and are already regulated under planning conditions and discharge licenses, providing existing environmental controls.

Third-Party Quarries in the Wider Area

- 2.69 There are two other quarries located in the vicinity of the site with one located approximately 0.9km to east and another located 1.9km to the northeast. Both quarries are in the region of 1.5 hectares in area and are subject to rock extraction and processing on a small-scale basis. Given the limited scale of their operations, it is unlikely that these developments would result in any significant in-combination impacts with the proposed quarry deepening.

Prediction of Residual Impacts and Effects

- 2.70 Once the embedded mitigation and essential mitigation measures had been developed the assessment process for predicting impacts and effects described above was repeated to determine the residual effects (i.e. the effects remaining after mitigation).
- 2.71 Monitoring measures are proposed in the EIAR where there is uncertainty regarding the significance of, or the predicted levels of residual effects or where monitoring is necessary to modify control measures on an ongoing basis to control residual effects.

'Do-nothing' Scenario

- 2.72 Each technical chapter of the EIAR includes an assessment of the situation or environment which would exist if a proposed, development, project or process were not carried out. This scenario takes account of the continuation or change of current management regimes, as well as the continuation or change of trends currently evident in the environment.